E.CA Economics

REPORT

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Ex-post Evaluation of Vertical Mergers

Report for the Competition and Markets Authority

Partner of ESMT European School of Management and Technology

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1 Executive Summary

In recent years, vertical mergers have come under increased scrutiny. The Chicago School driven orthodoxy that they are fundamentally pro-competitive and lead to competition concerns only on rare occasions is increasingly challenged. More sceptical views call for parity in the consideration of vertical and horizontal mergers. The current scepticism is driven mainly by concerns about perceived underenforcement in the digital platform space.

Against this backdrop, we reviewed four vertical mergers in a diverse range of industries which the CMA assessed in 2017. Three were traditional 'bricks and mortar' mergers (Tulip/Easey – pig farming and pork processing, Heineken/Punch – beer brewing and pubs, and Tesco/Booker – grocery wholesaling and retailing). The fourth case was a merger affecting a digital platform (Mastercard/Vocalink – payment services and infrastructure for payment services). All four cases were ultimately cleared, two subject to commitments to remedy horizontal concerns (Heineken/Punch subject to a small number of pub divestments; Mastercard/Vocalink subject to a package of behavioural and structural remedies with respect to cash payment services). Three cases were handled at Phase 1, one was fast-tracked to Phase 2 (Tesco/Booker).

We reviewed the contemporaneous evidence for each case to understand the reasoning behind the CMA's decisions. Our assessment of post-merger market developments is based on desk research and extensive stakeholder interviews. Our conclusions are informed by the latest academic thinking (see Chapter 4).

The picture we found was mixed. In two cases (Tulip/Easey and Tesco/Booker), we agreed with the CMA's unconditional clearance, which we believe was borne out by later market developments. In the two remaining cases (Heineken/Punch and Mastercard/Vocalink), while we did not conclude that the CMA had necessarily made a mistake in clearing the transactions, we found that the market interactions were more complex than the CMA assessed at the time of the mergers. In both cases, only long-term market developments will show whether the clearances were warranted.

In addition to considering whether the outcome was correct, we also looked at the quality of the CMA's analysis. We found that the CMA largely carried out high-quality work, though we also found a number of analytical choices which we consider could have been improved upon. In all cases, we discovered that the nature of the market interactions was more complex than was accounted for by the studied theories of harm.

We also considered whether there were any trends or biases in the CMA's analysis. We found that the CMA treated vertical mergers (or the vertical effects of mergers with both horizontal and vertical elements) more leniently than horizontal mergers. This was an explicit but unconsidered choice.

For instance, in Mastercard/Vocalink, the CMA identified two theories of harm related to cash payments, one horizontal and one vertical. The CMA found a competition concern with respect to the horizontal one but not the vertical one. We considered that there was only one concern that could be seen either as a horizontal or a vertical issue. In our view, the conclusion on this concern should not have depended on which lens was being used.

In Tesco/Booker, the CMA chose a 5% threshold for the vertical upward pricing pressure index (vGUPPI), while in the subsequent Sainsbury's/Asda merger it considered a threshold of 2.75% for the horizontal upward pricing pressure index (GUPPI) stating that vertical mergers may require different thresholds. In Heineken/Punch, the CMA requested divestments for a horizontal concern, clearing unconditionally the three vertical theories of harm that were attracting significant complaints.

We found that the distinction between horizontal and vertical effects is often hard to draw. The distinction was most obscure in the Mastercard/Vocalink case, where the choice of lens appeared to determine how strict the CMA was likely to be in its assessment. In the Tesco/Booker case, we found that some essentially horizontal concerns were treated as vertical because they contained a vertical component. To us, they were more naturally horizontal.

The CMA's toolkit as comprised in the 2021 Merger Assessment Guidelines ("MAGs") does not fully encompass the complexity of vertical effects and how they are intertwined with horizontal effects. While we understand that it was not designed to be comprehensive, we found that it lacked an adequate framework to help its teams think about cases of potential competition which involved a vertical element, for example a pre-emptive purchase of a key input to protect a strong market position downstream.

This is was apparent to us in the Mastercard/Vocalink case. While we did not conclude that the CMA's clearance was a mistake, we thought the CMA missed the importance of vertical elements to the competitive interaction between the parties. We suspect that this was in part due to an implicit requirement that potential competition should develop relatively rapidly post-merger in order to be worth protecting. Slowly emerging products were deemed 'too uncertain', despite the fact that the leading service has itself taken years, and often decades to emerge. Given that this kind of interaction is increasingly under the CMA's scrutiny in digital platform markets, we consider that the CMA may need to engage with this issue further. We recognise that there is a difficult balance to strike here, since increasing scrutiny might open the CMA to challenges of over-enforcement and pressure on its resources.

In the Tesco/Booker case we found that a closer alignment with the 2021 MAGs might have helped the CMA to see that one of its vertical theories of harm was implausible in the vertical sense (a partial downstream 'self-foreclosure' by Tesco) but plausible as a horizontal concern with a vertical recoupment mechanism (recoupment of Tesco's increased market power downstream through upstream sales of Booker). In this case, we thought this greater definitional clarity might have helped the CMA discard the concern earlier.

We consider that mergers with a vertical component require more careful calibration of theories of harm based on greater engagement with business evidence than is perhaps needed in horizontal cases. In two cases (Heineken/Punch and Tesco/Booker), one of the CMA's theories of harm was, in our view, the likely rationale for the merger. We thought that in neither case was the merger prima facie anti-competitive (though some questions remain, in our view, with respect to the Heineken/Punch transaction). In the Heineken/Punch case, the CMA did not give enough weight to ample business evidence with a view that it made no sense in theory. We thought the CMA toolkit was not well adapted to exploring such business evidence. We found that this is at least in part because harm in the vertical setting is often less straightforward to intuit, though we found the CMA could do more to engage with business evidence.

We also found that vertical mergers tended not to be isolated events in a sector but rather a part of an industry trend. In all four cases we reviewed, we found that there were either other parallel transactions occurring, or the acquirer itself had engaged (or was poised to engage) in a similar transaction. We thought it was key for the CMA to see the evolving picture within a whole industry when considering a vertical deal. We thought this could be done in particular by considering the counterfactual to the merger as well as the expectation of the future market evolution (with or without the merger) as more dynamic than is the case at the moment.

We also found that the CMA's assessment of entry continues to be mixed. While in Tulip/Easey, the CMA's judgement that any harm to competition would be remedied by timely entry or expansion was accurate, we found that in Mastercard/Vocalink the CMA likely underestimated Vocalink's incumbency in the provision of infrastructure for interbank payments. We consider that the CMA's calibration of competitive harm ran the risk of accepting weaker evidence for entry, while requiring a higher burden of proof for vertical effects.

Overall, we found the concerns above to be calibration issues rather than category errors. This calibration is not straightforward to do. The current approach of the CMA to this complexity is a proliferation of theories of harm to see which of the existing analytical frameworks is the most promising. This can lead to a waste of resources and weak concerns being put forward that undermine stakeholders' confidence in the CMA's understanding of their industry.

We would recommend instead greater flexibility when developing theories of harm rather than shoehorning new issues into old categories such as a strict separation between vertical and horizontal issues. We would also advocate focussing resources on key theories of harm. But with this liberty must come rigour and open-mindedness to industry evidence as to where it is evolving and why.

2 Introduction

The CMA retained E.CA to undertake an Ex-post Evaluation of Vertical Mergers decisions (PROC 308-2021). Our task was to review at least four of the CMA's merger decisions which considered vertical theories of harm ("ToHs").

The review of each case should assess whether there has been a post-merger lessening of competition which has led to detriment for consumers. In doing so, each review should consider the extent to which the assumptions about lessening of competition from vertical ToHs have occurred in line with the CMA's expectations.

The evaluation of individual cases should be drawn together to conclude:

- What can be learned from the examined cases about how the CMA should assess vertical mergers and the ToHs that arise in them.

- Whether in each case the CMA made the right decision ex ante (was it reasonable?) and ex post (was it correct?).

E.CA reviewed the following four merger cases:

- Tulip/Easey (2017);[1]

- Heineken/Punch (2017);[2]

- Mastercard/Vocalink (2017);[3] and

- Tesco/Booker (2017).[4]

Our assessment was primarily based on:

- An in-depth analysis of the documents and information the CMA provided. This information dates back to the time of the merger and allowed us to understand the CMA's thinking and concerns at the time of the transaction alongside stakeholder views. We reviewed the ToHs the CMA formulated, the evidence the CMA collected and the balancing of this evidence when assessing vertical ToHs.

- A substantial number of stakeholder interviews. These interviews allowed us to assess how the market has changed since the merger and whether, with the benefit of hindsight, the CMA's assessment was correct. The interviews have been conducted in late 2021 and early 2022.

- Desk research on the market, market developments, entry and exit, etc.

While we spent considerable efforts on securing suitable data for the individual markets, such data was either unavailable or not obtainable within a reasonable cost-benefit relationship for any of the cases.

[1] CMA, 2018, Tulip / Easey Merger Enquiry – Final Report.

[2] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report.

[3] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Final Report.

[4] CMA, 2017, Tesco / Booker Merger Inquiry – Final Report.

Furthermore, we note that two major events seem to have affected all four markets to some extent: exit of the UK from the European Union (EU) and the Covid-19 pandemic. We were careful in our assessment to understand the impact of those unexpected disruptive events and when possible isolate their effect. This was, however, not possible in its entirety.

We also reviewed academic literature on vertical mergers to inform our understanding of how vertical transactions needed to be reviewed.

The report is organised in the following chapters. First, we provide the findings, both case specific and general (see chapter 3). We then discuss the evolution of the theoretical debate (see chapter 4). Finally, we present in-depth assessment of the four case studies (see chapters 5 to 8).

3 Key findings of our review

This chapter focuses on the key themes we identified in our review of the four CMA decisions. First, we introduce the four cases that we studied and give our high-level findings. We then discuss the general lessons that we drew from their review. The detail on each of the four cases is presented in the following chapters 5 to 8.

3.1 Case specific findings

3.1.1 Tulip/Easey (2017): A merger in the pork supply chain

Tulip (now Pilgrim's Pride UK), was a pig farmer, pork processor and supplier. Easey was a large pig farm. The rationale for the merger was for Tulip to gain access to sufficient supplies of outdoor-bred pigs to meet the needs of its customers. In particular, Tulip needed Easey to […].[5]

A competitor of Tulip, […], complained that the merger would deprive it of supply of outdoor bred pork. The CMA concluded that if the competitor were foreclosed, entry and/or expansion would ensure its future supply. The merger was cleared at Phase 1.

Stakeholder interviews indicated that entry and expansion occurred, including by the complainant, who found alternative sources of supply, and further vertically integrated by purchasing additional pig farms. In general, the pig market is moving towards greater production of outdoor bred pigs, with existing producers continuing to convert their facilities. However, one purchaser of pork products, […], has struggled to source sufficient quantities of outdoor bred pork outside vertically integrated supply chains.[6]

We were also told that vertical integration and market consolidation has been happening at all levels of the supply chain to provide resilience against demand and supply shocks. This benefits the large chains, but exposes independent operators and customers without vertical contractual arrangements. We were also told that some of the independent farmers were the greatest source of innovation in the market, and that therefore large-scale vertical integration could negatively impact innovation.

Lessons learned:

The CMA's assessment was accurate. Entry and expansion happened within a short space of time. The CMA focused its investigation on the large competitor of Tulip's who was one of the few complaining stakeholders. However, the real detriment from vertical integration in this market might come from the progressive loss of independent operators. While not all independent operators are particularly unique or efficient, we understand that innovation in the industry has historically come from amidst their ranks.

3.1.2 Heineken/Punch (2017): A merger between a major brewer and a large pub network

Heineken, a major international brewer, purchased a network of pubs (Punch A) which it consolidated with its existing UK pub network (now operating as Star Pubs). As with the acquisition of RBS pubs in 2011

[5] […], industry insider, Interview, 9 February 2022.

[6] […], a purchaser of pork products, Response to E.CA Questionnaire, 2022.

(later renamed “Star Pubs”), Heineken was looking for an outlet for its beer products. The merger attracted significant volume of complaints from customers (both pub tenants and pub customers) and independent brewers.

In addition to a horizontal ToH the CMA considered three vertical ToHs:

- Input foreclosure by Heineken to other pubs (ToH 1),
- Customer foreclosure by Heineken of other brewers from Heineken owned pubs (ToH 2), and
- Range reduction in its own pubs to privilege Heineken products (ToH 3).

The CMA cleared the merger at Phase 1 following a small number of divestments to resolve the CMA’s horizontal concern arising from the coming together of Star Pubs and Punch A pubs.

Following the merger, Heineken pushed its products through the Punch A network and limited sale opportunities for other brewers and opportunities for pub tenants to switch suppliers. The Pubs Code Adjudicator issued a fine to Heineken for quantity forcing when tenants requested to go free of the tie in 2020.[7]

Lessons learned:

We found that input foreclosure, ToH 1, directly contradicted the rationale for the merger and all the complaints the CMA had received. Rather, customer foreclosure through self-preferencing, ToH 2 and 3, appears to have been the rationale for the merger (and the previous acquisition of Star Pubs). The CMA concluded that product range was not a strong feature of competition in the market. We considered that the CMA did not have strong evidence for this finding.

We also found that the CMA might have been more concerned about customer foreclosure, ToH 2, had it calculated market shares based on volumes of beer sold in pubs rather than numbers of pubs. The estimated market share of independent pubs was approximately […]% based on pub numbers, but substantially lower, at only […]%, based on the estimated volume of beers sold. This would have impacted the horizontal ToHs too.

It is unclear to us whether clearance was the wrong decision; we believe that some of the concerns of the complainants could only be adequately addressed through a market inquiry. Even so, we suggest that this merger required more careful assessment by the CMA.

[7] Note that the PCA and CMA use different appraisal lenses for Heineken’s behaviour based on different legal bases (the Pubs Code 2016 for the PCA and the Enterprise Act 2003 for the CMA in a merger inquiry). The key to our finding is the behaviour identified by the PCA, not the lens used. The quantity forcing as a representation of customer foreclosure was considered by the CMA in the Heineken/Punch merger review in 2017.

3.1.3 Mastercard/Vocalink (2017): A merger between providers of payment system infrastructure and services

Mastercard, a provider of card payment services, ATM services, and infrastructure, acquired Vocalink, a provider of infrastructure for ATM services and interbank payments, and the developer of account to account (A2A) payment service, Zapp (now “Pay By Bank”).

In addition to three horizontal ToHs (ToHs 1-3), the CMA considered three vertical ToHs (ToHs 4-6):

- Ability and incentive of Mastercard to degrade Vocalink’s infrastructure for ATMs (ToH 4);
- Ability and incentive of Mastercard to degrade Vocalink’s infrastructure for interbank payments (ToH 5); and
- Ability and incentive of Mastercard to prevent innovation in the supply of interbank payment methods (ToH 6).

The CMA cleared the merger subject to a package of remedies to address horizontal concerns in the ATM segment (ToH 1).

Stakeholders told us that, following the merger, Vocalink continued to invest in its infrastructure and provide a good quality of service. The main customer of ATM infrastructure services, LINK, was satisfied with the CMA’s remedies and obtained a good quality offer from Vocalink following the tender of ATM infrastructure. The merger coincided with intensification of competition between Mastercard and Visa in the provision of debit cards. The payments sector has a dedicated sector regulator, the Payment Systems Regulator (“PSR”), that has steered a number of changes in the sector since it started work in 2014.

Lessons learned:

The CMA appears to have been over-optimistic in its assessment of the ease of entry into the provision of central infrastructure services (“CIS”) for interbank payments, though not for ATM services where it considered, correctly in our view, barriers to entry to be high. Stakeholders told us that switching away from Vocalink was likely to be difficult in both segments, and the CMA had evidence which could have alerted it to this at the time of the merger.

The low bar for entry into CIS for interbank payments set by the CMA was in contrast to the test applied to foreclosure, which was very robust, with scepticism applied every step of the way. This, in our view, resulted in the CMA’s overall assessment of significant lessening of competition (“SLC”) appearing somewhat imbalanced, especially given that that transaction was considered at Phase 1.

The CMA has also likely underestimated the potential role of inter-system competition between card and interbank payments. Some “overlay” payment services were already using both systems interchangeably. Both payment systems depend on infrastructure that is hard to replicate. Visa and Mastercard dominate card payments. The interbank payment system is at present run over Vocalink and is still emerging at the retail level. A fully developed interbank payment service would be a competitive constraint on card payment service.

The CMA clearance was based in part on a finding that Visa was more exposed to potential competition from interbank payments than Mastercard on account of Visa’s strong position in the debit card market which the CMA saw as more directly competing with interbank payments. The CMA did not appear to have considered that the debit card market was a bidding market. Mastercard's modest market share in the debit card market at the time of the merger (3%) has since increased significantly (to up to 30% based on the PSR's projections for medium term future and on historic levels).[8] Further, contemporaneous industry evidence suggested that a significant proportion of customers may be using debit and credit cards interchangeably.

Given the benign "first order" effects of the merger, it is difficult to conclude that the clearance was a mistake. Only time will tell whether the merger had a "second order" effect in the form of muted competition between card and interbank payments.

3.1.4 Tesco/Booker (2017): A merger between a grocery retailer and a grocery wholesaler

Tesco is a grocery retailer that also manages nearly all of its grocery supplies directly with producers. It acquired Booker, an upstream groceries wholesaler.

