Developing thinking in merger assessment: reflections from recent UK experience

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1. Introduction

A number of recent studies and academic papers have considered the effectiveness of merger control from empirical and theoretical perspectives. A key theme of this work has been the need for competition policy to evolve in the light of changing markets and the risk of under-enforcement, particularly in digital markets. For example, the Furman Report (Report of the Digital Competition Expert Panel, March 2019) noted that while, in the 10 years to 2018, the five largest digital firms have made over 400 acquisitions globally, none of these were blocked by competition authorities and very few had conditions attached to them. Ex-post evaluations of merger decisions and empirical studies have suggested there is scope for greater caution about the likely efficiency benefits of mergers and the ability of entry to neutralise otherwise problematic mergers. Recently, and in this context, the Competition and Markets Authority (the CMA, the UK's competition regulator) updated its merger assessment guidelines after more than a decade in order to reflect its evolving thinking and practice.

This paper aims to reflect on some aspects of the economics of merger assessment which have been the subject of recent debate and examine how the approach to these issues is evolving in UK merger control. It is particularly concerned with elements of merger assessment which are relevant to the assessment of dynamic markets and with digital platforms. Under three main themes, it will consider some recent literature, commentary, and ex-post studies before analysing cases considered by the CMA and the Competition Appeals Tribunal (CAT)[2] in recent years and drawing out the key issues, challenges and learnings on each theme. The aim is not to provide a full literature review on each issue, but to highlight key recent debates and reflect on how some of the relevant issues have been tackled in cases.

The paper will proceed as follows. First, it will look at how the UK authorities have evaluated horizontal mergers in markets with changing competitive dynamics and how the inherent uncertainty in such forward-looking assessments has been dealt with. It will focus particularly on highly concentrated markets or where there is evidence of pre-existing market power including in mergers involving digital platforms. Second, recent vertical mergers will be reviewed focussing particularly on the consideration of new or non-traditional mechanisms for foreclosure and practical approaches to the assessment of incentives for foreclosure. Finally, it will consider the approach to evaluating the

[1] Any views expressed in this paper are those of the author and not the CMA.
[2] The United Kingdom Competition Appeal Tribunal is a specialist judicial body with cross-disciplinary expertise in law, economics, business and accountancy which hears and decides cases involving competition or economic regulatory issues. Among its functions, the CAT hears and decides applications for the review of merger decisions made by the CMA.

likelihood of entry and expansion in recent cases. In conclusion, the paper will aim to draw out some cross-cutting themes and lessons.

2. Potential competition and dealing with uncertainty

A key recent debate in merger policy has been how to better capture the potential for innovation and future competition to be harmed by horizontal mergers. Federico et al (2020)[3] explain that the unilateral innovation effects arising from a merger are closely analogous to unilateral price effects. They describe what are known as “business-stealing effects” where, as part of the dynamic competitive process between rivals, firms gain customers at the expense of rivals by offering them better value. Mergers are more likely to lead to higher prices (or lower levels of quality and service) where internalized business-stealing effects are high, ie where firms have competed closely to win customers from one another pre-merger, as the merger will reduce the pressure on the merged firm to improve its offering to customers. In the case of innovation, business-stealing is “*through undertaking risky investment to develop new and improved products or production processes*” and, similarly, innovation is more likely to be harmed where this is an important feature of competition between the merging firms.

Federico et al (2020) explain three scenarios in which innovation competition may be affected by a merger. First, the merging firms may be in the process of developing products which would likely compete with each other if introduced and so the merger may result in customers having fewer alternatives to choose from. Second, firms may have established innovation capabilities in similar areas and therefore the merger may result in less competing innovation which could have delivered a wider range of alternatives or improved products to customers in future. Third, a large firm with a dominant position may acquire a smaller rival with the potential to be an innovative or disruptive competitor in future.

The third scenario presents a particular challenge for competition authorities since it involves an attempt to assess the potential for competition in the future in circumstances where current or historical information may provide limited insight into how competition is likely to evolve.

As explained by Shapiro (2018)[4], dominant incumbent firms may have strong incentives to acquire nascent competitors who could grow to become significant rivals.

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[3] Federico, G., Scott Morton, F. and Shapiro, C. (2020). ‘Antitrust and Innovation: Welcoming and Protecting Disruption.’ *Innovation Policy and The Economy*, Volume 20. NBER. Available here.

[4] Shapiro, C. (2018). ‘Antitrust in a time of populism’. International Journal of Industrial Organization 61 (2018) 714 – 748. Available here.

> *"As a general principle, the greater and more durable is the market power of an incumbent firm, the larger is the payoff from preventing that firm from acquiring the smaller firms that, if left to grow on their own, would become its strongest challengers."*

Research commissioned by the CMA into past UK merger decisions in the digital sector[5] found that Amazon, Facebook and Google acquired 5, 6 and 16 companies per year on average between 2008 and 2018 and that the targets were typically very young firms, four years old or younger in nearly 60% of cases. This suggests that many of the target firms will not necessarily be well-established as strong competitors at the time of the merger but could have become so in future.

These concerns are particularly relevant in digital markets. A report by the Stigler Centre on digital platforms[6] explains that one of the challenges for merger enforcement with respect to digital platforms is that such platforms are often in winner-take-all/most markets meaning that competition is largely for the future or "leapfrog" competition. In such markets, competition from nascent firms could be an important source of competition and the acquisition of such a firm by a dominant incumbent may have a significant impact on competition, even though the entrant is small.

