Merger assessment in dynamic markets - reflections on three recent vertical cases at the CMA

Introduction and summary

Competition authorities in both Europe and the USA have become increasingly interested in how to approach dynamic markets. This includes an increased focus on potential competition and 'innovation' theories of harm[(a)], a move towards the use of 'dynamic' counterfactuals[(b)], and considerable ongoing work in relation to how competition policy should apply to digital markets.[(c)] Recent decisions indicate that in the UK, for example, competition authorities are readily intervening in such markets.[(d)]

In this note we consider three recent vertical mergers involving dynamic markets, each of which was abandoned or prohibited following a Phase II investigation by the Competition and Markets Authority (CMA) (see Box 1 for an overview). Such an outcome is striking given the widely held view that vertical mergers are generally benign or pro-competitive.[(e)] Indeed, we argue that the dynamic nature of the relevant markets contributed to the failure of each case to clear Phase II.

We consider the competitive assessment, efficiencies and remedies in turn. To summarise:

— The CMA's competitive assessment of each case focussed primarily on qualitative evidence, and placed only limited weight on widely-used quantitative models such as 'vertical arithmetic'. We argue that whilst it is reasonable for the CMA to consider a wide range of evidence in dynamic markets, it is important that the competitive assessment continues to be driven by a robust economic framework, within which the CMA's specific competition concerns can be evaluated. The primary use of the qualitative evidence should be to inform such a framework, rather than to replace or supersede it. The CMA must also remain vigilant as to the potential weaknesses and biases of qualitative evidence, and we suggest some additional sources of evidence that could be considered in dynamic markets.

— The CMA rejected all of the parties' proposed efficiencies, concluding that none of the efficiencies were genuinely merger-specific, and questioning whether any benefits would be passed through to end-consumers. The dynamic aspect of the markets heightened the CMA's concerns over the continued investment in (and pass-through of) quality-enhancing innovations, and arguably reduced the relative weight that it attached to cost-saving efficiencies such as the 'elimination of double marginalisation' (given the relative importance of quality versus price). The three cases therefore demonstrate the high bar for efficiency submissions, and the importance for parties of ensuring that their evidence base is as comprehensive as possible. The CMA itself must also ensure that it is consistent in its treatment of the evidence in its competitive assessment and the analysis of efficiencies.

— The CMA rejected each of the parties' proposed behavioural remedies, concluding that commitments such as guaranteed access to inputs on fair, reasonable and non-discriminatory (FRAND) terms would be particularly difficult to implement and enforce in dynamic markets. In each case the CMA therefore opted for a structural solution to its concerns, and it is likely that it will take the same approach to similar cases in the future.

Box 1: an overview of the three cases

Tobii/Smartbox. In August 2019 the CMA published its Final Report, requiring Tobii to fully divest its recent acquisition of Smartbox. Both parties provide augmentative and assistive communication (AAC) solutions to customers with communication difficulties. Additionally, Smartbox provides software and Tobii provides 'eye gaze' cameras for the use on AAC solutions. The CMA considered that the merger would result in a substantial lessening of competition (SLC) due to (i) input foreclosure of Smartbox's software, (ii) customer foreclosure of Tobii's eye gaze cameras, and (iii) horizontal unilateral effects in the supply of AAC solutions. In January 2020 the Competition Appeal Tribunal (CAT) upheld the CMA's decision that the merger would harm competition. As discussed below however, the CAT quashed the CMA's finding in relation to the input foreclosure of Smartbox's software.

Note:

(a) See, for example, the European Commission's evolving approach to innovation theories of harm in GE/Alstom (2016) and Dow/Dupoint (2017). See also the CMA's analysis of innovation in Experian/ClearScore (2019), Illumina/PacBio (2020) and Sabre/Farelogix (2020) and the CMA's assessment of potential competition theories of harm in Illumina/PacBio and Thermo Fisher/Gatan.

(b) See, for example, the CMA's approach to the counterfactual in PayPal/iZettle (2019) and Sabre/Farelogix (2020), in which the CMA incorporated what it considered to be likely changes to the future competitive environment (absent the merger), rather than assessing the merger against the prevailing conditions of competition.