The CMA considered a mixture of horizontal and vertical ToHs. The main vertical ToHs were:

- ability and incentive to increase wholesale prices / reduce quality to Booker-supplied retailers in areas where they overlap with Tesco's stores (ToH 2); and

- ability to increase retail prices / reduce quality at Tesco's stores in areas where they overlap with Booker-supplied retail stores (ToH 3).

The CMA fast-tracked the merger into Phase 2 and then cleared it unconditionally. We concluded that clearance was the right decision. We learned that the merger improved the buying power of the merged entity and that this was likely passed on to Booker-supplied retailers. The merger may be part of a wider vertical integration trend aimed at increasing supply chain resilience.

Lessons learned

The CMA carried out detailed high-quality analyses (entry and exit, multiple vGUPPI analyses). We considered that not all of this work would have been required had the CMA focused on a smaller number of high-likelihood ToHs. We also thought that there was scope for an earlier clearance given that the key evidence pointed towards a competitive upstream and downstream market.

ToH 3, as defined by the CMA, required Tesco to actively damage its competitiveness downstream, which would be in direct contradiction with the stated rationale for the merger. We thought ToH 3 was better seen as a horizontal ToH with a vertical recoupment mechanism. Even after such redefining, we thought it could have been eliminated earlier.

We thought the vGUPPI analysis was a useful addition to the CMA's toolkit that comes with some health warnings, mainly in the form of the need for simplicity. In particular, had the CMA found the results of the local vGUPPI analysis for ToH 2 more troubling, it might have found it hard to use them for remedies (or even prohibition) given how stylised they were.

[8] PSR, 2022, The PSR Strategy, (last accessed 7 March 2022).

3.2 Findings applicable to wider casework

This section discusses the broader themes we have identified across the four case studies. We group them in three categories:

- The need for deeper consideration of the business realities of a sector;
- The need for consistency and streamlining of the SLC testing;
- Thoughts on the application of vGUPPI.

3.2.1 The need for deeper consideration of business realities of a sector

We found that across all four decisions the CMA did not make full use of the business evidence presented to it. We understand from our discussions with the CMA that at least part of this is based on the concern that such evidence might not be neutral. While we understand this concern, we also found the CMA was not sufficiently interested in wider industry trends and business evidence presented by third parties and independent sources. This evidence might not neatly fall into categories such as 'market definition' or 'barriers to switching', but will often be crucial to understanding why the deal is being proposed, which ToHs may be less likely, and where the industry is likely to end up over time.

We recommend that the CMA prioritises greater engagement with business evidence, along with the 2021 MAGs intention. That said, we would caution against second guessing companies' business rationale and what constitutes a profitable business enterprise. We are also not advocating reversal of the burden of proof with respect to the transaction – the explanation as to why a transaction is benign, including evidence supporting any claimed efficiencies, should come firmly from the parties.

3.2.1.1 Rationale for the merger

Historically, vertical mergers did not attract the same scrutiny as horizontal mergers for the simple reason that the merging parties did not directly compete.[9] As we discuss in the next chapter, there is a growing unease with the degree of enforcement within some sections of the competition community, especially with respect to platform competition. We suggest that at least a part of the concern would be addressed by greater scrutiny of the rationale for each merger.

At present, the "Rationale for the merger" section of the CMA's decisions appears to be largely formalistic, a 'copy and paste' of the parties' statements to the CMA with little to no weight given to it. We believe this to be a mistake. Given that potential harm to competition can be both less straightforward to define and harder to prove in a vertical setting, understanding why a transaction might be occurring seems all the more important to us. In the cases we assessed, post-merger behaviour followed the stated rationale, whether this rationale was expressed directly to the CMA, stated publicly, was alleged by third parties, or could be found in internal documents of the parties. The same rationale was repeated by multiple sources.

We are not proposing that the CMA should have accepted the parties' narratives chapter and verse. We would also caution against the presumption that some sources of evidence are automatically better. While

[9] The potential pro- and anti-competitive effects of vertical mergers are assessed in further detail in chapter 4.

an incriminating internal document will likely outweigh narrative generated for regulatory purposes, we believe that a totality of evidence should be considered. We found that the rationale for the merger was most compelling to us when it was triangulated by other sources, such as when there was a general understanding in the industry of why a particular deal was taking place, corroborated by company material and presented coherently to the CMA. Taking account of the totality of evidence would have helped the CMA to understand the industry without having to apply (and potentially misapply) its own business perspective.

In our view, the Tesco/Booker merger was an example of a general trend towards vertical consolidation, driven primarily by competition at the retail level. Other similar deals were taking place at the same time across the industry. There appears to have been a consensus on the motivation for the merger, though not necessarily on its impact.

The assessment of the Tulip/Easey merger could also have been improved by a thorough investigation of the merger rationale, and tested with a wider set of stakeholders. In this case, the CMA seems to have paid, in our view disproportionate, attention to a large competitor who objected to the transaction, rather than testing the general trend towards greater vertical consolidation which was applicable to other competitors in equal measure.

The CMA's assessment of the Heineken/Punch case was the reverse of that of Tulip/Easey in that the CMA paid little attention to a vast number of complaints alleging that Heineken was buying Punch to secure outlet for its beers (and by extension forcing commercial arrangements potentially detrimental to other market participants) and that this may harm consumers. Heineken's post-merger behaviour shows that this appears to have indeed been both its motivation and the ultimate effect of the merger. The question remains whether this behaviour was harmful to consumers.

3.2.1.2 Consideration of business evidence

In the Heineken/Punch merger, the CMA over-ruled multiple sources of evidence because they did not make business sense to it. It received a very large volume of complaints suggesting that Heineken was likely to exclude independent brewers from its pubs following the merger and that this was its rationale for the merger. The CMA also had access to internal documents supporting the suggestion that Heineken was likely to privilege its own products following the merger. Yet, the CMA set aside this evidence suggesting, *inter alia*, that it made no business sense for Heineken not to serve other brewers' beers as this would reduce the attractiveness of its pubs and drive customers away.

The CMA has a difficult task to balance economic theory with business practice. We would suggest reversing its test. It should assume that if a commercial behaviour makes sense in practice, there must be an economic theory to explain it. We note that the CMA's intuition was not wrong *per se*. Heineken appears to have been aware of the need to offer customers a broad set of choices in its pubs, and was doing so. It was the way that this was being done that we feel warranted review: over time, Heineken bought a number of brewers in order to be able to offer a full roster of beer and cider products to customers. This offered customers a wide choice of Heineken products. The question that we consider should have been investigated was whether such 'choice editing' nonetheless degraded the customer offer, and whether in the long run this could lead to exit by independent brewers, followed by a possible worsening of that customer offer. We did not conclude on this, but note that it was not investigated.

We also note that the CMA 2021 MAGs explicitly mention the need to consider “business strategy” (including past behaviour) in its assessment of vertical effects of mergers, which would suggest that the CMA is already aware of this issue.[10]

3.2.1.3 Gradual solidification of the vertical chain

In all four case studies, we have observed a gradual solidification of the industry supply chain. The vertical transaction was either not the only vertical transaction within the industry (Tulip/Easey, Tesco/Booker) or the only vertical transaction of the main acquirer (Heineken/Punch, Mastercard/Vocalink) over time.

Such a solidification of the vertical chain can be efficiency enhancing. We understand that in the case of the groceries retail market, vertical mergers allowed consolidation of buyer power, improved buying terms, and allowing stronger competition downstream in the retail segment. This applied to Tesco/Booker in the same way as Coop/Nisa[11] and many other transactions, including horizontal transactions in the wholesale groceries market. We understand that a secondary motivation for such deals is greater resilience in times of economic shocks such as exit of the UK from the EU, Covid-19, energy price hikes, etc.

In the case of pork supply, a variety of arguably benign motives were driving consolidation in the industry. For example, the pork supply chain is at the mercy of economic shocks, such as animal feed prices, global demand for pork, exit of the UK from the EU and its ensuing labour force shortages, etc. Consolidation at all levels of the chain, including vertical integration, has been taking place for some time.

However, as rivalry in the sector moves towards competition between efficient and resilient vertical chains, independent operators at all levels are exposed. This may produce consumer benefits if it leads to the exit of inefficient operators. It can also lead to detriment if it leads to the loss of innovative or otherwise high-quality operators or reduction of valued choice by customers. We found that these risks were present but not considered in the Heineken/Punch and Tulip/Easey mergers.

We found that the CMA did not appear to take account of any transaction other than the one that it was considering, including past transactions and parallel transactions. Nor did it show an interest in why this consolidation might be happening. This may be because its legal test does not allow it to do anything else. If so, there is a risk that this approach might lead to initial under-correction in the assessment stage, followed by a late-in-the day over-correction through a prohibition of transactions that would have been allowed earlier on. The CMA may also underestimate these wider industry effects at the time of the transaction and find itself subject to a call for a market inquiry later in the day. We considered whether a form of “dynamic counterfactual”, taking account of the evolution of the sector as a whole, might be possible.

We do not believe that this would automatically lead to overly lenient or overly conservative enforcement. In some cases (Tesco/Booker, Tulip/Easey), it might have led to a faster clearance. In other cases (Heineken/Punch) it would have at the very least given the CMA comfort that it sought to fully understand the nature of competitive interactions in the industry.

[10] CMA’s Merger Assessment Guidelines, March 2021, paragraph 7.19 (a).

[11] CMA, 2018, Co-operative Group / Nisa Retail merger inquiry – Final report.

3.2.2 Consistency of SLC testing

3.2.2.1 Homing in on the most pertinent ToHs

We found a general trend of more ToHs being carried all the way to the final decision than is necessary. We believe that some ToHs could have been eliminated a lot earlier (e.g. Heineken/Punch: input foreclosure or Tesco/Booker: retail to wholesale foreclosure) allowing the CMA to focus on the few key issues that mattered in each case.

Our discussions with the CMA suggest a disagreement on this point. The CMA told us that the consideration of a wide range of potential issues throughout the inquiry was important, as it had an obligation to consider all possible competition concerns.

Our suggestion to the CMA is not to stop being open-minded as to where harm may come from but to focus on the plausible ToHs once such an exploration is done. For instance, we consider it unlikely that a merger may lead to a customer and input foreclosure in the same market. Yet both were discussed in the Heineken/Punch decision. Similarly, in the Tesco/Booker case, it was unlikely that the merged entity would be able and incentivised to foreclose competitors at the retail and wholesale levels at the same time.[12] While there may be such confusion at the beginning of the case, we would not expect it to prevail all the way to the final decision, especially not in a Phase 2 investigation.

We thought the risk to the CMA was two-fold. First, it risked spreading its resources too thinly and not having enough time to build a case against the most problematic features of a deal. Second, running parallel incompatible ToHs risked undermining the CMA's reputation.

Finally, based on the effort that we saw put into establishing whether they were likely to lead to harm, we became aware that the CMA is already prioritising certain ToHs over others. We thought the CMA could have been more explicit about this with the parties (and third parties) and go further.

3.2.2.2 A reasonable set of vertical ToHs

In our view, the CMA was not helped by its obligation to apply its current guidance to isolate important sources of potential harm in a world which has outgrown this (and perhaps any) guidance. The current 2021 MAGs recognise "**input foreclosure**", "**customer foreclosure**" and "**conglomerate effects**" as potential ToHs in non-horizontal transactions.[13] While we understand that MAGs are not designed to encompass all competition concerns, they appeared to us ill-equipped to help the CMA's teams navigate the complexity of the vertical mergers they are likely to encounter.

For instance, we found that the "retail to wholesale" ToH in Tesco/Booker did not fall easily into any of the three categories prescribed for non-horizontal mergers. In fact, it represents "a partial downstream self-foreclosure" by the acquiring firm, whereby Tesco actively reduces its downstream competitiveness to recapture sales diverted to other retailers through its wholesale arm. While there was an important vertical element to this ToH, we thought the MAGs foreclosure "straightjacket" did not work. Rather than

[12] We note that it was, in theory, possible for both types of harm to occur concurrently since one of them, the retail to wholesale ToH3, was likely a horizontal theory of harm with a vertical recoupment mechanism, rather than a competing foreclosure ToH. In practice, we find both ToHs unlikely to occur.

[13] CMA's Merger Assessment Guidelines, March 2021, paragraph 7.8.

pursuing a vertical ToH which sounded implausible, the CMA could have pursued a horizontal ToH with a vertical recapture mechanism. We note that the CMA did end up estimating what we consider to be the appropriate upward pressure price index and measured the right effects of the merger. Without the theoretical clarity as to how detriment might occur (or how likely it was to occur), the CMA found itself exposed when explaining the ToH.

Conversely, in the Mastercard/Vocalink merger, the possibility that Mastercard would get access to the incumbent infrastructure provider for a future alternative payment system to credit cards was not directly investigated. The CMA treated this issue with strong vertical components partially as a potential competition issue with an existing Vocalink product, now called Pay By Bank, and partially as a vertical foreclosure issue with an existing competitor, […]. Neither of those ToHs directly addressed potential input foreclosure by Mastercard, that is, the risk that Mastercard's strong position in the card market (together with Visa) might prevent it from being challenged by a new mode of payment in the future.

While we did not conclude that the CMA necessarily made a mistake in clearing the Mastercard/Vocalink transaction, we did think that it had missed a key aspect of this merger. This might have been due to the want of a clear theoretical underpinning for this type of concern in its MAGs. While the case was reviewed before the most recent version of the MAGs, the current MAGs would not have helped the CMA team approach this merger in an unambiguous manner. None of the ToH options available under the 2021 MAGs (potential competition or dynamic competition from a horizontal perspective, and input foreclosure or conglomerate effects from a non-horizontal perspective) fitted perfectly, though all could have been reasonably applied. We considered that integrating vertical concerns explicitly into an assessment of potential competition might be the most promising way to address this issue in the future. As we discuss in chapter 4 below, finding a way to clarify the appraisal framework for mergers with vertical components is likely to be key for the CMA in merger cases with a dominant platform.

We also note that the CMA appears to privilege horizontal concerns over vertical concerns. In Mastercard/Vocalink, it eventually required a remedy for a horizontal concern with respect to supply of infrastructure for ATM payments. However, it also investigated a vertical version of the same concern and concluded that there was no SLC. In the event, the remedies helped with both concerns stemming from the same source of market power. We considered that in this case, the vertical ToH better captured the nature of the relationship (Mastercard was acquiring a key input for its competitor, LINK).

In Tesco/Booker, the CMA used a 5% vGUPPI, which was a higher hurdle to meet than the 2.75% GUPPI it later chose in Sainsbury's/Asda,[14] and which made explicit reference to vertical relationships requiring a different standard. While these may have been appropriate thresholds (and we concluded that the clearance of Tesco/Booker was the right outcome), we found that the main reason why these differing thresholds were applied was linked to a vertical nature in one case (Tesco/Booker) and horizontal in the other (Sainsbury's/Asda). In Tesco/Booker, the CMA considered a more complex transmission mechanism for the pricing pressure and presumed vertical chain efficiencies. In our view, this transmission mechanism was already adequately reflected in the vGUPPI formula and did not require further adjustment of the threshold.

We discuss the risks of underestimating vertical effects in chapter 4. We note here that our case studies found some evidence that this risk existed for the CMA. As the Tesco/Booker and Mastercard/Vocalink cases exemplify, the distinction between vertical and horizontal effects can be blurry. A choice of the lens might therefore change the presumption of concern.

[14] CMA, 2017, J Sainsbury PLC / Asda Group Ltd merger inquiry - Final report, page 197, paragraph 8.296.

3.2.2.3 Balancing of evidence within the SLC test

In the Mastercard/Vocalink merger, the CMA set a high bar for exclusionary effects, whereby an SLC finding would have to meet three cumulative conditions: (i) ability to exclude, (ii) incentive to exclude, and (iii) exclusionary effect. Failure to meet any of these conditions would mean that an SLC would not occur.

Conversely, the CMA set a relatively low bar for its testing of the ease of entry (in the case of the provision of CIS for interbank payments, not CIS for cash payments), which might defeat any SLC finding. The CMA found so despite the fact that […][15][16]. All four cases we reviewed came after the KPMG review (2017)[17] of the CMA's past track record on entry which found mixed results. On a smaller scale, our findings are similarly mixed. We found that the CMA likely judged the ease of entry and expansion in pig production correctly (Tulip/Easey), but was likely too optimistic in the case of the provision of CIS to payment systems (Mastercard/Vocalink).

Balancing different components of SLC testing needs to be done carefully. However, we understand that the CMA legal tests provide some guidance. At Phase 1, where the legal test is a "realistic prospect of SLC", we would expect a lower evidentiary bar for foreclosure and higher for entry. At Phase 2, where the CMA's legal test changes to the "balance of probabilities", we would expect both foreclosure and entry to attract the same scrutiny. What we found in the Mastercard/Vocalink case was that, at Phase 1, the CMA applied a stringent foreclosure test but a lenient entry test, the opposite of what we would have expected. In Tulip/Easey, it could be argued that the CMA was lucky with respect to its judgement of future entry and expansion rather than gathering overwhelming evidence in support of entry.

We also found that merger efficiencies were not studied in any detail in any of the four reviewed cases, and therefore did not contribute to the final balancing of evidence within the SLC test. It is difficult for us to judge whether this was because the parties have not proposed any, or did not provide any detail to allow the CMA to verify them, or whether there was a tacit presumption by the CMA that these were likely to arise as a result of a vertical transaction. In one of the mergers, Tesco/Booker, the rationale for the merger was at least partially based on achieving explicit efficiencies. Either way, we would encourage the CMA not to make abstract or implicit presumptions on merger efficiencies, and in future to ask explicitly for such submissions from the parties. As discussed in chapter 4 below, many commentators do not believe that such presumptions are safe to make in any case.

