Completed acquisition by ION Investment Group Limited of Broadway Technology Holdings LLC

Decision on relevant merger situation and substantial lessening of competition

ME/6888/20

The CMA's decision on reference under section 22(1) of the Enterprise Act 2002 announced on 7 July 2020. Full text of the decision published on 18 May 2020.

Please note that [✂] indicates figures or text which have been deleted or replaced in ranges at the request of the parties or third parties for reasons of commercial confidentiality.

SUMMARY

1. On 6 February 2020, ION Trading Technologies Limited (**ION**), a wholly owned subsidiary of ION Investment Group Limited (**ION Group**), acquired a controlling stake in Broadway Technology Holdings LLC (**Broadway**) (the **Merger**). ION and Broadway are together referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.

2. ION is a software provider, headquartered in Ireland, offering trading and workflow automation products to financial institutions worldwide, including sell-side front-office systems for electronic trading of each of fixed income securities and foreign exchange. Broadway is a software provider, headquartered in the US, which supplies capital markets solutions to sell-side financial institutions in fixed income, foreign exchange, commodities and crypto currency.

3. The Competition and Markets Authority (**CMA**) believes that it is or may be the case that each of ION and Broadway is an enterprise; and that these enterprises have ceased to be distinct as a result of the Merger. The CMA believes that the share of supply test is or may be met on the basis of an overlap between the Parties in the supply of sell-side front-office systems for electronic trading of gilts to Gilt-edged Market Makers (**GEMMs**) designated

by the United Kingdom Debt Management Office (**DMO**) in the UK. The combined share of the Parties is above 25% as the Parties supply the aforementioned systems to 10 out of eighteen GEMM customers with an increment of at least one GEMM customer. The four-month period for a decision, as extended, has not yet expired. The CMA therefore believes that it is or may be the case that a relevant merger situation has been created.

4. The Parties overlap in the supply of sell-side (sell-side institutions, such as banks and brokers, facilitate trading in capital assets) front-office (front-office covers the first parts of the trade process, eg trade execution) software for the electronic trading of:

   (a) fixed income securities (**FI**) (such as government bonds, interest rate swaps, repurchase agreements (repos) and corporate bonds); and

   (b) foreign exchange (**FX**).

5. In relation to FI, based on the Parties' internal documents and third party evidence, the CMA has found that the Parties compete to supply a platform for sell-side front-office FI trading, and a bundle of software components which varies between customers. The CMA has described this as a sell-side front-office system for FI electronic trading. The CMA found that such systems are generally bought and sold on a worldwide basis.

6. In relation to FX, the CMA similarly found that competition occurs for sell-side front-office systems for FX electronic trading and that this occurs on a worldwide basis.

7. The CMA has therefore assessed the impact of the Merger in the following frames of reference:

   (a) sell-side front-office systems for FI electronic trading, worldwide; and

   (b) sell-side front-office systems for FX electronic trading, worldwide.

8. The CMA has not included in-house provision within the product frame of reference. The CMA has however taken account of the constraint from in-house provision in its competitive assessment.

9. The CMA considered the impact of the Merger against the pre-Merger conditions of competition.

Horizontal unilateral effects

FI

10. In relation to the supply of sell-side front-office systems for FI electronic trading, worldwide, the available evidence shows that the Merger would combine ION, by far the largest supplier with significant bargaining power in relation its customers, with one of the two main competitors to ION in this market.

11. The CMA found that the Parties are close competitors. The CMA identified a number of the Parties' internal documents which indicate that the Parties consider each other as important competitors in the supply of sell-side front-office systems for FI electronic trading. Moreover, the Parties' customers considered that they are close competitors or that they offer similar functionality, with some noting that Broadway is ION's closest competitor.

12. The CMA found that, based on the Parties' internal documents and evidence from third parties, there are only a small number of competitors that could constrain the Merged Entity in the supply of sell-side front-office systems for FI electronic trading. Bloomberg is the only competitor to impose a significant constraint on the Parties while AxeTrading, smartTrade and TransFICC provide a more limited constraint.

13. The CMA also assessed the competitive constraint on the Merged Entity from self-supply by customers. The available evidence shows that some banks use in-house solutions for all or significant parts of their sell-side front-office systems for FI electronic trading, and that a small number of the largest banks had switched from ION and/or Broadway to largely use in-house systems for FI electronic trading. However, based on evidence from third parties, the CMA believes that the constraint from self-supply is limited, as only a small number of banks are in a position to viably and sustainably self-supply. Therefore, the CMA found that the constraint from self-supply would not sufficiently protect customers from the exercise of market power by the Merged Entity.

14. The CMA also found that following the Merger, and prior to the CMA imposing an initial enforcement order on ION on 2 April 2020, the Merged Entity updated the proposed terms and conditions of the provision of services which had been offered to at least one Broadway customer in a manner which the CMA considers may have been detrimental to the customer. The available evidence shows that these changes to the terms post-Merger may reflect a loss of competition resulting from the Merger.

15. The CMA considered possible entry or expansion into the supply of sell-side front-office systems for FI electronic trading, worldwide. The evidence the CMA received from third parties indicates that opportunities for competing suppliers to enter and/or expand by participating in procurement exercises are likely to be relatively limited; a new supplier would need to make large up-front investments to develop the functionalities required by sell-side firms; and potential customers expect providers to have a number of sizeable customers and a track record to be considered a viable supplier. Accordingly, the CMA does not believe that entry or expansion will be timely, likely or sufficient to prevent a realistic prospect of a substantial lessening of competition (**SLC**) as a result of the Merger.

16. Therefore, the CMA believes that the Merger gives rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in relation to the supply of sell-side front-office systems for FI electronic trading, worldwide.

FX

17. In relation to the supply of sell-side front-office systems for FX electronic trading, worldwide, in contrast to FI, the Parties' internal documents and third-party feedback did not suggest that the Parties are close competitors and indicated that there are a number of other competitors (including smartTrade, Refinitiv, FlexTrade and Fluent) that will continue to constrain the Parties post-Merger.

18. Therefore, the CMA believes that the Merger does not give rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in relation to the supply of sell-side front-office systems for FX electronic trading.

Conglomerate effects

19. The CMA also considered whether the Merged Entity could 'bundle' the sale of sell-side front-office systems for FI and FX electronic trading by selling sell-side front-office systems for FI and FX electronic trading together such that there is a low incremental price for the systems for FX electronic trading, weakening rival providers of sell-side front-office systems for FX electronic trading and harming competition through their foreclosure.

20. The CMA considered that barriers to switching and the customised and differentiated nature of the product made it difficult to foreclose competitors in the provision of sell-side front-office systems for FX electronic trading; and that systems for FI and FX electronic trading are not economic complements (such that an increase in price of systems for FI electronic trading reduces demand for systems for FX electronic trading, or vice versa). Hence, the

Merged Entity lacks the ability to profit from such a strategy. As both Parties were already in a position to provide a combined offering for sell-side front-office systems for FI and FX electronic trading, the Merged Entity would have to make such an offering more attractive, thereby foregoing profits, while likely only inducing limited switching. Hence, the CMA also found that the evidence does not suggest that the Merged Entity would have an incentive to engage in such a strategy.

21. Therefore, the CMA has found that the Merged Entity will not have the ability or incentive to leverage its market power in the provision of sell-side front office systems for FI electronic trading to foreclose competitors in the provision of sell-side front office systems for FX electronic trading. Accordingly, the CMA found that the Merger does not give rise to a realistic prospect of an SLC as a result of conglomerate effects.

Decision

22. The CMA therefore believes that the Merger gives rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in the supply of sell-side front-office systems for FI electronic trading, worldwide.

23. The CMA is therefore considering whether to accept undertakings under section 73 of the Enterprise Act 2002 (**the Act**). ION has until 14 July 2020 to offer an undertaking to the CMA that might be accepted by the CMA. If no such undertaking is offered, then the CMA will refer the Merger pursuant to sections 22(1) and 34ZA(2) of the Act.

ASSESSMENT

Parties

24. ION is a software provider, headquartered in Ireland, offering trading and workflow automation products to financial institutions worldwide, including sell-side front-office systems for electronic trading of each of FI and FX. The turnover of ION Group in the financial year 2019 was approximately £[✂] worldwide and £[✂] in the UK.[1]

25. Broadway is a software provider, headquartered in the US, which supplies capital markets solutions to sell-side financial institutions in FI, FX,

[1] Draft Merger Notice submitted to the CMA by the Parties on 14 April 2020 (**DMN**), paragraph 27.

commodities and crypto currency. The turnover of Broadway in the financial year 2019 was approximately £[✂] worldwide and £[✂] in the UK.[2]

Transaction

26. On [✂], the ION Group (through ION) entered into an agreement to acquire a controlling stake of approximately [✂]% of the shares of Broadway for a purchase price of USD [✂]. The remainder of Broadway's shareholdings are owned by the existing institutional investor (Long Ridge Equity Partners) and the founders of Broadway.[3]

27. On 6 February 2020, the Parties completed the Merger. The Parties announced the Merger on 14 February 2020.[4]

28. The Parties submitted that the Merger [✂].[5]

Rationale for the Transaction

29. The Parties submitted that the primary rationale for the Merger was to complement ION's FX middle- and back-office product offerings with Broadway's FX front-office cloud offering specialised in algorithmic (**algo**) trading and order management. The Parties further submitted that the Merger expands ION's capital markets offerings to the cloud as ION does not currently have a cloud offering in FI.[6]

Procedure

30. The CMA's mergers intelligence function identified this transaction as warranting an investigation.[7]

31. The Merger was considered at a Case Review Meeting.[8]

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[2] DMN, paragraph 30.
[3] DMN, paragraph 32.
[4] https://www.broadwaytechnology.com/news/2020/2/14/ion-investment-group-recapitalizes-broadway-technology.
[5] DMN, paragraph 45.
[6] DMN, paragraphs 4 to 11.
[7] See *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2), January 2014, paragraphs 6.9-6.19 and 6.59-60.
[8] See *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2), January 2014, from paragraph 7.34.

Background

32. The Merger relates to certain types of capital markets software, namely software which enables market participants to trade financial instruments electronically.

33. Financial instruments can be grouped into different asset classes. The Merger relates to software which can be used in the trading of two different asset classes. First, **FI** comprises financial instruments that offer a periodic income at regularly defined intervals until a maturity date. There are different types of FI securities; the distinctions relevant for this Merger are between debt securities issued by governments (**government bonds**) or by companies (**corporate bonds**) and certain related instruments such as repurchase agreements (**repos**)[9] and interest rate swaps (**IRS**).[10] Second, **FX** relates to the exchange of one country's currency into another and the trading of related instruments.

34. The market participants active in the trading of these financial instruments can largely be segmented into two groups, generally termed 'sell-side' and 'buy-side'. The Merger relates to software which is used by the sell-side. The sell-side is commonly understood to comprise institutions that are involved in the creation, promotion, intermediation and sale of financial instruments to buy-side market participants. Many sell-side institutions also act as market makers in certain instruments, ie they provide liquidity in the market by standing ready to buy and sell these instruments on a regular and continuous basis.

35. Within sell-side financial institutions, a distinction can be made between workflows related to the different stages of a trade, commonly referred to as front-, middle- and back-office. The distinction relevant for this Merger is between the front-office, which relates to pre-trade activities encompassing research, pricing, decision making and trade execution, and middle- and back-office functions, such as compliance, clearing and settlement.

[9] A repo is an agreement between two counterparties in which one party sells an asset to another party at one price and commits to repurchase the asset from the second party at a different price at a future date.
[10] An IRS is a derivative contract agreed between two counterparties in which one stream of future interest payments is exchanged for another based on a specified principal amount.

Jurisdiction

Relevant framework

36. In the context of a completed transaction, a relevant merger situation exists where the following conditions are satisfied:[11]

    (a) two or more enterprises cease to be distinct; and

    (b) either:

    (i) the value of the target enterprise's UK turnover exceeded £70 million in its last fiscal year (the **turnover test**); or

    (ii) the enterprises ceasing to be distinct have a share of supply in the UK, or in a substantial part of the UK, of 25% or more in relation to goods or services of any description (the **share of supply test**).

Enterprises ceasing to be distinct

37. Each of ION and Broadway is an enterprise. As a result of the Merger, ION has acquired a controlling stake of approximately [✂] of the shares of Broadway. Therefore these enterprises have ceased to be distinct as a result of the Merger.

Relevant merger situation

Turnover test

38. In 2019, Broadway generated a turnover of £[✂] in the UK. Therefore, the turnover test is not met.

Share of supply test

Legal Framework of the share of supply test

39. The share of supply test is satisfied if the merging enterprises both either supply or acquire goods or services of a particular description, and will, after

[11] Section 23 of the Act.

the merger, supply or acquire 25% or more of those goods or services in the UK.[12]

40. The Competition Appeal Tribunal has previously noted that: 'The CMA's role in regulating merger activity, and its ability to do so effectively, is a matter of public importance.'[13] The overall purpose of merger control is to regulate the conduct of companies in the market and to enable competition authorities to examine whether mergers will have a detrimental effect on competition.

41. Within this context, the CMA will have regard to any reasonable description of a set of goods or services to determine whether the share of supply test is met.[14] The Act confers on the CMA a broad discretion to describe a specific category of goods or services supplied or procured by the merging parties requiring only that, in relation to that description, the parties' share of supply or acquisition is 25% or more.[15]

42. The Mergers Guidance on the CMA's jurisdiction and procedure further provides that:[16]

(a) the share of supply test is not an economic assessment of the type used in the CMA's substantive assessment and need not amount to a relevant economic market; and

(b) The CMA will have regard to any reasonable description of a set of goods or services to determine whether the share of supply test is met. This will often mean that the share of supply used corresponds with a standard recognised by the industry in question, although this need not necessarily be the case. [17]

43. In applying the share of supply test, the CMA may under section 23(5) of the Act have regard to such criterion (whether value, cost, price, quantity, capacity, number of workers employed or some other criterion, of whatever

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[12] Section 23 of the Act, and see *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2), January 2014, paragraph 4.53.

[13] *Electro Rent Corporation v CMA* [2019] CAT 4, paragraph 120.

[14] see *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2), January 2014, paragraph 4.56.

[15] In particular, sections 23(6) and (7) of the Act provide that where services of any description are the subject of different forms of supply (ie where in the CMA's opinion, transactions concerned differ materially as to their nature, their parties, their terms or their surrounding circumstances), the CMA may consider the supply of such services to be of those forms taken separately, together or in groups. Moreover, section 23(8) of the Act states that 'the criteria for deciding when goods or services can be treated, for the purposes of this section, as goods or services of a separate description shall be such as in any particular case the decision making authority considers appropriate in the circumstances of that case'.

[16] *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2, January 2014), paragraph 4.56.

[17] *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2, January 2014), paragraph 4.56.

nature), or such combination of criteria, as the CMA considers appropriate in determining whether the 25% threshold in section 23 of the Act is met.

44. The share of supply test requires that the merger would result in the creation or enhancement of at least a 25% share of supply or acquisition of goods or services either in the UK or in a substantial part of the UK. Services or goods are generally supplied in the UK where they are provided to customers which are located in the UK.[18] The CMA will apply this general rule in a flexible and purposive way, with regard to all relevant factors, including where relevant procurement decisions are likely to be taken and where, in turn, any competition between suppliers takes place[19], although the CMA's assessment is not constrained to consider only these factors. In this regard, sections 128(3) and (4) of the Act provide that the supply of services includes the provision of services by making them available to potential users and includes making arrangements for the use of computer software.

45. In light of the above, in assessing whether the share of supply test has been met, the CMA has considered the following three key elements:

(a) a product/service element: whether ION and Broadway both supply or acquire goods or services of a particular description;

(b) a geographic element: whether that supply or acquisition is made in the UK or a substantial part of the UK; and

(c) a quantitative element: whether ION and Broadway would, as a result of the Merger, supply or acquire 25% or more of those goods or services.

Summary of CMA's assessment

46. As discussed in paragraphs 84 to 127 below, the CMA has found that one of the relevant frames of reference in which to assess the overlap between the activities of the Parties is the supply of sell-side front-office systems for FI electronic trading. However, as discussed in paragraphs 122 to 126 below, this frame of reference is global in scope.

47. The CMA has had regard to the global nature of the Parties' activities in providing sell-side front-office systems for FI electronic trading. In particular, the CMA understands that contractual relationships between the Parties and their clients may cover multiple financial products and offices and, accordingly, there may be several factors that the Parties' customers take into

[18] *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2, January 2014), paragraph 4.58.
[19] *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2, January 2014), paragraph 4.58.

consideration when purchasing the Parties' services, including the extent to which the use of a sell-side front-office system for FI electronic trading enables them to carry out certain commercial functions.

48. In this particular case, the CMA has focussed on the Parties' activities in relation to supply to certain customers required to trade UK government sterling denominated bonds (otherwise known as **gilts**) given their particular need to use sell-side front office systems to engage in this activity and their clear nexus to the UK, to ascertain whether the Parties satisfy the share of supply test in the UK, or in a substantial part of the UK.

49. For the purposes of its jurisdictional assessment and as described further below, the CMA has assessed shares of supply in relation to the provision of sell-side front-office systems, as defined for these purposes in paragraph 62, for electronic trading of gilts to Gilt-edged Market Makers (**GEMMs**).

50. The CMA has assessed the combined share of supply of the Parties based on the quantity of systems (as described further in paragraph 62) for electronic trading supplied to GEMMs.

Table 1: Share of supply test

Supplier	No. of GEMM customers for sell-side front-office office systems for FI electronic trading	Share of supply (%)
ION	[✂]/18	[50-60]%
Broadway	[✂]/18	[5-10]%
Parties combined	**10/18**	**[50-60]%**

Source: CMA (based on information from GEMMs) and Annex 190 of the Parties' Consolidated Index, ION goods or services provided to GEMMS Banks and also, Annex 191 of the Parties's Consolidated Index, Broadway goods or services provided to GEMMS Banks and requests for information from third parties. In terms of the denominator, there are 18 GEMMs designated by the Debt Mangement Office (DMO), as listed on the DMO's site: https://www.dmo.gov.uk/responsibilities/gilt-market/market-participants/. Figures rounded.