As noted above, one challenge for competition authorities is how to evidence and assess whether a target is likely to be an important competitor in future. Lear (2019) suggest that competition authorities should assess the prospects of the target based on business plans and the characteristics of the markets concerned as well as seeking to collect evidence of the target's future plans and whether the incumbent perceived it as a threat. Its study of past merger investigations found that in assessing potential competition (most notably in the Facebook/Instagram and Google/Waze mergers), the UK competition authorities had considered the right evidence and found that the target firms had been growing, had promising business models and expansion plans. Nonetheless, they ultimately dismissed this evidence due to uncertainty around the future growth of the target. This highlights one of the main challenges with assessing potential competition theories of harm, as the authors explain:

> *"Rarely, if ever, will the Authorities find conclusive evidence of future growth: potential competition ToHs will always entail a certain degree of uncertainty. If the Authorities wish to pursue this type of ToH in the future, then they should be willing to accept a greater degree of uncertainty in their evaluations."*[7]

Shapiro (2020) argues in a similar vein that in the case of potential competition:

> *"Sound competition policy would tolerate some false positives – blocking mergers involving targets, only to find that they do not grow to challenge the incumbent – in order to avoid some*

[5] LEAR (2019). 'Ex-post assessment of merger control decisions in digital markets'. Available here.
[6] Final Report of the Stigler Committee on Digital Platforms (2019). Stigler Centre for the Study of the Economy and the State. Available here.
[7] LEAR (2019). 'Ex-post assessment of merger control decisions in digital markets'. Available here.

false negatives – allowing mergers that eliminate targets that would indeed have grown to challenge the dominant incumbent."

Merger control always involves balancing the risk of over- or under-enforcement. However, the danger of false negatives may be particularly acute in the case of some digital platform markets since high barriers to entry and network effects may make it unlikely that entry will occur in future in a manner that is sufficient to undo the harm due to the merger.

The CMA's revised merger guidelines, published in early 2021, talk about the challenge of assessing dynamic theories of harm in the context of uncertainty about the outcome of investments and innovation efforts absent the merger.[8] They explain that the CMA will consider evidence of any direct response by an incumbent firm to the threat of entry or expansion but also evidence on their incentive to respond to such a threat. They further go on to explain that the elimination of a competitor which is making efforts to enter or expand may cause harm to competition even if the entrant may ultimately be unsuccessful, if the removal of the threat of entry could lead to a significant reduction in innovation by other firms.

This reflects the way the CMA has assessed recent mergers. In Illumina/PacBio[9], the CMA considered whether the acquisition by Illumina, a global leader in DNA sequencing, of smaller competitor Pacific Biosciences of California (PacBio) could harm competition. Illumina was by far the largest provider of DNA sequencing with an estimated market share of 80-90% globally and used what is termed "short read" DNA sequencing technology. PacBio had developed a different kind of technology to the incumbent – "long read" technology – and had a very small market share – less than 5% worldwide.

The CMA's assessment focused on a few key questions. First, the assessment considered the extent to which long read and short read technology competed with one another and how closely they were likely to compete in future. It found that, although in some instances the different types of sequencing were used for different applications, half of customers already found that long read and short read technology were substitutable for at least some of their work and the evidence suggested that over time, long read was presenting a growing constraint on short read. Internal documents from Illumina showed that it reacted and responded to what it saw as a competitive threat from long read technology.

Second, the possibility of Illumina developing its own long read technology, in direct competition with PacBio was considered. Internal documents suggested that Illumina was keen to develop or

[8] Competition and Market Authority, 2021. Merger Assessment Guidelines (CMA 129). Available here. See paragraphs 5.20 to 5.23.
[9] Anticipated acquisition by Illumina, Inc. of Pacific Biosciences of California, Inc.: Provisional findings report, 24 October 2019. Available here.

acquire long read technology. The CMA considered that, while there was some uncertainty about if or when Illumina would enter the long read segment, it had a clear incentive to enter in order to protect its strong position in DNA sequencing. There were high barriers to entry, but Illumina was well-placed relative to other potential entrants to overcome these. The CMA also considered that the threat of entry by Illumina could have spurred innovation by other competitors.

Finally, the CMA considered whether Illumina and Pac Bio would have competed closely in future. Again, there was some uncertainty around this but, considering the evidence, the CMA thought it was likely that they would compete closely. PacBio had recently improved its technology and customers had given positive feedback on these improvements. CMA analysis of PacBio's patents found that it was ranked highly in terms of its External Competitive Impact[10] which measures how often the patent is cited in later patents and the global market size protected by the patent. This supported the finding that PacBio had an attractive product. Furthermore, Illumina's internal documents showed that it thought PacBio would become more of a threat in future. The CMA provisionally[11] found that the parties would have been important innovation competitors of each other and so the merger was likely to result in a loss in incentives to innovate. Other competitors were provisionally found to offer only a limited competitive constraint and were considered insufficient to offset the loss in competition that would result from the merger.

In PayPal/iZettle[12], the situation was slightly different as, although PayPal was a large incumbent provider of online payment services, its intended target, iZettle, was active in the adjacent market for mobile point of sale (mPOS) services in which PayPal already had a presence. mPOS services consist of a card reader that is connected, physically or by Bluetooth, to an app downloaded onto a smartphone or tablet, which enables merchants to accept card payments and was introduced as an alternative to traditional POS services which operate through standalone devices. The question was not whether mPOS devices would compete more closely with online payment services in future, but rather whether, absent the merger, PayPal would have become a stronger competitor in the mPOS market (in which it had historically been perceived as a weak competitor) in competition with iZettle and, additionally, whether the two would have competed in an emerging "omnichannel" market for integrating the two types of services to allow customers to take all payments through a single provider.