A rounded assessment of vertical mergers would, in our view, examine (and if necessary test) the efficiencies of the transaction, alongside a more balanced consideration of entry and likely exclusionary effects.

3.2.2.4 Consistency of vertical merger assessment testing

We found differing approaches across the four cases to the application of the CMA's foreclosure tests. For example, in the Tesco/Booker case, with respect to the "wholesale to retail" exclusionary ToH (input foreclosure), the CMA at first assessed the ability of the merged entity to exclude, but did not conclude. It then moved onto the incentive to exclude (this is where it spent the most effort developing the vGUPPI analysis) before returning to the issue of ability. It concluded, in our view quite separately, that there

[15] […].

[16] […].

[17] KPMG, 2017 Report on the CMA's assessment of entry and expansion, paragraph 8.

was little incentive and no ability to exclude competitors locally. We thought that had the CMA started with the ability to exclude (the first portion of its test) and driven it to a full conclusion (as it eventually did), it would have found that there was none, and it would not have had to proceed with the detailed and time-consuming analysis of incentives. The evidence the CMA ended up relying upon seemed to us to be of the kind that could be collected and verified at Phase 1.

In Tulip/Easey, the CMA concluded that the merged entity would lack the ability to foreclose its rivals. It skipped the assessment of incentives on the basis of Tulip's stated intention to process Easey's pigs itself rather than to continue to supply them to the market following the merger. It closed with an assessment of effects of foreclosure.

We have noticed this 'test hopping' within the assessment of vertical effects in all four cases. We understand that, in practice, the CMA may need to proceed with its varied assessments in parallel as uncertainties around each appear until the very end of the case. This is unlikely to change in the future though it is unlikely to be universal either. In some of the cases we reviewed, the evidence required to conclude a limb of analysis did not appear hard to obtain, and doing so would both have saved the CMA resources and increased the clarity of its assessment.

3.2.3 Application of the vGUPPI

In the Tesco/Booker case, the CMA used a novel approach to assess vertical effects, the "vGUPPI". While intuitively attractive and theoretically consistent with other tools the CMA is using in horizontal cases, we found that operationalising it may not be easy. In particular, calculating accurate vGUPPIs in a large number of local markets, thereby relying on many proxies and assumptions, may not be safe on appeal.

There is unlikely to be a simple answer to this challenge. It is possible that in other vertical merger cases there will be less need for approximation of variables and the vGUPPI will have a lower predicted error. In cases such as Tesco/Booker, we would have recommended less averaging, more explicit calculation of upper and lower bounds of estimates to see the magnitude of possible error and impact of its assumptions. Such simplification might have shored up the results. We note that some inherent weaknesses in the application of this powerful theoretical tool remain (in particular the approximation of marginal costs with variable) so would advise using it as part of a wider set of evidence.

4 The economics of vertical mergers

Horizontal and vertical mergers are different in nature. Horizontal mergers bring substitutes under the same ownership structure, thereby reducing competitive pressure between producers. As a first order effect, post-merger prices are a priori expected to rise. In contrast, vertical mergers bring complementary goods or services under the same structure, which should a priori lead to more coordination in the value chain. Thus, vertical mergers have historically been associated with enhancing efficiency, and were presumed to be either wholly benign (Bork, 1978 and Posner, 1976)[18], or mostly so (Heide *et al.*, 1998). Recently, however, the explosion of digital markets has seen a sequence of potentially anti-competitive non-horizontal deals by leading platforms (for example Facebook/Instagram[19] or Google/DoubleClick[20]), which has made the debate around vertical mergers more important than ever before.

While economic theory is relatively unambiguous in its prediction of the competitive effects of horizontal mergers, predictions of the effects of vertical mergers are less clear.[21] The debate, mostly driven by examinations of US enforcement practice, is ongoing, with strong positions taken by both sides. Representing the traditional side, Wright, Ginsburg, Lipsky, and Yun (2020) note that "the modern antitrust approach to vertical mergers, as reflected in the antitrust literature, should reflect the empirical reality that vertical relationships are generally procompetitive or neutral." However, increasing numbers of academics have drawn attention to the potentially problematic aspects of vertical mergers, and noted their historic underenforcement (see among others, Baker, 2019; Scott Morton *et al.*, 2019, Baker *et al.*, 2020; Hovenkamp and Scott Morton, 2020).

4.1 Pro-competitive effects of vertical mergers

Vertical mergers can enhance efficiency by avoiding the externalities of vertical separation or coordination problems. In particular, vertical integration can, in principle, avoid "double marginalisation", an externality of vertical separation, which was first described in Spengler (1950). A textbook example of double marginalisation arises when two firms with a degree of market power, say a manufacturer and a retailer, seek to maximise their profits individually (see for example Motta, 2004, page 307). When the manufacturer sells its product to the retailer, it adds a mark-up on top of the wholesale cost which is its reward for the activity. The retailer then adds another mark-up on top of the wholesale price when selling the product to consumers as a reward for its activity as a retailer. Neither the upstream nor the downstream firm consider the negative externality of their pricing behaviour on the other firm.[22] While each firm's behaviour is optimal from their isolated perspective, from the perspective of the customer and so also from the perspective of the firms as members of a vertical chain, it is not. Coordination throughout the value chain could lead to a lower price, benefiting consumers. This lower

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[18] See Appendix for references to chapter 4.

[19] OFT, 2012, Facebook / Instagram – Final Report.

[20] EC, 2008, Google / DoubleClick – Final Report.

[21] The majority of the literature has focused on fully vertical mergers. For a discussion of partial vertical integration see for example Levy *et al.*, 2018.

[22] For example, if firm A (either the manufacturer or the retailer) lowers its price it will lose a portion of its margin. Firm B, however, will profit from the price decrease, as it earns a positive margin per item sold. The additional profits of B could be greater than the losses to A's margin. Firm A, however, does not benefit from B's additional profit, so this potentially mutually beneficial outcome may not take place. Joint profit maximisation following a vertical merger will align the incentives of firms A and B and may allow this efficiency to arise.

price would lead to more sales and a higher joint profit to be divided between the firms. In contrast, the lower the degree of vertical integration, the higher the market power in each part of the vertical chain, the higher the mark-up at each segment and the higher the price to final consumers.

While double marginalisation can be avoided under certain conditions by non-linear pricing,[23] it is a sufficiently general and intuitive theory to have inspired generations of economists to consider vertical mergers to be a priori benign, or even pro-competitive (Bork and Bowman, 1965; Hofstadter, 1965; Posner, 1976; Bork, 1978; Easterbrook, 1983).[24] However, academics have recently begun to question both the premise of elimination of double-marginalisation ("EDM") and the blanket assumption that merged entities will always apply it.

EDM is not the only potential benefit of vertical mergers. They also help to resolve coordination problems relating to retail services. Some downstream operators may underinvest in retail services, exploiting a "free-ride" from other retailers instead.[25] Downstream underinvestment may lead to upstream underinvestment, which may affect output at both levels. It has been argued that vertical mergers may help solve such underinvestment problems.[26]

Another potential benefit of vertical integration is its capacity to improve welfare by eliminating excess variety. While reducing variety is traditionally thought of as being detrimental to welfare, as shown by Perry and Groff (1985), it can also enhance welfare by reducing excess variety, as shown by Mathewson and Winter (1983). Further, Kühn and Vives (1999) confirm that vertical integration is welfare enhancing both if it leads to EDM, and also if it leads to a reduction in excess variety for products with low levels of total consumption. For these products, consumers typically care less about variety increases than for products with high consumption levels.

4.2 Anti-competitive effects of vertical mergers

Similarly to horizontal mergers, vertical mergers can harm competition. We discuss below how they may do so through both unilateral and coordinated effects.

4.2.1 Foreclosure of rivals

Foreclosure is the primary concern with vertical mergers. It can arise when the merged entity has the ability and incentive to leverage its market power from one market to another vertically related market in which it has historically had less market power.[27] Arguments as to why this would occur vary, from extension of market power to another segment of the vertical chain (European Commission, 2008a), to protection of market power in the primary market (Rey and Tirole, 2006). It is worth noting that some

[23] See Kwoka and Slade (2020) for further discussion.

[24] Robert Bork famously remarked on an FTC case that the FTC should have hosted an "industry social mixer" rather than challenging the merger (Bork, 1978).

[25] The reasoning behind the argument was first proposed by Telser (1960). A recent application includes Friederiszick and Glowicka (2016).

[26] In a similar vein, Marvel and McCafferty (1984), suggest that some retailers provide customers with a quality certification service, which involves some costs.

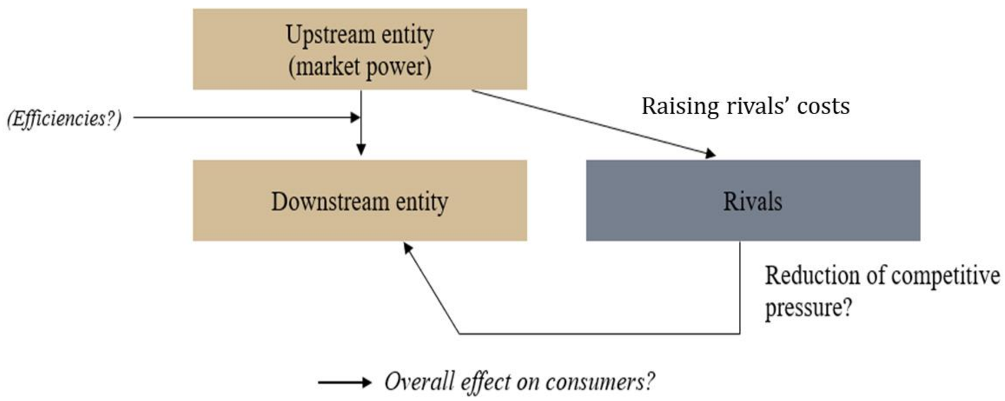
[27] The CMA Merger Assessment Guidelines (CMA, 2021a) also refer to other non-horizontal ToHs (conglomerate effects) in chapter 7.

schools of thought, the Chicago School in particular, have historically opposed the argument that market power could be leveraged in such a way (Bork, 1978; Posner, 1976). While this view is now considered extreme, it is still used as an intellectual point of departure, and a call for rigorous thinking to examine how market power in one market can be transferred into another (see for example Perry and Groff, 1985; Rey and Tirole, 2006).

There are two key types of foreclosure. Which type is relevant depends on where in the vertical chain the primary market power lies.

- **Input foreclosure:** On the upstream level, the integrated firm may be in a position to restrict supply, increase prices, or reduce the quality of inputs to downstream competitors. This may restrict competition in the downstream market to the detriment of consumers. Such a situation can arise when a downstream firm merges with an upstream supplier who possesses market power. Following the transaction, the merged entity may be reluctant to supply downstream competitors, or may increase prices, thereby raising its rivals' costs. If the downstream competitor is no longer able to compete in the downstream market (complete foreclosure), if it is not able to enter the downstream market, or alternatively if remains in the market but is only able to produce at a higher cost, this will reduce competitive pressure on the downstream activities of the merged entity. Consumers may suffer from decreased competition downstream (see, among others, Riordan, 1998 and 2005; Moresi and Salop, 2013). Figure 1 illustrates the effect of input foreclosure.

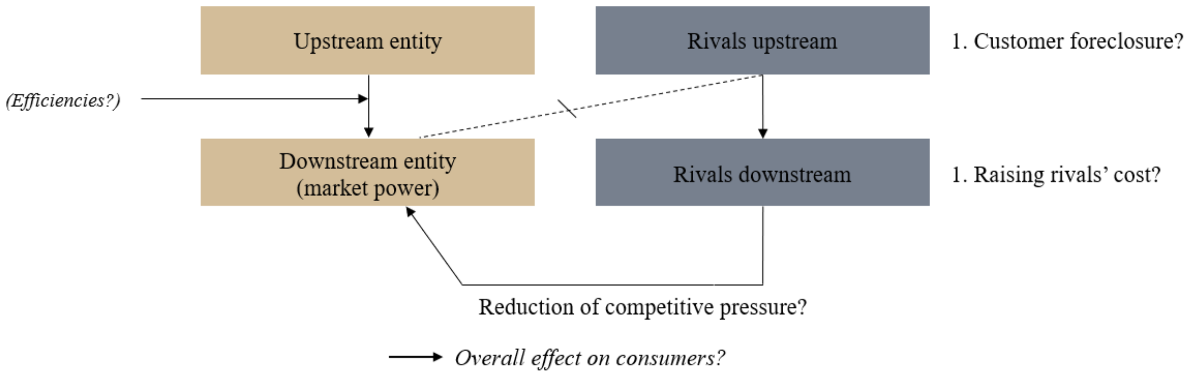
Figure 1: Illustration of input foreclosure



Source: E.CA Economics based on EC, 2008, Figure 1.

- **Customer foreclosure:** Customer foreclosure may arise when a supplier merges with a large downstream customer. In such a situation, the merged entity may be in a position to restrict upstream competitors' access to a sufficient customer base to compete effectively in the upstream market. When the merged entity uses strategies to decrease rivals' revenue several anti-competitive effects may occur. Access to customers may be restricted to such an extent that upstream competitors may not be able to remain in the market (complete foreclosure), may be unable to enter the market (raising barriers to entry), or may be impeded from competing effectively (partial foreclosure).[28] Figure 2 illustrates the effect of customer foreclosure.

Figure 2: Illustration of customer foreclosure



Source: E.CA Economics based on EC non-horizontal guidelines, Figure 2.

Foreclosure of either kind can harm competition and customers. There are different types of potential harm:

- The vertically integrated firm may want to **increase downstream prices (or otherwise worsen its offer)**. The incentive to do so could be quite high if the merged entity also supplies its downstream competitors through its upstream activities. Lost sales downstream may then be recaptured upstream through the sale of inputs to downstream competitors at higher prices.[29]

- Foreclosure can also **eliminate potential competition** if the merging firms integrate their upstream and downstream activities. They could do this by, for instance, tying intermediate goods or services to the sale of its final goods, through which the vertically integrated firm forecloses competition in the downstream market and renders entry in the upstream market more difficult. [30] In a case against Microsoft, the US Department of Justice claimed that the integration of Microsoft's operating system and its Internet browser was a technological tie that excluded competition from rival browsers. Similarly, when the merging firms are active in adjacent markets, and one or both of the firms is well placed to enter the other firm's market, the potential entrant(s) poses a competitive threat to the other firm. By eliminating or reducing this constraint, the merged firms may be able to raise prices in the affected market (Salop, 2017).

[28] One argument for foreclosure is that it incentivises the research and development of new products by increasing financial rewards (Rey and Tirole, 2006).

[29] One can also think of the merged firm increasing prices in its capacity as an upstream supplier to competitors and, with pass-through of these higher input costs, expecting lost sales and margins to be recaptured by the downstream business. This would fall under partial input foreclosure.

[30] Whinston (1990) Carlton and Waldman (2002) present the circumstances under which a monopolist may be incentivised to tie and show that it can lead to an anticompetitive effect on the tied market or in the primary market. Analysis of the effect of tying has been extended to consider the effect on competition in research and development, see for example Farrell and Katz (2000) and Choi (2004). Efficiency arguments for tying include among others distribution cost savings associated with marketing two separate products, preventing inefficient substitution and signalling quality (Rey and Tirole, 2006).

4.2.2 Other unilateral types of vertical harm

Although vertical merger assessment often focuses on foreclosure, other potentially anti-competitive effects may be important, and can lead to the merger being harmful even in the absence of foreclosure.

Particularly significant is **the misuse of sensitive information** by vertically integrated firms. There is a danger this may occur where the firm has acted as a supplier of downstream competitors and has in the process gained access to commercially sensitive information, such as information on sales, product specifications or pricing strategies.[31] For example, knowledge of typical prices and quality obtained as a supplier may allow the merged entity to offer only marginally better deals (in terms of prices or quality) than competitors thereby reducing the intensity of competition downstream. Such behaviour could result in foreclosure, but can also be considered as a separate ToH. Similar anti-competitive concerns arise when integrated platforms leverage their privileged access to data to appropriate innovation by users, engaging in what has been dubbed 'forced free-riding' (OECD, 2020).

4.2.3 Coordinated effects

Vertical mergers may facilitate upstream or downstream collusion, known as coordinated effects.[32] This can occur where mergers enable firms to better monitor and punish deviators.[33] It can also happen when supplier/customer relationships facilitate information exchange, or increase transparency between upstream or downstream competitors. Coordination may also be facilitated when a number of integrated firms compete, as opposed to where firms compete separately in the upstream and downstream market. Incentives for maverick behaviour may be weakened amongst non-merging downstream firms, as the merged entity's upstream division may threaten to raise its input prices, alternatively the downstream division might use customer foreclosure threats to punish the disruptive firm (see for example Salop and Culley, 2014).

A vertical merger may also directly eliminate a disruptive buyer downstream. In fact, the acquisition of the disruptive buyer increases the incentives of non-integrated upstream firms to cooperate in the upstream market, because an uncooperative downstream firm can refuse to buy inputs from the upstream competitors. Likewise, the risk of collusion may be enhanced by the acquisition of a disruptive seller, who, once acquired, can refuse to supply to any non-integrated downstream firms who deviate from the agreement (Salop and Culley, 2014).

4.2.4 Other effects of vertical mergers

Vertical mergers are also somewhat infectious, often inducing further vertical merger activity (sequential mergers) within the same market (Ordover *et al.*, 1990).

[31] This is also mentioned by the CMA (CMA, 2021a, paragraph 7.3) and the EC (EC, 2008a, paragraph 78).