51. On that basis, as set out in Table 1, the Parties' share of supply is estimated to be [50-60]%, with an increment of [5-10]% as a result of the Merger.

52. The CMA considers that this basis for considering the share of supply test is reasonable and appropriate in the circumstances of this case. The CMA sets out below its assessment in respect of each of the elements of the share of supply test.

Parties' submissions

53. The Parties submitted that:[20]

(a) GEMMs do not have distinct requirements when compared to other customers of the Parties as their needs are no different to those of all market makers in government bond markets for other countries.[21]

(b) The CMA should exclude those customers of the Parties that are not recognised by the UK Debt Management Office (**DMO**) as GEMMs, as well as the Parties' GEMM customers that are not located in the UK.

(c) GEMMs do not generally procure standalone systems from one supplier. In practice, customers mix and match components from different vendors, and from internal IT. As such, the Parties submitted that any view of share of supply cannot be taken by reference to the number of GEMMs that the Parties provide FI software to, as this would take no account of the volume of supply to GEMMs by third parties and Internal IT.[22]

(d) Accordingly, the share of supply test should be based on the number of modules supplied to GEMMs relative to the total universe of modules the Parties supply. The results of this share of supply analysis show that the Parties' combined share of supply is well under 25%.[23]

(e) Alternatively, the CMA should consider shares of supply by revenue. According to the Parties, an appropriate share of supply methodology is to take the maximum revenue generated from one customer for each of the functionalities and to then multiply that number by the number of GEMMs (18) to work out the total market size, as this is most likely to represent a system comprising of a full set of functionalities. This share of supply analysis indicates that the Parties' share of supply is below 25% on any conceivable basis.[24]

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[20] Parties' Response to the CMA's Issues Letter, dated 18 June 2020 (**Parties' Response to the Issues Letter**), paragraph 2.6.

[21] GEMMS (a) participate in primary auctions, which in the UK are exclusively managed via the Bloomberg Bond Auction System ; (b) price bonds and exchange liquidity with other dealers through InterDealer Brokers ('IDBs'); (c) distribute liquidity to customers via a combination of their sales staff calling customers or using dealer to customer ('D2C') platforms such as Bloomberg and Tradeweb; (d) manage risk; hedge on bonds and futures markets and (e) manage positions, post trade lifecycle and reporting.

[22] Parties' response to the CMA's seventh s109, dated 21 May 2020.

[23] Parties' Response to the Issues Letter, Annex 11, 'ION and Broadway GEMM Share of Supply Analysis'; and Parties' Response to the Issues Letter, Table 1.

[24] Parties' Response to the Issues Letter, Annex 11, 'ION and Broadway GEMM Share of Supply Analysis'

(f) Alternatively, in calculating the customer counts, the CMA should only include GEMMs that are a DMO-recognised GEMM entity supplied by that Party in the UK with at least one module in each functionality and with a significant subset (greater than 50%) of modules across all functionalities.[25] On that basis, there is no increment and therefore the share of supply test is not met.

Reasonable description of services

- *Supply of sell-side front-office systems for electronic trading of gilts to GEMMs*

54. Gilts constitute a type of FI instrument that is issued by HM Treasury in the UK. As described in paragraph 48 above, the CMA has found that gilts constitute a definable subset of the FI instruments that are traded using the Parties' systems for electronic trading.

55. In the UK, the DMO, a subsidiary of HM Treasury, officially designates a specific group of entities as the primary dealers of gilts in the UK and the only institutions entitled to subscribe to new gilt issuances by HM Treasury. These entities are known as the GEMMs. There are currently 18 entities which are designated as GEMMs by the DMO,[26] at least the vast majority of which have their gilt trading desks located in the UK.[27]

56. Owing to their official designation, GEMMs are subject to certain obligations. For example, they are expected to play an active role in the issuance, distribution and marketing of UK government debt, by participating in primary issuance operations and purchasing a minimum level of newly issued gilts. As a result of their activity in the gilt market in their capacity as GEMMs (and in order to maintain their GEMM status), GEMMs are likely to account for the majority of trading in gilts conducted by sell-side market participants.[28]

57. The Parties submitted that GEMM customers do not have distinct needs from other FI customers and thus it is incorrect to base the share of supply test on this subset of customers. The CMA does not agree. Once designated, GEMMs have a market making obligation by which they are committed to make, on demand and in all conditions, continuous and effective two-way

[25] Even without the requirement for 50% of modules across functionalities, [✂].
[26] https://www.dmo.gov.uk/responsibilities/gilt-market/market-participants/
[27] [✂].
[28] This was confirmed by the DMO on a call with the CMA on 9 June 2020, as representing their understanding of the gilt market to the best of their knowledge.

prices (ie bid and ask prices) to their clients.[29] Accordingly, GEMMs have a particular need[30] to use sell-side front-office systems to meet this obligation[31] and different demand-side conditions apply to GEMMs regarding the need for such services.

58. The CMA therefore considers it reasonable for the relevant description of services to be limited to the provision of trading software of sell-side front-office systems for electronic trading of gilts to GEMMs. In this regard, the CMA notes that 'the share of supply test is not an economic assessment of the type used in the CMA's substantive assessment; therefore, the group of goods or services to which the jurisdictional test is applied need not amount to a relevant economic market.'[32]

- *Consideration of narrower group of services*

59. The CMA has also considered the Parties' submissions on whether it is appropriate to narrow the group of services to individual modules and/or components supplied to GEMMs, for the purposes of the jurisdiction assessment.

60. The CMA's investigation indicates that, while there may be competition between the Parties in relation to individual modules, the Parties compete meaningfully against one another for the provision of software systems for the electronic trading of certain financial instruments and not modules. This is borne out by customer feedback, with customers clearly distinguishing between competition for systems and individual modules.

- *Description of system*

61. The CMA considers that it is appropriate to assess whether GEMMs use the Parties' systems (or a third party or internally produced system) by reference to whether they use the Parties' software bus.

[29] DMO '*GEMM Guidebook A guide to the roles of the DMO and Primary Dealers (GEMMs) in the UK government bond market*' 25 July 2017 (the **GEMM Guidebook**), pages 4 and 5. In return for undertaking this and other obligations, GEMMs are entitled to certain privileges that are not afforded to other (sell-side) market participants.

[30] Non-GEMM traders have no obligation to perform this role in the market.

[31] While the GEMM Guidebook does not specify how GEMMs should comply with the market making obligation, commercially this requires GEMMs to use a system of the type offered by the Parties.

[32] *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2, January 2014), paragraph 4.56.

62. A software bus is a programming interface that allows software modules to transfer data to one another[33] and thus facilitates connections and communication between software modules. In other words, it acts as the central hub or platform through which modules interact.[34]

63. On the basis of evidence from internal documents[35] and third parties[36], the CMA has found that electronic trading of gilts will be effected through a system built on a single software bus, which comprises a core element of that system.

64. As such, by using either Party's software bus (in the case of Broadway, the bus is part of the 'TOC'), a GEMM relies on the fundamental IT services that the Parties provide for its trading of gilts. It is also a clear indication that the Parties will be at least a significant provider of modules to the GEMM customer, as otherwise it would select another software bus provider or build its own.[37]

65. The precise components a GEMM sources from either Party may vary and it may choose to supplement its system with certain additional in-house or third-party modules. Variations in the modules selected or use of in-house or third party modules are not, however, relevant factors in assessing whether a GEMM's trading system is supplied by either of the Parties.

66. On the basis of the above, the CMA considers that the provision of sell-side front-office systems for electronic trading of gilts to GEMMs, by reference to the use of the Parties' software bus, is a reasonable description of services for the purposes of the share of supply test.

Assessment of the geographic element of the share of supply test

67. As set out above, goods or services are deemed to be supplied in the UK if customers are located in the UK. The CMA will apply this general rule in a flexible and purposive way. The supply of services includes the provision of

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33 https://www.computerlanguage.com/results.php?definition=software+bus

34 See for example, Annex 154 of the Parties' consolidated index, [✂], page 12.

35 Annex 153 of the Parties' consolidated index, [✂], page 7. Annex 154 of the Parties' consolidated index, [✂], page 12; Annex 272 of the Parties' consolidated index, [✂]; and Annex 275 of the Parties' consolidated index, [✂].

36 [✂].

37 The CMA's investigation indicates that customers typically buy the bulk of modules from the provider of the software bus although they may also source modules from their inhouse IT department or from a third party.

services by making them available to potential users or making arrangements for the use of software.[38]

68. The CMA has found that the markets where the Parties overlap are global in nature. Procurement decisions typically cover multiple financial products and jurisdictions.[39] Accordingly, there may be several factors that the Parties' customers take into consideration when purchasing the Parties' services, including the extent to which the use of a sell-side front-office system for FI electronic trading enables the carrying out of certain mandatory regulated functions.[40]

69. Against this background, the CMA has found that:

(a) GEMMs are certified by the DMO in the UK and are required to make markets in relation to gilts, making them potential users of the Parties' systems;

(b) GEMMs have all registered UK-based offices with the DMO[41] and their gilt trading desks are largely, if not exclusively, located in the UK;[42]

(c) GEMMs will use a software system, as described in paragraphs 61 to 66 above, of the kind supplied by the Parties for the sell-side front-office supply of gilts; and

(d) The software system will be used by GEMMs for the trading of gilts from the location of their gilt trading desk.

70. The CMA therefore considers that, even if the services are procured globally, they are provided, in part, in the UK as they facilitate GEMMs to meet their regulatory market making obligation in gilts.

71. The CMA therefore considers that whether the specific entity which the Parties enter into the contract with is located in the UK or is the entity designated by the DMO as a GEMM is not determinative for its assessment, provided the GEMM is part of that entity's group.

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38 Sections 128(3) and (4) of the Act.

39 As confirmed by the licensing agreements the Parties enter into with customers which allow [✂].

40 In order to act as market makers (see paragraph 56).

41 DMO website page; Market Participants.

42 [✂] out of 18 GEMMS told the CMA their gilt trading desks were located in the UK. [✂].

Assessment of the quantitative element of the share of supply test

72. In line with the Act,[43] the CMA has broad discretion as to the critera against which to assess whether the share of supply test is met. The CMA considers that the quantity of systems, as described in paragraphs 61 to 66 above, supplied to GEMMs for the electronic trading of GEMMs provides a reasonable criterion in determining whether the 25% threshold is met.[44]

73. As discussed in paragraphs 59 to 66 above, the CMA considers that the question whether GEMMs may use certain additional in-house or third-party modules, in addition to using the Parties' software bus, as part of a trading system is not relevant in determining whether the trading system is supplied to them by either of the Parties.

74. On this basis, the CMA found that the Parties supplied systems to 10 GEMMs ([✂] by ION and [✂] by Broadway). It therefore supplied more than 25% (with an increment) of the systems used by GEMMs for the sell-side front office trading of gilts. It was therefore not necessary to ascertain whether other GEMMs were supplied in-house or by third parties.

CMA's conclusion on the share of supply test

75. The CMA therefore considers that the share of supply test in section 23 of the Act is or may be met on the basis that:

    (a) Both Parties supply services of a particular description in the form of sell-side front-office systems for electronic trading of gilts to GEMMs;

    (b) Supply is provided for use in the UK, to GEMMs which are located in the UK and required to use software of the kind offered by the Parties to comply with their obligation to act as market makers in respect of gilts under the DMO's GEMM Guidebook;[45]

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[43] Section 23(5) of the Act confers wide discretion on the CMA, enabling it to have regard to such criterion (whether value, cost, price, quantity, capacity, number of workers employed or some other criterion, of whatever nature), or such combination of criteria, as the CMA considers appropriate in determining whether the 25%. The CMA would note that quantity is one of the criteria listed here. In light of this, the CMA does not consider it necessary to address the points raised by the Parties regarding number of customers.

[44] Noting that each GEMM will have one trading system supplied to it for the purposes of trading gilts. The CMA also notes that it was not possible, within the boundaries of the Phase 1 investigation, for it to estimate the size of the market for the supply of sell-side, front office systems for the trading of FI instruments or gilts in the UK by turnover.

[45] https://www.dmo.gov.uk/media/15032/guidebook250717.pdf

(c) ION's share by the quantity of sell-side front-office systems supplied to GEMMs for the trading of gilts is above 25%, as it supplies systems to [✂] out of the total 18 GEMM customers;[46] and

(d) The Merger results in an increment, as Broadway supplies at least [✂] GEMM customer with the aforementioned services.

Statutory period for reference

76. Under section 24 of the Act, a completed merger must have taken place not more than four months before the CMA takes its decision on reference, unless the merger took place without notice of material facts being given to the CMA or material facts being made public.

77. 'Material facts' comprise the necessary facts that are relevant to the determination of the CMA's jurisdiction. As per the CMA's guidance, this includes information on the identity of the parties and whether the transaction remains anticipated (including the status of any conditions precedent to completion) or has completed.[47]

78. The CMA considers that material facts regarding the Merger were made public when the Parties issued a press release announcing the Merger on 14 February 2020.[48]

79. On that basis, the CMA believes that, for the purposes of section 24 of the Act, the four-month deadline for a decision under section 24 of the Act is 7 July 2020, following extensions under section 25(2) of the Act.[49]

80. The initial period for consideration of the Merger under section 34ZA(3) of the Act started on 20 April 2020 and, following extensions under section 34ZB(1)

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[46] 25% of 18 is 4.5.

[47] *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2, January 2014), paragraph 4.44.

[48] On Broadway's website.

[49] On 14 April 2020, the CMA issued a notice to extend the four-month period mentioned in section 24 of the Act because ION had not complied with a requirement set out in a notice under section 109 of the Act to provide certain information and documents. On 17 April 2020, the CMA issued a notice terminating this extension. On 23 April 2020, the CMA issued a notice to extend the four-month period mentioned in section 24 of the Act and the initial period mentioned in section 34ZA(1) of the Act because ION had not complied with a requirement set out in a notice under section 109 of the Act to provide certain information and documents. On 29 April 2020, the CMA issued a notice terminating this extension. On 12 May 2020, the CMA issued a notice to extend the four-month period mentioned in section 24 of the Act and the initial period mentioned in section 34ZA(1) of the Act because ION had not complied with a requirement set out in a notice under section 109 of the Act to provide certain information and documents. On 27 May 2020, the CMA issued a notice terminating this extension. On 18 May 2020, the CMA issued a notice to extend the four-month period mentioned in section 24 of the Act and the initial period mentioned in section 34ZA(1) of the Act because ION had not complied with a requirement set out in a notice under section 109 of the Act to provide certain information and documents. On 20 May 2020, the CMA issued a notice terminating this extension.

of the Act,[50] the statutory 40 working day deadline for a decision is 7 July 2020.

Conclusion on jurisdiction

81. On the basis of the above, the CMA believes that it is or may be the case that a relevant merger situation has been created and the period for reference has not expired.

Counterfactual

82. The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie the counterfactual). For completed mergers the CMA generally adopts the pre-merger conditions of competition as the counterfactual against which to assess the impact of the merger. However, the CMA will assess the merger against an alternative counterfactual where, based on the evidence available to it, it believes that, in the absence of the merger, the prospect of these conditions continuing is not realistic, or there is a realistic prospect of a counterfactual that is more competitive than these conditions.[51]

83. In this case, there is no evidence supporting a different counterfactual, and the Parties and third parties have not put forward arguments in this respect. Therefore, the CMA believes the pre-Merger conditions of competition to be the relevant counterfactual.

Frame of reference

84. Market definition provides a framework for assessing the competitive effects of a merger and involves an element of judgement. The boundaries of the market do not determine the outcome of the analysis of the competitive effects of the merger, as it is recognised that there can be constraints on merging parties from outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others. The CMA will take these factors into account in its competitive assessment.[52]

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[50] Ibid.

[51] *Merger Assessment Guidelines* (OFT1254/CC2), September 2010, from paragraph 4.3.5. The *Merger Assessment Guidelines* have been adopted by the CMA (see *Mergers: Guidance on the CMA's jurisdiction and procedure* (CMA2), January 2014, Annex D).

[52] *Merger Assessment Guidelines*, paragraph 5.2.2.

85. Both Parties supply sell-side front-office trading software for FI and FX. ION also supplies a wide range of other capital markets software including for other asset classes, such as equities.

Product scope

86. In line with the Merger Assessment Guidelines, the CMA has identified the products where ION and Broadway overlap and then has considered whether the market should be widened to include a broader range of products.[53]

87. Broadway supplies sell-side front-office trading software for FI and FX under the Broadway brand. Broadway also supplies sell-side front-office trading software for FX under the Barracuda brand. ION supplies sell-side front-office trading software for FI under the ION Trading brand. In addition, ION supplies sell-side trading software for various trading stages for FX under the MarketFactory, Wall Street FX, Spectrum and Aphelion brands.

88. The CMA therefore believes there may be an overlap in sell-side front-office trading software for each of FI and FX.

Fixed Income

89. The Parties submitted that there is limited substitutability between their products because ION's offering is on-premise (ie installed and run on customers' own servers) whereas Broadway's is cloud-based. The Parties also submitted that their customers primarily buy individual components, rather than systems;[54] and that they overlap in the supply of FI software only on two specific functionalities.[55]

90. Although the Parties did not submit that the market should be segmented by mode of deployment (ie on-premise or cloud-based solutions) or functionality,[56] the CMA believes it is important to assess these submissions as they are relevant to the scope of competition and the product frame of reference. The CMA has therefore considered each of these points before considering other aspects of the frame of reference: whether the market should be expanded to include software serving other asset classes or other

[53] *Merger Assessment Guidelines*, paragraph 5.2.11.

[54] Parties' Response to the Issues Letter, paragraph 1.6(a).

[55] DMN, paragraph 160. Each functionality includes a group of components related to a particular functional aspect of sell-side front-office FI trading, for example automated trading or connectivity.