As in the assessment of Illumina/PacBio, the parties' internal documents were an important source of evidence on their future plans. PayPal's internal documents showed that it wanted a strong mPOS

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[10] This analysis was based on data provided by PatentSight GmbH. See paragraphs 9.27 and 9.28 of the Provisional Findings.

[11] It should be noted that the merger was abandoned after the CMA's provisional findings were published so the following discussion of the case is based on its provisional findings and not a final decision.

[12] Completed acquisition by PayPal Holdings, Inc. of iZettle AB: Final Report, 12 June 2019. Available here.

offering in order to be able to compete in the omnichannel market and the CMA considered that it had the incentive and resources to be able to find a way to achieve this and that there were a range of ways in which this could have been achieved, for example through acquisition or partnership. However, it also found that iZettle was unlikely to expand much in the omnichannel market, based on its current plans, and that there were several other competitors growing rapidly in mPOS or with entry plans and which would have presented a meaningful constraint. There was also some constraint from traditional POS providers. In this case, therefore, the CMA found that the merger would not be likely to lead to a substantial lessening of competition.

In Meta/Giphy[13], the CMA considered whether the merger could lead to a loss of potential competition in display advertising.[14] Display advertising is where advertisers pay for their content to be displayed within defined ad units on a particular web page or app. This is distinct from search advertising where advertisers pay for their company website to be linked to a specific search word or phrase so that it appears in relevant search engine results.[15] Meta is a multi-sided platform offering social media services and messaging as well as digital advertising. The CMA found in its digital advertising market study in 2019 that Meta had market power in display advertising. GIPHY was the world's leading provider of free GIFs and GIF stickers which are used in social media platforms. However, relevant to the potential competition between Meta and GIPHY was the fact that GIPHY had introduced a product called paid alignment which provided advertisers with GIF-based advertising. This was introduced in 2017 and had been used by a number of leading international consumer brands. The CMA considered whether GIPHY's paid alignment model had the potential to compete with display advertising.

Again, the CMA looked into the parties' plans and other internal documents. GIPHY's forecasts did not envisage it becoming anything like the size and scale of Meta in the medium term and there was considerable uncertainty around the success of paid alignment. However, the CMA considered that GIPHY's efforts to innovate and monetise its services prior to the merger were valuable, even if paid alignment was not certain to be successful, as this provided a form of dynamic competition which could have spurred further innovation and competitive responses from Meta and GIPHY itself. In the context of Meta's significant market power in display advertising and GIPHY's strong position as a leading provider of an important social media engagement tool, and given the network effects present

[13] Completed acquisition by Facebook, Inc (now Meta Platforms, Inc) of Giphy, Inc.: Final report, 30 November 2021. Available here.
[14] At the time of writing, the CMA was considering the remittal of the case at the direction of the CAT on procedural grounds in relation to the redaction of confidential information. The Remittal Group adopted the CMA's Phase 2 Final Report as its provisional findings in the Remittal and, at the time of writing, was awaiting comments from interested parties on these findings. The discussion in this paper is therefore based only on the information available in the CMA's original Final Report (and Remittal Group provisional findings report) and the CAT judgement of June 2022.
[15] CMA Online platforms and digital advertising market study (2020). Available here.

in social media and high barriers to entry in display advertising, the CMA found that this loss of dynamic competition was likely to lead to a substantial lessening of competition (SLC).

Meta asked the Competition Appeal Tribunal to review the CMA's decision on a number of grounds, including challenging its finding that the merger would lead to a horizontal SLC due to a loss of dynamic competition.[16] Meta contended that the CMA had not assessed whether GIPHY would have been likely to become a significant competitive threat on a relevant advertising market(s) nor whether Meta would have been likely to respond to such a threat by materially changing its own competitive conduct or investment decisions and that, even on the most optimistic projections, GIPHY's sales would not have constituted a material proportion of any advertising market so GIPHY would not have had a material effect on competition.

The CAT acknowledged that an assessment of dynamic competition is bound to involve uncertainty: *"Assessment of impairment to dynamic competition will almost always involve consideration of expectations (i.e. an outcome with a more than 50% chance)."*[17] It proposed a framework for assessing the loss of dynamic competition by first identifying the nature of the dynamic competition and then investigating whether the dynamic is likely to manifest or fail. The CAT points out that, in many cases, the presence of a dynamic element will not lead to an SLC: *"We anticipate that the number of identifiable dynamic elements that actually succeed will be vastly outnumbered by the failures. And, emphasising the fact-specific nature of every case, it is likely that many, or even most, failures will not have any effect – one way or the other – on competition."*[18]

According to the CAT, whether there will be a loss of dynamic competition should be assessed by considering four things. First, the motives of the merging firms (eg is the acquiring firm seeking to kill off a rival?) should be investigated. In the case at hand, it considered that although GIPHY was not in a strong position and its value was declining, it had done a lot of the hard work to establish the paid alignment model and the CMA was justified in concluding that it would be able to further grow the model, in spite of challenges.