[32] This is particularly likely when there are multiple vertically integrated firms (Moresi and Salop, 2013).

[33] Factors that undermine the sustainability of collusion include cost asymmetries, product differentiation, non-price competition, innovation, incomplete information on other firms, market uncertainty, large number of firms, asymmetries among firms and industry social structure. A vertical merger could also increase the likelihood of collusion by changing the cost structure of the merging parties in at least two ways. Firstly, vertical integration generally creates efficiency effects that reduce variable costs, potentially increasing the reward from collusion. Secondly, vertical integration may also reduce cost asymmetries, or help sustain collusion by enabling implicit side transfers between integrated and non-integrated units (Church and Ware, 2000).

A substantial body of literature has analysed the conditions under which exclusive vertical arrangements may have anticompetitive effects (see for example Rey, 2003; Bernheim and Whinston, 1998). While empirical evidence can neither show that vertical mergers are generally procompetitive nor that they are generally anticompetitive (Beck and Scott Morton, 2021), industries that are particularly likely to raise such concerns are often characterised by high concentration in at least one market, economies of scale or scope, two-sided markets, multiproduct firms, and/or networks (Lafontaine and Slade, 2021). Indeed, network industries, such as utilities, often require a sector regulator to address the issue of potential vertical foreclosure.

4.3 The current debate regarding vertical mergers

4.3.1 Presumption of EDM and underenforcement

There is currently a vibrant debate in the US on the anticompetitive effects of vertical mergers. Given that so much academic literature is focused on this, we thought it important to unpick it and see how the debate might differ across the Atlantic.

Vertical mergers can have anti-competitive as well as pro-competitive effects. There is no consensus regarding which effects dominate. This question is also a central issue in the current debate in the US, particularly in the context of the revision and subsequent withdrawal of the US Vertical Merger Guidelines.[34] One reason these guidelines have caused criticism is their emphasis on the procompetitive effects of vertical mergers.[35]

Advocates of more lenient enforcement favour a presumption that vertical mergers are (largely) pro-competitive. They note that vertical mergers are “not mergers of competitors”, but merely resemble a “make or buy” phenomenon; they stress the benefits of an EDM, which they consider an “immediate and positive effect of a vertical merger” (Phillips and Wilson, 2021). They further argue that there is “strong

[34] In June 2020, the Federal Trade Commission (FTC) and the Department of Justice issued new Vertical Merger Guidelines (“2020 VMGs”), the first major revision since the 1984 Non-Horizontal Merger Guidelines. After changes in the FTC’s board following the US election, the FTC withdrew the 2020 VMGs in September 2021. One reason the 2020 VMGs caused pronounced criticism is their emphasis on procompetitive effects. For a more detailed discussion of the 2020 VMGs, we refer the reader to a 2021 Special Issue of the Review of Industrial Organization dedicated to the US vertical merger guidelines (Blair, 2021).

[35] It is also reflected in the Overview section: “For example, vertical mergers often benefit consumers through the elimination of double marginalization, which tends to lessen the risks of competitive harm. While the agencies more often encounter problematic horizontal mergers than problematic vertical mergers, vertical mergers are not invariably innocuous.” (FTC, 2020, page 2.)

empirical evidence that vertical mergers do not tend to result in welfare losses for consumers".[36] They routinely refer to Disney's 2006 acquisition of Pixar as a positive example.[37]

Advocates of stricter enforcement disagree with the notion that vertical mergers are typically harmless and find the empirical evidence to be much less clear. For instance, Beck and Scott Morton (2021) find that evidence for the welfare-enhancing nature of vertical mergers is inconclusive. Advocates of stricter enforcement are also more sceptical about the efficiencies that merging parties claim to create.[38]

EDM, the poster child for vertical merger-induced benefit, is under particular scrutiny. The FTC mentioned 'misplaced reliance on EDM' among its reasons for the withdrawal of the Vertical Merger Guidelines.[39] Similarly, prominent academics have said that overreliance on EDM might have led to erroneous policy decisions (see among others Kwoka, 2018, Salop, 2018, Baker *et al.*, 2019, and Kwoka and Slade, 2020). Indeed, the theoretical effects of the EDM are ambiguous: Salinger (1991) shows that when firms produce multiple products, EDM is likely to cause the price of the product whose input was integrated to fall, while the price of the other products that the integrated firm produces can rise. In fact, products with EDM become relatively more profitable to sell, giving the firm an incentive to divert demand toward these products by increasing the prices of products for which there is no EDM.[40] This is corroborated by the empirical findings in Luco and Marshall (2019), which concern the acquisition by Coke and Pepsi of their bottlers. Their findings indicate that Coke and Pepsi's prices decreased, but prices of soft drinks increased.

The traditional theory of EDM considers two firms, both producing at marginal cost, to which they add a mark-up when selling their product. EDM reduces the aggregate mark-up, to the benefit of both the merged entity and its customers. Clearly, not all markets conform to this model. Some of the most hotly-debated vertical effects have taken place in markets with very different features: platforms tend to offer their product at zero price to one side of the market. Therefore, at least on this side of the market, there is no scope for EDM; since there is no mark-up, there is no possibility of further reducing it. Moreover, these markets are typically characterised by high fixed-cost and low variable cost, meaning variable

[36] Wright, Ginsburg, Lipsky, et al (2020) state: "[T]he modern antitrust approach to vertical mergers, as reflected in the antitrust literature, should reflect the empirical reality that vertical relationships are generally procompetitive or neutral. […] Given the strong empirical evidence that vertical mergers do not tend to result in welfare losses for consumers, we believe the agencies should consider at least the modest statement that vertical mergers are more often than not procompetitive or, alternatively, vertical mergers tend to be more procompetitive or neutral than horizontal ones."

[37] Phillips and Wilson, 2021: "Prior to the merger, Disney was partially financing and distributing Pixar's films; but once combined, Pixar revitalized Disney's animation department, while Disney used its resources to expand Pixar's production, resulting in several beloved movies… If you or your children watched a Pixar film on Disney+ during the pandemic, you benefited directly from a vertical integration."

[38] For instance, Shapiro (2021a) discusses the 2018 acquisition of Timer Warner by AT&T and notes:
"Ironically, just three years after AT&T told a federal judge that acquiring Time Warner could allow it to unlock tremendous efficiencies through vertical integration, AT&T reversed course and decided to sell Time Warner to Discovery. Hopefully, this stunning retreat by AT&T will serve as a reminder to the courts that merger efficiencies are far easier to claim than to achieve."

[39] "The VMGs' reliance on EDM is theoretically and factually misplaced. It is theoretically flawed because the economic model predicting EDM is limited to very specific factual scenarios: mergers that involve one single-product monopoly buying another single-product monopoly in the same supply chain, where both charge monopoly prices pre-merger and the product from one firm is used as an input by the other in a fixed-proportion production process. … Yet outside this limited context, economic theory does not predict that EDM will create downward pricing pressure. …Empirical evidence suggests that we should be highly skeptical that EDM will even be realized—let alone passed on to end-users." (Khan *et al.*, 2021; see also the references provided therein.)

[40] Salinger (1991) further demonstrates that all prices can rise.

inputs are generally less relevant to begin with. This suggests that the potential effect of EDM, even if realised, might be smaller in platform markets than in traditional markets.

Concerns such as those around the relevance of EDM to platform markets are important since the question of whether a vertical merger has pro- or anti-competitive effects is ultimately empirical. Baker *et al.* (2019) conclude that in empirical terms vertical mergers might not be that different from horizontal ones, and that they might give rise to fundamentally similar concerns.[41] Such reasoning is reflected in the CMA's 2021 MAGs, which deal with both horizontal and vertical mergers. The MAGs explicitly note that the CMA investigated several vertical mergers that gave rise to competitive concerns (paragraph 7.7). The MAGs discuss countervailing effects (efficiencies), but again the CMA does not fundamentally distinguish between horizontal and vertical mergers.

The European Commission ("EC") issued two separate guidelines on the assessment of mergers, one concerning horizontal mergers in 2004, and one concerning vertical mergers in 2008.[42] The EC guidelines concerning vertical mergers were designed to provide clear and predictable guidance for businesses. Neelie Kroes, competition Commissioner at the time, made the following comment regarding vertical effects of mergers:

> *"The majority of vertical and conglomerate mergers do not raise problems, and they can bring about efficiency gains that benefit both businesses and consumers. However, the Commission will act decisively to prevent transactions that ignore the clear indications in the Guidelines of the types of mergers that can harm competition and consumers."* (EC, 2007)

Both the CMA and the EC consider that vertical mergers can give rise to efficiencies, including EDM. But such efficiencies are not to be taken for granted. Both competition authorities state that claimed efficiencies need to be verifiable. In fact, in its recent review of its merger guidelines the CMA chose not to include a statement that most non-horizontal mergers are benign, a choice that was noted within the competition community.[43]

The German competition authority (Bundeskartellamt) tends to play a somewhat more active role in preventing mergers than the EC (Götz, 2018). Similarly to the EC, the Bundeskartellamt uses a presumption of a combined market share 30% as a threshold for potential interest in a vertical transaction, though this does not constitute a rigid limit. It further considers the degree of dependence and relative market power in vertical mergers by, say, a producer on a particular buyer. In 2019, the Bundeskartellamt prohibited the proposed acquisition by the waste disposal company, Remondis, of the waste labelling company, DSD, as the acquisition would have "significantly impeded competition between the dual systems for packaging recycling".[44] Germany, along a number of other EU countries such as France,

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[41] "[T]he claim that vertical mergers are inherently unlikely to raise horizontal concerns fails to recognize that all theories of harm from vertical mergers posit a horizontal interaction that is the ultimate source of harm. Vertical mergers create an inherent exclusionary incentive as well as the potential for coordinated effects similar to those that occur in horizontal mergers." (Baker *et al.*, 2018.)

[42] For vertical mergers see EC, 2008a, and for horizontal mergers, see EC, 2004b.

[43] In its feedback on the draft 2021 Merger Assessment Guidance, RBB Economics states: "The current CC & OFT Merger Assessment Guidelines state: "Non-horizontal mergers do not involve a direct loss of competition between firms in the same market, and it is a well-established principle that most are benign and do not raise competition concerns. Nevertheless, some can weaken competition and may result in an SLC". It is notable that no such statement is made in the Draft Merger Guidelines, despite the principle being "well-established" that vertical and conglomerate mergers typically do not raise competition concerns" (CMA, 2021c, paragraph 2.74).

[44] Bundeskartellamt, 2019, Bundeskartellamt Prohibits Remondis / DSD Merger – Announcement.

Belgium and others, may be overcorrecting when it comes to vertical relationships with legislation limiting (generally smaller) companies' 'economic dependence' on (generally large) suppliers (Friederiszick and Walckiers, 2021).

The changes over time as well as differences across jurisdictions in merger guidelines are, at least partially, a reflection of broader debates around antitrust. For instance, the US is traditionally considered to be the champion of competitive markets. However, some observers argue that the US currently lags behind Europe in its commitment to this goal. Thomas Philippon calls this "The Great Reversal", arguing that the US, having started with historically more competitive markets has lost the edge to Europe which started off with less competitive markets but protected them better through better enforcement of antitrust (Philippon, 2019).

Philippon's views are shared by Carl Shapiro, who argues that "free-market Chicago School ideologies", championed most famously by Robert Bork, succeeded in shrinking US antitrust law, based on a belief that markets are self-correcting in a very general sense (Shapiro, 2021b). This type of Chicago School reasoning appeared to have been embedded in the (now withdrawn) 2020 US Vertical Merger Guidelines.

A number of commentators have made suggestions of what could be done to improve the assessment of vertical effects when they are considered. Baker et al (2019) suggest applying the same standard to vertical efficiencies as to horizontal efficiencies. They argue that efficiencies need to be merger specific, verifiable, and large enough to reverse competitive harm. We note that in none of the four cases we have reviewed does the CMA consider the efficiencies of the mergers in any depth. Authorities should also not assume EDM will automatically occur. Atalay *et al.* (2014) report that in almost half of the vertically integrated US goods-producing firms they studied, there were no tangible inter-firm input flows, but rather flows of R&D and capital. In the four cases we studied, we note little explicit interest in EDM.

4.3.2 Horizontal effects of foreclosure

Traditional vertical foreclosure considerations suggest that an incentive to engage in vertical foreclosure arises through the dominant firm's inability to extract a sufficient level of economic rents from the downstream rival. Recently, more attention has been paid to the incentive to engage in foreclosure arising from the desire to protect market power in the future. While the mechanism of this competition chilling behaviour is vertical, its effect is horizontal.

Moresi and Salop (2020) show that vertical mergers inherently have horizontal effects as the future upstream merging firm is an indirect competitor of the future downstream merging firm. This is because the upstream firm sells inputs to the competitors of the future downstream merger partner, and therefore has a role in supporting competition in the downstream market by rivals of its future downstream merger partner. Therefore, the upstream merging firm has indirect control over the ability of the downstream rivals to compete with the downstream merging firm. By providing inputs to these rivals, the upstream firm facilitates and increases competition in the downstream market. After the merger, the upstream merging firm has an incentive to reduce its support to the downstream competitor. In this case foreclosure is motivated by the incumbent's intent to protect market power downstream and therefore has a horizontal element.

Further, Fumagalli and Motta (2020) explain that the incentive to engage in vertical foreclosure not only stems from static imperfect rent extraction but that vertical foreclosure has an impact on the *future* market structure and allows the incumbent to make larger profits in the future. They go on to suggest that in analysing the incentives for vertical foreclosure attention should be given to the expected evolution of the market in the future. They note that

> *"vertical foreclosure can have a new rationale: it can be aimed not only at protecting the incumbent's monopoly power in both the vertically related markets […], but also – if future efficient entry in the upstream is inevitable – at protecting the incumbent's monopoly power in the downstream market so as to gain the ability to extract more rents in the future from the more efficient entrant."* (Fumagalli and Motta, 2020)

The use of input foreclosure to insulate a dominant firm from competition and/or introduction of a very close substitute to a complementary product has received increasing attention, particularly in the light of acquisitions in digital markets. As such Scott Morton *et al.* (2019) posit that "Facebook and Twitter's aggressive API foreclosure, acquisition of competitors, and copying of new services have boosted their market power" by creating "kill-zones" around them.[45] Katz (2019) notes that the presence of network effects in the adjacent market can render exclusionary strategies by the dominant firm particularly effective, because foreclosure can directly make rival products less attractive.

4.3.3 Vertical mergers in digital markets

In the current debate on vertical mergers, those in digital markets attract particular attention.[46] Due to network effects and economies of scale, these markets tend to create oligopoly structures, and in some cases even *de-facto* monopolies. In such markets, vertical mergers are of particular concern (Baker *et al.*, 2019). Moreover, in these markets vertical and horizontal aspects can be intertwined.

Consider, for instance, Amazon's acquisition of The Book Depository, as reviewed by the CMA's predecessor, the Office of Fair Trading ("OFT"), in 2011. The Book Depository offered its products (mostly books) both through its website and via Amazon's Marketplace. Hence, The Book Depository and Amazon competed in the market for online book retailing. The OFT reviewed the case as a horizontal transaction. Yet, in its report for the CMA reviewing past digital mergers Lear (2019) notes that the transaction also entailed an important vertical dimension: Amazon supplied an important input to The Book Depository namely access to a large pool of potential buyers via Amazon Marketplace.

Another case in which horizontal and vertical issues overlapped was the Daimler/BMW/Car sharing joint venture (2018).[47] Daimler and BMW proposed to merge their car-sharing services (Car2Go and DriveNow, respectively). At first sight this appeared to be a horizontal merger. But car-sharing services can be accessed via meta-apps for mobility solutions, which bundle different mobility services such as public transport, taxis, and car sharing. In this context, the EC identified the incentive and the ability of the

[45] Motta and Shelegia (2021) show that (the threat of) copying a product is likely to modify the outcome of acquisition negotiations. Further the anticipation of the dominant's firm strategy may affect the direction of innovation of the entrant, shifting R&D resources from improvements of a substitute to the development of complementary products. Kamepalli *et al.* (2020) show that Facebook and Google's acquisitions of start-ups producing substitutes to their products significantly reduces the likelihood of start-ups in the same space obtaining funding.

[46] For instance, Lear (2019) an ex-post study of merger control decisions in digital markets, commissioned by the CMA, and Crémer, de Montjoye, and Schweitzer, (2021) a study on "Competition Policy for the digital era" commissioned by the EC, which dedicates a whole section to merges in the digital field.

[47] EC, 2018, Daimler / BMW / Car Sharing – Final Report.

merging parties to foreclose rival suppliers of car-sharing services, and required undertakings aimed at preventing foreclosure.[48]

In the above cases, the vertical aspect was straightforward. Other examples are more intricate. Since many digital markets are two-sided, with their business model based on advertising and data-generation, in many cases it is not even clear what constitutes an 'ordinary' input and what constitutes an 'ordinary' output. In traditional markets this is easy to determine: the 'final' output is the product sold to the customer. But in ad-driven markets, as a famous saying goes: 'If you are not paying for the product, you are the product'. In other words, vertical mergers have horizontal effects. Moreover, many digital markets are built around eco-systems and are constantly in flux. Goods that are substitutes today, may become complements tomorrow.