[56] The Parties submitted that the appropriate frame of reference was the supply of sell-side front-office FI trading solutions, DMN, paragraph 195.

trading stages or the buy-side; and whether self-supply by in-house IT departments should be included.

Parties' submissions regarding on-premise versus cloud

91. The Parties submitted that there are significant differences between on-premise and cloud-based solutions, namely:

 (a) With an on-premise solution, customers receive a product that they install and run on the customer's own server. A customer must own and manage its computer servers internally and complete all the back-ups and upgrades to the hardware. One of the benefits of on-premise deployment is that customers control the safeguarding of their data, which is extremely important in FI given the highly sensitive nature of the banks' proprietary FI pricing data, customer analytics and market making algorithms. Another benefit is that the banks' internal IT controls the physical network and can directly address barriers such as slow or unreliable internet; whereas

 (b) With a cloud-based solution, a customer pays a subscription to use software, which is made available to them online via a server that is owned and managed by the provider. The server infrastructure security, data integrity, back-ups and updates are all managed by the provider. The benefit of the cloud is that applications are generally faster and simpler to deploy in the cloud compared to on-premise deployment and there is no need for expensive, on-site infrastructure.[57]

92. As such, the Parties submitted that there is a delineation between cloud-based and on-premise software vendors, further submitting that — for certain customers — a non-cloud (ie on-premise) solution is not feasible and would not be considered (and *vice versa*).[58]

93. Accordingly, the Parties submitted that no meaningful overlap exists between their activities, because Broadway offers only a cloud-based solution, whereas ION offers only an on-premise solution — and these deployment methods do not compete directly with one another.[59] The CMA notes, however, that the Parties' competitor analysis does not distinguish between cloud-based suppliers (such as Bloomberg) and on-premise (such as

[57] *Ibid.*

[58] DMN, paragraph 162.

[59] DMN, paragraph 160. Subsequently, the Parties stated that [✂]. (**Parties' response to the CMA's ninth s109**, dated 22 June, paragraph 21).

Valantic).[60] For example, the Parties stated that Bloomberg 'directly competes with ION and Broadway',[61] implying the two deployment methods do compete with each other.

94. The vast majority of customers that responded to the CMA's investigation told the CMA that they do not consider a distinction between cloud-based and on-premise deployment as relevant when they procure the Parties' products.[62] Rather, customers typically compare systems independent of the means of deployment, and instead consider factors such as the total cost of ownership over the lifetime of the contract. Additionally, and contrary to the Parties' submissions, a majority of the Parties' customers consulted by the CMA did not limit themselves in their procurement exercises to only considering either on-premise *or* cloud-based solutions.[63] Only one customer indicated that cloud-based deployment offered an advantage, in that the customer is not then responsible for the maintenance of the software.[64]

95. Moreover, none of the suppliers consulted by the CMA considered there to be a relevant distinction between solutions on the basis of their means of deployment. In fact, one supplier told the CMA that it would deploy its solutions to the specifications of the customer.[65]

96. In response to this customer feedback, the Parties submitted that only a specific set of customers, namely the largest banks, would not need to consider the distinction between cloud-based and on-premise deployment when procuring FI components. The Parties further submitted that the majority of sell-side participants would consider the lower cost of cloud-based solutions as meaningful in their markets and to their businesses, allowing them to offer better products and services to end-customers and giving them the ability to compete on a more level playing field with the largest institutions that can devote significant resources to infrastructure, and that this provides a meaningful competitive distinction between a cloud offering and an on-premise solution. The Parties therefore submitted that the CMA's market test must have focused on a select group of respondents, most likely the largest banks which connect to an exchange.[66]

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60 DMN Table 30 shows Bloomberg as 'hosted' and Valantic as 'deployed'.

61 Parties' Issues Meeting Presentation, slide 52.

62 [✂].

63 Third parties' responses to CMA's questionnaire: [✂].

64 [✂].

65 [✂].

66 Parties' Response to the Issues Letter, paragraphs 2.16-17.

97. The CMA sought feedback from the customers which were identified by the Parties and did not limit its market testing to any sub-segment thereof.[67] Therefore the CMA believes that the feedback which it obtained from these customers is directly relevant to assessing the frame of reference in which to analyse the competitive effects of the Merger.

98. The CMA also believes that, absent the Merger, ION [✂].[68] This was supported by evidence that [✂].[69]

99. For these reasons, the CMA believes that competition occurs between on-premise and cloud-based sell-side front-office FI trading software and has assessed the effects of the Merger in a frame of reference encompassing both.

Parties' submissions on components, functionalities and systems

100. The Parties submitted that sell-side front-office FI trading software customers primarily purchased individual and/or limited bundles of functional components, combining purchased components with in-house functionality, and also multi-sourcing, ie purchasing components from different vendors. The Parties also submitted that the vast majority of customer demand was for individual functional components and that there was no or minimal customer demand for a complete solution. Finally, the Parties submitted that they priced per individual functional component, and that their product offering in this sector was best viewed as a functional component stack consisting of stand-alone and/or 'mix and match' components which are separately supplied.[70]

101. The Parties' internal marketing documents show that both Parties describe their offering to customers as a 'platform' for trading. For example:

   (a) Several ION internal documents describe its offering as the 'ION Platform.'[71] One document illustrates the ION Platform as encompassing the [✂].'[72] Another document, produced for [✂], includes [✂].'[73]

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[67] Annexes 030, 031, 032, 033 of the Parties' consolidated index, [✂].

[68] Parties' Response to the CMA's Ninth s109, paragraphs 21-2 and Annex 087 of the Parties' consolidated index, [✂].

[69] Annex 270.15 of the Parties' consolidated index, [✂].

[70] Parties' Response to the Issues Letter, paragraphs 2.9-10.

[71] See for example Annex 270.12 of the Parties' consolidated index, [✂], page 6; Annex 270.3 of the Parties' consolidated index, [✂], page 5; and Annex 270.1 of the Parties' consolidated index, [✂], pages 10 and 20.

[72] Annex 154 of the Parties' consolidated index, [✂], page 12.

[73] Annex 153 of the Parties' consolidated index, [✂], page 7.

(b) One Broadway internal document with the title [✂] under a heading of [✂] states [✂]. The same document asks [✂] and the response includes that it [✂]. [✂][74] The document goes onto state that [✂].[75]

(c) Another Broadway internal document characterises Broadway's [✂].[76]

102. The CMA's investigation found that the requirements of customers differed significantly. In particular, the complexity of a customer's suite of products is driven, among other things, by the number and types of different financial instruments a customer wishes to trade, the number of trading venues it wishes to trade on and other characteristics (eg the liquidity of the market). The size of the customer may be a proxy for this complexity, with larger customers generally requiring more complex systems. The CMA also found that customers' requirements also differed depending on which activities they wished to carry out themselves and which they wished to outsource.

103. The CMA asked customers what they looked for during their last procurement exercise for sell-side front-office trading FI software. Most customers that responded to this question told the CMA that they looked for a system, solution or platform rather than individual functionalities, when they last went out to market,[77] and several explained that, when selecting a software provider, they only considered those that can offer a fully integrated trading solution (ie rather than individual software components being procured from multiple different providers). When asked which sell-side front-office trading software they use, customers generally identified (of their own volition) a single system (vendor or in-house) that enables them to trade FI electronically, even when they also used other components together with that system. In addition, customers told the CMA that when they go out to market to buy sell-side front-office trading software, they commonly do so at the end of a contract with their incumbent vendor or when their in-house solutions need to be overhauled.[78] The CMA believes that competitive interaction between vendors arises at these particular instances whereas other purchases during the term of existing contracts are, contrary to the Parties' assertions (see paragraphs 169 to 175 below), largely follow-on business for

[74] Annex 273 of the Parties' consolidated index, [✂], page 3, 5-6.

[75] Annex 273 of the Parties' consolidated index, [✂], page 8.

[76] Annex 272 of the Parties' consolidated index, [✂], page 5-6. Other examples include Annex 275 of the Parties' consolidated index, [✂], page 2.

[77] [✂].

[78] See also statements by Broadway at paragraph 152(d).

the incumbent vendor and do not generally represent instances of meaningful competition between vendors.

104. The CMA's investigation found that the Parties provided their customers with a bundle of services under a single contract with a single fee. In relation to ION, customers told the CMA that [✄] (see paragraphs 143 to 146 below).[79] The CMA found no evidence that, when customers wished to add components to the bundle of sell-side front-office trading FI software they obtained from the Parties, they went out to the market to obtain competing bids for these components.[80]

105. In light of this evidence, the CMA has found that the Parties compete to supply the platform for sell-side front-office FI trading, and a bundle of software components which varies between customers. The CMA has described this as a sell-side front-office system for FI electronic trading.[81]

106. The Parties also submitted that they overlap only in relation to certain functionalities with respect to software for sell-side front-office FI trading,[82] namely; algo trading, quote management and connectivity 'gateways.'[83] However, the Parties' internal documents do not support this. The Parties' internal documents indicate that both Parties compete across a broad group of sell-side front-office trading functionalities, including user interface, pricing and position management.[84]

107. The CMA notes that suppliers' strengths and weaknesses may differ to some extent across different functionalities and has taken account of this in the competitive assessment.

108. For these reasons, the CMA considers that the competitive effects of the Merger should be assessed within a frame of reference no narrower than the supply of sell-side front-office systems for FI electronic trading.

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79 [✄]. Some customers added that they were able to [✄].

80 A number of customers indicated that they did not go out to tender to procure additional components. No customers said they did go out to the market to procure additional components.

81 As indicated above (see paragraph 102), customers integrate purchased software with their own. The platform being referred to here is that provided by the Parties, their competitors for FI electronic trading or an in-house platform, not any other platform that a customer may have.

82 Each functionality would include a group of components related to a particular aspect of sell-side front-office FI trading.

83 DMN, paragraph 160 and Parties' Response to the Issues Letter, paragraph 3.15.

84 Annexes 265 and 269 of the Parties' consolidated index, show that both Parties supply a user interface. Annex 006 of the Parties' consolidated index, [✄], page 12 ([✄]) shows [✄].

Should the frame of reference be broadened beyond sell-side front-office systems for FI electronic trading?

109. In regard to whether the frame of reference should include software for other asset classes or trading stages, or be extended to include the buy-side, the Parties submitted that:

(a) Software is generally specialised for supporting the trade of a particular asset class, such as FI, FX, equities or derivatives.[85] For example, trade processing differs for each asset class.[86]

(b) Financial institutions are organised by workflow, often referred to as front-, middle- and back-office, which carry out very different functions.[87] In particular, the Parties submitted that the role of the front-office (which conducts research, pricing, pre-trade decision making and trade execution) is distinct from the management and allocation activities of the middle- and back-office.[88]

(c) Buy-side and sell-side institutions perform different roles within capital markets trading and therefore require different solutions.[89]

110. The Parties' submissions on these matters were supported by evidence from third parties. The CMA did not receive evidence that products supplied for other asset classes or trading stages, or the buy-side were demand-side or supply-side substitutes for sell-side front-office systems for FI electronic trading. The CMA notes that this is consistent with its findings in *ION/Fidessa,*[90] which defined a separate frame of reference for software in each asset class (ie for each of FI, derivatives and equities) and, on a conservative basis, also (i) separated front-office trading software from software designed for other trading stages; and (ii) separated software for buy-side and sell-side customers.

111. In the current Merger investigation, the CMA has not included in the frame of reference software that might be regarded as sell-side front-office software,

[85] DMN, paragraph 172.
[86] DMN, paragraph 177.
[87] DMN, paragraph 183.
[88] *Ibid.* and at paragraph 187.
[89] DMN, paragraph 189.
[90] M.6745/18 Anticipated acquisition by ION Investment Group Limited of Fidessa group plc ***(ION/Fidessa)****.* The CMA has referred in the current case to sell-side front-office systems for FI electronic trading rather than sell-side front-office trading software for FI (as in *ION/Fidessa*) in order to clarify that competition between the Parties occurs for 'systems for FI electronic trading' rather than for individual modules, or for software that is not trading software (eg software that relates solely to analytics or data, or services provided by trading venues), see paragraph111.

but is not trading software and does not compete with the Parties' electronic trading systems.[91] Evidence from the Parties' customers and competitors was clear on what constituted trading software and this did not include software that related solely to analytics or data, or services provided by trading venues.[92]

112. For these reasons, the CMA has not broadened the product frame of reference beyond sell-side front-office systems for FI electronic trading.

In-house/self-supply

113. The Parties submitted that customers have a credible alternative option of self-supplying all or part of their sell-side front-office systems for FI electronic trading.[93] In particular, the Parties submitted that 'Many large customers have large in-house technology teams and are therefore well-placed to self-supply. […] A number of large financial institutions have already developed their own in-house fixed income trading solutions.'[94]

114. In previous cases, the CMA has typically excluded in-house provision (or self-supply) from the relevant product frame of reference.[95] For instance, in *Nasdaq/Cinnober*, which similarly involved the provision of certain IT services to financial institutions, the CMA excluded self-supply from the product frame of reference on a cautious basis.[96]

115. As discussed in more detail below (see paragraphs 238 et seq.), the CMA does not believe that in-house supply is a credible alternative solution for most customers. While certain customers have the ability to develop and maintain such systems in-house, the available evidence shows that this is expensive, complex, and time-consuming and is not an effective constraint on

[91] The relevant product market is a set of products that customers consider to be close substitutes, for example in terms of utilty, brand or quality, *Merger Assessment Guidelines*, paragraph 5.2.5(a)..

[92] For example, evidence from customers and competitors showed that Bloomberg's ETOMS was a sell-side front-office electronic trading system but that other venue providers such as MarketAxess and Tradeweb were not providing sell-side front-office electronic trading systems.

[93] Parties' Response to the Issues Letter, paragraph 3.3 et seq. and Parties' Response to the Issues Letter, Appendix 4. Parties' Response to the CMA's Fifth s109, dated 4 May 2020, Question 27.

[94] DMN, paragraphs 241 to 242.

[95] The CMA's general approach to considering self-supply is set out in *Merger Assessment Guidelines* paragraph 5.2.20.

[96] ME/6778/18 Anticipated acquisition by Nasdaq Technology AB of Cinnober Financial Technology AB. Other cases in which the CMA has excluded self-supply from the frame of reference include ME/6860/19 anticipated acquisition by Cellnex UK Limited of Arqiva Services Limited, ME/6743/18 Anticipated acquisition by Experian Limited of Credit Laser Holdings Limited (ClearScore), ME/6746/18 Completed acquisition by Menzies Aviation (UK) Limited of part of the business of Airline Services Limited and ME/6631/16 completed acquisition by Pulsant Bidco Limited of Onyx Information Technology Holdings Limited.

suppliers of sell-side front-office systems for FI electronic trading for most customers.

116. The CMA has therefore not included in-house provision within the product frame of reference. The CMA has however taken account of the constraint from in-house provision in the competitive assessment in paragraphs 238 to 244 below.

Conclusion on FI product scope

117. The CMA has assessed the impact of the Merger within sell-side front-office systems for FI electronic trading.

FX

118. The Parties submitted that they do not overlap in software for FX trading as they are focussed on different workflow stages (Broadway front-office, ION mainly middle and back-office).[97] In relation to ION's MarketFactory brand, the Parties submitted that MarketFactory accounts for less than [✂] of ION's total revenue and is solely specialised in providing ultra-low latency connectivity to FX trading venues, while Broadway instead provides a more comprehensive solution that includes order management and algo trading but it is not able to offer ultra-low latency connectivity.[98]

119. Evidence from the Parties' internal documents[99] and from third parties, however, showed that the Parties do overlap in the provision of sell-side front-office FX software. In so far as ION's [✂] and the Parties are not competing closely, the CMA believes these are factors it is appropriate to take into account in the competitive assessment.

120. For similar reasons to those set out above in relation to FI, the CMA has identified a frame of reference for sell-side front-office systems for FX electronic trading and has not included self-supply in the product frame of reference (though the CMA has taken into account the constraint from self-supply in the competitive assessment below).

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[97] DMN, paragraph 128.

[98] Parties' Response to the CMA's Fifth s109, dated 4 May 2020, Question 8.

[99] Annex 006 of the Parties' consolidated index, [✂],page 12 ([✂]), Annex 087 of the Parties' consolidated index, [✂], page 18 ([✂]); and Annex 193 of the Parties' consolidated index, [✂].

Conclusion on product scope

121. For the reasons set out above, the CMA has considered the impact of the Merger in the following product frames of reference:

(a) sell-side front-office systems for FI electronic trading; and

(b) sell-side front-office systems for FX electronic trading.

Geographic scope

122. The Parties submitted that the relevant geographic frame(s) of reference for their respective products is global, on the basis that (i) they supply their products to global customers on a worldwide basis; and (ii) their customers use such products on a global basis.[100]

123. This is consistent with the CMA's decision in *ION/Fidessa*, where each relevant frame of reference (including the supply of sell-side front-office trading software for FI) was considered on a worldwide basis.[101]

124. The CMA found that sell-side front-office systems for electronic trading for each of FI and FX are generally bought and sold on a worldwide basis. In particular, the evidence suggests that the Parties operate on a worldwide basis.[102]

125. The CMA notes that, while sell-side front-office systems for electronic trading are not location-specific, competitors' strengths may differ across territories.[103] The CMA has taken account of this in the competitive assessment below.

Conclusion on geographic scope

126. For the reasons set out above, the CMA has considered the impact of the Merger within a worldwide frame of reference.

[100] DMN, paragraph 199.

[101] *ION/Fidessa*, paragraphs 36 to 38.

[102] **Parties' Response to the CMA's Third s109**, dated 23 April 2020, and Annexes 030, 031, 032 of the Parties' consolidated index, [✂] and [✂].

[103] For example, LIST is primarily focused on customers in Italy.

Conclusion on frame of reference

127. For the reasons set out above, the CMA has considered the impact of the Merger in the following frames of reference:

(a) sell-side front-office systems for FI electronic trading, worldwide; and

(b) sell-side front-office systems for FX electronic trading, worldwide.