For Meta's part, the evidence showed that it was prepared to pay a premium for GIPHY and that part of the reason for this was its need to ensure that its social media platforms continued to have access to a supply of GIFS. However, the monetisation of paid alignment was also part of Meta's rationale for the merger. The CMA's report found that GIPHY's paid alignment was likely to compete closely with Meta's display advertising services for several reasons. It found that paid alignment was closer to display advertising than search advertising as it was less likely to directly prompt a purchase of the product and more likely to increase the user's brand awareness. In addition, ads were not generated by

[16] Competition Appeal Tribunal, case no: 1429/4/12/21. Decision available here.
[17] CAT judgement para 105.
[18] CAT judgement para 108.

search terms; instead, users experienced the ads selected for and displayed to them by GIPHY. Other evidence, including from one of GIPHY's largest customers suggested that GIPHY and Meta were likely to compete for display advertising budgets. The CAT noted that, while Meta did not acknowledge this competition between the services, it accepted that paid alignment could be monetised "*which is tantamount to the same thing*"[19] since advertising spend is ultimately limited and if more is spent on paid alignment less would be spent on other forms of advertising, particularly those which are close substitutes.

Second, the CAT explains that the market's evaluation of the value of the dynamic element is relevant. If there is a lot of interest in the target firm because of its plans from other market participants, this may be an indicator of its valuable dynamic potential. GIPHY had the support of its investors to continue developing paid alignment but the CAT considered the evidence suggested it was a business declining in value.

Third, the contestability of the market is relevant to the assessment as it indicates whether other entrants could easily replicate the position of the target. The CAT considered that GIPHY had generated a substantial user base which would be hard to replicate from a standing start.

Fourth, the ability to monetise the dynamic element should be assessed. The CAT found that there was considerable advertiser enthusiasm for paid alignment but that this had to be set against difficulties GIPHY would face in growing the business such as lack of funds. The CMA's decision had considered these factors but nonetheless came to the conclusion that GIPHYs efforts to monetise its service were valuable to dynamic competition. Overall, the CAT found that the CMA had correctly directed itself to the test it had to apply.

These cases demonstrate some of the challenges of assessing the impact of mergers on potential competition. In all the cases, the acquiring firm was a large, established firm and the target was a smaller entrant, making it difficult to use backward-looking evidence of rivalry to inform the assessment of the likely impact of the merger on competition in future. In such circumstances, it may be appropriate to place more weight on evidence from customers (in cases where they are likely to have an informed view of the dynamic trends in competition) and internal documents, especially the merging parties' future plans. However, this may not prove informative in all cases, and a lack of documented concern by the acquiring firm about the potential impact of the rival on future profits may not preclude such an impact from being possible or even likely. Uncertainty is inherently a feature of such assessments but evidence which sheds light on the incentives of the merging firms is likely to prove helpful, as discussed by the CAT in Meta/Giphy.

3. Vertical effects

[19] CAT judgement para 124 (3).

Another area where there has been recent debate in the literature is around the approach to assessing the vertical effects of mergers. Salop (2018) suggests that there has been under-enforcement with respect to vertical mergers in the US, arguing that Chicago school narratives which cast vertical mergers as largely benign and efficiency-enhancing have been the source of an inappropriately permissive approach.[20] The author argues that this approach rests on three main claims which do not have a strong basis in economics.

First is the argument that vertical mergers simply realign vertical relationships – a vertically integrated firm may choose to self-supply and provide less of the input to competing downstream firms, but downstream competitors will simply purchase more from other suppliers in response. The situation may be different though where there is existing market power and barriers to entry. In these circumstances, unintegrated rivals may face lower input volumes or higher prices.

Second, it is often claimed that a monopolist cannot gain additional profit by monopolising a second vertically related market, so has no incentive to foreclose rivals. However, this result only holds under extreme assumptions, including that there is a monopolist upstream and the downstream market is perfectly competitive. When these assumptions do not hold, the outcome may be more concerning. For example, a vertical merger may provide a firm which has market power upstream with the opportunity to acquire a downstream firm which had the potential to enter upstream itself or sponsor entry. The incentive for foreclosure downstream arises from the need to protect its incumbency position in the upstream market.

Third, the elimination of double marginalisation (EDM) is often used as a defence of vertical mergers as it is claimed a vertically integrated monopolist will charge a price equal to marginal cost for the upstream input which will lead to lower downstream prices. There are a number of scenarios in which this is unlikely to be an optimal strategy for the monopolist, however, for example if the upstream firm's inputs are not compatible with the downstream firm's products. In addition, EDM is not necessarily merger-specific since it may be eliminated without recourse to a merger through contracts with nonlinear pricing and, even where EDM is likely and a result of the merger, it may not offset any anticompetitive effects. Baker et al (2020) provide an additional list of circumstances in which EDM is unlikely to apply and cite empirical evidence which suggests that internal input transfers often do not arise following vertical mergers.[21] Kwoka and Slade (2020) highlight that, while empirical studies have shown that vertical integration can reduce costs and yield benefits to producers and consumers,

[20] Salop, S. (2018). Invigorating Vertical Merger Enforcement, *127 Yale L.J.* 1962-1994 (2018). Available here.
[21] Baker, Jonathan B. and Rose, Nancy L. and Salop, Steven C. and Scott Morton, Fiona M., Recommendations and Comments on the Draft Vertical Merger Guidelines (February 24, 2020). Available here.

this has usually been in competitive or monopolistically competitive settings and there is little empirical evidence about the outcome in imperfect market settings.[22]

A number of other recent papers highlight the need for careful consideration of the competitive effects of vertical mergers. Beck and Scott Morton (2020) consider the empirical evidence on the welfare effects of vertical mergers and find that it demonstrates a variety of effects, including foreclosure and efficiencies, and that this suggests that the effects of mergers should be considered on a case-by-case basis.[23] Motta and Fumagalli (2020) consider a dynamic rationale for vertical foreclosure where a vertically integrated incumbent faces the threat of entry in the downstream market in the current period and in the upstream market in the following period.[24] They demonstrate that the incumbent may have an incentive to foreclose a more efficient downstream rival, sacrificing profits in the short term, in order to deter the threat of upstream entry. Even if upstream entry cannot be prevented, they demonstrate that it may be optimal to foreclose the downstream competitor in order to obtain a downstream monopoly and use this position to extract rents from the more efficient upstream entrant The conduct of the incumbent is able to affect the future market structure and results in higher profits.