All of this is relevant for merger assessment. It blurs the distinction between horizontal and vertical concerns (as well as corresponding efficiencies). In fact, a report by the EC's Joint Research Centre, prepared among others by Luis Cabral and Tommaso Valletti in the context of the EU Digital Markets Act, argues:

> *"[T]he traditional distinction between horizontal and vertical mergers does not make much sense with multi-sided digital platforms. Initial complements may themselves transform later into substitutes. Acquisitions are often in the form of annexations. The owner of the platform, or one of its elements, annexes the tools, services, or agents of one of the user sides of the platform. This creates conflicts of interest rather than resolving them (e.g., preventing multi-homing, or self-preferencing). For instance, when Google acquired DoubleClick (a 'vertical' merger in current parlance) the ad intermediation market was characterised by healthy competition, multi-homing and interoperability. Following the merger, the situation changed dramatically with Google effectively able to monopolise almost the entire ad tech stack."* (Cabral et al., 2021)

The hotly debated issue of 'killer acquisitions' in the digital platform space also has an important vertical dimension. Take, for instance, a social network acquiring a photo-sharing app or a video search engine. Such a transaction could be viewed as a benign vertical integration, since photo-sharing and video-searching can constitute an input to social networking and better integration with the social network can enhance user experience. However, it might also constitute a killer acquisition under certain assumptions: either (a) the social network buys the target to prevent it from becoming a competitive threat in the market for social networking (assuming that the target would expand into social networking), or (b) the social network buys up an essential input that other social networks need in order to compete with it effectively. Under both assumptions, the ultimate concern is prevention of future competition for the dominant platform. The second ToH (b) was a major concern for the CMA in the 2021 Facebook/Giphy case (a merger it prohibited, and which at the time of writing is on appeal to the Competition Appeals Tribunal).[49]

Killer acquisitions are one aspect of broadly held concerns that competition authorities have been too lenient in merger enforcement against digital platforms. Such a view was expressed by the Furman Review in 2019:

[48] Due to the strong position of the two services, the Commission feared two types of market foreclosure: First, Daimler and BMW might have an incentive to refuse competing meta-apps access to their car-sharing services. Second, the parties might have an incentive to refuse competing car-sharing services access to their own meta-apps. The merger was cleared subject to remedies. For an overview of the case, see the Commission press release (EC, 2018).

[49] For an overview of the CMA's findings regarding the Facebook/Giphy case, see the CMA's corresponding press release from 30 November 2021 (CMA, 2021c).

> *"Merger control is subject to two types of errors: false positives, when a merger that should have been allowed to go through is blocked, and false negatives when a merger that should have been blocked is allowed to go through. […] To date, there have been no false positives in mergers involving the major digital platforms, for the simple reason that all of them have been permitted. Meanwhile, it is likely that some false negatives will have occurred during this time. This suggests that there has been underenforcement of digital mergers, both in the UK and globally."* (Furman Review, 2019, paragraph 3.42f)

Many of the mergers which fuelled concerns amongst academics and policy commentators of under-enforcement entail a mixture of vertical and horizontal issues in a forward-looking context. Selected examples include:[50]

- **Facebook/Instagram (2012).**[51] Facebook bought Instagram, a photo-sharing app, in 2012. Critics say this was part of a strategy to buy out rivals rather than compete with them.[52] Aiming to unwind the merger, the FTC has pursued a law suit against Facebook (FTC,2021a). According to critics, Facebook prevented a *potential* rival from becoming an *actual* challenge to its core businesses. In this sense, the horizontal overlap, or more precisely the potential horizontal overlap, was a major concern.

- **Google/Waze (2013).**[53] In 2013, the OFT cleared the acquisition of Waze, an app for turn-by-turn navigation, by Google. The OFT focused on horizontal ToHs, since Waze was a direct competitor of Google Maps. But the merger also had vertical aspects. Waze generates location data, which constitutes an input that can be used by platforms such as Google in a variety of ways. Such data is central for monetisation and had the potential to further reinforce Google's position, not only in turn-by-turn navigation, but also in other markets, such as generic search.

- **Microsoft/LinkedIn (2016).**[54] In Microsoft/LinkedIn (2016), the Commission found no significant horizontal overlaps, but was concerned that Microsoft could use its strong position in operating systems (Windows) and office software (MS Office suite) to give LinkedIn an advantage over competing career networks. It considered whether Microsoft could have an incentive (a) to pre-install LinkedIn on Windows installations and (b) to deny or make it difficult for alternative career networks to integrate with the MS Office package. To address the Commission's concerns, Microsoft committed, *inter ali*a, not to pre-install LinkedIn on Windows and to ensure competing career networks' continued access to MS Office products through appropriate interoperable interfaces. The takeover was approved subject to those commitments.

- **Google/Fitbit (2020).**[55] Google acquired Fitbit, a producer of wearables (smartwatches, fitness trackers), in 2020. The EC approved the merger with remedies, relying *inter alia* on the very limited horizontal overlap between the two companies' activities rather than on the vertical relationship whereby Fitbit provided health-based data that could be used by Google. Still, the clearance received pronounced criticism. While critics appreciated that a "static, conventional view would suggest limited issues", they argued that the merger "[would] strengthen [Google's] ability to gather and

[50] Note that the list is non-exhaustive. Further noteworthy examples include, but are not limited to Google/Android (2005), Google/Youtube (2006), Google/DoubleClick (2007), Facebook/Oculus VR (2014).

[51] This case is also examined by Argentesi *et al.* (2019).

[52] 'Smoking gun' evidence is put forward by the FTC (2021b, paragraph 1) quoting a 2008 email from Facebook CEO Mark Zuckerberg saying "it is better to buy than compete".

[53] This case is also discussed by Argentesi *et al.* (2019).

[54] EC, 2016, Microsoft / LinkedIn – Final Report.

[55] EC, 2020, Google / Fitbit – Final Report.

exploit health data, and undermine the ability of rivals to do so, in order to leverage its power into health and insurance markets" (Bourreau *et al.*, 2020).

From our perspective, the key omission in the cases above was a failure to seriously consider the role of vertical effects in potential future competition concerns. Focussing on horizontal effects in cases of little or no overlap would have likely weakened the decisions further. The question of whether the clearance of those mergers does in fact constitute under-enforcement, is disputed. What most economist can probably agree upon, though, is that traditional ToHs might not suffice to assess these mergers:

> *"One of the points of agreement when it comes to merger policy in the digital space is that the current instrument is badly incomplete. Traditional merger policy is based on the idea of a well-defined industry, with a well-defined set of players and market shares. This system does not work properly in the digital segment. Large platforms meet the worldwide turnover threshold but the acquired firms are often small start-ups with little turnover and, in some cases, barely any revenues at all. To be clear, of the many hundreds of GAFAM acquisitions only a handful were reviewed while approximately 97% of these tech company acquisitions have not even been vetted, globally. To date, not a single one has been blocked anywhere."* (Cabral et al., 2021)

Appropriate assessment of digital mergers remains a challenge. The vertical ToHs that have been raised by the CMA rely on features of the digital market that increase the likelihood of exclusion, partial foreclosure, and tying, thereby exacerbating the (horizontal) anticompetitive effects of the merged entities exclusionary practices. Argentesi *et al.* (2021) reviewed 300 acquisitions carried out by Amazon, Facebook, and Google, between 2008 and 2018, and outline the new challenges the competition authorities face in merger control enforcement posed by digital markets. These include network effects, multi-sidedness, big data, and innovation. Jenny (2021) reviews some of the main issues that competition authorities are facing within digital markets, including among others the need to deepen our understanding of barriers to entry in digital markets, and to find new indicators of market power which take network effects into consideration.

4.3.4 Conclusion

Our assessment of the four CMA cases and our wider review of the CMA casework suggests that vertical mergers are treated somewhat more leniently than horizontal mergers, though we have not found a strong bias of the kind suggested by the US-focused literature. The more neutral approach to vertical mergers in the 2021 MAGs suggests that there is less reason to believe in significant underenforcement in the UK, although we thought the CMA might want to pause on some presumptions of efficiencies involved in vertical mergers we believe it is making and support them with case specific evidence.[56]

[56] See for instance CMA's explanation for its choice of a 5% vGUPPI threshold in Tesco/Booker: "We consider that, in this case, a 5% threshold for concern, which is sometimes used in horizontal cases, is conservative. This is because the Merger is vertical in nature: the vGUPPI results presented above relate to pricing pressure experienced by Booker, so that a 5% vGUPPI would be equivalent to an increase in Booker's costs equal to 5% of wholesale prices. Before feeding through into pricing pressure for an individual retailer supplied by Booker, this effect could firstly be diluted by Booker not passing through all of the pricing pressure into a price increase (ie if there is less than 100% wholesale pass through). It would then be diluted by the fact that most Booker-supplied retailers do not buy all their stock from Booker (ie the proportion of its wallet that the retailer spends with Booker is less than 100%). Finally, the effect may also be lessened by any efficiencies as a result of the Merger that place counterbalancing downward pressure on Booker's costs and therefore prices". CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 9.50.

Still, under-enforcement (of all types of mergers) was raised as a concern in the Furman Review (2019) in the context of digital markets. Similarly, Lear (2019, page iii) notes in its report for the CMA that "[t]he nature of competition in many digital markets may change the terms of the usual trade-off between type I and type II errors", explaining that type II errors (incorrect clearance of a merger) can be particularly costly in digital markets, in which (potential) competition *for* the market is of crucial importance. One way to address this concern is to put more weight on dynamic effects and potential (future) competition. Accordingly, the CMA's 2021 MAGs dedicate two chapters to the counterfactual (section 3) and potential and dynamic competition (section 5).[57]

In many of the cases that focus on the merger counterfactual, potential competition is typically considered a horizontal issue: 'will the target become a major competitor to the acquirer absent the merger?' Yet, in some of the most controversial cases in recent years, the crucial ToHs, those that might have been overlooked by authorities, were in fact vertical ones. For instance, while Waze was a direct competitor to Google Maps, Waze itself was probably not a realistic challenger to the Google ecosystem as a whole. Still, by adding Waze's location data to its stockpile, Google strengthened its overall position in targeted advertising, making it harder for rivals to compete on adjacent markets.

Our review of the literature and the four CMA cases would suggest 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. We believe, this is not a safer bet as the weakness of the horizontal ToH will be exposed on appeal. In some of those cases, the best fitting ToH may be potential competition based on vertical effects. We acknowledge that evidencing such a ToH is unlikely to be easy. It might, nevertheless, come across as more plausible, since the CMA's narrative will be clearer. Even if the CMA ultimately loses such a case on appeal, it will have done so more credibly, and will have laid the ground for future success.

[57] Lear, 2019, page xiv, notes that a time frame of two years may be too short for the assessment of future market developments, such as entry, and we understand the CMA now considers a flexible time horizon. CMA, 2021a, paragraph 3.15.

5 Tulip/Easey

5.1 Background

In 2017, Tulip Limited ("Tulip"), a vertically integrated UK pig farmer, pork processor, and supplier of fresh and processed pork, owned by the Danish Crown Group ("Danish Crown"), acquired Easey Holdings Limited ("Easey"), a large UK pig farming operation which specialised in outdoor bred pigs. Tulip had a [20-30]% share of the supply of outdoor bred pigs in GB by volume, although it did not supply any pigs to open market as it used them for internal pork processing only. Easey supplied [10-20]% of outdoor bred pigs in GB by volume.[58] Easey bred […]% of its pigs outdoors and […]% indoors.[59]

The parties' activities overlapped vertically: Easey supplied pigs on the merchant market for producers of pork products such as Tulip. Since Tulip did not supply the merchant market with its outdoor bred pigs, the CMA concluded that there was no actual horizontal overlap between the parties' activities.

The merging parties applied for the CMA's approval in September 2017 and the CMA cleared the merger unconditionally in Phase 1 in December 2017). Earlier, in November 2016, Cranswick acquired Dunbia's pork processing business in Northern Ireland.[60]

The supply chain in the UK pig market consists of three different levels: *first*, pigs are reared by farmers in the upstream market; *next*, abattoirs procure live pigs for slaughter and processors convert slaughtered pigs into pork products; *finally*, customers (such as grocery retailers and caterers) procure pork products in the downstream market.[61] Figure 3 below shows the vertical chain of the outdoor bred pork market in the UK and the relationships between the main competitors.

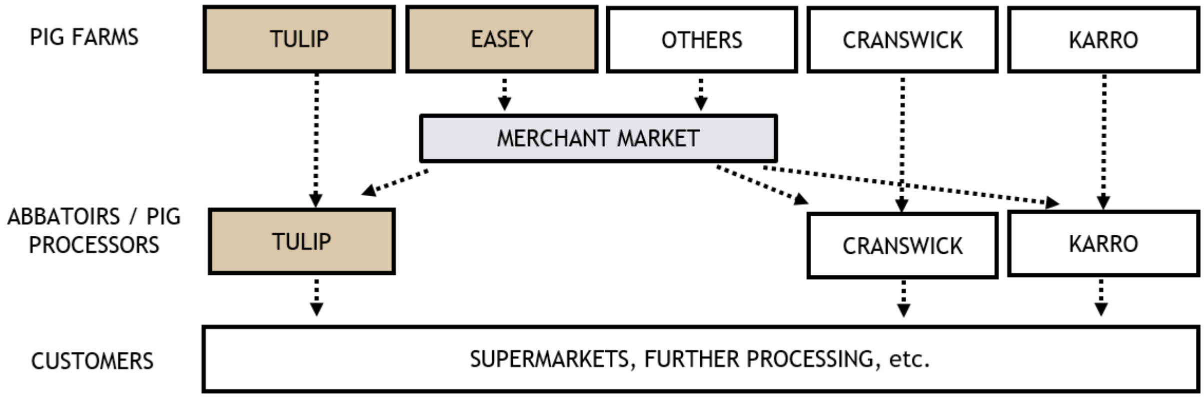
[58] CMA, 2018, Tulip / Easey Merger Enquiry – Final Report, paragraph 71, table 1.

[59] *Op. cit.*, (confidential version), paragraph 72, table 2.

[60] Farming Life, 2016, Cranswick announces purchase of Dunbia's pork processing business in Ballymena, (last accessed 7 March 2022); and Food Processing Technology, 2016, Cranswick acquires Irish pork processor Dunbia Ballymena, (last accessed 7 March 2022).

[61] CMA, 2018, Tulip / Easey Merger Enquiry – Final Report, paragraph 20.

Figure 3: Industry and the merging parties - Tulip/Easey



Source: E.CA Economics based on E.CA research and CMA, Completed acquisition by Tulip Ltd of Easey Holdings Ltd, (ME/670917), published 25 January 2018.

5.2 Assessment of the CMA's analysis

The CMA considered potential input foreclosure of outdoor bred pigs for slaughter to competitors in the downstream market for pork processing as the main ToH of the transaction. It was particularly concerned that following the merger, Tulip would control a substantial proportion of the supply of outdoor bred pigs for slaughter. Some other pork processors expressed fears of input foreclosure[62] while the vast majority of customers did not express concerns.[63] The CMA received particular concerns regarding the merger from one vertically integrated processor, […].[64]

According to the CMA's assessment, the merged entity was indeed likely to reduce its supply or stop supplying the merchant market. The CMA concluded, however, that downstream rivals would have access to sufficient alternative supplies of outdoor bred pigs in the short to medium term, both from existing sources and from future entry and expansion.[65] Submissions from third parties showed the possibility for large-scale expansion of outdoor bred pig farming. Some limiting factors were mentioned, such as the availability of suitable land, biosecurity concerns, and the shortage of skilled personnel.[66]

Our desk research indicates that the CMA was correct to conclude that the merger was unlikely to harm Tulip's main rivals, Cranswick and Karro, as they are "large and well-resourced players"[67]. Post-merger, Cranswick secured supply of outdoor bred pork by investing in its own farms and promoting a new entrant. In 2018, Cranswick invested £4m in its Wayland Farms operation to increase its outdoor bred breeding and finishing capacity.[68] The same year it set up a new pig production joint venture with the Buckle family

[62] *Op. cit.*, paragraph 104.

[63] *Op. cit.*, paragraph 118.

[64] […].

[65] CMA, 2018, Tulip / Easey Merger Enquiry - Final Report, paragraphs 74-78.

[66] *Op. cit.*, paragraphs 80 and 90.

[67] *Op. cit.*, paragraph 119.

[68] Cranswick, 2018, Cranswick plc Annual Report & Accounts Year Ended 31 March 2018, (last accessed 7 March 2022).

called White Rose Farms, which specialises in the production of both indoor bred and outdoor bred pigs.[69] In 2019, Cranswick acquired new farming units near Norfolk and the outdoor pig producer Packington Pork.[70] In 2020, it acquired the Buckle family's pig farming operations and its 50% share of the White Rose Farms JV.[71] Another large vertically integrated processor, Karro, was acquired by Young's Seafoods in 2019, together they formed the Eight Fifty Food Group. In 2020, the group bought M&M Walshe Holdings Limited, an Irish meat producer that supplies processed pork products.[72] In 2021, Eighty Fifty was bought by a Canadian multi-protein producer, Sofina Foods, that manufactures primary and further processed protein products.[73]

Anecdotal evidence against the potential scope for profitable exclusionary practices comes from the fact that the merged entity was sold a few years later as a loss-making business. In 2019, Danish Crown sold Tulip to Pilgrim's Pride, a US-based pig and poultry supplier, who changed Tulip's name to Pilgrim's UK in 2020. Danish Crown commented on the sale as follows:

> *"We have all been frustrated with the lack of results which for four years has been costly to us as owners rather than contributing positively to our settlement price. It has been hard on us all. Although slightly saddened, I am therefore also pleased that we have succeeded in divesting Tulip Ltd, which means that we can now get back on track and make our entire business as competitive as possible for the benefit of our owners."*[74]

Prima facie this speaks against a scope for profitable exclusionary practices or other anti-competitive impacts on the industry. An industry insider, […], considered the transaction unproblematic: Tulip was able to secure supply of outdoor-bred pigs for processing and Easey secured a firm outlet for its pigs.[75]

We note that one purchaser of pork products, […], still finds sourcing of outdoor bred pork expensive […].[76]

Despite the continued increase in the supply of outdoor bred pork, demand for outdoor bred pork still outstrips supply. This might put purchasers of outdoor bred pork from the outside of the vertical chain at a temporary disadvantage. Our desk-based research found evidence of supermarkets moving more and more from indoor bred to outdoor bred pork offerings, which may continue to induce some shortages while supply is catching up.[77]

Some of this effect is likely to be caused by the change in customer preferences to outdoor bred pork, and is also likely to be resolved over time through further structural adjustment within the industry. While the entry and expansion foreseen by the CMA in its decision is taking place, some limitations to the

[69] Red Tractor, Our Pork Standards, (last accessed 7 March 2022).