(c) In the UK, this includes the 'Furman Review' (Unlocking Digital Competition: Report of the Digital Competition Expert Panel, Furman et al, 2019) and the CMA's market study into online platforms and digital advertising. In the EU this includes the 'Experts' Report' (Competition Policy for the Digital Era, Crémer et al, 2019) and in the USA this includes the 'Stigler Center Report' (Report of the Committee for the Study of Digital Platforms, Scott Morton et al, 2019).

(d) Within the last two years for example, each of Illumina/PacBio, Experian/ClearScore and Thermo Fisher/Gatan were abandoned following the CMA's Phase II Provisional Findings, and Tobii/Smartbox and Sabre/Farelogix were prohibited.

Box 1: an overview of the three cases (cont.)

Thermo Fisher/Gatan. In June 2019 Thermo Fisher abandoned its proposed acquisition of Gatan, immediately prior to the publication of the CMA's Final Report. Thermo Fisher is a producer of 'electron microscopes' and Gatan supplies cameras and filters for the use on such microscopes. In its Provisional Findings, the CMA considered that the acquisition would result in an SLC due to (i) input foreclosure of Gatan's cameras and filters, (ii) access to commercially sensitive information on Thermo Fisher's downstream rivals, (iii) horizontal unilateral effects in the supply of cameras, and (iv) a loss of potential competition in the supply of filters.

Intercontinental Exchange (ICE)/Trayport. In October 2016 the CMA published its Final Report, requiring ICE to fully divest its recent acquisition of Trayport. The CMA's decision was upheld by the CAT in March 2017. ICE is a global operator of financial exchanges and clearinghouses and Trayport provides a range of software products to traders, brokers and exchanges. The CMA considered that the acquisition would lead to an SLC due to the input foreclosure of Trayport's software to ICE's rival trading venues, and access to commercially sensitive information.

The CMA's competitive assessment

The CMA's primary vertical concern in each of the three cases related to 'input foreclosure', which posits that the merged entity could worsen the terms on which downstream rivals can access the upstream inputs it supplies. As set out in its Merger Assessment Guidelines (the 'Guidelines'), the CMA assesses the likelihood of foreclosure by considering the ability and incentive of the merged entity to pursue such a strategy, as well as the overall likely effect on competition.[f]

In each case, the CMA considered that the most likely foreclosure strategies to be pursued would involve 'non-price partial foreclosure'. In both *Tobii/Smartbox* and *ICE/Trayport* for example, the CMA was concerned that the merged entity might degrade the quality of its software to rivals (e.g. by reducing interoperability), and/or tailor improvements in its software to benefit its own downstream business.[g] In *Thermo Fisher/Gatan*, the CMA was concerned that the merged entity could degrade the quality of Gatan's cameras and filters, reduce the level of its maintenance and servicing, and/or delay the supply of new products and innovations to rivals.[h]

In analysing the parties' incentives to engage in such strategies, it is notable that the CMA focussed primarily on qualitative rather than quantitative evidence. It placed particular weight on the views of customers and competitors, as well as evidence from internal documents. In doing so, it placed only limited weight on well-established quantitative approaches such as 'vertical arithmetic', which analyses the incentive to foreclose by comparing the value of potential downstream gains against upstream losses (see Box 2).[i]

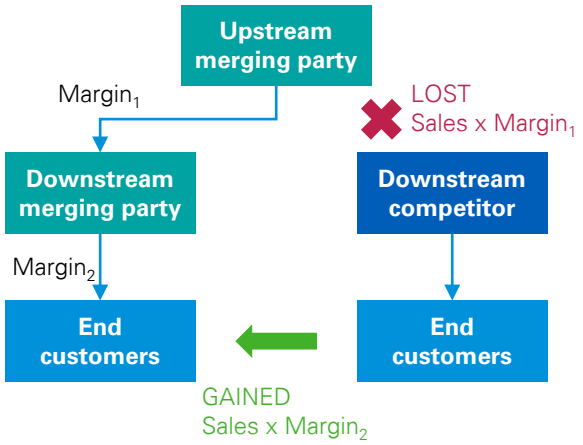
Note:
(e) For example, the OECD's (2019) report *Vertical mergers in the technology, media and telecom sector* states that 'there is a general consensus that vertical mergers result in significant efficiencies and should be presumptively viewed as beneficial to competition' (p.1). The CMA's Merger Assessment Guidelines themselves state that 'it is a well-established principle that most [non-horizontal mergers] are benign and do not raise competition concerns' (paragraph 5.6.1).
(f) CMA Merger Assessment Guidelines, paragraph 5.6.6.
(g) Tobii/Smartbox Final Report, paragraphs 7.11 to 7.19. ICE/Trayport Final Report, paragraphs 8.31 to 8.60.
(h) Thermo Fisher/Gatan Provisional Findings, paragraphs 10.17 to 10.19.