Other studies highlight the need for vertical merger control to adapt to the challenges of digital markets. In the UK, a review by the Digital Competition Expert Panel (2019)[25] concluded that it would be appropriate to reconsider the presumption that non-horizontal mergers will typically be benign and broaden the consideration of anti-competitive incentives to account for the fact that "*digital companies often seek to maximise growth over profits for many years*". It also recommended that attention should be given to the relevance of data assets in digital market competition.

E.CA Economics (2022) explain that since digital markets often involve two-sided platforms and ecosystems which are changing rapidly, it can be difficult to make a distinction between horizontal and vertical concerns.[26] However, the authors argue that the issue of "killer acquisitions" has an important digital dimension as, for example, a social media network may buy an input provider to prevent it from expanding into social networking or in order to deny rival social networks an essential input. Having studied four recent CMA cases in detail, they find that "*the CMA (and other competition authorities) might have a tendency to pursue weak, less well-defined horizontal effects over the potentially stronger, more logical vertical effects of the same merger*."

In addition to the fact that traditional thinking on the effects of vertical mergers may not be appropriate in digital markets, traditional tools for assessing these effects may be less useful. One tool

[22] Kwoka, J. and Slade, M. Second Thoughts on Double Marginalization. Antitrust, Vol. 34 No.2 Spring 2020. Available here.
[23] Beck, M. and Scott Morton, F., Evaluating the Evidence on Vertical Mergers (December 31, 2020). Available here.
[24] Motta, M. and Fumagalli, C. (2020). Dynamic Vertical Foreclosure. *The Journal of Law and Economics*, Vol. 63, no. 4.
[25] 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel', March 2019. Available here.
[26] E.CA Economics (2022). 'Ex-post evaluation of vertical mergers: Report for the Competition and Markets Authority'. Available here.

for assessing the incentive to foreclose that is often used is vertical arithmetic, whereby the potential benefit to the incumbent of foreclosure in one market is quantified and contrasted with the potential losses in the other (in the case of input foreclosure, for example, the incumbent will likely lose some sales and profits upstream but gain downstream as customers divert purchases to the merged entity). A purely static assessment of these costs and benefits may miss important dynamic elements of the incentive to foreclose such as those discussed above. Further, the benefits of some partial foreclosure strategies which may be relevant in digital markets, such as foreclosure through incompatibility or the use of data, may be particularly difficult to quantify. Foreclosure strategies may not be implemented in isolation and to consider their costs and benefits in such a way may therefore also lead to an incomplete understanding of their likely effect.

The CMA's Merger Assessment Guidelines (2021) indicate that, where appropriate, it will take a broad approach to considering the elements, short and long term, which may influence the incentive to foreclose and that a robust quantification of the benefits and costs of foreclosure is unlikely to be possible or appropriate in all cases.[27]

The Guidelines also consider the potential for anticompetitive vertical effects to arise as a result of the merger firm gaining access to rivals' data:

> "*Another possible concern is that the merged entity may gain access to commercially sensitive information of its rivals through its role as their supplier or customer. Depending on the industry context, this could include data on specific sales and bids, overall pricing strategies and algorithms, technical product specifications or innovation plans. This could allow the merged entity to compete less aggressively, eg with prices or product specifications only marginally better than its rivals and may also deter rivals from innovating. The CMA may assess this concern as a separate theory of harm, or as part of a broader foreclosure theory of harm.*"[28]

In Tobii/Smartbox[29], the CMA considered the potential for anticompetitive vertical effects due to the merger in the market for augmentative and assistive communication (AAC) solutions, which are communication aids catering to the needs of those with communication difficulties such as people with congenital disabilities such as cerebral palsy. The CMA considered that "*The end-users of the products supplied by the Parties are unusually dependent on technology to communicate and are therefore particularly vulnerable to any deterioration in the way the market for AAC solutions operates, and consequently can be regarded as vulnerable consumers.*" The solutions consist of

[27] Competition and Market Authority, 2021. Merger Assessment Guidelines (CMA 129). Available here. Paragraphs 7.18 and 7.19.
[28] Competition and Market Authority, 2021. Merger Assessment Guidelines (CMA 129). Available here. Paragraph 7.3.
[29] Completed acquisition by Tobii AB of Smartbox Assistive Technologies Limited and Sensory Software International Ltd: Final report, 15 August 2019. Available here.

several components including hardware, software and a means of access such as an eye gaze camera and both parties supplied complete solutions to customers as well as supplying individual components to some of their competitors.

In addition to concerns about the horizontal effects of the merger in the market for dedicated AAC solutions, the CMA considered the merger would lead to a substantial lessening of competition due to vertical effects. First, the CMA found that Smartbox's 'the Grid' had a strong position in the upstream market for the supply of AAC software and that the merged entity would have the ability and incentive to use that position to foreclose downstream competitors by making their access to the Grid more expensive or through deteriorating its quality. It considered that the constraint from alternative software providers was weak and that downstream rivals would not be able to switch away from the Grid without significantly weakening their competitive position in the supply of dedicated AAC solutions. It found that it was likely to be a profitable strategy for the merged entity since customers would switch from rivals' dedicated AAC solutions to the parties' solution.