[70] Derbyshire Live, 2019, Packington Pork bosses strike deal to sell up to major UK food producer Cranswick, (last accessed 7 March 2022).

[71] Cranswick, 2020, Acquisition of leading pig farm business, (last accessed 7 March 2022).

[72] Just Food, 2020, Ireland's M&M Walshe becomes Eight Fifty Food Group's first acquisition, (last accessed 7 March 2022).

[73] Meat + Poultry, 2020, Sofina Foods acquires Eight Fifty Group, (last accessed 7 March 2022).

[74] Danish Crown, 2019, Danish Crown Annual Report, (last accessed 7 March 2022).

[75] […], an industry insider, Interview, 9 February 2022.

[76] […], a purchaser of pork products, response to E.CA Questionnaire, 2022.

[77] The Scottish Farmer, 2021, Aldi Scotland offers high-welfare outdoor-bred pork sausages, (last accessed 7 March 2022); Convenience Store, 2018, Co-op Group switches to 100% outdoor-bred pork, (last accessed 7 March, 2022); Marks & Spencer, Pork, Find out more about our approach to sourcing pork, (last accessed 7 March, 2022); Morrisons, 2021, Farm Animal Welfare Progress Report, (last accessed 7 March 2022); and Waitrose, All our pigs are born outside, (last accessed 7 March 2022).

speed of this process are manifesting, and are likely to do so for the foreseeable future. While we agree that on balance, the CMA reached the right conclusion by clearing the merger, and that it did so for the right reasons, it might not have taken sufficient account of these structural difficulties.

We believe that the CMA could have refined its approach by studying the rationale for the merger. Tulip saw the transaction as the only way to meet demand of outdoor bred pork products from its customers which otherwise could have not been met in the short term.[78] Our discussions with the industry stakeholders suggested that, absent this merger, Tulip would not have been able to […].[79]

There was also clear evidence that the key affected competitors were robust enough to cope with the effects of the merger […]. […], while vocal in the proceedings,[80] was unlikely to be severely affected by the merger as it had already found substitute volumes of outdoor-bred pork even before Easey's notice period ran out.[81] […].[82] Instead the CMA could have further analysed the impact of the merger on independent operators at different levels of the supply chain. Had the CMA focused on smaller operators, it might have considered the danger of incremental foreclosure presented by a potential accumulation of mergers of this type in the market which make it harder for independents to compete. We understand from our discussions with industry stakeholders that smaller independent operators have historically been the source of innovation in the market, in particular with respect to championing animal welfare. Some independent operators are, however, inefficient.

Overall, we found the CMA's decision to be both reasonable and correct. Post-merger, the parties stopped supplying outdoor bred pigs to third parties, but those third parties were able to find alternative sources of input, either through expansion or through acquisitions. The CMA appeared to be either optimistic with respect to entry expectations, or implicitly comfortable with a degree of transitional difficulties arising from the structural changes in the industry.

5.3 Assessment of the market outcome

We were unable to locate essential data on changes in outdoor pig herd sizes over time. We understand from our discussions with multiple industry stakeholders that this data is not readily available. Our analysis of the market outcome following the merger is therefore qualitative. We first consider the overall trends and developments in the market, and then the specific effects of the merger in the context of the ToH assessment.

We have observed a long-term increase in demand for outdoor bred pork[83] led by consumer demand for higher welfare meat and "premium" products.[84] In response, farms have increased their production of outdoor bred pigs. We understand from our stakeholder interviews that barriers to expansion are reasonably low. Output of outdoor bred pigs has been increasing over time compared to standard indoor

[78] CMA, 2018, Tulip / Easey Merger Enquiry – Final Report, paragraph 110.

[79] […], industry insider, Interview, 9 February 2022.

[80] […].

[81] […], industry insider, Interview, 9 February 2022.

[82] […].

[83] Gladman, R. (ADHB), 2021, Opportunities for outdoor pork in retail, (last accessed 7 March 2022).

[84] CMA, 2018, Tulip / Easey Merger Enquiry – Final Report, paragraph 85.

bred pigs. Whereas the ratio of outdoor bred to indoor bred was estimated at roughly 40%:60% in 2017,[85] stakeholder estimates have it today at 50%:50%.[86] This is a change in the expected direction, but perhaps not quite as significant as we would have expected given the consumer-driven trend. Still, it was a driver for Tulip's acquisition of Easey as "customer demand is rising for pig meat produced to high-welfare standards supported by strong provenance credentials".[87]

Our market research indicates that farm-to-shop solidification of the vertical supply chain in the pork industry is part of wider industry consolidation. Figures from the Agriculture and Horticulture Development Board ("AHDB") indicate that the number of pig abattoirs has halved in the past 20 years through consolidation.[88] Today, there are 93 slaughterhouses in the UK, half the number in 2000.[89] There are four large vertically integrated companies active in the UK pork market supply chain: [90] Pilgrim's UK (Tulip/Easey), Cranswick, Karro and Woodheads/Morrisons. Among these four, Pilgrim's UK, Cranswick, and Karro have substantial outdoor bred operations, while Woodheads/Morrisons mainly focus on indoor bred pork. The latter does not own any farms but has strong contractual relationships with farmers (referred to as "integration without ownership"). These four integrated firms account for more than 80% of total pig kills in the UK. There are also around half a dozen non-integrated, medium-sized processors.[91]

Integration can reduce input costs[92] and enhance efficiency, through the protection of participating businesses against business risk by securing the supply chain and making it resilient to demand and supply shocks. There is some evidence that Tulip's acquisition of Easey may also have been driven by the desire to protect its business against the expected disruption of the UK's exit from the European Union.[93]

Supply chain security is particularly important for industry participants given that the UK pig industry is currently going through a severe crisis stemming from multiple stressors including a shortage of butchers, high prices of animal feed,[94] and changes in international demand patterns. The current crisis appears to have less impact on vertically integrated chains, perhaps because they slaughter pigs from their own farms before accepting pigs from independent farms, a view supported by in the trade press, and stakeholder interviews. The pressure appears to be greater on independent farms which do not have an automatic outlet for their pigs, and has even led to market exit.[95]

Qualitative input also suggests that the trend towards vertical integration raises barriers to entry for other operators in individual segments of the chain, as they may now need to enter more than one

[85] *Op. cit.*, paragraph 89, footnote 22.

[86] […], an industry insider, Interview, 9 February 2022; AHDB, Interview, 13 December 2021.

[87] Euromeatnews, 2017, Tulip acquires UK pig producer Easey Holdings, (last accessed 7 March 2022).

[88] […], an industry insider, Interview, 9 February 2022.

[89] Wilkins, B. (ADHB), Another noticeable drop in English pig abattoir numbers, (last accessed 7 March 2022).

[90] […], an industry insider, Interview, 9 February 2022.

[91] […], an industry insider, Interview, 9 February 2022.

[92] IBISWorld, 2021, Industry Report C10.110: Meat Processing in the UK, (last accessed 7 March 2022) page 11.

[93] Euromeatnews, 2017, Tulip acquires UK pig producer Easey Holdings, (last accessed 7 March 2022).

[94] Data on pig price decrease, pig feed increase from AHDB. ADHB, 2021, Pig production costs at record high; worst margins in a decade, (last accessed 7 March 2022).

[95] Figures reported by the National Pig Association show that pig farmers lost an estimated £130m in the first half of 2021, and at least 40 independent farms had quit the industry in 2021. While some independent farmers are operating at a loss, there is some evidence that processors, like Cranswick, are still reporting profits. The Guardian, 2022, British farmers call for summit on worsening pig-cull crisis, (last accessed 7 March 2022); and The Financial Times, 2021, UK pig farmers take desperate measures in face of soaring costs, (last accessed 7 March 2022).

segment at a time to successfully compete.[96] As most, though not all, innovation in the pig market has been coming from independents, there might be some detriment from vertical integration in the form of losing innovative independents.[97]

5.4 Our findings

We found the CMA's assessment both accurate and reasonable. As the CMA expected, the merged entity stopped supplying outdoor bred pigs to third parties but affected competitors were able to source pork elsewhere. Other outdoor bred pork producers, including Tulip's competitors, also expanded their production and continue to do so. One purchaser of outdoor bred pork, […], continues to face supply shortages. But this must be contextualised by the fact that demand still seems to outstrip supply in this market, despite ongoing adjustment.

Overall, the merger was part of a trend towards vertical integration within the industry, which can make the vertical chain more resilient to external shocks, but also makes it harder for independent farmers to access or remain in the market. If these farmers are inefficient, their eventual exit is not something the CMA should seek to prevent. However, loss to consumers may occur if innovative independents are also forced to leave the market.

We considered the CMA's analysis high quality. In terms of scope for improvement, we would have recommended exploration of wider trends in the industry to understand the potential trade-offs between the benefits of ongoing vertical integration and horizontal consolidation and innovation. We thought the CMA may have gained greater comfort earlier in the proceedings if it had investigated the rationale for the merger more thoroughly at the beginning. There appeared to be a general understanding in the industry for the motivation of this deal, and there would have likely been internal documents to corroborate this.

We also found that the CMA was accurate in its assessment of post-merger entry and expansion. It also appeared optimistic about its speed and extent. We therefore do not think that the CMA should have changed its conclusion, but we caution against evidentiary hurdles for entry in future enquiries.

[96] Furthermore, vertical integration makes marketing pork from independent producers to supermarkets more difficult.

[97] […], industry insider, Interview, 9 February 2022.

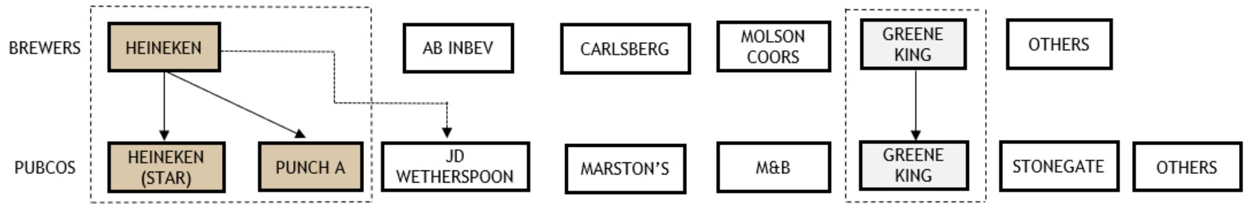
6 Heineken/Punch

6.1 Background

Heineken UK Limited ("Heineken") is a UK brewer owning various beer and cider brands, and a wholesaler of alcoholic and non-alcoholic beverages for both the on-trade (beer consumed in pubs) and the off-trade (beer consumed at home) market. At the time of the merger, it had a value-based market share of approximately [20-30]% as a brewer in the supply to the on-trade, with some differences when considering lager, ale and stout, or cider.[98] Heineken also owns Star Pubs & Bars Ltd ("Star Pubs"), a subsidiary that operated 1,047 pubs across the UK (around 2% of the UK pub estate).[99] Punch Taverns Holdco (A) Limited ("Punch") operated 1,895 pubs across the UK (around 4% of the UK pub estate).[100]

As Heineken is a brewer owning a pubco, and Punch is itself a pubco, there is a vertical (and horizontal) overlap between the parties' activities. Concerns around this merger arose because it would have made Heineken into Britain's third largest pub group, after Greene King and Enterprise Inns.[101] The following Figure 4 describes the vertical chain of beer and pub markets in the UK and the relationships between the different companies at the time of the merger.

Figure 4: Industry and the merging parties - Heineken/Punch at the time of the merger



Source: E.CA Economics based on the CMA Decision and own research.

Note: Dashed lines illustrate vertical relationships, darker shading represents structural vertical integration, no fill represents a contractual vertical tie. Not all contractual relationships are shown. The graph is for illustrative purposes only.

The inquiry into the merger was launched on 16 February 2017 and it was cleared on 18 of August 2017 in Phase 1, subject to a divestment of 33 pubs to remedy the CMA's horizontal concerns about a number of local areas. The merger was part of an ongoing trend towards vertical integration and consolidation in the brewing industry. For instance, the acquisition of the growing craft brewer, Meantime, by SABMiller, in May 2015 contributed to the consolidation of the brewing industry. Further consolidation followed. AB InBev bought the craft producer, Camden Town Brewery, in December 2015, and acquired SABMiller in October 2016. Carlsberg acquired the craft beer producer, London Fields Brewery, in July 2017, and Heineken bought a minority share (a 49% stake) in Brixton Brewery in November 2017.[102]

[98] CMA, 2017, Heineken / Punch Merger Enquiry - Final Report, paragraph 203.

[99] *Op. cit.*, paragraph 48.

[100] *Op. cit.*, paragraph 13.

[101] The Guardian, 2017, Heineken may not refresh the pubs other beers could reach, landlords fear, (last accessed 7 March 2022).

[102] IBISWorld, 2021, Beer Production in the UK, pages 29-30, (last accessed 7 March 2022).

6.2 Assessment of the CMA's analysis

In its assessment, the CMA pursued the following ToHs of which ToH 1, ToH 2 and ToH 3 were vertical:

- **Input foreclosure (ToH 1):** Heineken could have stopped supplying rival pubs or pub chains and/or might give worse terms in order to drive customers to its own pubs. The CMA concluded that the merging parties would have no ability to follow such a strategy because of Heineken's moderate market shares, and the wide range of beer and cider products available through other channels from alternative suppliers.

- **Customer foreclosure (ToH 2):** Heineken could have limited volumes of drinks supplied by other brewers in Punch pubs. The CMA concluded that, because of the small proportion of pubs owned by Punch, it would not have been able to foreclose access to downstream markets since it was not a key route to market and brewers had a broad range of alternatives to sell their products.

- **Reduction in the range of products offered (ToH 3):** Heineken could have degraded Punch's offering within certain local areas by diminishing the variety of beers offered by Punch pubs. [103] The CMA considered that the merged entity would have had the ability to change and/or reduce the range of drinks in Punch pubs, but it would have had no incentive to reduce competitiveness of downstream pubs and that, ultimately, range was only one of many factors that consumers used to make their choice of a pub.

- **Local competition assessment - Operation of pubs (ToH 4):** Given the horizontal nature of this ToH, we will not discuss it further in this report.

In what follows, we discuss the CMA's ToHs and the analysis undertaken in support of them.

6.2.1 Input foreclosure (ToH 1)

The CMA investigated the possibility that Heineken could stop supplying rival pubs or pub chains and/or might give worse terms in order to drive customers to its own pubs. We note that none of the 1,200 parties involved raised concerns with respect to this ToH.[104] On the contrary, they were concerned about Heineken forcing its pubs to supply only Heineken products (ToH 3), which is in direct contradiction with this ToH.

[…][105]

Given that all complaints and evidence pointed in the opposite direction, this ToH could have been filtered out at an early, pre-decision stage, and not entered the decision in detail. The benefit of an early elimination was likely to be largely reputational vis-à-vis the CMA's understanding of a market with many vocal participants. However, reportedly only a limited amount of resources were involved in the review of this ToH.

[103] This ToH was concerned with a small number of pubs in local areas in which only Punch A was active (and had a large share of pubs). We note that in practice the reduction in range can apply to the whole of the Punch A estate.

[104] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 202.

[105] […].

6.2.2 Customer foreclosure (ToH 2)

The CMA investigated the concern that Heineken could limit volumes of beer or cider supplied by other brewers in Punch pubs. The CMA determined the relative size of Heineken's consolidated pub network (i.e. Star and Punch). Using the number of owned pubs, it then estimated that the network accounted for only 10% of the pub estate.[106] The market share is indeed is a key supporting statistic to evaluate Heineken's ability or incentive to engage in a customer foreclosure strategy. But this measure should be interpreted with caution, as pubs are differentiated in many dimensions, especially in size, which is not consistent with weighing every pub equally.[107] This concern was also raised by interviewed stakeholders who suggested that the CMA should have measured market power using volumes of beer consumed in pubs, rather than the numbers of pubs.[108] Interviewed stakeholders also considered that pubs were heavily differentiated and it could not be assumed that they were perfect substitutes.

Calculating market power using a broad volume indicator leads to a significantly different market share for the merged entity than that calculated using the number of pubs. Table 1 compares market shares based on the CMA's methodology using pub numbers, and markets shares that we derived from the same database using volume information.[109] Our estimates show that while independent, non-tied pubs accounted for almost […]% of the UK pub estate, they most likely did not exceed around […]% of the volume of beer sold, a significantly smaller proportion. Figures regarding vertically integrated pubs change from […]% of UK pub estate to […]% of volume of beer sold, and for tied pubs from […]% to […]%, again a noteworthy increase.