In *ICE/Trayport* for example, the CMA stated that the results of the vertical arithmetic analysis were used primarily as a 'cross-check' on its more detailed qualitative assessment; and in *Thermo Fisher/Gatan*, the results were used to indicate the 'relative magnitude' of the costs and benefits of foreclosure.[j]

In Box 2 we outline the challenges of applying the vertical arithmetic framework to dynamic markets. These challenges occur because the foreclosure mechanisms being considered are both non-price and partial, making it difficult to precisely quantify the likely effects. In addition, the products themselves are evolving over time in dynamic markets, such that evidence on historical margins and diversion ratios may be less informative than in traditional 'static' markets.

Box 2: Vertical arithmetic and its application in dynamic markets

Vertical arithmetic is a framework for analysing the incentives for a merged entity to foreclose its rivals, based on a comparison of the expected costs and benefits. As shown in the diagram (in the case of input foreclosure), the costs of foreclosure arise from the lost upstream margins from sales to rivals. The benefits arise from additional downstream margins, gained from those customers that divert away from the foreclosed rivals.



The classical vertical arithmetic framework is based on **total foreclosure**. Applying the methodology to a **partial foreclosure** setting requires additional evidence or assumptions. In the case of a marginal price increase for example, evidence is required on both the extent of pass-through and the price elasticity of demand, in order to estimate the extent of downstream diversion to the merged entity. Evidence (or an assumption) is also needed regarding the anticipated or 'optimal' extent of any price rise.

These challenges are more pronounced in the case of **non-price partial foreclosure**. In particular, evidence is required on both:

— the extent to which a change in the quality of the upstream product affects the quality of the downstream product; and

— the elasticity of demand for these (partial and gradual) changes to the downstream product quality.

Finally, in dynamic markets, an additional challenge arises because the products themselves (both upstream and downstream) are changing over time. This means that historical evidence on margins and diversion ratios may be less informative of future market conditions than would be the case in 'static' markets.

Given the challenges set out in Box 2, we agree that it is sensible for the CMA to avoid ascribing 'false precision' to the vertical arithmetic calculations in dynamic markets. It is important, however, that the vertical arithmetic *framework* itself (or a related economic model) remains central to the analysis of foreclosure.[k] The framework enables the costs and benefits of foreclosure to be assessed in a structured way – and therefore only within such a framework can the CMA fully establish an incentive to foreclose.

It is particularly notable, in this regard, that the CAT's *Tobii/Smartbox* judgement quashed the CMA's findings regarding input foreclosure. The CAT judged that the CMA did not have sufficient evidence regarding the likely extent of diversion under a partial foreclosure strategy, noting that the diversion ratio would be different than it would under total foreclosure.[l] In effect, the CAT's judgement thereby affirmed – and highlighted – the centrality of a robust economic framework for the competitive assessment.

To the extent that qualitative evidence is relied upon, it should therefore primarily be used to inform an overarching economic framework, with much more limited weight placed on general third-party views (e.g. regarding the merger overall, or the potential conduct of the parties post-merger). To assess the incentives to foreclose for example, this might require the use of highly targeted third-party questionnaires, seeking estimates of diversion under the specific foreclosure mechanisms being investigated.

In addition, information regarding future market conditions may be available from the parties' deal rationale, valuation and synergies analysis; commercial due diligence, for example in relation to the potential competitive strength of rivals, including in relation to new products or markets; or from internal modelling to assess the profitability of large R&D projects.[m] In some cases, relevant industry analysis and forecasts might also be obtained from information platforms such as MergerMarket and Capital IQ. Similar evidence is also likely to be available from competitors, and we consider that targeted Section 109 requests to competitors (e.g. for recent documents containing entry and expansion plans) can potentially be a valuable source of evidence in dynamic markets.

Vertical arithmetic therefore remains an important tool in assessing the incentives to foreclose, even in dynamic markets. Whilst the precise calculations might be subject to greater uncertainty, the economic framework itself should remain central to the competitive assessment. As confirmed by the CAT, it is only within such a framework that a complete assessment of foreclosure can be undertaken.