Second, it found that the merged entity would likely also have the ability and incentive to foreclose competitors of Tobii's eye gaze cameras through limiting the compatibility of the Grid with rival cameras. It found there were limited routes to market for eye gaze cameras other than through dedicated AAC solutions based on the Grid software and that customers would be likely to switch to Tobii's cameras if rival cameras have limited compatibility with the Grid. The CMA found this was likely to be profitable since dedicated AAC solution providers were unlikely to switch to a different type of software. This could lead to reduced innovation in eye gaze cameras, higher prices and worsening of price and quality of AAC solutions of which eye gaze cameras are a key component.

The Parties asked the CAT to examine the CMA's decision on a number of grounds, including that the CMA's finding of an SLC as a result of vertical effects was unreasonable or irrational.[30] The CAT referenced upfront its decision in ICE/Trayport which clarified its view that:

> "*vertical mergers can and do raise competition concerns. Whether a particular merger is likely to give rise to an SLC is fact specific. Here we do not consider that there is any special elevated evidential burden on the CMA in deciding whether this merger gives rise to a SLC.*"[31]

In respect of the input foreclosure theory of harm, the CAT found that the CMA was justified in finding that Smartbox had a strong position in the upstream market due to its control of Grid and did not accept Tobii's submission that an input must be "*indispensable, critical or 'must have'*" in order for there to be ability to foreclose. However, it considered that the CMA had not fully evaluated the

[30] Competition Appeal Tribunal, case no: 1332/4/12/19. Decision available here.
[31] Competition Appeal Tribunal, case no: 1271-1272/4/12/16. Decision available here.

potential impact of partial foreclosure as it had only asked customers and competitors what would happen if Grid was no longer available, and not what they would do if it increased in price or worsened compatibility. It therefore did not have information on whether suppliers would pass through any increases in the price of Grid to customers or not and could not properly assess whether the merged firm had the ability to engage in partial foreclosure through an increase in the wholesale price of a Grid licence. It had, however, gathered sufficient evidence to conclude that the merged entity would have the ability to engage in partial foreclosure through reducing the extent to which Grid supported rival dedicated AAC hardware.

In terms of the incentive to foreclose, again the CAT felt that in this case the CMA's enquiries had not gone far enough as it had based its analysis on total rather than partial foreclosure. The CMA had calculated that for total foreclosure to be profitable, 10-20% of the lost upstream sales of the Grid would need to be recaptured through downstream customers switching away from rival dedicated AAC solutions towards the parties' dedicated AAC solution. The CMA argued that the critical level of diversion would be lower in a partial foreclosure scenario since the higher price charged for the Grid (in the case of partial foreclosure based on price) or engaging in less software development and support (in the case of partial foreclosure based on degrading compatibility with rival hardware) would lead to gains upstream relative to a total foreclosure strategy. It also contended that the level of diversion was likely to be high since the Grid was a key driver of sales for dedicated AAC solutions. In this case, the CAT considered the CMA could have asked rival suppliers of dedicated AAC solutions how they would have reacted to either of the partial foreclosure scenarios and that the evidence in relation to total foreclosure was not sufficient to conclude that there was an incentive for partial foreclosure. For the same reasons, the CAT found that the CMA did not have sufficient evidence to conclude on the effect of foreclosure on competition.

With respect to customer foreclosure, the CAT found that the CMA had sufficient grounds for concluding that the merged entity would have the ability and incentive to foreclose rival providers of eye gaze cameras and that this would result in an SLC. It confirmed that the CMA was not required to quantify the SLC and recognised that the CMA's competition concerns regarding the merger were not confined to price but included the impact on other competitive parameters such as product range, customer service levels and the development of new products.

In Meta/Giphy[32], in addition to the potential competition theory of harm discussed above, the CMA also considered whether the merger could have vertical effects on competition in the supply of social media arising from foreclosure in the supply of GIFs. The CMA found that Meta had a significant share of the social media market in the UK (73% in 2020) and may have been able to disadvantage its

[32] Completed acquisition by Facebook, Inc (now Meta Platforms, Inc) of Giphy, Inc.: Final report, 30 November 2021. Available here.

rivals in social media by limiting their access to GIPHY in some way. This could either be through preventing them from accessing GIPHY or worsening the terms on which they were able to do so. The CMA also considered whether Meta would have an incentive to disadvantage rivals by reprioritising innovation and development of GIPHY's services towards the requirements of its own platforms, rather than rival social media platforms or by requiring them to provide more data (eg on individual or aggregate user behaviour) as a condition of accessing GIPHY.

The CMA found that Meta would have the ability to foreclose rival social media platforms. Based on evidence from industry players and internal documents, GIFs were found to be an important feature of social media platforms, particularly in relation to encouraging user engagement. Apart from GIPHY, there was only one other significant provider of GIF-based services, Tenor, which was owned by Google. In addition, the CMA found that the acquisition of GIPHY would give Meta access to data which could place its rivals at a competitive disadvantage if they continue to use GIPHY, for example by using the data to analyse activity on rival apps in such a way that would allow it to identify competitive threats or react to emerging market trends before other rivals are able to. Although GIPHY's data may be incrementally small compared to Meta's existing databases, the CMA found that GIPHY's data could refine Meta's existing market intelligence sources and that "*given Facebook's significant and enduring market power in social media and display advertising, and its existing significant data advantages, even a small data increment further strengthens its ability to limit competitive threats*."[33] The CMA also highlighted that rivals' concern about Meta gaining such an advantage could lead them to stop using GIPHY which would also put them at a disadvantage. Meta therefore had a range of possible foreclosure mechanisms available to it.