Table 1: Brewers' contestable market for pub customers

Pubco type	Managed or tenanted	Number of pubs (rounded)	% of all pubs	% of beer volume sold in pubs (approximated)
Vertically integrated	[…]	[…]	[…]	[…]
	[…]	[…]	[…]	[…]
	[…]	[…]	[…]	[…]
Tied	[…]	[…]	[…]	[…]
	[…]	[…]	[…]	[…]
	[…]	[…]	[…]	[…]
Independent		[…]	[…]	[…]
Total pubs in the UK		[…]	[…]	[…]

Source: E.CA analysis based on CGA dataset used by the CMA at the time of the merger, not in the public domain.
[…].

[106] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 209.
[107] […].
[108] SIBA, Interview, 15 November 2021.
[109] […].

These results suggest that only limited on-trade volumes are contestable for smaller brewers (i.e. […]% instead of […]%).[110] It also becomes apparent that most beer sold through pubs in the UK is subject to a tie in one form or another. The Society of Independent Brewers ("SIBA") told us that pubs that remained independent (and therefore genuinely accessible to SIBA members) were often low volume pubs which would not be seen by large brewers as worth tying.[111]

While we understand that calculations using broad indicative volume metrics are imperfect, we consider that volume-based figures on market segments could have been calculated by the CMA, be it for robustness purposes only. Further the contemporaneous Curren Goodden Associates ("CGA") data used by the CMA does not record the brewer with whom a pub is tied, meaning that the CMA would not have been able to use it to assess the impact of the merger directly.

We also believe that the CMA should have considered the genuine downstream access opportunities for smaller brewers and how they would change post-merger rather than considering the market share of brewers within the Punch Network. In markets with differentiated products reducing upstream access opportunities will impact on the offering downstream and therefore consumer choice. This impact has not been considered. We considered that the CMA focused on the act of exclusion under (ToH 2) without presenting a correspondingly strong narrative about the effect this was going to have on customers. This effect was likely to manifest as a reduction in the range of beers offered and therefore reduction in quality of the offer to final consumers. Since this was not discussed or tested in sufficient detail (at least not under this ToH), the CMA ran a risk of being seen as 'protecting competitors rather than competition' if it pursued this ToH further. The absence of the assessment of effect does not mean that there was no effect, just that it was not tested.

Finally, even if the CMA had structured this ToH more appropriately, it is unclear to us whether it would have concluded that the merger was likely to lead to an SLC. It is likely that Heineken's market share of pubs – and the change in the market prompted by the merger – might still be too insignificant to warrant a prohibition of the transaction. If indeed there is an issue to consider, it might be more appropriate to address it within a market inquiry setting.

6.2.3 Reduction in range of products offered (ToH 3)

Finally, the CMA investigated whether the merger would be associated with a reduction in choice of beers and cider, in particular from small local breweries.[112]

Contemporaneous concerns from consumers, brewers and pub tenants suggest that the reduction in brands from independent breweries was be the rationale for the merger. In its assessment of non-price effects resulting from the merger, the CMA concluded that the range of products offered by a pub was only one of several factors influencing the competitiveness of the pub's offering. Other factors, such as

[110] Volume-based metrics may in fact have also been more appropriate for the assessment of horizontal effects, which are not the focus of our analyses. That includes the calculation of diversion ratios. […]. The volume-based methodology could have led to a greater requirement for divestment.

[111] SIBA, Interview, 15 November 2021.

[112] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 217.

location, atmosphere, and the quality of staff was considered more important. As stated in the CMA report:

> *"[T]he CMA believes that the range of beer and cider is an important part of a pub's competitive offering, but is ultimately only one of several parameters upon which pubs compete at a local level (many of which are just as important, or more important, to consumer decision-making). Any potential reduction in change could therefore only have a relatively limited impact on competition overall at the local level."*[113]

The CMA was right that there were other dimensions of pubs that consumers considered to be important. Indeed, the stakeholders we have spoken to have told us that the CMA did not pay sufficient attention to pub differentiation when analysing local overlaps (ToH 4). However, this finding was not the 'trump card' the CMA appeared to consider it to be in the context of the vertical concern (customer foreclosure). Just because consumers also care about other aspects of their local pub offer does not mean that they would not be harmed by exclusion of brewers from Heineken pubs leading to a reduction of range of beers on offer.

The CMA recognised Heineken's incentive to offer a narrower choice of beers to tenants and to increase the range of Heineken brands on which, as a brewer, it receives a higher margin. The CMA also acknowledged that Heineken had already pursued such a strategy in the past.[114] However, the CMA was not concerned about the potential reduction in the range of beers post-merger. In fact, the CMA noted that "Heineken has a wide range of beers that will enable it to fill different pubs with different sets of beers".[115] However, this narrow understanding of beer range ignores important aspects of product differentiation, an issue that was at the heart of a large number of complaints. These complaints suggest that consumers may not only value the number of drinks offered but also other characteristics such as brand ownership or brand recognition, and have differing perceptions of quality. The CMA also makes an implicit judgement about the quality of the Heineken range, putting it on a par with competitors. While possible, this is an empirical question and one where the CMA received a large volume of complaints suggesting the contrary.

In our view, customer foreclosure (ToH 2) through a reduction of range (ToH 3) appears to have been the rationale for the merger. The CMA appears to have been aware of it,[116] but ultimately set it aside, *inter alia*, for a lack of business sense and its lack of concern about the importance of product range.[117] Given the volume of third-party complaints, existence of contemporaneous internal documents available to the CMA and Heineken's previous behaviour, we consider the CMA's conclusion to be insufficiently evidenced.

We found that, post-merger, Heineken presented customers with a 'curated' choice that included diverse product types affiliated with Heineken. At the time of the investigation, the CMA could have asked itself: 'given that Heineken has adopted this strategy in the past, which economic theory would explain it?' Had it done so, it would have had to answer the more difficult question of whether the economic behaviour led to an SLC. As with ToH 2, we believe this is likely to only be fully visible in the context of wider market interactions and the assessment of the remaining contestable share of the pub market for independent brewers. To understand that, the CMA would have had to obtain more accurate information

[113] *Op. cit.*, paragraph 239.

[114] *Op. cit.*, paragraph 225.

[115] *Op. cit.*, paragraph 246.

[116] […].

[117] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 248-249.

on the contestable volumes in pubs, and their incremental reduction. Our own research showed that this would have been a painstaking activity and would likely be more suited to a Phase 2 investigation.

In general, we struggled to see the added value of ToH 3. As set out by the CMA, the main focus of this ToH where pre-exiting monopoly areas where Punch had no direct competitors. Reduction of range (whether *per se* in pre-existing monopoly areas under ToH 3 or more generally through exclusion of brewers under ToH 2) would always be dependent on the demand response from customers in local areas. We would have recommended pursuing just one vertical ToH based on exclusion of Heineken's brewing rivals assessing rigorously the ability to do so in local areas.

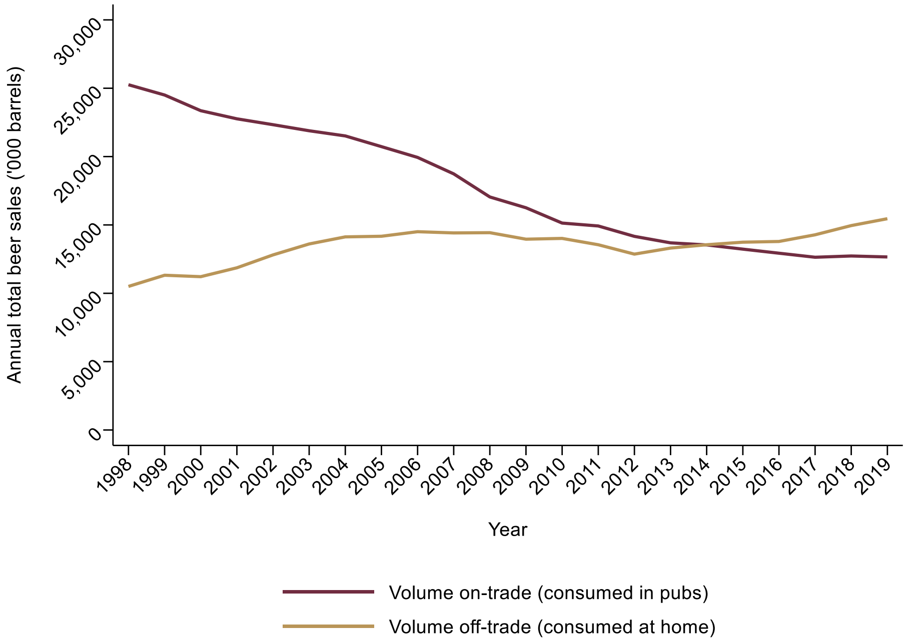
6.3 Assessment of the market outcome

Our assessment of the market outcome is both quantitative and qualitative. We started by looking at the overall trends and developments in the market, which are described in the following paragraphs. Next, the specific effects of the merger are considered in the context of the CMA's ToHs.

6.3.1 General market trends

There are two types of beer trade, "off trade" (i.e. sales to supermarkets and other retail outlets to be consumed at home), and "on trade" (i.e. sale to pubs and other venues with license to sell beer to be consumed on the premises). Over the past 20 years, the volume of beer sold to off trade has increased while the volume of beer sold to on trade has decreased (see Figure 5). This trend started before the Covid-19 pandemic. Industry stakeholders further told us that the pandemic exacerbated it.

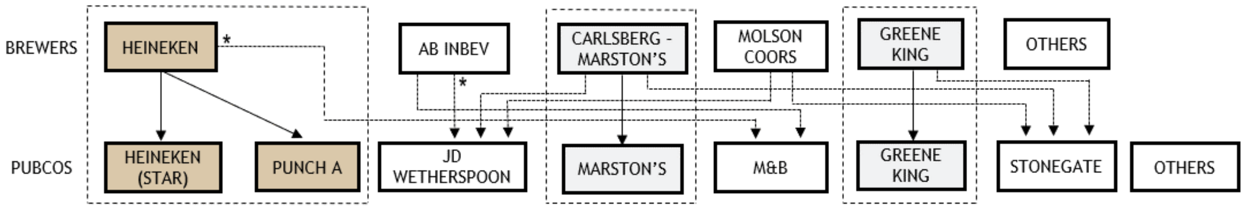
Figure 5: Evolution of on-trade and off-trade beer sales in the UK (1998-2019)



Source: E.CA Economics based BBPA, UK Beer Market statistics (last accessed 7 March 2022).

The merger between Heineken and Punch was not an isolated transaction in the beer industry, but part of a trend towards vertical integration. For example, Carlsberg merged with Marston's in October 2020. More recently Marston's acquired part of Brains pubs. [118] There has also been greater horizontal consolidation, with smaller and medium sized brewers being acquired by large multinational brewers (e.g. Fuller's/Asahi, January 2019). Campaign for Real Ale ("CAMRA"), the specialist consumer body with supercomplaint power, told us it was concerned that these takeovers were going "unscrutinised, with little thought to the cumulative effects".[119]

Figure 6: Current industry structure



Source: E.CA Economics based on CMA documents, interviews and research.

Note: (*) Heineken has been substituted by AB InBev as Wetherspoon's largest supplier. Dashed lines illustrate vertical relationships, darker shading represents structural vertical integration, no fill represents a contractual vertical tie. Not all contractual relationships are shown. The graph is for illustrative purposes only.

[118] Business Live, 2021, Marston's acquires a string of Brains pubs, (last accessed 7 March 2022).

[119] CAMRA, Interview, 30 November 2021.

We also found that beer ties, which have caused regulators and policy makers anxiety in the past, are still very much a feature of the UK pub market. They mostly take the form of quantity forcing and curation of the price list available in managed and tenanted pubs. A specialist regulator, Pubs Code Adjudicator ("PCA") created in 2015, is in charge of policing beer ties under the Pubs Code (2016).[120]

> *"The Pubs Code provides the right to a rent assessment at least every 5 years, and to the MRO option at rent assessment and in certain other specific circumstances. A free of tie pub has the right to choose products on the open market, and therefore to stock a wider range of products than tied pubs."*

Six pub owning companies are regulated by the PCA, of which three are also brewers: Marston's, Greene King, and Heineken (Star and Punch). Of the six companies, only Heineken has raised the PCA's concerns regarding stocking requirements regularly, while the others used the requirements in a passive way which did not give rise to major PCA concerns (PCA, 2021).[121]

[…][122]

6.3.2 Impact of the merger

The following section discusses our findings regarding market developments in areas affected by ToH 2 and ToH 3. As discussed in section 6.2.1, we have not found evidence of input foreclosure (ToH 1), since this is inconsistent with how the industry operates.

We also investigated whether the efficiencies which it was claimed would arise from the transaction materialised. We found mixed evidence regarding investments by Heineken in the Punch estate. We have been told that prices to Heineken tenants increased following the merger, including direct suggestions that there had been no EDM, with supply prices the same or higher and wholesale market prices increasing by 90%.[123]

According to the interviewed stakeholders, investments seem to have taken the form of discounts on wholesale prices that were not large enough to compensate for the wholesale price increase or loans.[124] Our desk research further found evidence suggesting Heineken conducted its "biggest ever investment in UK pub estate" in 2018, with 2,900 pubs benefiting and 140 major CAPEX projects (average spend £170k).[125]

Heineken chose not to engage with us, so we were unable to obtain its position and to clarify the outcome on both supply price and investment.

[120] "The Pubs Code regulates the relationship between all pub companies owning 500 or more tied pubs in England and Wales and their third tenants." PCA, About Us, (last accessed 7 March 2022).

[121] PCA, Interview, 7 December 2021.

[122] […].

[123] PTN, Interview, 24 November 2021.

[124] PTN, Interview, 24 November 2021.

[125] Inside Beer, 2018, UK: Heineken makes biggest ever investment in UK pub estate (last accessed 7 March 2022).

6.3.2.1 Customer foreclosure (ToH 2)

The brewing market has a variety of players, from large multinational companies to small craft breweries. While reliable market share data is hard to come by, we understand that the market is dominated by large international brewers: Heineken, Carlsberg, Molson Coors and InBev in particular. In 2021, these four brewers represent a market share of 64% in the UK beer market, both on-trade and off-trade.[126] They appear to compete with each other for access to customers, and rely on large sales volumes to be profitable.[127] Acquiring a pub network (like Heineken with Punch, or Carlsberg with Marston's), or securing a long-term supply contract (like InBev with Wetherspoons), is a key to success for these large brewers. The PCA confirmed this in an interview with us:

> *"Heineken purchased Punch (and Star) pubs to deliver Heineken beer to consumers. The stocking requirement policies are a means of enacting this."*[128]

Most stakeholders we have spoken to told us that competition in the brewing market is increasingly difficult for mid-sized domestic brewers who struggle to remain independent. For SIBA, a body representing independent brewers, access to pubs is a major issue.[129] There is still a long tail of very small breweries which are restricted in their growth. A number of successful small craft breweries have been bought by large international brewers (e.g. Meantime by SABMiller, and Brixton Brewery by Heineken). We note, however, that one independent brewer, BrewDog, grew from a start-up in 2006 to a large brewer with an international presence and some diversification.[130]

CAMRA told us that there were many ways by which an individual tenant could be bound to Heineken, and that the CMA did not consider the overall picture for an individual tenant. In practice, there could be tied pubs that are owned by Heineken through Star Pubs and Bars, and there could also be managed chains and free houses that are not owned by Heineken but have some form of exclusive purchasing agreement with Heineken's beer distribution arm.[131]

The CMA investigated the market position of brewers' beer supply, and found that, for the vast majority of respondents, Punch accounted for a small share of on average 3% of their beer sales.[132] […].[133] As a result, the CMA was not concerned about customer foreclosure by Heineken.[134] We believe that to see the extent to which the merger reduces the available outlets for independent brewers, market shares could have been better estimated by using the volume of beer consumed at pubs instead of the number of pubs. Other types of contractual ties should have also been investigated to assess the true extent of tying in the industry. The data we found (the same as the CMA used) was only of limited quality. We were also unable to estimate the incremental reduction in contestable volumes caused by the merger (as tying relationships cannot be attributed to specific brewers in the data we and the CMA had at our disposal).

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[126] CAMRA, Interview, 30 November 2021.

[127] *Ibid.*

[128] PCA, Interview, 7 December 2021.

[129] SIBA, Interview, 15 November 2021.

[130] IBISWorld, 2021, Beer Production in the UK (last accessed 7 March 2022).

[131] CAMRA, Interview, 30 November 2021.

[132] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 13.

[133] […].

[134] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 211.

Our desk research of company reports shows a decrease in sales for one of Punch's suppliers after the merger. […] shows a decrease in sales volumes of 10.6% in 2018, "the main shortfall being in own brewed product". It reportedly also suffered from a decrease in sales of 3.2% in 2019 due to a *"loss of free trade customers"*. We note that the brewery considered was one of the small breweries, of the type that is most dependent on selected Punch estates. At the time of the merger, […]% of its on-trade volume was sold to Punch estates, with only one other small brewery generating larger volumes with Punch. The following Figure 7 illustrates the evolution of sales of the selected brewery between 2016 and 2019 alongside the general market trend.[135]

Figure 7: Volume variation of […] beer sales and overall market (%)

[…]

Source: E.CA Economics based on […], 2019 and 2020, and on BBPA, UK Beer Market, https://beerandpub.com/statistics/uk-beer-market/ (last accessed 7 March 2022).

Note: Vertical line indicates merger clearance in August 2017.