The CMA's rejection of claimed efficiencies

It is well established in economic theory that vertical mergers typically give rise to efficiencies.[n] Post-merger, the downstream firm will gain access to its inputs at cost for example, which can result in lower prices for end-consumers (known as the 'elimination of double marginalisation'). Quality can also be increased by coordinating the firms' investments and removing the risk of 'hold-up'. As a result of these efficiencies, some commentators have argued for an ex-ante presumption that vertical mergers are pro-competitive.[o]

The CMA's Guidelines recognise that most vertical mergers are 'benign' and 'may lead to efficiencies'.[p] At the same time however, the Guidelines set out an overarching framework for efficiencies that applies to all types of case, making no special provisions for vertical mergers. Further, the burden of proof is firmly on merging parties to demonstrate the scale of any efficiencies that might result from a proposed merger. As set out in the Guidelines, parties must demonstrate that any efficiencies are timely, likely and sufficient to offset the CMA's competition concerns, and that they are merger-specific.[q]

In both *Tobii/Smartbox* and *Thermo Fisher/Gatan*, the parties made substantive efficiency submissions, all of which were ultimately rejected by the CMA. In *Tobii/Smartbox,* the parties submitted that the merger would lead to improved product integration and combine complementary research and development (R&D) capabilities. In *Thermo Fisher/Gatan,* the parties proposed several efficiencies, including the elimination of double marginalisation and improved product quality (through better integration of Gatan's cameras and filters with Thermo Fisher's microscopes).[r]

The CMA's rejection of these potential efficiencies demonstrates the very high bar for successful efficiency submissions, even in vertical cases. These cases indicate that two key challenges for merging parties are to demonstrate (i) that efficiencies are genuinely merger-specific, and (ii) that there is an incentive to 'pass-through' any efficiencies to end-customers. Regarding merger-specificity, the cases indicate that the test for parties is to demonstrate that efficiencies could not occur absent the merger, or (at the very least) that their incentives to achieve such efficiencies would be materially changed as a result of the merger. It is not sufficient simply to demonstrate that efficiencies likely would not occur absent the merger (e.g. based on a lack of current business plans).

Regarding pass-through, parties must demonstrate an incentive to pass-through benefits to consumers in light of the competition concerns identified by the CMA and any changes to the market structure that might result. In *Thermo Fisher/Gatan* for example, the CMA actually recognised that the merger would reduce Thermo Fisher's costs and potentially improve the quality of its products. It concluded however that there was insufficient evidence that such benefits would be passed-through to end-customers.[s] Business plans submitted by Thermo Fisher for example suggested that for some products, a reduction in the downstream price would have limited impact on sales. Given the dynamic nature of the market (and the importance of quality and innovation), the CMA also considered that many consumers were relatively price insensitive, meaning that there would be limited incentive to reduce prices, and that any quality improvements might be accompanied by price rises.

Note:

(i) For details and examples of the application of vertical arithmetic see Steven C. Salop and Daniel P. Culley, 'Vertical Merger Enforcement Actions: 1994–July 2018' (2018), Georgetown University Law Center.

(j) ICE/Trayport Final Report, paragraph 8.133. Thermo Fisher/Gatan Provisional Findings, paragraph 10.66.

(k) See, for example, the CMA's application of a vGUPPI framework in Tesco/Booker and Cooperative Group/Nisa Retail, and the US Department of Justice's application of a Nash bargaining framework in AT&T/Time Warner.

(l) Competition Appeal Tribunal (CAT) Judgement, 10/1/2020: Tobii AB vs Competition and Markets Authority, paras 439-442.

(m) We note that the CMA analysed forecasts from the parties' valuation model in Illumina/PacBio, and considered evidence from the parties' commercial due diligence in Experian/ClearScore.

(n) See e.g. J. Baker, N. Rose, S. Salop and F. S. Morton, 'Five Principles for Vertical Merger Enforcement Policy' (2019), 33 ANTITRUST.

(o) See e.g. OECD *Vertical mergers in the technology, media and telecom sector* (2019) and the discussion in Baker et al, ibid.

(p) Merger Assessment Guidelines, paragraphs 5.6.1 and 5.6.4.

(q) Merger Assessment Guidelines, paragraph 5.7.4.