The CMA also considered Meta had an incentive to foreclose rivals as limiting the features available on a rival social media platform is likely to mean that users switch at least a proportion of their time to other platforms. Given that Meta had such a strong position in the market, customers were highly likely to switch to a Meta platform and this could lead their friends and family to switch as well. The CMA found that such a strategy could have a limited cost for Meta as, although GIPHY benefitted from having a large user base which made its product more attractive to brand partners and other content creators, Meta's own platforms also have a large user base and so GIPHY would remain prominent and attractive. The CMA found, in this instance, that it was able to reach a view on the incentives to foreclose without conducting a quantitative assessment since the evidence showed that the benefits of foreclosure would be positive while the costs would be limited. It also considered that a quantitative assessment would not be feasible due to the difficulty of estimating the importance of network effects in both social media and GIF provision and the complex and dynamic nature of the

[33] See para 8.102 (a) of the CMA's Final Report.

relevant markets. The CMA considered that the merger would have the effect of strengthening Meta's significant market power in social media and reducing competition faced from others.

The literature and cases reviewed above illustrate the challenges in assessing vertical mergers and highlight that traditional thinking on the economics of vertical mergers may fail to capture the potential for harm to competition, particularly in the case of fast-changing and digital markets. In this context, a presumption that vertical mergers are likely to be benign is inappropriate and competition authorities should not hold vertical mergers to a higher standard when assessing whether they are likely to lead to a substantial lessening of competition. As noted by the CAT, each case needs to be considered on its own merits, and with reference to its own facts and evidence including where there may be efficiencies to consider.

In addition, the discussion above highlights some issues which are likely to be increasingly relevant in the context of mergers in digital markets, in particular the need to carefully consider firms' incentives in a dynamic setting and move beyond the consideration of purely static effects. While, in some cases the benefits and costs of foreclosure can be usefully estimated quantitatively, precise quantification of the incentive to foreclose is unlikely to be possible in many cases, particularly in more dynamic settings. However, as the CAT found in Tobii/Smartbox, gathering qualitative or quantitative evidence from customers and competitors on their likely reaction to partial foreclosure strategies may be informative. It is also important to consider a broader range of possible foreclosure strategies, particularly those concerning interoperability and the use of data.

4. Entry and expansion

A study commissioned by the CMA conducted ex-post evaluations of eight mergers reviewed by the Office of Fair Trading (OFT), Competition Commission (CC) and CMA[34] with the aim of drawing lessons about the CMA's assessment of entry and expansion in merger control.[35] It found a mixed picture: in three of the cases, the authorities predicted that entry or expansion would be timely, likely and sufficient to prevent an SLC and the review showed that this prediction was realised following the merger. In the other five cases, for various reasons, the authorities' assessment has not proven to accurately predict market developments. In two cases, the authority placed significant weight on entry or expansion occurring and the review found this had not materialised and that prices had increased following the merger. In another case, the authority placed weight on the barriers to entry and expansion being low but there was limited entry following the merger and the merging parties' prices increased. In two other cases where the authority put weight on a particular firm entering or

[34] In 2014, the Office of Fair Trading and Competition Commission were merged to form the CMA.
[35] Entry and expansion in UK merger cases: an ex-post evaluation. KPMG LLP, April 2017. Available here.

expanding, this did not materialise to the degree expected by the authority, although in one of the cases another firm expanded and appeared to constrain the merger parties.

For example, in Zipcar/Streetcar, the CC considered the merger of two providers of car club services in London and concluded that, although price rises were likely in the short term as a result of the merger, entry by other operators and expansion by existing operators in a rapidly growing market would mitigate the possibility of a substantial lessening of competition.[36] The ex-post evaluation found that although some of the operators the CC expected to enter had entered, all but one had subsequently exited, and others did not seem to have entered at all.[37] On the other hand, other operators that the CC had not predicted had also entered the market, with varying success. Overall, the market share of the merging parties had declined by about 19% since the merger and entrants to the market had a combined share of around 25% at the time of the review. The main factor highlighted as a challenge to successful entry was the difficulty in obtaining licenses and parking spaces in London boroughs in addition to the need to negotiate with each borough individually and each having different terms and conditions. The CC had considered these potential barriers to entry but concluded that the growth in the market would be sufficient to overcome the challenges. The study found that the main entry which had occurred since the merger had not been timely, occurring four years after the merger was cleared, and that there was some evidence (subject to some caveats around data quality and comparability) that prices had increased materially following the merger. Overall, it found that timely, likely and sufficient entry does not appear to have occurred in this market and that the barriers to entry and prospects for the growth of the market were respectively higher and lower than the CC predicted.

The study found that in the cases considered, entry by suppliers already operating in closely related markets and entry or expansion by suppliers with new or innovative products were the main characteristics of entry which occurred. The authorities were better at predicting the former than the latter. In some cases, potential new entrants had been more optimistic about their prospect of entry than turned out to be the case.

The study presents a series of recommendations including that the CMA should continue to consider carefully whether entry or expansion from closely related markets is likely following the merger. It states that "*In particular, specific evidence on factors such as costs of entry being relatively low, consumer preferences supporting such entry, and plans for entry being particularly well-progressed, all appeared to be important predictors of sufficient and timely entry or expansion*." It further

[36] Zipcar and Streetcar: A report on the completed merger between Zipcar, Inc and Streetcar Limited, 22 December 2010. Available here.
[37] Entry and expansion in UK merger cases: an ex-post evaluation. KPMG LLP, April 2017. Available here.

recommends that the CMA have more systematic regard for the possibility of entry or expansion by suppliers with innovative products.