Competitive assessment

128. As set out in the following sections, the CMA has assessed three theories of harm:

(a) Horizontal unilateral effects in relation to the supply of sell-side front-office systems for FI electronic trading, worldwide;

(b) Horizontal unilateral effects in relation to the supply of sell-side front-office systems for FX electronic trading, worldwide; and

(c) Conglomerate effects due to the inter-relationships between FI and FX.[104]

Horizontal unilateral effects

129. Horizontal unilateral effects may arise when one firm merges with a competitor that previously provided a competitive constraint, allowing the merged firm profitably to raise prices or to degrade quality on its own and without needing to coordinate with its rivals.[105] Horizontal unilateral effects are more likely when the merging parties are close competitors.

130. The CMA assessed whether it is or may be the case that the Merger has resulted, or may be expected to result, in an SLC in relation to horizontal unilateral effects in each of the following frames of reference:

(a) the supply of sell-side front-office systems for FI electronic trading, worldwide; and

(b) the supply of sell-side front-office systems for FX electronic trading, worldwide.

[104] The CMA also considered loss of potential competition in relation to the supply of electronic trading systems for other asset classes, trading stages or in regard to the buy-side. The CMA did not find evidence that [✂], or vice versa. Therefore the CMA believes that the Merger does not give rise to competition concerns in relation to this theory of harm.
[105] *Merger Assessment Guidelines*, from paragraph 5.4.1.

Supply of sell-side front-office systems for FI electronic trading, worldwide

131. In order to assess the likelihood of the Merger resulting in horizontal unilateral effects in relation to the supply of sell-side front-office systems for FI electronic trading, worldwide, the CMA considered:

(a) the shares of supply of the Parties and their competitors;

(b) the pre-Merger position of ION;

(c) the closeness of competition between the Parties;

(d) the competitive constraints posed by alternative suppliers;

(e) out-of-market constraints;

(f) third party views on the impact of the Merger; and

(g) evidence of changes to contractual terms following the Merger.

Shares of supply

132. The Parties provided several market share estimates:

(a) On the basis of the Parties' knowledge of competitor revenues, they estimated that their combined share in the supply of 'sell-side front-office fixed income solutions' is [10-20]% excluding in-house supply (with an increment of [0-5]%).[106] This estimate comprises revenues of [60-70] firms that the Parties consider to be competitors. Subsequently, the Parties provided an amended estimate comprising the revenues of [20-30] firms, showing a combined share, excluding in-house supply, of [10-20]% (with an increment of [0-5]%).[107]

(b) On the basis of the number of the Parties' customers amongst sell-side banks and broker dealers (of which they estimated that there are [✄] globally), the Parties estimated that their combined share is around [10-20]% (with an increment of [0-5]%).[108]

[106] DMN Table 25.

[107] Parties' Response to the Issues Letter Table 4 and Appendix 4 Table 1. The Parties submitted that these estimates included all providers which they believed supply one or more of the following functionalities: user interface, pricing, market connectivity, position management, or automated trading components.

[108] DMN Table 29.

(c) On the basis of the number of participants connecting to two trading venue providers ([✂]),[109] the Parties estimated that ION's share is [10-20]-[20-30]% and Broadway's share is [0-5]%.[110]

133. The CMA believes that it cannot attach weight to the Parties' share of supply estimates for the reasons set out below.

134. First, in regard to (a), the CMA considers that the Parties' estimates understate their market shares as they include revenue from companies which told the CMA they did not supply sell-side front-office FI trading software or electronic trading systems. They also include revenue from companies which were not on the list of relevant competitors that the Parties submitted the CMA should contact regarding the Merger. The evidence available to the CMA indicates that these companies are not active in sell-side front-office systems for FI electronic trading and should not be included in shares of supply. The CMA also found that, compared to actual revenue figures submitted by third parties, the Parties significantly overstated the revenue of some competitors which did supply sell-side front-office FI electronic trading systems.

135. Second, the Parties' other estimates are based simply on the number of their customers as a percentage of the total number of banks that are involved in FI or connect to the two trading venue providers. However, not all banks are of equal importance in terms of their purchases of sell-side front-office systems for FI electronic trading. For example, in the case of smaller banks, if their FI trading activity is relatively simple, they may not need to purchase many products or services from vendors such as the Parties.

136. The CMA has therefore estimated its own shares of supply based on (i) sales information from the Parties and the suppliers in the supply of sell-side front-office systems for FI electronic trading identified in its competitive assessment; and (ii) information it has obtained from FI trading venues.

137. Table 1: Share of supply test shows the CMA's estimated shares of supply for sell-side front-office systems for FI electronic trading based on sales information from the Parties and their competitors. The CMA notes the following points about these estimates:

[109] Parties' Response to the Issues Letter Table 5.

[110] The Parties also submitted a further estimate of shares based on their sales as a proportion of their customers' estimated total sell-side electronic FI trading usage (Parties' Response to the Issues Letter Appendix 4 paragraphs 3.1-3.4 and Table 1). The CMA notes that these estimates are based on a large number of assumptions about the Parties' customers usage, which it was unable to verify. The CMA also notes that the Parties' estimated shares are low and this may simply reflect internal IT is used for most of the functionalities.

(a) The estimates include estimates from providers which told the CMA that they supplied sell-side front-office FI trading software. The CMA did not receive responses from some companies and, in these cases, has judged, based on information from third parties and the Parties' internal documents,[111] that they do not supply sell-side front-office systems for FI electronic trading (eg because they provided services relating to analytics, data, or trading venues).

(b) Bloomberg provides two potentially relevant products (Trade Order Management Solution (**TOMS**) and Electronic Trade Order Management Solution (**ETOMS**), see paragraph 196), but only ETOMS provides connectivity to trading venues. The CMA therefore estimated Bloomberg's revenue on two bases: (a) including only Bloomberg's ETOMS revenue and (b) including ETOMS plus a pro-rata share of TOMS revenue, in order to reflect that for its customers using ETOMS, Bloomberg would obtain revenue from TOMS as well as ETOMS.[112]

138. On these bases, the CMA estimates that the Parties have combined shares in excess of 60% with an increment of about 10%.

Table 2: CMA FI share of supply estimates (global, 2019)

Provider	Revenue (£m) on basis (a)	Share (%) on basis (a)	Revenue on basis (b) (£m)	Share (%) on basis (b)
ION	[✂]	[60-70]	109.7	[50-60]
Broadway	[✂]	[10-20]	17.2	[5-10]
combined	[✂]	**[70-80]**	**126.9**	**[60-70]**
Valantic	[✂]	[5-10]	[✂]	[5-10]
Bloomberg*	[✂]	[5-10]	[✂]	[10-20]
LIST	[✂]	[0-5]	[✂]	[0-5]
SoftSolutions	[✂]	[0-5]	[✂]	[0-5]
AxeTrading	[✂]	[0-5]	[✂]	[0-5]
smartTrade	[✂]	[0-5]	[✂]	[0-5]
LSEG†	[✂]	[0-5]	[✂]	[0-5]
TransFICC	[✂]	[0-5]	[✂]	[0-5]

Source: CMA calculations based on competitor responses to CMA questionnaires and DMN.
* Bloomberg revenue on basis (a) includes ETOMS revenue only. Bloomberg revenue on basis (b) includes ETOMS revenue plus TOMS revenue multiplied by proportion of TOMS customers taking ETOMS.
† LSEG Technology (GATElab) – traderpath

139. The Parties submitted that these estimates overestimated their shares as firms that they considered were competitors were not included. However, the

[111] Very few customers considered any providers other than those shown in Table 1 to be able to meet their needs, see Table 2. ION's [✂] showed only the Parties, AxeTrading, Bloomberg and TransFICC in the sell-side front-office FI space, see paragraph 158(b).

[112] The CMA did not consider that TOMS by itself represented a sell-side front-office systems for FI electronic trading.

CMA has included all providers supplying sell-side front-office systems for FI electronic trading (see paragraphs 134 and 137).[113]

140. In addition to the estimates above, the CMA requested data from FI trading venue operators on the software that sell-side market participants use to connect to their venues. The data received from a trading venue operator (which, contrary to the Parties' data, is trading value-weighted), show that ION accounts for the largest share of software solutions that sell-side market participants use (even when in-house solutions are included). Noting the limitations,[114] the data indicate that the Parties have a combined share of around [40-50%] with an increment of around [0-5%]. Their combined share would be higher when in-house solutions are excluded.

141. The Parties submitted that it was incorrect to calculate shares of supply on the basis of simply counting competitors, which appeared to have been the CMA approach in relation to data from FI trading venue operators, and that these market shares were grossly distorted.[115] The CMA notes that the data from venue providers was not based on a simple competitor or participant count; and the CMA does not believe it is distorted.[116] However, the CMA agrees it is based on a very small sample of two venue providers – [✂][117] – and consequently needs to be interpreted with caution.

142. Overall, because its share of supply estimates are relatively consistent across different bases and with third party evidence, the CMA believes that these estimates are broadly reflective of the Parties' position in the supply of sell-side front-office systems for FI electronic trading. However, given the customisation (see paragraphs 102 to 104) and differentiation of products,[118] as well as the uncertainties surrounding some of the data as set out above, these estimates need to be interpreted with caution. The CMA has, therefore, put only limited weight on share of supply estimates. The CMA has instead

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113 Parties' Response to the Issues Letter, paragraph 3.3 et seq. and Appendix 4 to the Parties' Response to the Issues Letter. The Parties also submitted that the CMA's share estimates would be inconsistent with how the CMA calculated shares in its *ION/Fidessa* investigation. However, the CMA notes that *ION/Fidessa* focussed on a different asset class (exchange-traded derivatives). Moreover, the CMA believes its approach is consistent since in *ION/Fidessa* the Parties' estimates broadly aligned with the CMA's wider market testing, whereas in the current case they did not do so.

114 The CMA notes that these data only report the connectivity software that connects to the venues and some customers may use a different front-office system for electronic trading. The CMA notes that there are several FI trading venues and data from one venue may not be representative for other venues.

115 Parties' Response to the Issues Letter, paragraph 3.7.

116 Data from [✂] are based on its own research and the CMA understands that it is not merely based on trading participant count. Data from [✂] are trade volume weighted.

117 [✂].

118 See, for example, the explanations in *Merger Assessment Guidelines*, paragraph 5.3.2 and footnote.

assessed below the degree of differentiation between providers and the constraints of their offerings on the Parties.[119]

Pre-Merger position of ION

143. Customer responses to the CMA's market investigation indicated that ION is by far the largest supplier in the provision of sell-side front-office systems for FI electronic trading. For example, one customer told the CMA that 'The ION Group is the dominant provider of sell-side front-office investment banking software.'[120] Another told the CMA that ION is 'almost industry norm for bond trading.'[121] Similarly, a third customer told the CMA that 'ION has a very large market share of the sell-side front-office trading software in fixed income with few direct competitors.'[122]

144. During the CMA's investigation in *ION/Fidessa* (2018),[123] Broadway (then a competing third party) stated that ION 'behaved like a monopoly'. [✂].' During the current Merger investigation, the Parties submitted that this comment is unsubstantiated and does not reflect the reality of how the market operates, as ION and Broadway's main customers are typically large, well-funded, sophisticated buyers of technology that exercise strong countervailing buying power.[124] Notwithstanding these submissions, the CMA notes that the statements made during *ION/Fidessa* were made on behalf of Broadway, by an individual with significant experience of working at the company,[125] who had been aware that it may be an offence under section 117 of the Act to provide the CMA with false or misleading information.[126] The statements were included in a call note, which was confirmed by Broadway's General Counsel to be an accurate record of the discussion between Broadway and the CMA.[127] The CMA also considers that the evidence is consistent with evidence from third parties in the current Merger investigation (see paragraph 145). Accordingly, the CMA has placed weight on it.

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119 For example, the shares of supply of some of the providers in Table 2 . (eg Valantic) do not reflect the extent to which they exert competitive contstraints on the Parties.
120 [✂].
121 [✂].
122 [✂].
123 *ION/Fidessa.*
124 DMN, paragraphs 261 to 273.
125 [✂] was Broadway's first employee, having joined the company in 2004. At the time of the call with the CMA in *ION/Fidessa* he had been with Broadway for 14 years and was Chief Operating Officer.
126 The submissions were made to the CMA in the context of a merger investigation and were therefore subject to section 117 of the Enterprise Act.
127 The call note (dated 8 July 2018) [✂] was confirmed to be an accurate record of the discussion by [✂] on 6 September 2018.

145. A significant number of third parties that responded to the CMA's Merger investigation told the CMA (unprompted) that ION exercises market power that has enabled it to charge very high and inflexible prices and impose restrictive terms and conditions in its contracts. For example:

(a) One customer told the CMA that ION's 'contract negotiation practices are often extremely one sided and unreasonable, difficult in some cases. They understand their controlling market position and frequently leverage it to obtain the terms they want.'[128]

(b) Another customer stated that ION 'has a fixed approach with long-term inflexible and expensive contracts. […] we would expect to be forced to renew onto another long-term contract with no discounts, even if we were only making partial use of the service.'[129]

(c) Another customer told the CMA that 'ION seeks (from a position of strength) restrictive contracts, with the result that clients are locked into using certain ION products […] for a long period, with no possibility to decommission/exit.'[130]

146. The CMA believes that pre-Merger, ION was by far the largest supplier and had significant bargaining power vis-à-vis customers in the provision of sell-side front-office systems for FI electronic trading.

Closeness of competition between the Parties

147. The CMA has examined the closeness of competition between the Parties in the supply of sell-side front-office systems for FI electronic trading and considered within this assessment:

(a) submissions and conclusions in *ION/Fidessa*;

(b) evidence from the Parties' internal documents;

(c) third party views on closeness of competition; and

(d) the Parties' business opportunity data.

148. The Parties have submitted that they are not close competitors within FI as ION primarily targets large global customers who require more complex and

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[128] [✂].
[129] [✂].
[130] [✂].

customised solutions deployed on-premise, while Broadway focuses mainly on serving customers that require a more standardised hosted (ie cloud-based) solution.[131]

149. The Parties also submitted that the only hypothetical sub-segments in which ION and Broadway overlap are automated trading and connectivity.[132] However, as set out above, based on evidence from third parties and the Parties' internal documents, the CMA believes that both Parties provide a broad range of functionalities.[133]

150. Notwithstanding the Parties' submissions as to their different customer focus, the evidence that the CMA has received indicates that the Parties compete closely. This evidence is detailed in the sub-sections that follow.

Submissions and conclusions in ION/Fidessa

151. Both ION and Broadway provided evidence, in the context of the CMA's 2018 merger investigation in respect of *ION/Fidessa*, which is also relevant to the CMA's assessment of closeness of competition between the Parties in this Merger investigation.

152. In particular, a note of a call between the CMA and Broadway which took place on 8 July 2018[134] includes the following statements:

(a) Broadway Technology stated that it was 'ION's only real competitor in fixed income';

(b) '[✄];

(c) [✄]; and

(d) [✄].

153. In addition, in an internal document provided by ION in the context of the *ION/Fidessa* merger investigation (a slide deck entitled [✄], dated 14 February 2018):[135]

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131 DMN, paragraph 225.

132 DMN, Table 24; Annex 149 of the Parties' consolidated Index, 'RFI 3 Question 4 5 and 6 Updated'; and Parties' response to the Issues Letter, paragraph 3.15.

133 See paragraph 106 of this Decision.

134 Note of the call with Broadway Technologies, 8 July 2018 *(ION/Fidessa).*

135 [✄], slide 5 *(ION/Fidessa).*

(a) only three competitors to ION are identified in relation to FI: 'Bloomberg (TOMS and STW)', 'Broadway' and 'Bank Internal IT';

(b) under the [✂] heading in respect of Broadway, the following is noted: [✂]; and

(c) under the [✂] heading in respect of Broadway, the following is noted: [✂].

154. During the current Merger investigation, the Parties submitted that certain statements in the note and internal document do not accurately reflect the current competitive conditions.[136] Notwithstanding these submissions, the CMA has not seen any evidence which calls into question the reliability of the statements cited above or that indicates there has been a material change in the market since 2018.[137] The CMA also considers that the statements are consistent with other sources of evidence on closeness of competition in the current investigation. Accordingly, the CMA has placed weight on them.

155. The CMA also notes the CMA's decision in *ION/Fidessa* which (having had regard to the evidence outlined above as well as other evidence from third parties) stated as follows: 'the CMA received some evidence from the Parties' internal documents and from third parties that ION has a strong position in the supply of sell-side front-office trading software for FI, with only one close competitor (with a much smaller share of supply), Broadway Technology.'[138]

156. The CMA believes that each of the pieces of evidence outlined above from the *ION/Fidessa* case strongly indicates that the Parties consider each other to be close competitors within the supply of sell-side front-office systems for FI electronic trading.

Evidence from internal documents

157. The Parties submitted that they do not formally monitor competitors or competitive conditions in the market and therefore provided only a limited number of internal documents covering these topics to the CMA.

158. Nonetheless, the CMA has identified a number of the Parties' internal documents which indicate that the Parties consider themselves to be close

[136] DMN, paragraphs 261 to 273 and Annex 241of the Parties' consolidated index, [✂]. See also paragraph 177 et seq. .

[137] If anything, the evidence indicates that the Parties are *closer* competitors than they were in 2018: Broadway's revenue increased by [✂]% from 2018 to 2019 (Annex 241 of the Parties' consolidated index) and it has recently won customers from ION (see switching section).

[138] *ION/Fidessa*, paragraph 55.

competitors in the provision of sell-side front-office systems for FI electronic trading. For example:

(a) An ION internal document entitled [✂] dated [✂][139] includes a [✂] that rates the Parties and a number of other providers according to [✂] functionalities.[140] This document indicates that:

(i) ION considers the functional breadth of the Parties' offerings for FI to be very similar, given that [✂];

(ii) ION considers that the Parties' overall strength within FI is similar, given that – in addition to ION, which has a total score of [✂] – only two providers (Bloomberg and 'Internal IT', [✂] have a higher total score than Broadway ([✂]); and

(iii) ION considers that the Parties' strength within each of the functionalities is very similar, given that [✂].