(r) See Tobii/Smartbox Final Report, paragraph 8.91 to 8.105 and Thermo Fisher/Gatan Provisional Findings, paragraph 13.12.

(s) See e.g. paragraph 13.39 of the Thermo Fisher/Gatan Provisional Decision.

For merging parties, this highlights the importance of ensuring that efficiency submissions are as comprehensive as possible. Whilst there are clear economic arguments for efficiencies in vertical cases, parties must provide compelling evidence to support those arguments. In *Tobii/Smartbox* for example the CMA concluded that the parties had failed to provide sufficient detail or evidence on the timing, likelihood or magnitude of the efficiencies to meet the 'strict criteria' set out in its Guidelines.

At the same time, in our view, there is a question as to whether the CMA has landed in exactly the right place in its assessment of efficiencies in vertical mergers. Indeed, its rejection of all the claimed efficiencies in these three cases appears at odds with the large literature (and economic theory) regarding vertical efficiencies. Whilst the Guidelines clearly indicate that the burden of proof is on the parties to demonstrate efficiencies, in dynamic markets the relevant evidence (e.g. regarding the impact of the merger on future product development) can be particularly hard to provide. To the extent that such evidence is in part speculative, this also applies to much of the qualitative evidence regarding future incentives to foreclose. The CMA therefore needs to ensure that it consistently accounts for such uncertainty in the competitive assessment as it does in its assessment of efficiencies.

Behavioural remedies in dynamic markets

In each of the three cases the merging parties proposed a set of remedies to address the CMA's competition concerns, including commitments to provide access to upstream products on FRAND terms. In *Thermo Fisher/Gatan* and *ICE/Trayport*, the parties additionally proposed a set of firewall provisions to prevent the downstream firm from gaining access to commercially sensitive information (CSI) on its rivals.

The CMA rejected each of the behavioural remedies put forward by the parties. Importantly, the CMA concluded that behavioural remedies are largely ineffective in dynamic markets. In its *ICE/Trayport* decision for example, the CMA stated that:[t]

> In the dynamic technology sector in which Trayport operates […] FRAND terms would be difficult, if not impossible, to specify in order to cover all eventualities, to apply in practice and to remain relevant over time.

In particular, the CMA's Merger Remedies Guidelines state that behavioural remedies should seek to avoid four types of risk: specification risk; circumvention risk; distortion risk; and monitoring and enforcement risk. The CMA considered that each of these risks is increased in dynamic markets. Specification, circumvention and distortion risks are increased because the products are continually evolving, making it hard to specify access terms that will continue to be relevant in the future; monitoring and enforcement risks are increased as it may be difficult to detect and prove the 'soft biases' of a non-price partial foreclosure strategy (as described above).

In each case the CMA therefore rejected the parties' proposed behavioural remedies and opted for a structural solution. In our view, this approach is likely to be pursued in similar cases in the future. Indeed, Andrea Coscelli (the CMA's CEO) has recently commented that:[u]

> In dynamic markets it can be particularly difficult to identify and design effective behavioural remedies, thereby making structural remedies or prohibition more likely solutions to competition problems.

Conclusions

It is striking that three vertical mergers have been prohibited or abandoned in such a short amount of time: the traditional view is that such mergers are generally pro-competitive. We show that a common theme is that each case involved dynamic markets, in which quality and innovation are important parameters of competition. This had implications for the CMA's competitive assessment, its assessment of efficiencies and the scope for behavioural remedies.

Regarding the competitive assessment, it is crucial that the analysis continues to be driven by a robust economic framework, with the various sources of evidence (both quantitative and qualitative) used primarily to inform such a framework. Although there might be greater challenges in applying the framework to dynamic markets, these challenges are not met by taking a more 'qualitative' approach to the analysis. Instead, it is only within a robust economic framework that the CMA's competition concerns can be fully assessed.

Further, it is clear that there remains a very high bar for efficiency submissions, even in vertical cases. In making their case, parties must therefore ensure that efficiency submissions are comprehensive and build on the underlying economic theory. In our view, there is also a broader debate as to whether the extremely high bar for efficiencies is appropriate in vertical cases such as those considered here. We recommend that this is an issue the CMA considers in its forthcoming revisions to the Guidelines.

Note: (t) ICE/Trayport Final Report, paragraph 12.86.
(u) GCR Live – 9th Annual Telecoms, Media and Technology 2020 conference (March 2020).

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