The CMA's Merger Assessment Guidelines (2021) reflect the need to make a careful assessment of potential entry and expansion:

> "*The CMA will seek to ensure that the evidence is robust when confronted with claims of entry or expansion being timely, likely and sufficient to prevent an SLC from arising. It is likely to place greater weight on detailed consideration of entry or expansion and previous experience of entry and expansion (including how frequent and recent it has been).*"[38]

In Cargotec/Konecranes, a merger between two suppliers of cranes, the CMA considered the likelihood of entry or expansion in the markets for mobile equipment (MEQ), a category of container handling equipment.[39] The merger parties argued that they were expecting a number of companies to drastically change the market structure in the coming years and named a number of recent and potential entrants. The CMA found that, while a number of existing competitors had ambition to expand in MEQ markets, it had not seen evidence to suggest that the level of competitive constraint posed by these competitors would change materially in the near future or that entry and expansion would be sufficient in scope and magnitude to offset the loss of competition from the merger. It also noted that no entry on a significant scale had occurred in the past ten years in Europe or in the past five years in the UK.

In CHC/Babcock, the CMA found that there were only four effective suppliers in the market for oil and gas Offshore Transportation Services in the UK (i.e. helicopter services used to transport crew to and from oil and gas platforms).[40] In this context, the CMA found that the merger parties imposed an important competitive constraint on one another, and the competitive impact of the merger would be substantial. The merger parties argued that entry or expansion may occur in a number of forms including entry by competitors in neighbouring product markets or through customers sponsoring entry and that there was evidence of recent entry. The CMA considered each of these scenarios but found that new entry or expansion was unlikely for a number of reasons. It found that there were a number of barriers to entry including significant set up costs, the availability of hangar space, regulatory and licensing requirements and customer preference for track record and experience. In addition, it considered the recent decline in the industry together with low margins and significant barriers to entry would make entry unappealing and the businesses highlighted as potential entrants made clear that they were not interested in entering the UK market, even if profitability were to

[38] Competition and Market Authority, 2021. Merger Assessment Guidelines (CMA 129). Available here. Paragraphs 8.30 and 7.19.
[39] Anticipated merger between Cargotec Corporation and Konecranes Plc: Final report, 31 March 2022. Available here.
[40] Completed acquisition by CHC Group LLP of Offshore Helicopter Services UK Limited, Offshore Services Australasia PTY Ltd and Offshore Helicopter Services Denmark A/S: Final report, 1 June 2022. Available here.

improve. Entry sponsored by customers was also considered unlikely. The timeliness and sufficiency of entry to replace the constraint lost as a result of the merger were considered as key factors by the CMA and it found that the evidence did not support that entry would be timely or sufficient.

The ex-post study commissioned by the CMA suggests that the UK competition authorities have not always been successful at predicting entry and expansion and that, at times, the authorities have placed too much weight on entry or expansion which either has not occurred or has occurred later or in a more limited way than expected. A greater emphasis on the entry plans and capabilities of firms in related or adjacent markets as well as evidence of past, successful entry is likely to be appropriate, as has been considered in recent cases. This may include consideration of whether the industry has been characterised by successful innovation and gathering evidence on the possible timing and likelihood of success of any innovative new products that may be forthcoming in future. In addition, the analysis in CHC/Babcock highlights the importance of considering the incentives for entry as well as the barriers which firms have to overcome. Even where barriers are surmountable, entry may be unlikely to occur if it will not lead to sufficient returns for a potential entrant.

5. Conclusions

While the discussion above has focussed on three distinct elements of merger assessment, there are a few cross-cutting themes which we can draw out. First, the issue of how to deal with uncertainty is relevant to all aspects of the assessment. This is inherent in all merger assessment due to its forward-looking nature but poses a particular challenge in the case of dynamic markets. There are several ways in which competition authorities can deal with this. As highlighted in the literature and the ex-post review commissioned by the CMA, it may be necessary to accept a higher degree of uncertainty in such cases to counteract the risk of potential competition being eliminated. This is particularly the case in markets with pre-existing dominance and high barriers to entry such as many digital platform markets.

In addition, the case examples demonstrate that it will often be useful to focus on understanding and evidencing firms' incentives rather than seeking evidence of what is likely to happen in future, which may not exist. Dynamic incentives are particularly important, especially in "winner takes all/most" markets. The probability of disruption by a nascent competitor may be low, but the harm to the incumbent's position and future profitability could be very substantial if it did occur and this may create the incentive to snuff out potential threats at an early stage. On the other hand, attempts made by a potential disrupter to enter and expand may drive a competitive response from the incumbent even if they are not ultimately successful.

The discussion also highlights the importance of thinking carefully about the relevant theories of harm and taking account of the potential non-price effects of mergers. With regard to horizontal mergers, the need to consider possible effects on innovation has been a theme of recent literature and cases.

The ex-post review of vertical mergers found that the UK authorities had not done a good job of characterising theories of harm in all cases, making it more difficult to assess the likelihood of an SLC and both the literature on competition in digital markets and the CMA's recent experience highlight the importance of considering a broad range of foreclosure mechanisms.

Finally, the discussion above highlights the usefulness of ex-post reviews in helping competition authorities to understand the impact of their decisions. This is likely to be particularly important in dynamic markets and may help to deal with the problem of uncertainty by providing an evidence base on the impact of interventions in different markets.