(b) An ION internal document entitled [✂] dated [✂] features a graphic illustrating ION's view of the competitive landscape by asset class, trading stage, and type of customer in 2018. In this document, ION identifies Broadway as one of only four competitors to itself in sell-side front-office for FI (the others being TransFICC, AxeTrading, and Bloomberg), which suggests that ION considers Broadway to be one of its closest competitors in this space.[141]

(c) While the internal emails of both Parties that the CMA has seen make limited mention of competitors in relation to FI, the CMA has seen a number of internal emails which show that ION and Broadway monitor each other to a certain extent. For example:

(i) In an email dated [✂], ION [✂]. [142]

(ii) In an email dated [✂],[143] [✂].

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[139] The CMA notes that this document was prepared in contemplation of the Merger, rather than in the ordinary course of the Parties' business. However, the CMA notes that the evidence on closeness of competition between the Parties, and constraints from other providers (see paragrpahs 201 and 207 below), contained in this document is consistent with other evidence collated during the course of its investigation.

[140] Annex 006 of the Parties' Consolidated Index, [✂], page 12-13'.

[141] Annex 087 of the Parties' consolidated Index, [✂], page 18.

[142] Annex 249 of the Parties' consolidated Index, [✂], page 6.

[143] Annex 253 of the Parties' consolidated Index, [✂].

(iii) In emails dated [✂],[144] [✂].

(iv) In an email dated [✂].[145]

(v) In an internal email dated [✂],[146] [✂].

159. Overall, the CMA believes that evidence from the Parties' internal documents indicates that the Parties see each other as important competitors in the supply of sell-side front-office systems for FI electronic trading, worldwide.

Third party views on closeness of competition

160. The CMA asked customers how closely they consider Broadway and ION compete with each other to provide sell-side front-office trading software for FI.[147]

161. The vast majority of customers that responded to this question indicated that the Parties compete closely or that they offer similar functionality. One customer told the CMA that ION and Broadway are 'very close' competitors, in that 'they provide similar services for the fixed income market.'[148] Another said that the Parties 'compete closely in the fixed income space as Broadway's coverage and offering has increased over the last 6 years.'[149] A third customer commented that the Parties compete 'very closely' and that 'Broadway's fixed income sell-side offering targets the same client base. Broadway's sales strategy is centred on 'displacing' ION from banks by providing a cheaper, functionally compatible platform offering.'[150]

162. A small number of customers explicitly indicated (unprompted) that they consider that Broadway is ION's *closest* competitor in the provision of sell-side front-office trading software for FI. One customer told the CMA that 'the only alternative full-service integrated trading solution to ION in this space is Broadway.' [151] Another said that 'Broadway has been investing heavily to turn itself into a fullstack alternative to ION. therefore considers that ION and

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[144] Annex 253 of the Parties' consolidated Index, [✂].

[145] Annex 253 of the Parties' consolidated Index, [✂].

[146] Annex 253 of the Parties' consolidated Index, [✂].

[147] In the Parties' Response to the Issues Letter (paragraph 3.45), the Parties argue that the third party evidence on which the CMA relies is not representative. However, the CMA notes that in the course of its market investigation it contacted all of the third parties for whom the Parties provided contact details, and received responses from 34 customers and 14 competitors. There was a significant level of consistency in the responses.

[148] [✂].

[149] [✂].

[150] [✂].

[151] [✂].

Broadway are closest competitors. In fact, Broadway offers the only competing solution that would consider switching to, but for the similarity in the two providers' approach to pricing and general strategy.'[152] A third customer said that 'we see Broadway as the main competitor and alternative to ION for fixed income.'[153]

163. By contrast, a limited number of customers told the CMA that while ION and Broadway compete, Broadway offers slightly less functionality than ION. In particular, one customer submitted that 'we consider ION as the market leader from a functional perspective in that space, and we were aware that Broadway was in the process of closing the functional gaps with ION.' [154] Another customer told the CMA that 'Broadway is a direct competitor with ION in all the areas that Broadway currently addresses, but Broadway has not yet achieved all the functionality that ION offers. ION is [a] more developed platform with much more market breadth – there is still much to develop with Broadway to compete with ION in all areas.'[155] A third customer responded that 'ION has a very large market share of the sell-side front-office trading software in Fixed income with few direct competitors where Broadway is more the challenger to the Marketview product from ION in Fixed income.'[156]

164. As part of its Merger investigation, the CMA asked customers to rank providers of sell-side front-office FI trading solutions according to how closely these suppliers could meet their needs.[157] The results are set out in Table 3 : Customer mentions of providers, below.

Table 3 : Customer mentions of providers

[152] [✂].
[153] [✂].
[154] [✂].
[155] [✂].
[156] [✂]
[157] The precise question was 'If you were running a procurement process today for sell-side front-office trading solutions for fixed income, which providers would you consider? Please list in order with the provider that you believe most closely meets your needs first; and comment on the advantages/disadvantages of the different providers.'

Provider	Number of times ranked 1st	Number of times ranked 2nd	Number of times ranked 3rd	Number of times ranked 4th	Number of times ranked 5th	Number of times ranked 1st to 5th [d]
ION	13	4	2	0	0	19
Broadway	1	7	4	2	1	15
Bloomberg	2	3	4	0	1	10
TransFICC	2	3	0	2	2	9
In-house	4	0	3	0	0	7
SmartTrade	1	1	0	1	2	5
LIST	0	1	1	2	0	4
Valantic	0	1	1	1	0	3
Axe Trading	0	1	1	0	0	2
SoftSolutions	0	0	1	1	0	2
Other	0	0	1	3	2	5

Source: responses to CMA customer questionnaire. The CMA contacted 64 customers for which the Parties provided contact details and 34 responded, of which 23 responded to this question.

165. In summary:

(a) ION and Broadway were ranked within a customer's top five providers more than any other firm;

(b) A large number of customers which responded the question, also ranked both ION and Broadway within their top five providers, providing evidence that the Parties compete closely with each other from the viewpoint of customers.

(c) 35% respondents listed three or fewer providers.

166. The CMA also asked other providers how closely they consider Broadway and ION compete with each other to provide sell-side front-office systems for FI electronic trading. A majority of providers that responded to this question indicated that the Parties compete closely or that they offer similar functionality. One supplier told the CMA that 'we believe ION and Broadway are in direct competition with each other when it comes to sell-side front-office trading software for fixed income as they are the only two vendors offering a complete solution today. Broadway describes its fixed income offering as the only viable solution for ION replacement and by successfully delivering ION replacement solutions to [✂] previous ION users, they now have a credible offering.'[158] Another submitted that 'ION is the most dominant player in fixed income. Broadway and in-house builds have been the main alternative for most sell-side clients.'[159] A third supplier commented that the Parties 'compete directly. Broadway raised USD 42M from Long Ridge Equity partners primarily to move from FX and compete with ION in fixed income.'[160]

158 [✂].
159 [✂].
160 [✂].

167. A third party [✂] explained that Broadway has developed a suite of software products that is 'pretty much like for like' with ION's incumbent sell-side front-office systems for FI electronic trading. The [✂] indicated that ION and Broadway have similar capabilities and positions in the market:

(a) In terms of capabilities, ION offers 'the full spectrum of FI instruments' and Broadway provides 'full functional capabilities'.

(b) In terms of positions in the market, both Parties are viewed as 'strongest contenders' for 'global sell-side' customers. ION is described as 'strongest contender' and Broadway has a 'high chance of winning' for regional sell-side customers. Both are ranked above all other competitors for global and regional sell-side.[161]

168. Overall, the evidence provided by third parties supports the conclusion that the Parties are close competitors in the supply of sell-side front-office systems for FI electronic trading, worldwide.

Analysis of business opportunities and of switching

- *Business opportunity data*

169. The CMA asked the Parties to provide details of business opportunities (including contract renewals) in respect of the supply of sell-side front-office trading software for FI from January 2015 to the present.

170. The Parties provided over [✂] data points which they submitted are business opportunities in which ION and/or Broadway took part in from 2015-2020. The Parties submitted that over [✂] of these opportunities related to the supply of individual components, not bundles of multiple functionalities; and that over [✂] of opportunities were small-scale procurements, falling below £[✂] in value.[162]

171. The CMA notes that ION's data related to *all* cost indications and proposals over the period which contained (i) a significant number of duplicates;[163] (ii) a significant number of opportunities that related to goods or services that were

[161] [✂].

[162] Parties' Response to the Issues Letter, paragraph 3.28. The Parties further submitted that [✂] of entries in ION's data (and [✂] in Broadway's) related to procurements of £[✂]or less (Appendix 5 to the Parties' Response to the Issues Letter, paragraph 2.2). The CMA notes that the percentages were considerably lower when calculated on the basis of the value of the opportunities: [✂]% for ION and [✂]% for Broadway. In Broadway's case, this reflected that some opportunities did not have a value attached.

[163] For instance, [✂]. As a result, there are at least [✂] duplicates ([✂]% of total number of entries).

neither components nor systems, such as training or support;[164] (iii) a significant number of goods or services that were provided free of charge;[165] and (iv) a significant number of component swaps (rather than purchases).[166]

172. The CMA examined some of the data provided by the Parties with a number of customers. All of these customers told the CMA that after the conclusion of a contract for the provision of a trading system, there could be follow-on business with the Parties during the contract period but that, even where such business is for components of the systems, they would not commonly go out to market but would rather rely on the Parties. For example, one customer told the CMA that [✂].[167] The CMA therefore believes that the data provided from at least ION contain a very large number of entries that do not represent competitive opportunities for the goods and services in the relevant frame of reference and hence are irrelevant for the CMA's assessment of the competitive effects of the Merger. This limits the inferences that can be drawn from the data.

173. The Parties also submitted that their data showed low success rates in winning business (below [✂] and below [✂] for Broadway).[168] For the reasons set out above, the CMA believes that the underlying data is also not suitable for calculating success rates, and, in any event, it would be difficult to make inferences about competition from simple win/loss rates (in particular when it is not possible to exclude opportunities that related to follow-on business).[169]

174. The Parties submitted that structured request for proposals (RFP) processes are very rare in the purchasing of sell-side front-office fixed income trading software, that they receive such requests extremely rarely, and that information about the number and identity of other parties being contacted as part of the procurement process is not transparent. The Parties were therefore

[164] There are over [✂] ([✂]% of the total number of entries).

[165] There are [✂] ([✂]% of the total number of entries).

[166] There are [✂] ([✂]% of the total number of entries).

[167] Email from [✂] to CMA of 02/07/2020.

[168] Parties' Response to the Issues Letter, paragraph 3.28 (c). The CMA found that, assessed on the basis of value of proposals, ION's success rate was [✂]% and Broadway's [✂]%.

[169] At an earlier stage of the investigation, the Parties provided a different business opportunity dataset (EEA rather than global) including the names of incumbent providers and competitors. However, the CMA's testing of a sample of these opportunities indicated that this information could not be relied on (indeed the Parties acknowledged from the start that purchasers rarely disclosed the names of incumbent system providers and competitors to bidding vendors). The CMA notes that the Parties' subsequent business opportunity data did not include information on incumbent providers and competitors.

not able to provide the names of suppliers they considered *at the time of the opportunity* to be likely to have competed for the opportunities.[170]

175. Based on other information, the Parties submitted that in [✂] cases customers switched between ION and Broadway: [✂] and [✂] from ION to Broadway and [✂] and [✂] from Broadway to ION. During its market testing, the CMA identified further cases of current or imminent switching: [✂], [✂] and [✂] are in [✂] (or [✂]) from [✂] to [✂].

176. Taking the information from the Parties and customers together, the CMA has identified the following instances of switching between the Parties:

- *Switching from Broadway to ION:*

177. [✂] told the CMA that it used both ION and Broadway for FI trading in the past. [✂].

178. [✂] recently moved its [✂] businesses from Broadway to ION. [✂] submitted the main objective of this switch was [✂]. [✂] submitted that it chose to [✂] for two main reasons: (i) [✂], and (ii) [✂].

- *Switching from ION to Broadway:*

179. [✂] switched from ION to Broadway in 2018. It considered [✂]. The decision to move away from ION was taken in [✂] and although [✂] continued to use ION until 2018, Broadway was considered [✂].[171]

180. [✂] switched from ION to Broadway in [✂]. It was its [✂] customer for European FI trading. [✂] identified Broadway '[✂]'. [✂]' move was motivated by [✂], [✂].[172]

181. [✂] signed a contract with Broadway in [✂] to switch away from ION. [✂].[173]

182. [✂] told the CMA that it switched from ION to Broadway in order to [✂]. It has not considered other providers than the Parties as there are no other alternatives. [✂].[174]

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[170] Parties' Response to the CMA's Third s109, paragraphs 103 to107. Parties' Response to the CMA's Eight s109, dated 9 June 2020, paragraphs 2 and 9.
[171] [✂].
[172] [✂].
[173] [✂].
[174] [✂].

183. [✂] told the CMA that [✂]. [✂] considers ION to be expensive, with rigid contracts and poor customer service.[175]

184. The CMA acknowledges that [✂] customers is a significant number in comparison with Broadway's total number of FI customers ([✂]) and its relatively recent entry into FI. In addition, relatively infrequent procurement exercises and high switching costs (see paragraph 282(a)) lead to a low number of switching opportunities. Furthermore, as set out in paragraphs 279 to 285, the ability to serve sizeable customers is an important factor determining the competitiveness of a vendor and the CMA notes that the examples of switching between the Parties all involve banks [✂].[176]

- *Other switching*

185. In addition, the Parties submitted that there had been more switching between Broadway and in-house and/or Bloomberg than ION; and that there had been more switching between ION and in-house and/or Bloomberg compared to Broadway or any other supplier.[177]

186. As regards switching between the Parties and in-house, the CMA notes that sell-side front-office systems for FI electronic trading are integrated with customers' own IT systems; and that the appetite of customers for self-supply varies. While some of the switches from the Parties to in-house represented major switching by the largest banks ([✂]), the others were less significant, representing a small part of the customer's electronic trading system, ie they were not switches of the whole system.[178] The CMA also notes that customers switching from in-house to the Parties is not necessarily indicative that in-house supply exerts competitive constraints on the Parties.[179] The CMA's assessment of the competitive constraints from in-house supply is considered further in the relevant section below.

187. As regards switching between ION or Broadway and Bloomberg, the Parties identified [✂] switches from ION to Bloomberg[180] and from Bloomberg to

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[175] [✂].

[176] Ali, Zarmina (2020) *The world's 100 largest banks, 2020* (S&P Global Market Intelligence).

[177] Parties' Response to the Issues Letter, Appendix 2, paragraphs 1.7 to 1.8.

[178] Parties' Response to the Issues Letter, Annex 7 and Broadway Confidential Annex to Parties' **Issues Meeting Presentation** (dated 16 June 2020), slide 15.

[179] In at least one of the examples cited by the Parties the CMA had obtained evidence that in-house supply was not considered a viable alternative to the Parties when the customers switched to using the Parties' solutions

[180] Parties' Response to the Issues Letter, Annex 7.

Broadway[181] between 2013 and 2020.[182] The CMA notes that these are fewer instances than the number of customers who switched between ION and Broadway ([✂] from ION to Broadway and [✂] from Broadway to ION, as set out above) and has assessed the competitive constraints of Bloomberg on the Parties in the relevant section below (see paragraphs 196 et seq).[183]

188. The CMA notes that the Parties did not make any representations about switching between ION or Broadway and third party providers other than Bloomberg.

189. Based on the evidence set out above, the CMA has found that the overall level of switching of sell-side front-office systems for FI electronic trading has been low, reflecting the cost and time taken to switch. Nevertheless, there has been a significant level of switching between the Parties and the CMA believes this is consistent with the Parties being close competitors. The CMA does not believe that inferences can be drawn from the business opportunity data about closeness of competition.

Conclusion on closeness of competition

190. The CMA believes that the evidence set out above strongly supports the conclusion that ION and Broadway compete closely with each other in the supply of sell-side front-office systems for FI electronic trading worldwide.

Constraints from other providers

191. Unilateral effects are more likely where customers have little choice of alternative suppliers. The CMA considered whether alternative suppliers would provide a sufficient competitive constraint on the combined entity post-Merger.[184]

192. ION submitted that there are over 60 alternative suppliers of front office trading software for FI.[185]

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[181] Broadway Confidential Annex to Parties' Issues Meeting presentation, slide 15.

[182] Parties' Response to the Issues Letter, Annex 7.

[183] The CMA notes that some of the switches referrerd to here were 'partial' switches, eg of a particular trading desk or a subset of FI instruments, which were undertaken as [✂].

[184] *Merger Assessment Guidelines*, from paragraph 5.4.5.

[185] AbelNosel, Adroit, Algomi, Axe Trading, Bank Internal IT, Bloomberg, CMA Small Systems, CME/NEX, CQG, Dash Financial, Decide, Egar Technology, ETLogic, Ferential Systems, Finastra, FIS/ SunGard, FIxtHub, Flextrade, FM Connect, FT Labs, Horizon Software, IHS Markit, Imagine Software, InforAlgo, InfoReach, Investortools, IPC, IRESS, itarle, Itiviti, Kalotay Analytics, The Karn Group, Liquidnet, LSE / Refintiv, MarketAxess, Moody's, MSCI, Murex, Numerix, OpenFin, Orchestrade, Pico, Quantitative Brokers, Riskspan, Simplex, SIA (ToDeal), SmartTrade, StatPro, Thetica, Tora Trading, Trading Technologies. TradingScreen, TransFICC, Trumid, Valantic (fka iCubic), Vela, Vichara, Xios. DMN, pargraph 270.

193. Based on the available evidence, the CMA considers that, other than the Parties, the suppliers active in the supply of sell-side front-office systems for FI electronic trading which provide varying degress of competitive constraint are Bloomberg, AxeTrading, smartTrade, TransFICC (as well as other more distant and limited competitors such as Valantic, LIST and SoftSolutions (see paragraph 234)).

194. By way of overview, evidence received by the CMA indicates that, with the exception of Bloomberg which provides a significant competitive constraint on the Parties for some customers, none of these alternative suppliers, individually or in combination, would provide a significant constraint on the Parties post-Merger in the supply of sell-side front-office systems for FI electronic trading.

195. The CMA has assessed the constraint from competitors below by taking into consideration:

(a) The Parties' views;

(b) The Parties' internal documents; and

(c) Third party views.

Bloomberg

196. Bloomberg supplies sell-side front-office systems for FI electronic trading; its product offering includes inventory, trading and connectivity solutions offered through its TOMS and ETOMS. Bloomberg also provides the 'Bloomberg Terminal', a software package that provides news, financial data, data analysis functions, functionality for electronic trading and communication and messaging functions.[186]

- *Parties' submissions*

197. The Parties submitted that Bloomberg is a 'formidable competitor' in sell-side front-office software in FI, supplying products similar to Broadway and ION. The Parties further submitted that Bloomberg provides a 'fully featured FI

[186] Bloomberg's asset classes in FI include Cash Rates, Cash Credit, Bond Repo, Municipals, Despitis, Loans and Money Markets. Bloomberg's asset classes in FX include FX Spot / Forwards, FX Options, FX Exotics and Structured Products (Source: Bloomberg TOMS).

trading platform' for sell-side FI markets globally and that the TOMS system[187] directly competes with ION and Broadway.[188]

198. The Parties estimated Bloomberg's market share to be around [30-40]%.[189] The Parties further submitted that Bloomberg is the leading aggregator of FI data and, due to the importance of over-the-counter data in FI, it has been a longstanding strong supplier in 'sell-side capital markets technology in FI.'[190]

199. The Parties further submitted that there has been more switching between Broadway and Bloomberg (and/or internal IT) than ION[191] and that this indicates that, although the Parties compete, they are not each other's closest competitor.[192] As set out at paragraph 185 above, this submission is not supported by the CMA's investigation.

200. During the CMA's investigation of *ION/Fidessa* (2018),[193] Broadway, as a competing third party, told the CMA that Bloomberg's offering is different to that of Broadway.[194] [✂].[195] During the CMA's current Merger investigation, the Parties submitted that, contrary to Broadway's submissions in relation to *ION/Fidessa* (2018),[196] banks do use Bloomberg particularly for US credit trading. The Parties also submitted that banks such as [✂] also use Bloomberg solutions for specific requirements such as trade and position management through Bloomberg TOMS (integrated with ION) or in some cases end to end for smaller trading desks (for example Santander US Credit).[197]

- *Internal documents*

201. The Parties' internal documents identify Bloomberg as a competitor in the supply of sell-side front-office systems for FI electronic trading, for example:

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187 The Parties submit that TOMS provides execution and order management, supporting connectivity, pricing, automated trading, order routing, position management, regulatory reporting, and complete integration into Bloomberg's other systems. Parties' Response to the Issues Letter, Appendix 3, paragraph 2.

188 Parties' Response to the Issues Letter, Appendix 3, paragraph 2.

189 DMN, paragraph 23 and also, Parties' Response to the CMA's Fifth s109, paragraph 137.

190 DMN, paragraph 138.

191 Parties' Response to the Issues Letter, Appendix 2, paragraph 1.7. The CMA has not been able to verify this submission since the Parties did not provide the underlying data. [✂].

192 Parties' Issues Meeting Presentation, Broadway Confidential Annex, slide 15.

193 *ION/Fidessa.*

194 Note of the call with Broadway Technology, 8 July 2018 *(ION/Fidessa).*

195 Note of the call with Broadway Technology, 8 July 2018 *(ION/Fidessa).*

196 *ION/Fidessa.*

197 DMN, paragraph 269.

(a) In ION's [✂] setting out its perception of the capabilities of competitors, Bloomberg is one of the few alternative providers listed as covering a similar breadth of functionalities [✂].[198] The same document indicates that ION considers that Bloomberg's overall strength within FI is similar to itself [✂].[199]

(b) One ION internal document discussing competition in FI states that [✂].[200]

(c) In another ION internal document Bloomberg is identified as a competitor to ION in sell-side front-office solutions in FI, alongside Broadway, AxeTrading and TransFICC.[201]

- *Third party views*

202. As discussed at paragraphs 161 et seq. and Table 3 : Customer mentions of providers, the CMA asked customers to rank providers of sell-side front-office trading solutions according to how closely they could meet their needs. Bloomberg was ranked within their top five providers 10 times, behind ION (ranked 19 times) and Broadway (ranked 15 times). This evidence indicates that customers consider Bloomberg as a competitor to the Parties, although as one that meets their needs less well than either of ION or Broadway.

203. A number of third parties considered that Bloomberg's solution addresses different customer requirements to the Parties' sell-side front-office systems for FI electronic trading.

(a) Several customers stated that Bloomberg has limited functionality coverage and market connections in FI.[202] One of these customers, told the CMA that while it predominantly uses ION as its electronic trading platform for FI, it uses certain Bloomberg TOMS functionalities for simple bond trading in some countries but that Bloomberg TOMS is not suitable for more complex/sophisticated trading, such as algo trading.[203] Another of these customers told the CMA that it considered Bloomberg ETOMS not to be a viable alternative to ION because of a functionality gap,

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198 Annex 006 of the Parties' consolidated Index, [✂], page 12-13..
199 Annex 006 of the Parties' consolidated Index, [✂], page 12-13..
200 Annex 006 of the Parties' consolidated Index, [✂], page 14.
201 Annex 087 of the Parties' consolidated Index, [✂].
202 [✂].
203 [✂].

compared to ION's more wide-ranging offering, and 'a vendor concentration risk.'[204]

(b) A customer told the CMA that Bloomberg's solution is integrated into Bloomberg's ecosystem and its functionality is a 'black-box' where the customer has limited control over what it does. Whilst allowing for the trading of many different instruments these features would only make it suitable for regional banks.

(c) A customer told the CMA that it believes that Bloomberg TOMS and ETOMS do not compete strongly with ION.[205]

(d) A supplier stated that one of the limitations of Bloomberg is that, as an operator of trading venues, it competes with other operators which may be reluctant for it to establish connectivity to their venues.[206]

(e) A third party described Bloomberg as a 'functionally limited' version of ION or Broadway which could only be used on the Bloomberg system and does not allow other software modules to plug into it.[207]

- *Conclusion*

204. In light of the above evidence, the CMA believes that Bloomberg imposes a significant competitive constraint on the Parties in the supply of sell-side front-office systems for FI electronic trading, especially when they compete to supply smaller customers or customers with less complex and/or bespoke requirements. However, evidence from third parties indicates that Bloomberg offers more limited functionality than the Parties.

AxeTrading

205. AxeTrading offers electronic trading technology. Its FI sell-side product is available as a cloud-based or on-premise solution. AxeTrading submitted that [✄]. Whilst its technology is [✄]and that it most frequently competes against [✄]. Further, AxeTrading estimates that its market share is below [✄]%.[208]

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204 [✄].
205 [✄].
206 [✄].
207 [✄].
208 [✄].

- *Parties' submissions*

206. The Parties submitted that AxeTrading is one of ION's main competitors, [✂]. The Parties also submitted that [✂].[209]

- *Internal documents*

207. In ION's [✂], AxeTrading is one of the few alternative providers listed as covering a similar breadth of functionalities [✂].[210] In the same document, [✂].

208. In another ION internal document, AxeTrading is identified as a competitor to ION in sell-side front-office solution providers in FI, alongside Broadway, Bloomberg and TransFICC.[211]

209. Overall, there are very limited mentions of AxeTrading in the Parties' internal documents.[212]

- *Third party views*

210. As discussed at paragraphs 161 et seq. and Table 3 : Customer mentions of providers, the CMA asked customers to rank providers of sell-side front-office trading solutions according to how closely they could meet their needs. AxeTrading was ranked within their top five providers only two times, far behind ION (ranked 19 times) and Broadway (ranked 15 times). This evidence indicates that customers consider AxeTrading as a competitor to the Parties to only a limited extent.

211. One third party stated that it considers Axe Trading has a 'low chance of winning' contracts with global sell-side customers and an 'average chance of winning' regional sell-side customers.[213]

212. A small minority of suppliers identified AxeTrading as an alternative provider to the Parties in the supply of sell-side front-office trading software for FI.[214] A

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209 Parties' Executive Summary, submitted on 4 June 2020, paragraph 5.6 and DMN, paragraph 268.

210 Annex 006 of the Parties' consolidated Index, [✂], page 12-13.

211 Annex 087 of the Parties' consolidated Index, [✂].

212 The Parties submitted that they do not formally monitor competitors or competitive conditions in the market for sell-side front-office systems for FI electronic trading and therefore provided only a limited number of internal documents covering these topics to the CMA. Nevertheless, the CMA considers that the Paries' internal documents refer more often to Broadway and, to a lesser degree, Bloomberg than to other suppliers of sell-side front-office systems for FI electronic trading.

213 [✂].

214 [✂].

limited number of customers identified AxeTrading as a provider considered in a recent procurement for sell-side front-office trading software for FI, alongside the Parties. Of these, one customer stated that whilst AxeTrading offers a range of functionalities, it is a small firm only providing connectivity to one trading venue (Bloomberg).[215] Another one of these customers stated that AxeTrading is in the early stages of development and therefore it may still have major gaps and less experience in sell-side fixed income electronic trading.[216]

- *Conclusion*

213. In light of the above evidence, the CMA believes that AxeTrading imposes a limited competitive constraint on the Parties in the supply of sell-side front-office systems for FI electronic trading, since it targets smaller customers (eg regional banks) and has a relatively small presence in the market.

SmartTrade

214. SmartTrade provides a number of trading solutions for FI and other asset classes. However, SmartTrade told the CMA that it does not provide [✂]. [217] In addition, SmartTrade submits that it has only [✂] customers and [✂][218] giving it a very small share of supply of [0-5%] (see Table 2: CMA FI share of supply estimates (global, 2019)).

- *Parties' submissions*

215. The Parties submitted that smartTrade is a competitor to ION in [✂].[219] ION estimates that smartTrade [✂].[220] ION further submitted that [✂].[221]

- *Internal documents*

216. As referenced above, in ION's [✂] smartTrade is one of the few alternative providers listed as covering a similar breadth of functionalities [✂]. In the same document, [✂].

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[215] [✂].
[216] [✂].
[217] Annex 006 of the Parties' consolidated Index, [✂], page 12-13.
[218] [✂].
[219] DMN, Tables 24 and 30.
[220] DMN, Table 26.
[221] DMN, paragraph 270.

217. Overall, there are very limited mentions of smartTrade in the Parties' internal documents. [222]

- *Third party views*

218. As discussed at paragraphs 161 et seq. and Table 3 : Customer mentions of providers, the CMA asked customers to rank providers of sell-side front-office trading solutions according to how closely they could meet their needs. smartTrade was ranked within their top five providers five times, far behind ION (ranked 19 times) and Broadway (ranked 15 times). This evidence indicates that customers consider smartTrade as a competitor to the Parties only to a limited extent.

219. A small minority of the suppliers that responded to the CMA's questionnaire identified smartTrade as a competitor in FI.

220. Another supplier stated that 'SmartTrade is not actively competing in FI as it is not able to offer full coverage across the FI value chain and instruments. For that reason, it does not directly compete with ION or Broadway.'[223]

221. One customer stated that 'smartTrade would require a partnership and to secure client contracts in order to expand [from FX] into [FI].'[224]

222. A further customer stated that it would not select smartTrade in a procurement exercise as it has a limited market presence outside of EMEA, lacks a pricing engine for FI and is limited in functionality in FI (as it only supports swaps).[225]

- *Conclusion*

223. In light of the above evidence, the CMA believes that smartTrade imposes only a very limited competitive constraint on the Parties in the supply of sell-side front-office systems for FI electronic trading due to its very limited presence in the market, limited breadth of its offering and because it [✂] for [✂].

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[222] The Parties submitted that they do not formally monitor competitors or competitive conditions in the market for sell-side front-office systems for FI electronic trading and therefore provided only a limited number of internal documents covering these topics to the CMA. Nevertheless, the CMA considers that the Paries' internal documents refer more often to Broadway and, to a lesser degree, Bloomberg than to other suppliers of sell-side front-office systems for FI electronic trading.

[223] [✂].

[224] [✂].

[225] [✂].

TransFICC

224. TransFICC is a technology company providing solutions, primarily focused on connectivity, for the FI and derivatives markets. It is a startup founded in 2015 and recently raised capital from a number of investment banks. TransFICC's connectivity solution is cloud-based. TransFICC told the CMA that its [✂].[226]

- *Parties' submissions*

225. The Parties submitted that TransFICC markets itself as a 'start-up alternative' to both ION and Broadway and that it has gained significant traction since entry, signing several global investment banks as its first clients due to its flexibility, central hosting capabilities and its focus on providing market access.[227] The Parties further submitted that TransFICC has received financial backing from Citi, Commerzbank, ING and HSBC, customers of the Parties which have an incentive to grow TransFICC at the expense of competitors.[228]

- *Internal documents*

226. In ION's [✂], TransFICC is [✂]. [229]

227. In one ION internal document, TransFICC is identified as a competitor to ION in sell-side front-office solution providers in FI, alongside Broadway, Bloomberg and AxeTrading.[230]

228. Overall, there are very limited mentions of TransFICC in the Parties' internal documents. [231]

- *Third party views*

229. As discussed at paragraphs 161 et seq. and Table 3 : Customer mentions of providers, the CMA asked customers to rank providers of sell-side front-office trading solutions according to how closely they could meet their needs.

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[226] [✂].
[227] DMN, paragraphs 161 and 246.
[228] Parties' Response to the Issues Letter, paragraph 3.55.
[229] Annex 006 of the Parties' consolidated Index, [✂], page 12-13. Annex 006 of the Parties' consolidated Index, [✂], page 12-13.
[230] Annex 087 of the Parties' consolidated Index, [✂], slide 18.
[231] The Parties submitted that they do not formally monitor competitors or competitive conditions in the market for sell-side front-office systems for FI electronic trading and therefore provided only a limited number of internal documents covering these topics to the CMA. Nevertheless, the CMA considers that the Paries' internal documents refer more often to Broadway and, to a lesser degree, Bloomberg than to other suppliers of sell-side front-office systems for FI electronic trading.

TransFICC was ranked within their top five providers 9 times, far behind ION (ranked 19 times) and Broadway (ranked 15 times). Moreover, almost half of TransFICCs top five rankings were in positions four and five, while the vast majority of the Parties' top five rankings were in positions one, two and three. This evidence indicates that customers consider TransFICC as a competitor to the Parties only to a limited extent.

230. A small number of customers which responded to the CMA's questionnaire stated that TransFICC's focus lies in connectivity. Of these, one customer stated that TransFICC would need to expand vertically to cover more than connectivity and become a full end-to-end solution provider.[232] Another customer told the CMA that TransFICC currently only provides venue connectivity; therefore, other vendors or an in-house solution would be needed to provide other components.[233] Another customer stated that TransFICC is a small start-up specialising in gateway connectivity, currently only to a small number of trading venues.[234] Another customer told the CMA that whilst it has considered TransFICC as a viable alternative to ION, this would be purely for connectivity and for the purposes of connecting to new markets only; it would continue to use ION for connectivity to existing markets and for all other functionalities.[235]

231. Another customer stated that TransFICC has unproven and limited coverage of FI markets.

232. One supplier stated that TransFICC focuses on connectivity for large customers.[236] Similarly, another competitor stated that TransFICC only offers a basic set of gateways and part of the workflow and is therefore not able to compete with ION or Broadway for replacing an installed solution by large global banks.[237]

- *Conclusion*

233. In light of the above evidence, the CMA believes that TransFICC imposes a limited constraint on the Parties since it only provides connectivity, therefore it can only be used as part of a trading system in combination with other third party vendors or with an in-house solution.

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232 [✂].
233 [✂].
234 [✂].
235 [✂].
236 [✂].
237 [✂].

Other alternative providers

234. Some customers listed other alternative providers active in the supply of sell-side front-office systems for FI electronic trading, including Valantic, LIST, SoftSolutions and LSEG. However, based on the available evidence, the CMA considers that these providers have limited functionalities (eg they lack global coverage, for instance in terms of connectivity), have a focus on customers in certain geographies only, or both.[238] Accordingly, the CMA's share of supply estimates for these providers are not reflective of their competitive strength. The CMA believes that these providers impose a more distant and limited competitive constraint on the Merged Entity in the supply of sell-side front-office systems for FI electronic trading.

235. The Parties also identified other alternative providers, including MarketAxess, Refinitiv, State Street, Murex, Finastra, Abel Noser, FIS/Sungard, IHS Markit, Dash Financials. However, these providers were identified by no, or only a very limited number of, customers and competitors that responded to the CMA's market investigation.[239] Some of these providers told the CMA they did not supply sell-side front-office FI trading software or electronic trading systems in competition with the Parties.[240] Moreover, the CMA considers that the other providers are not competitors to the Parties in relation to software for sell-side front-office FI electronic trading systems, since they are active in other areas such as post-trade functionalities or analytical or data services.[241] The CMA's view is therefore that these alternative suppliers do not impose a competitive constraint (or at most impose a negligible constraint) on the Parties in the supply of sell-side front-office systems for FI electronic trading.

Conclusion on alternative suppliers

236. In light of the above evidence, the CMA believes that there is only a small number of competitors that impose a competitive constraint on the Parties in the supply of sell-side front-office systems for FI electronic trading.

237. On the basis of the Parties' internal documents and evidence from the Parties' customers and competitors, the CMA believes that Bloomberg imposes a

[238] Based on multiple third party responses, including: [✂]. For example, several third parties stated that Valantic's focus is on German-speaking countries and that LIST and SoftSolutions focus on Italy; for example, [✂] indicated that LIST is limited since it has no coverage of US Markets. [✂].

[239] Murex was identified only once by [✂]; Finastra was identified three times by [✂], [✂], and [✂]; and Refinitiv was identified only once by Spar [✂].These providers are not included in Table 2 above as they were not ranked by any customer in their top 3.

.[240] [✂].

[241] For example, Abel Noser's website states that it is active in post-trade solutions for asset managers; and see [✂].

significant constraint on the Parties, while AxeTrading, smartTrade and TransFICC provide only a limited constraint.

Out-of-market constraints

238. The Parties submitted that many large customers have large in-house technology teams and are therefore well-placed to self-supply. The Parties further submitted that they see themselves as '[✂]'.[242]

239. The Parties provided several examples of customers switching from the Parties to in-house solutions for parts or all of their requirements and submitted, as mentioned at paragraph 185 above, that switching between the Parties and in-house solutions was more frequent than between the Parties.[243]

240. The Parties also submitted that for many of their customers the Parties' products sit alongside and integrate with in-house IT and that the business opportunities data, discussed above, indicates that internal IT has been a competing supplier on a significant number of occasions.[244] As is discussed above at paragraphs 185 to 188, the CMA found that the data provided by the Parties is not reliable as evidence of competitive constraints from in-house solutions (or other providers).

241. In addition, the Parties presented data in relation to banks' IT spend and numbers of IT and engineering employees. The CMA notes that it has found no evidence that the size of banks' IT departments is a good indicator of the competitive constraints imposed by in-house solutions on the Parties.[245] For example, one customer which the Parties submitted had over 4,000 IT employees told the CMA that it only had [✂] developers currently available to work on sell-side front-office systems for FI electronic trading and would need to double or quadruple that number and spend between USD 10 and 40 million in order to be able to replace the Parties' systems with an in-house solution.[246]

242. The CMA's investigation showed that the constraint from self-supply is limited for many customers:

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[242] DMN and Parties' Response to the CMA's Third s109.
[243] Parties' Response to the CMA's Fifth s109, [✂], paragraphs 1.7 to 1.8.
[244] Parties' Response to the Issues Letter, paragraph 3.49.
[245] Many of the examples of banks with well above 1,000 IT employees that the Parties provided, told the CMA that in-house solutions would not be viable alternatives to the Parties. For example, [✂].
[246] [✂].

(a) Responses from customers showed that the ability to develop and maintain in-house components that are used together with the Parties' products is no indicator of their ability to develop and maintain all components necessary for a sell-side front-office system for FI electronic trading. In fact, many customers explicitly told the CMA that whilst they used certain in-house components that integrate with the Parties' systems, they did not consider themselves able to develop and maintain solutions to replace the Parties' products.[247]

(b) The CMA's investigation has found that in-house provision is expensive, complex and time-consuming. This is because it requires sell-side market participants to develop and maintain large and sophisticated in-house IT team capabilities, which need to be kept up to date with increasingly complex technical and regulatory changes.[248] As such, the CMA believes that only a small number of banks is in a position to viably and sustainably self-supply.

(c) Of the small number of banks that told the CMA during its investigation that in-house solutions may be an alternative to the Parties' products, the majority nonetheless expressed concerns about the horizontal unilateral effects of the Merger,[249] thereby indicating that they do not consider self-supply to be a sufficient constraint on the Merged Entity.

243. The CMA found in its investigation that many customers of the Parties develop and maintain certain components in-house. The CMA also found that some banks use in-house solutions for all or significant parts of their sell-side front-office systems for FI electronic trading, and that [✂] number of the largest banks had switched from ION and/or Broadway to largely use in-house systems for FI electronic trading (see paragraph 186). Based on evidence from third parties, the CMA also considers that the Merged Entity is like to be able to understand which customers have the ability to self-supply and therefore, may be able to set its prices to each customer accordingly.[250]

244. In light of the evidence set out above, the CMA believes that in-house supply exerts a competitive constraint on the Parties for only a limited subset of their customers. The CMA believes that the existence of such customers is insufficient to protect other customers from the exercise of market power by the Parties post-Merger. Out-of-market constraints from in-house solutions do

247 [✂].
248 [✂].
249 [✂].
250 [✂].

not therefore allay the CMA's competition concerns in the supply of sell-side front-office systems for FI electronic trading.

Third party views on the impact of the Merger

245. The CMA asked the Parties' customers for sell-side front office systems for FI electronic trading whether they had any concerns about the impact of the Merger on competition. The majority of customers that responded to this question expressed concerns. For example:

(a) One customer told the CMA that 'the merger brings together the closest competitors in fixed income with no or only limited choice of alternative suppliers.'[251]

(b) Another customer commented that 'the transaction is likely to negatively impact price, quality and innovation.'

(c) One customer said that the Merger 'would leave ION in a near monopolistic position in the fixed income business.' [252]

(d) Another customer told the CMA that 'we won't have any real alternatives to ION as fixed income software provider after the acquisition.'[253]

(e) One customer commented that 'the acquisition of Broadway by ION essentially removes the most significant alternative to ION in terms of Fixed Income Trading capabilities. There are other vendors in this space but none with the same functional coverage, as such the acquisition severely limits options to switch vendors.[254]

(f) Another customer said that 'ION is already powerful and this transaction will make contract negotiation even more challenging, as there is no real alternative to ION in the market. The transaction risks further foreclosing the market and leaving significantly reduced space for new entrants.'[255]

246. The CMA also asked the companies identified by ION as suppliers in the supply of sell-side front office systems for FI electronic trading whether they had any concerns about the impact of the Merger on competition. The majority of competitors that responded to this question expressed concerns. One, told the CMA that the Merger 'makes it easier for ION to lock banks into

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251 [✂].
252 [✂].
253 [✂].
254 [✂].
255 [✂].

longer contracts and block growth of new entrants.' Another, commented that 'it expects that ION's acquisition of Broadway would result in ION increasing its market power in fixed income because there would be no viable alternative fixed income solution offered by a third party following the acquisition.' A third said that 'if ION integrates all their solutions and provides an end to end solution that they upsell into their existing customer base their market position could become dominant. If ION does not integrate their solutions, they still can use their position to control prices.'

247. The CMA believes that these third-party views are consistent with the theory of harm that the Merger will lessen the competitive constraint faced by the Merged Entity, allowing it to increase prices or otherwise reduce the quality of its services.

Evidence of changes to contractual terms following the Merger

248. During its investigation, the CMA found evidence that, following the Merger, and prior to the CMA imposing an initial enforcement order on ION on 2 April 2020, the Merged Entity updated the proposed terms and conditions of the provision of services which had been offered to at least one Broadway customer. The CMA understands that, while the cost of the services provided by Broadway was not amended, certain terms in relation to service levels, rights of termination and liability were updated in a manner which the CMA considers may have been detrimental to the customer.[256]

249. The CMA believes that it may be the case that these changes reflect a loss of competition resulting from the Merger, rather than simply being a reflection of different policies regarding contractual terms post-Merger. This may reflect that, pre-Merger, Broadway was a challenger to ION's strong position in the market and needed to offer more favourable terms to attract and retain customers; while post-Merger this is no longer necessary.

Conclusion on horizontal unilateral effects in the supply of sell-side front-office systems for FI electronic trading

250. For the reasons set out above, the CMA believes that: ION is by far the largest supplier with significant bargaining power vis-à-vis customers; the Parties are close competitors; only Bloomberg is significant as a constraint on the Parties, with other suppliers providing only a limited competitive constraint individually and in aggregate; the out-of-market constraint from self-supply is not sufficient to protect customers from the exercise of market power by the

[256] Annexes 263.1 to 263.3 of the Parties' consolidated index. For example, [✂].

Parties post-Merger; and changes to a customer's contractual terms post-Merger reflect a loss of competition resulting from the Merger.

251. Accordingly, the CMA believes that the Merger raises significant competitive concerns in relation to the supply of sell-side front-office systems for FI electronic trading, worldwide.

Supply of sell-side front-office systems for FX electronic trading, worldwide

252. In order to assess the likelihood of the Merger resulting in horizontal unilateral effects in relation to the supply of sell-side front-office systems for FX electronic trading, worldwide, the CMA considered:

(a) the closeness of competition between the Parties;

(b) the competitive constraints posed by alternative suppliers; and

(c) third party views on the impact of the Merger.[257]

Closeness of competition

253. The Parties submitted that there is no meaningful overlap between the Parties' activities in relation to FX, on the basis that the only hypothetical sub-segment in which ION and Broadway overlap is connectivity.

254. The Parties' internal documents present a mixed picture. As well as those already referred to in the frame of reference section that indicate the Parties overlap in in FX (see paragraphs 118 to 120), there were several indicating that the Parties consider their offerings in FX to be differentiated and complementary. For example:

(a) A Broadway internal document entitled [✂] dated [✂] provides an overview of [✂]. [258] On slides describing the [✂], neither ION nor any of its subsidiaries is identified.

(b) In an email dated [✂], ION notes (in relation to [✂]. [259]

255. None of the third parties that responded to the CMA's Merger investigation expressed the view that the Parties compete closely in the supply of sell-side

[257] The CMA did not consider shares of supply as part of its assessment of this theory of harm, as it did not receive from the Parties, and was not able to construct, reliable estimates of such shares.
[258] Parties' Response to the CMA's Third s109 and Annex 98 of the Parties' consolidated index, [✂].
[259] Parties' Response to the CMA's Fifth s109 and Annex 233 of the Parties's consolidated index, [✂], page 9: Email from [✂].

front-office systems for FX electronic trading. Third parties generally considered that ION offers more limited functionality than Broadway in FX.[260]

256. The CMA has identified only very limited instances of switching between the Parties. In at least one of these cases, the customer [✂].

257. Accordingly, the CMA believes that ION and Broadway are not close competitors in the supply of sell-side front-office systems for FX electronic trading, worldwide.

Constraint from other providers

258. The CMA has identified a number of the Parties' internal documents which indicate that the Parties view the market for the supply of sell-side front-office systems for FX electronic trading to be fragmented. For example, a Barracuda internal document [✂].[261] It notes that [✂].

259. Evidence obtained by the CMA in the course of its Merger investigation from third parties indicates that there are a number of providers who impose a material constraint on either one or both of the Parties. In particular, the CMA believes that smartTrade, Refinitiv, FlexTrade and Fluent are strong competitors in this market. There are a number of other providers – including Integral, Finastra, Deutsche Börse 360T, State Street and Tradair – which impose a more limited constraint on either one or both of the Parties.

Third party views on the impact of the Merger

260. The CMA asked the Parties' FX customers and competitors whether they had any concerns about the impact of the Merger on competition. The majority of customers and competitors that responded to this question said that they did not have concerns. One customer said that it 'does not have any concerns about the impact of competition of this transaction as there are several alternatives for any one of the parties' offerings in the FX space.'[262] Another customer told the CMA that 'the market for sell-side front-office trading software for Foreign Exchange is mature and diverse, with a number of providers offering solutions covering various parts of the problem space.'[263]

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260 [✂].
261 Parties' Response to the CMA's Third s109; and Annex 98 of the Parties' consolidated index, [✂], slide 5.
262 [✂].
263 [✂].

One supplier commented that the Merger 'does not change the competitive dynamics in FX.'

261. A limited number of third parties raised concerns about the impact of the Merger on competition, in relation to the concentration of vendors in the FX market. One customer told the CMA that they 'would be concerned by the lack of serious competitive tension in the Foreign Exchange space to allow competitive negotations.'[264] Another customer expressed concerns that the Merger would enable ION to 'increase its bargaining power in FX trading software to the detriment of its customer.'[265] A third customer commented that 'a general concern is that consolidation across the FX space will potentially increase overall costs for technology solutions and limit options to lessen dependency on single service providers.'[266]

262. However, none of the third parties that expressed concerns considered that ION and Broadway are close competitors in the supply of sell-side front office systems for FX elextronic trading, and some of them told the CMA that the Parties' offerings are in fact complementary. Moreover, based on the available evidence, including in particular from the Parties' internal documents and the views provided by the majority of third parties, the CMA believes that a number of effective competitors (including smartTrade, Refinitiv, FlexTrade and Fluent) will continue to impose a material constraint on the Merged Entity, as discussed above.

Conclusion on horizontal unilateral effects in the supply of sell-side front-office systems for FX electronic trading

263. In contrast to the evidence related to the supply of sell-side front-office systems for FI electronic trading, the Parties' internal documents and third-party feedback did not suggest that the Parties are close competitors in the supply of sell-side front-office systems for FX electronic trading worldwide. This evidence also indicated that there are a number of other competitors (including smartTrade, Refinitiv, FlexTrade and Fluent) that will continue to constrain the Parties post-Merger. The CMA therefore does not believe there is a realistic prospect of an SLC from horizontal unilateral effects in relation to the supply of sell-side front-office systems for FX electronic trading.

264 [✂].
265 [✂].
266 [✂].

Conglomerate effects

264. Conglomerate effects may arise in mergers of firms that are active in the supply of goods or services that do not form part of the same markets but which are nevertheless related in some way, either because their products are complements (so that a fall in the price of one good increases the customer's demand for another) or because there are economies of scale in purchasing them (so that customers buy them together).[267]

265. In certain circumstances, a conglomerate merger can result in the merged entity foreclosing rivals, including through a tying or bundling strategy. While ION is already present in the provision of sell-side front-office systems for electronic trading of both FI and FX,[268] the merger will increase the range of its services in relation to FX (see paragraph 29), and this might facilitate the tying or bundling of sell-side front-office systems for FI and FX electronic trading. The CMA has therefore considered whether, as a result of the Merger, the Merged Entity could leverage its market power in the provision of sell-side front office systems for FI electronic trading to foreclose competitors in the provision of sell-side front office systems for FX electronic trading.

266. Specifically, the CMA has considered whether the Merged Entity could 'bundle' the sale of sell-side front office systems for electronic trading of FI and FX by selling these products together such that the low incremental price increase for the combined product (as opposed to a sell-side front-office system for FI electronic trading alone) prevents rival providers of sell-side front-office systems for FX electronic trading from being able to compete effectively.[269] The CMA regards such foreclosure to be anticompetitive only where it results in an SLC in the foreclosed market(s), not merely where it disadvantages one or more competitors.

267. The CMA's approach to assessing conglomerate theories of harm is to analyse (a) the ability of the merged entity to foreclose competitors, (b) the incentive to do so, and (c) the overall effect of the strategy on competition.[270] These are discussed below.

[267] *Merger Assessment Guidelines*, paragraph 5.6.2.

[268] Broadway is also already present in both FI and FX.

[269] In principle, rival providers of sell-side front-office systems for FX electronic trading could also be foreclosed through tying, ie by making the purchase of sell-side front office systems for FI electronic trading conditional on the purchase of sell-side front office systems for FX electronic trading. The CMA does not believe the Merged Entity has the ability or incentive to foreclose through tying, for similar reasons to those set out below in relation to bundling of sell-side front-office systems for FI and FX electronic trading.

[270] *Merger Assessment Guidelines*, paragraph 5.6.6.

Ability

268. A customer and two suppliers raised concerns that the Merger could enable the Merged Entity to bundle sell-side front-office systems for FI and FX electornic trading, leveraging its market power in systems for FI electronic trading. In particular, [✂] submitted 'The Transaction enables the merged entity to leverage ION's strong position in fixed income into FX. [✂] is concerned that the Transaction will significantly strengthen ION's offering across both segments, making it difficult for rivals to compete and for customers to switch away.' [271] While some other customers and competitors noted the strength of the Merged Entity across assets classes, they did not raise specific concerns about conglomerate effects.[272]

269. The CMA believes that ION is by far the largest supplier with significant bargaining power vis-à-vis customers in the supply of sell-side front-office systems for FI electronic trading (see paragraph 250) and that a number of the Parties' internal documents indicate that the Merged Entity may be able to sell its products to customers as a bundle, across asset classes.[273] This proposition is supported by the fact that many customers require sell-side front-office systems for electronic trading of both FI and FX.

270. However, this does not necessarily indicate that the Merged Entity would have the ability to foreclose competitors in the supply of sell-side front-office systems for FX electronic trading. The following characteristics of the product are likely to make it more difficult to foreclose competitors:

   (a) There are significant barriers to switching providers of sell-side front-office systems for FX electronic trading. These include long contract terms and extensive periods required for system builds and testing. In addition, customers told the CMA that there are significant risks associated with changing systems as they are highly complex and essential for the functioning of their businesses.[274] These barriers to switching may hinder the Merged Entity's ability to win a sufficient number of customers to foreclose rivals in the supply of sell-side front-office systems for FX electronic trading.

   (b) There are a number of strong suppliers of sell-side front-office systems for FX electronic trading (eg Refinitiv, smartTrade, FlexTrade and Fluent, as

[271] [✂].

[272] [✂].

[273] Annex 087 of the Parties' consolidated index, [✂], slide 8; Annex 057 of the Parties' consolidated index, [✂], slide 5.

[274] [✂]. See section on 'Barriers to entry and expansion'.

well as several further competitors which impose a limited constraint). The CMA did not receive evidence suggesting that there are material economies of scale or scope for the provision of a bundle of products which would put stand alone rivals in the supply of sell-side front-office systems for FX electronic trading at a cost disadvantage, or underminine their ability to compete effectively with the Merged Entity. Moreoever, the products are customised and differentiated between providers, which may make customers less willing to switch to the Merged Entity (because their current product may be particularly well suited to their requirements).

(c) Based on the evidence it has obtained during its investigation, the CMA also found that several of the Parties' competitors in the supply sell-side front-office systems for FX electronic trading are active in other markets, for instance in software for other asset classes or in the supply of other related goods and services.[275] As contracts tend to be long and switching relatively low, these competitors would have considerable time to implement counterstrategies were the Merged Entity to attempt to foreclosure them. The CMA therefore believes that a bundling strategy by the Merged Entity would not enable it to put these rivals at a competitive disadvantage.

271. Therefore, while the Parties may be able to offer customers a bundle of products across asset classes, the CMA has not seen evidence to support the limited number of concerns received from third parties that this could harm the ability of the Merged Entity's rivals to provide a competitive constraint in the future. The CMA has nonetheless, for completeness, considered whether the Merged Entity would have the incentive to pursue such a strategy.

Incentive

272. In order to assess the incentive of the Merged Entity to leverage its market power in the provision of sell-side front office systems for FI electronic trading to foreclose competitors in the provision of sell-side front-office systems for FX trading, the CMA considered:

(a) The profitability of a bundling strategy; and

(b) Any evidence of a bundling strategy in relation to software for FI and equities having been successfully implemented following the acquisition of Fidessa by ION in 2018.

[275] Parties' response to s.109 (3) 16 April 2020, Annex 87, '2019-11-13 ITT Business Review', slide 18.

273. The CMA considered that, even if the Merged Entity did bundle systems for electronic trading of FI and FX to attract additional customers, it has not seen evidence that ION could profit from such a strategy by raising the price of its standalone FI and FX offerings. This is because the products are not economic complements (such that an increase in price of sell-side front-office systems for FI electronic trading reduces demand for sell-side front-office systems for FX electronic trading, or vice versa) and the CMA has not received evidence that customers (including large banks) are likely to pay a material amount for one-stop shopping across asset classes.[276] This being the case, the CMA would not expect an increase in the standalone price of the Merged Entity's sell-side front-office system for FI electronic trading, while holding constant the bundled price of its FI and FX systems, to result in customers diverting from rival providers of sell-side front-office systems for FX electronic trading to the Merged Entity.

274. Given that prior to the Merger, ION and Broadway already had both sell-side front-office FI and FX systems offerings (with Broadway's systems already based on the same platform (the 'TOC') and being provided together to [✂] customers), the Merged Entity would only be able to attract additional customers for sell-side, front-office systems for FX electronic trading by making a bundled offer more attractive than the pre-Merger offerings of each Party. This would require the Merged Entity to lower the bundled price of its FI and FX systems or take other costly measures to increase demand. The CMA considers, assuming the Parties set profit-maximising prices pre-Merger, that this would be unprofitable.

275. In the *ION/Fidessa* case, the CMA considered whether customers could lose bargaining power if the parties contractually or technically linked their fixed income and equities products: that is whether customers who were currently supplied by both parties would incur higher switching costs in future as they would have to switch both products (because they would be contractually or technically linked), making it less attractive for them to switch to other suppliers. However, the CMA considered that linking the Parties' products in this way could only increase the Parties' bargaining power if it disproportionately increased customers' switching costs relative to the parties' loss of margin from customers switching to other suppliers. The CMA did not find that this would be the case in *ION/Fidessa.*[277] The evidence that the CMA has seen in this case has not suggested that such contractual or technical

[276] *Merger Assessment Guidelines*, paragraph 5.6.13.
[277] *ION/Fidessa,* paragraphs 55 to 56.

linking has occurred following the *ION/Fidessa* merger to customers' disadvantage.

276. In light of the above, the CMA does not consider that the Merged Entity would have the incentive to leverage its market power in the provision of sell-side front office systems for FI electronic trading to foreclose competitors in the provision of sell-side front office systems for FX electronic trading.

277. Given the absence of ability or incentive to pursue a foreclosure strategy of this nature, the CMA has not needed to consider the effect that any foreclosure could have on competition.

Conclusion on conglomerate effects

278. For the reasons set out above, the CMA believes that the Merged Entity will not have the ability or incentive to leverage its market power in the provision of sell-side front office systems for FI electronic trading to foreclose competitors in the provision of sell-side front office systems for FX electronic trading. Accordingly, the CMA found that the Merger does not give rise to a realistic prospect of an SLC as a result of conglomerate effects.

Barriers to entry and expansion

279. Entry, or expansion, of existing firms can mitigate the initial effect of a merger on competition, and in some cases may mean that there is no SLC. In assessing whether entry or expansion might prevent an SLC, the CMA considers whether such entry or expansion would be timely, likely and sufficient.[278] In terms of timeliness, the CMA's guidelines indicate that the CMA may consider entry or expansion within less than two years as timely, but this is assessed on a case-by-case basis, depending on the characteristics and dynamics of the market, as well as on the specific capabilities of potential entrants.[279]

280. The Parties submitted that 'there are no particular barriers to entry and expansion'.[280] More specifically, the Parties submitted that:

[278] *Merger Assessment Guidelines*, from paragraph 5.8.1.
[279] *Merger Assessment Guidelines*, paragraph 5.8.11.
[280] DMN, paragraph 243.

(a) Many large customers have large in-house technology teams and are therefore well-placed to self-supply and/or sponsor entry or expansion from new entrants.

(b) FinTech companies can easily begin as self-funded start-ups, founded by entrepreneurs with a mixture of technology expertise and experience within a particular asset class.[281]

(c) New entrants have continued to enter the FI sector and exercise 'a very credible competitive threat'.[282] In particular, the Parties submitted that the entry of TransFICC 'demonstrates the contestable nature of the sector and the significant potential for new entrants, including FinTech startups, to easily enter and disrupt the sector (often with the support of large banks) within a relatively short period of time.'[283]

(d) Although not competing with ION directly, a number of new businesses have launched software products in the FI space over the last five years.[284]

(e) Since 2018, the market has continued to rapidly evolve and develop — with customers seeking better connectivity and automation, and managing high volumes of data becoming a major industry theme. This has opened up further potential opportunities for FinTech firms in the FI space and the number of FinTech firms is set to continue to grow, further expanding competitive pressure in the market.[285]

281. The CMA considers that many of the examples the Parties provided to illustrate low barriers to entry and expansion are not persuasive, as they are unrelated to the supply of sell-side front-office systems for FI electronic trading, or indeed adjacent markets in which the Parties are active.[286]

282. Moreoever, the evidence the CMA received during the course of its investigation does not indicate that entry or expansion in the supply of sell-side front-office systems for FI electronic trading will be timely, likely or sufficient to mitigate any SLC arising. In particular:

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281 DMN, paragraph 243.
282 DMN, paragraph 245.
283 DMN, paragraph 247.
284 DMN, paragraph 249. Neptune and DirectBooks are provided as examples.
285 DMN, paragraph 251.
286 Parties' response to the Issues Letter, paragraphs 3.64 to 3.66. Examples include trading venues, eg the creation of TradeWeb, MarketAxess, BrokerTec, and instant messaging providers, eg Symphony.

(a) Procurement exercises and switching processes in relation to sell-side front-office systems for FI electronic trading are generally very long,[287] expensive and resource-intensive, contract lengths tend to be be relatively long (5 to 7 years),[288] and customers 'sticky' (with third party evidence suggesting that customers tend to stay with a supplier for around 8 to 12 years).[289] As such, opportunities for competing suppliers to enter and/or expand by participating in procurement exercises are likely to be relatively limited (particularly those in relation to existing ION customers with contract terms that make a phased switch to another supplier difficult).[290]

(b) A new supplier needs to make large up-front investments in developing the functionalities required by sell-side firms, therefore it would require a 'critical mass' of customers for this to be economically viable.[291] In particular, building out a 'complete' FI offering for a large bank (ie comparable to the Parties' offerings) would be time-consuming and expensive; costing in the region of tens of millions of pounds and taking at least a couple of years.[292] One third-party estimated that, even for a supplier with an existing presence in another asset class, eg FX, it would cost an estimated approximately USD 1 million to develop 'an initial offering' in FI and approximately USD 5 million for 'a more complete offering' (ie an offering similar to that of the Parties).[293]

(c) Potential customers expect providers to have a number of sizeable customers and track record to be considered a viable supplier.[294]

283. Whilst the CMA recognises that in recent years a number of competitors have entered the market for the supply of sell-side front-office systems for FI electronic trading, none of them (with the possible exception of Broadway) have been able to expand sufficiently to meaningfully challenge ION, which is by far the largest supplier.[295] In this context, the CMA notes in particular that:

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[287] For larger banks, procurement exercises last for between 18 and 24 months, whilst the process of switching often takes 24 to 36 months. [✂].
[288] [✂].
[289] [✂].
[290] As further explained in the 'Pre-Merger position of ION' section above.
[291] [✂].
[292] [✂].
[293] [✂].
[294] [✂].
[295] As further explained in the 'Share of supply test and 'Constraints from other providers' sections above.

(a) It has taken Broadway a significant amount of time to sufficiently develop the breadth and depth of its FI offering in order to meaningfully challenge ION; and

(b) TransFICC — which the Parties cite as an example of a recent entrant that has 'gained significant traction' — is considered by third-parties to be a limited competitor to the Parties in FI, since it provides only connectivity. This is despite the fact that TransFICC has (i) been established since March 2016 (ie over 4 years); and (ii) received significant investment from a number of large banks.[296]

This suggests that meaningful entry and/or expansion by other competitors is unlikely to be timely.

284. Moreover, while there have been a number of attempts at entry in this market, the majority of these either (i) relate only to a limited number of specific functionalities (eg connectivity), rather than a complete system similar to that of the Parties;[297] or (ii) where they do relate to a more complete system similar to that of the Parties, these projects have often been abandoned as a result of the significant time, cost and complexity that would be involved.[298]

285. In light of the above evidence, the CMA does not consider that entry or expansion will be timely, likely or sufficient to mitigate the realistic prospect of an SLC.

Countervailing buyer power

286. In some circumstances, an individual customer may be able to use its negotiating strength to limit the ability of a merged firm to raise prices. The CMA refers to this as countervailing buyer power.[299]

287. The Parties submitted that their customers have significant buyer power, and would be able to switch away from the Merged Entity were they to be dissatisfied with the terms of service post-Merger, because:[300]

(a) Sell-side capital markets software customers are typically large, well-funded and sophisticated buyers of technology ([✂]), which utilise

[296] https://www.finextra.com/newsarticle/35733/ing-and-hsbc-join-57-million-funding-round-in-transficc
[297] For example, TransFICC.
[298] For example, [✂].
[299] *Merger Assessment Guidelines*, paragraph 5.9.1.
[300] DMN, paragraphs 252 to 257.

professional procurement teams and vendor selection processes when procuring technology;

(b) As these are typically large customers, many will have large in-house technology teams and are therefore well-placed to self-supply and/or sponsor entry or expansion from new entrants;

(c) A number of large financial institutions have developed and maintain their own in-house FI trading solutions.[301] In particular, the extensive IT and engineering capability maintained by global banks means that ION, Broadway or any other sell-side capital markets software provider faces competition from the customers themselves (and the incumbent provider in sell-side capital markets software has historically been internal IT).

288. The Parties also:

(a) submitted that [✄];[302]

(b) provided examples of [✄] which the Parties consider to be illustrations of buyer power; and

(c) provided [✄] which the Parties consider to be further illustrations of buyer power.[303]

289. The CMA does not consider that this evidence is persuasive as it is incomplete (in particular, it covers only certain modules or represents only anecdotal evidence some of which is not related to instances where there is competition between the Parties) and, even if it represented examples of the exercise of buyer power (which the CMA does not consider it does), a limited number of examples for certain customers does not provide evidence that this would be an option for other (or a significant number of) customers such as to mitigate an SLC.

290. The existence of countervailing buyer power is important to the extent that it may limit the Parties' ability to raise prices or negatively affect other competitive parameters, thus making a finding of an SLC less likely. However, even in circumstances where the market is characterised by large customers, this is not in itself sufficient to lead to the conclusion that such customers have countervailing buyer power. In order to effectively constrain the Merged Entity from exercising its market power, these customers also need to have options

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301 For example, the Parties submitted that Goldman Sachs, Morgan Stanley, JP Morgan and Citigroup predominantly use in-house solutions.
302 Parties's Response to the Issues Letter, confidential annex to ION: Presentation (slide 9).
303 Parties' Response to the Issues Letter, Appendix 2, paragraphs 1.12 to 1.16.

to enable them to have an effective choice as to whether to continue buying from the Merged Entity. Accordingly, customers' negotiating strength and their ability to exercise countervailing buyer power is determined by the number of alternatives available to them. Even if some customers have a degree of buyer power, that will not generally protect other customers in a market where terms are individually negotiated.

291. As set out in the competitive effects section above, third parties indicated that:

(a) ION is by far the largest supplier in the provision of sell-side front-office systems for FI electronic trading;[304]

(b) Beyond Broadway, there is only a limited number of credible alternative suppliers for customers to choose from;[305] and

(c) Only a very small number of banks would be in a position to viably and sustainably self-supply.[306]

292. Therefore, as explained in the 'Constraints from other providers' and Out-of-market constraints' sections above (paragraphs 1911 to 237 and 238 to 243 respectively), the CMA believes that, currently, there are not enough alternative options to act (alone or in combination) as a sufficient competitive constraint on the Merged Entity.

293. Evidence from third parties also indicates that ION tends to impose restrictive terms and conditions in its contracts and adopts an inflexible negotiating stance such that customers have to continue pay for the full service when making a phased move to another supplier (see also section 'Pre-Merger position of ION' above).[307] The CMA believes this shows that customers did not have countervailing buyer power, even before the Merger.

294. Moreover, whilst the CMA recognises that there have been a number of attempts that might be regarded as sponsored entry in this market, these either (i) relate only to a limited number of specific functionalities (eg connectivity), rather than a complete offering similar to that of the Parties;[308] or (ii) where they do relate to a more complete offering similar to that of the

[304] As further explained in the 'Pre-Merger position of ION' section above.
[305] As further explained in the 'Closeness of competition between the Parties' and 'Constraints from other providers' sections above.
[306] As further explained in the 'Out-of-market constraints' section above.
[307] [✄].
[308] For example, [✄].

Parties, these projects have often been abandoned as a result of the very significant time, cost and complexity that would be involved.[309]

295. Accordingly, the CMA believes that customers may not currently have – and may continue to not have post-Merger – a sufficient degree of countervailing buyer power to constrain the Merged Entity from exercising its market power.

Third party views

296. The CMA contacted customers and competitors of the Parties. As set out above, several customers and competitors raised concerns about the Merger, in relation to the supply of sell-side front-office systems for FI electronic trading. Only a limited number of third parties raised concerns in relation the supply of sell-side front-office systems for FX electronic trading. The CMA's assessment of these concerns is set out in detail above.

297. Following the Issues Meeting, the CMA became aware that the Parties proactively contacted [✂] of their customers and requested that they provide certain template statements to the CMA recording support of the Merger.[310]

298. The majority of customers either did not reply, provided only a personal view as opposed to a position on behalf of their company, or referred to the fact they had already provided detailed submissions to the CMA and therefore declined to make a further statement. Some customers provided broadly supportive statements, including some that had previously expressed concerns about the Merger to the CMA. The majority of customers that provided such statements did so via the Parties, rather than directly to the CMA.[311]

299. The CMA has reviewed the template statements issued by the Parties and considers that it is appropriate to attach more limited weight to the responses it generated from customers. This is because (i) the communication is not an objective and unbiased request for feedback regarding the Merger and (ii) accordingly, it has not been possible at this late stage in the Phase 1 process for the CMA to speak to the third parties to ascertain the probative weight to give to their responses. The CMA considers that responses to third party questionnaires and direct CMA engagement with customers do not give rise

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[309] For example, [✂].

[310] The template statement said that 'as an important customer of [ION/Broadway] we wanted to let you know that we are supportive of the transaction as we think it will be good for customers and for competition'.

[311] [✂] contacted the CMA directly. 11 other customers made their statements to the Parties: [✂].

to the same concerns and are therefore much more likely to generate reliable and robust evidence.

300. Notwithstanding the CMA's concerns regarding the probative value of the evidence from customers solicited directly by the Parties, the CMA notes that their precise weighting has not affected the finding of an SLC in this case.

301. More generally, the CMA considers that any attempt by merger parties to solicit customers to provide a particular view to the CMA, in anticipation of or during the CMA's investigation, has the potential to seriously disrupt both the CMA's ability to gather reliable, objective evidence and the orderly conduct of its investigation. As such, the CMA considers it inapprorpriate for merger parties and/or their advisers to conduct such exercises as undertaken by the Parties during this investigation.

Conclusion on substantial lessening of competition

302. Based on the evidence set out above, the CMA believes that it is or may be the case that the Merger has resulted, or may be expected to result, in an SLC as a result of horizontal unilateral effects in relation to the supply of sell-side front-office systems for FI electronic trading, worldwide.

Decision

303. Consequently, the CMA believes that it is or may be the case that (i) a relevant merger situation has been created; and (iii) the creation of that situation has resulted, or may be expected to result, in an SLC within a market or markets in the United Kingdom.

304. The CMA therefore believes that it is under a duty to refer under section 22(1) of the Act. However, the duty to refer is not exercised whilst the CMA is considering whether to accept undertakings under section 73 of the Act instead of making such a reference.[312] ION has until 14 July 2020[313] to offer an undertaking to the CMA.[314] The CMA will refer the Merger for a phase 2 investigation[315] if ION does not offer an undertaking by this date; if ION indicates before this date that it does not wish to offer an undertaking; or if the CMA decides[316] by 21 July 2020 that there are no reasonable grounds for

[312] Section 22(3)(b) of the Act.
[313] Section 73A(1) of the Act.
[314] Section 73(2) of the Act.
[315] Sections 22(1) and 34ZA(2) of the Act.
[316] Section 73A(2) of the Act.

believing that it might accept the undertaking offered by ION, or a modified version of it.

305. The statutory four-month period mentioned in section 24 of the Act in which the CMA must reach a decision on reference in this case expires on 7 July 2020. For the avoidance of doubt, the CMA hereby gives ION notice pursuant to section 25(4) of the Act that it is extending the four-month period mentioned in section 24 of the Act. This extension comes into force on the date of receipt of this notice by ION and will end with the earliest of the following events: the giving of the undertakings concerned; the expiry of the period of 10 working days beginning with the first day after the receipt by the CMA of a notice from ION stating that it does not intend to give the undertakings; or the cancellation by the CMA of the extension.

Joel Bamford
Senior Director, Mergers
Competition and Markets Authority
7 July 2020[i]

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[i] In relation to paragraph 181, the CMA notes that this was a [✂] with a view to [✂] business from ION, with the intention of delivering a viable alternative to ION.