While only anecdotal and based on desk research (we note that the brewery did not engage with our investigations), this evidence is consistent with the wider testimony we obtained from interviewed stakeholders suggesting that the merger has had an impact on the upstream market for mid-size brewers. If true more systematically, this would reduce customer choice in the long run. However, this question has to remain open. Since large brewers offer a wide range of products, including products from smaller breweries that they have acquired or have a relationship with, the impact on consumers is not clear cut, and would likely require a market inquiry to be fully understood.

6.3.2.2 Reduction in the range of products offered (ToH 3)

We found that Heineken reduced the range of products available in its pubs to privilege Heineken owned and affiliated products. The PCA started to investigate Heineken's stocking practices in its Star and Punch pubs soon after the merger was completed. In 2020, the PCA concluded its investigation with a finding that Heineken was in breach of the Pubs Code by forcing "unreasonable" quantities of Heineken products onto pubs that were trying to break ties with them.[136,137]

The PCA does not use the competition lens, so its investigation was not focused on exclusion of rivals through customer foreclosure (brewers) or input foreclosure (landlords). The PCA enforces the Pubs Code which "regulates the relationship between all pub companies (referred to as "pub-owning businesses" in the Code) owning 500 or more tied pubs in England and Wales and their tied tenants".[138] The PCA's investigation centred around Heineken pubs whose landlords were seeking to exercise the Market Rate Option ("MRO") and "break" the tie with Heineken. Following the pubs' requests for an MRO, Heineken imposed "unreasonable" stocking requirements in exchange, between 100% and 60%, following a set of

[135] […].

[136] The PCA explained to us that the lens it is using is different to the CMA's, it is not applying competition law. PCA, Interview, 7 December 2021.

[137] PCA, 2020, Investigation into Star Pubs & Bars Ltd – Final Report (last accessed 7 March 2022).

[138] PCA, About Us (last accessed 7 March 2022).

negotiations during the PCA investigation (see Table 2 below).[139] The PCA also identified other measures implemented by Heineken aimed at discouraging tenants from breaking their ties.[140]

Table 2: Number of pubs affected by MRO proposals made by Heineken that were deemed unreasonable by the PCA in the 2020 report

Type of MRO proposal	Period	No. of affected pubs	Number of pubs
All non-compliant MRO proposals	July 2016 – July 2019	Star and Punch	122
100% stocking requirements proposed	August 2016 – August 2018	Star and Punch	86
		(of which Punch)	19

Source: E.CA Economics based on PCA, 2020.

While the legal tool used by the PCA in its investigation is different to the CMA's framework, the PCA considers that Heineken's practices caught by the Pubs Code are likely to reduce choice for customers and exclude rival brewers.[141]

We spoke to one pub lease holder […], leasing […], a pub located in […]. We learned that, following the merger, the price list that is available to pub landlords to choose from reduced significantly in terms of range and became mainly Heineken-affiliated product driven. Independent brewers' products significantly increased in price. This led […] to request an MRO. The negotiation has not been easy, with Heineken apparently requesting that the pub stocks Heineken beers, despite the fact that to date it had not done so, although that requirement has been dropped after the lease holder threatened arbitration (a process overseen by the PCA). Heineken also requested a considerably higher rent. […].[142]

We also spoke to SIBA, which represents the interests of independent breweries in Britain. At the time of the merger, Heineken announced that it would continue to work with SIBA to ensure that tenants continue to have access to a wide range of quality beers from small independent brewers.[143] The CMA may have drawn some comfort from these plans.[144] However, we understand that since the merger, the numbers of pubs served by SIBA members and the volume delivered have declined. See Table 3 below. While the 2021 figures are hard to interpret due to the effect of the Covid-19 pandemic, it is clear that the decline started before the Covid-19 pandemic. We understand that the number of SIBA members has declined from 850 at the time of the merger to 723 at the end of 2019.[145] Today, the number is around 700.[146]

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[139] Up to 100% of beer products from August 2016 to August 2018 and up to 75% of beer products from September 2018 to July 2019. PCA, 2020, Investigation into Star Pubs & Bars Ltd – Final Report, (last accessed 7 March 2022).

[140] Heineken issued different MRO proposals. Among these, some specified "must stock" brands, others influenced the resale price "to address a concern that MRO tenants might seek to 'game' a stocking requirement through overpricing Heineken products so as to reduce sales of those products on site." PCA, 2020, Investigation into Star Pubs & Bars Ltd – Final Report, pages 61 and 91, (last accessed 7 March 2022).

[141] PCA, Interview, 7 December 2021.

[142] […].

[143] SIBA, 2017, SIBA response to Heineken announcement regarding SIBA Beerflex (last accessed 7 March 2022).

[144] CMA, 2017, Heineken / Punch Merger Enquiry – Final Report, paragraph 244.

[145] SIBA, 2020, The SIBA British Craft Beer Report 2020 (last accessed 7 March 2022).

[146] SIBA, Interview, 15 November 2021.

Table 3: Trade between SIBA's members and Punch pubs (before and after the merger)

Year	Pubs	Number of pubs	Volume (casks delivered)
2016	Punch	61	7349
2019	Punch (owned by Star)	55	5173
2021 (Jan-Oct)	Punch (owned by Star)	27	1633

Source: SIBA

The question remains whether consumer harm has arisen as a result of this exclusionary behaviour. We found qualitative evidence that Heineken continued to offer consumers choice through a menu consisting mostly or wholly of Heineken-affiliated products. The disagreement that exists among market participants is whether or not this 'edited choice' is harming consumers. Those concerned suggest that while in the short run consumers have access to variety, in the long run independent operators may exit the market.

CAMRA is concerned that large brewers are "systematically excluding" smaller competitors from pubs. According to CAMRA, the issue of choice and increasing demand from customers for 'quality beers', is addressed by large brewers through a series of acquisitions of small breweries, and through offering those beers at a premium. According to CAMRA, in addition to the 'choice editing' for customer (which limits customers' genuine choice), large brewers are also increasing the price of quality beers, compared to what they would have been had they been sold by independent brewers.[147]

6.4 Our findings

We found that the CMA made a small number of analytical choices that we would not have made. We believe that the calculation of market shares in the pub market should have been based on sales volumes rather than the number of pubs. In our view, the CMA should also have focused on the contestable market share available to independent brewers, rather than on any individual arrangements of the smaller brewers.

We concluded that the CMA could have eliminated ToH 1 much earlier and should not have featured it in the final Decision. We also thought that the separation of the exclusionary behaviour into ToH 2 and effect into ToH3 made it harder for the CMA to grasp the vertical concern in this case. This led, in our view, to the CMA discarding both ToHs more easily than we believe was warranted. Considering business evidence and stakeholder feedback more carefully would have helped the CMA clarify its thinking.

However, it is unclear whether the CMA had the scope to arrive to a different conclusion, given that Heineken was only one of the large brewers, and its market share was likely to always be relatively limited: the CMA would have been hard-pressed to find Heineken dominant.

The CMA might want to consider whether it could take the wider market context into account. This could take the form of a dynamic counterfactual, where Heineken's behaviour could be seen in the context of the incentives of large brewers, as set against the incentives of other market players such as smaller brewers and pub tenants. We recognise that this may be difficult to do within the merger review

[147] CAMRA, Interview, 30 November 2021.

framework and the CMA may find that it can only properly consider the market in its full complexity using the market investigation tool.

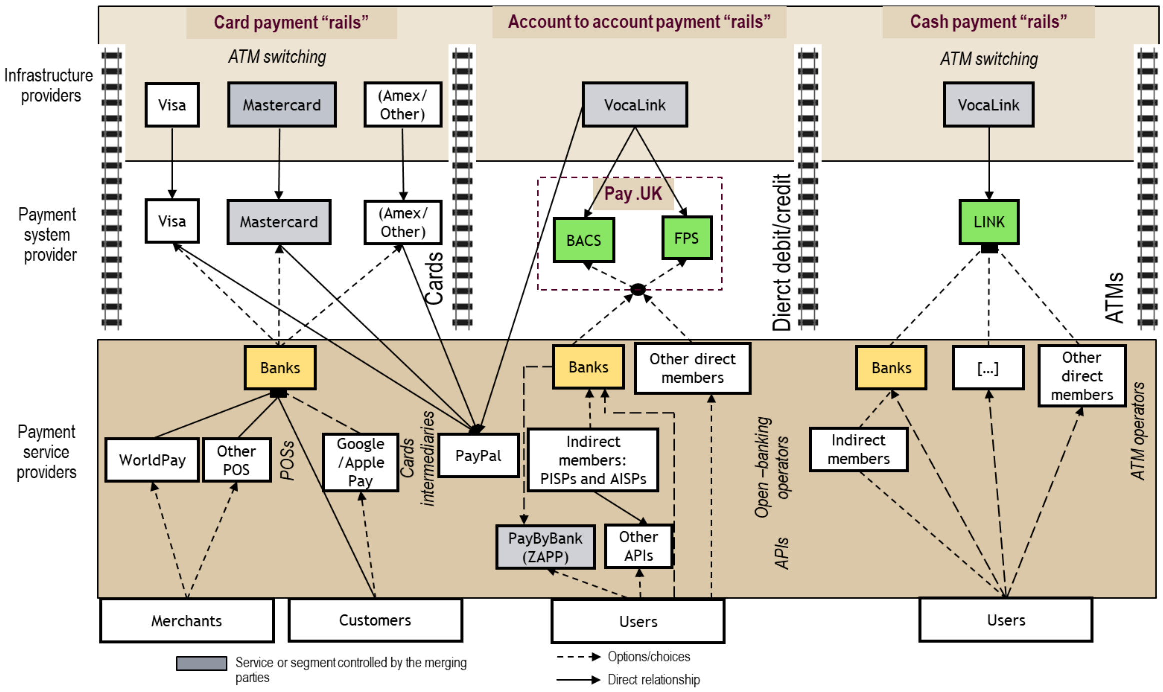
7 Mastercard/Vocalink

7.1 Background

Mastercard International Incorporated ("Mastercard") is a financial services company. It owns and operates branded four-party payment credit and debit card schemes (including, Mastercard, Maestro and Cirrus). Vocalink Holdings Limited ("Vocalink") is a provider of core infrastructure services ("CIS") to three UK interbank payment systems: BACS interbank payment system ("BACS"), Faster Payment Service ("FPS") and LINK ATM network ("LINK"). Vocalink also developed a real-time payments technology, Pay By Bank (Zapp at the time of the merger), that allows the payee to pay a merchant directly online (through "account-to-account" payment or "A2A"). The CMA was notified of the proposed acquisition of Vocalink by Mastercard on 19 October 2016, and approved it on 11 April 2017.[148]

Figure 8 shows a simplified view of the vertical structure of the payments market in the UK, including corporate relationships.[149]

Figure 8: Industry and the merging parties – Mastercard/Vocalink



Source: E.CA Economics based on the CMA Decision, research.

Note: This figure is not exhaustive and only presents a simplified view of the industry.

The CMA cleared the merger in Phase 1 subject to behavioural and structural undertakings to remedy a horizontal concern in the provision of cash services (competition between Mastercard and Vocalink in the supply of CIS to LINK). The behavioural remedies included both an obligation to make its connectivity infrastructure available to a new supplier of CIS to LINK (Network Access Remedy), and to contribute to LINK's members' switching costs (Switching Fund). The structural remedies consisted of a requirement

[148] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Final Report.

[149] The figure only shows the most relevant players to the reviewed case and should not be considered as complete.

for Vocalink to transfer or license intellectual property rights for LINK LIS5 messaging standard to LINK (Partial Vertical Divestment).

7.2 Assessment of the CMA's analysis

The CMA considered six ToHs in total. The first three were horizontal, the last three vertical:

1. **The competition in the supply of CIS to LINK (ToH 1).** The CMA concluded that the merger gave rise to a realistic prospect of an SLC in relation to competition for the supply of CIS to LINK.[150]

2. **The competition in the supply of CIS to BACS and FPS (separately and combined) (ToH 2).** The CMA concluded that the merger did not give rise to a realistic prospect of an SLC in relation to competition for future BACS and FPS CIS contracts.[151]

3. **The loss of potential competition between Pay By Bank and Mastercard (ToH 3).** The CMA concluded that the merger did not give rise to a realistic prospect of an SLC in the supply of customer-to-merchant payment services as a result of the loss of potential competition between Pay By Bank and Mastercard.[152]

4. **Ability and incentive to degrade Vocalink's service to LINK which competes with Mastercard for ATM services (ToH 4).** The CMA concluded that the merger did not give rise to a realistic prospect of an SLC in relation to ATM switching services.[153]

5. **Ability and incentive to degrade Vocalink's service to FPS-reliant payment service providers which compete with Mastercard (ToH 5).** The CMA concluded that the merger did not give rise to a realistic prospect of an SLC in relation to the supply of alternative payment methods that compete with Mastercard and rely on FPS.[154]

6. **Ability and incentive to reduce or prevent innovation in the supply of payment methods relying on FPS and BACS, which compete with Mastercard card payment service (ToH 6).** The CMA concluded that the merger did not give rise to a realistic prospect of an SLC as a result of a loss of innovation in the supply of different payment methods downstream that compete with Mastercard.[155]

The following subsections will discuss the vertical ToHs and the CMA's respective assessment separately.

7.2.1 Input foreclosure in cash payment services (ToH 4)

Since LINK competed with Mastercard for the provision of ATM services, the CMA was concerned that Mastercard might degrade Vocalink's service to LINK to reduce the downstream competitive constraint posed by LINK (ToH 4). To connect with banks, ATM services require dedicated CIS. CIS are therefore a

[150] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Final Report, paragraph 171.

[151] *Op. cit.* paragraphs 181 and 192.

[152] *Op. cit.* paragraph 236.

[153] *Op. cit.*, paragraph 294.

[154] *Op. cit.*, paragraph 349.

[155] *Op. cit.*, paragraph 372.

bottleneck: it is efficient for one operator at a time to provide them. The PSR concluded in its 2016 market review that CIS could be tendered through competition for the market.[156] The CMA's review focused on ensuring that this would remain possible post-merger.

LINK told us that Vocalink had 'monopoly features' and expressed scepticism about the usefulness of competition for CIS provision in this segment.[157] Industry stakeholders told us that entrants into the provision of cash infrastructure services would need to implement a new network that complied with LINK's security and service level requirements as well as interoperability and "system credibility" standards.[158] We have also encountered a high degree of conservatism by current payment systems participants, who suggested to us that high barriers to entry in CIS provision, including the ability by the Bank of England to veto any bidder, were necessary due to the "critical national infrastructure" nature of CIS. As one of the stakeholders, Post Office, put it:

> *"the PSR had underestimated the cost of switching to another provider than Vocalink for operators such as the Post Office and the systemic risk that this would pose. The benefits would need to be considerable for them to exceed the adjustment costs and warrant the risk that such a disruption would involve. Moreover, there was a significant business risk in focusing overly on the cost of Vocalink services rather than the effective and stable delivery of service that would have been put in jeopardy."*[159]

Mastercard told us that "the pool of potential purchasers was limited to those with experience of running payment services, and therefore any alternative purchaser would likely raise potential competition concerns."[160]

The CMA proposed three remedies to meet its horizontal concerns over the provision of CIS to LINK (ToH 1). We found that all three remedies were equally valuable for vertical concerns (ToH 4). Indeed, we consider that ToH 1, competition for the provision of CIS to LINK, and ToH 4, ability and incentive to degrade Vocalink's service to LINK which competes with Mastercard for ATM services, are different sides of the same coin. Both ToHs rely on the fact that both Mastercard and LINK were providing ATM services. In the horizontal setting (ToH 1), this was explicitly recognised and led to a finding of an SLC. In the vertical setting (ToH 4), it was not explicitly recognised and did not lead to an SLC finding, yet, the theory depended equally crucially on the horizontal competition between Mastercard and LINK for the provision of ATM services downstream. Mastercard's only incentive to degrade its services to LINK was that LINK was its competitor.

In our view, the divestment of the LIS5 protocol to LINK was the most valuable of the CMA's remedies, as it avoided a potential hold-up that could have arisen had Vocalink remained in charge of this important part of the bottleneck. LINK told us that this remedy was well judged and levelled the field in its negotiation with the merged entity.[161] However, the PSR considered that the LINK messaging standard did

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[156] PSR, 2016, Market review into the ownership and competitiveness of infrastructure provision – MR15/2.3 (last accessed 7 March 2022).

[157] LINK, Interview, 18 November 2021.

[158] In fact, an established network is likely to be extremely difficult to replicate in direct competition, as customers are likely to prefer the larger network (Cruickshank, D. (2000), "Competition in UK Banking: A report to the Chancellor of the Exchequer").

[159] Post Office, Interview, 14 December 2021.

[160] Mastercard, Interview, 24 January 2022.

[161] LINK, Interview, 18 November 2021. It is unclear whether the high level of regulation in the cash payment rail has made the CMA's remedies more effective. While LINK was satisfied with the remedies, they were concerned about the PSR's emphasis on competition in the provision of CIS to payment systems (Interview with LINK).

not represent a high barrier to entry because the cost that a new provider would incur to use the standard was not significant when compared with other relevant costs and fees.[162]

The creation of a Switching Fund was also useful as it attempted to address Vocalink's incumbency advantages in the provision of CIS for ATMs. To determine the required contribution by the merged entity to a Switching Fund, the CMA estimated the actual cost of switching. It considered that the switching cost to a CIS provider other than Vocalink, Mastercard or Visa seemed high, at approximately £[…] in total.[163]

7.2.2 Input foreclosure in A2A payment services (ToH 5 and 6)

The CMA considered that, as an infrastructure provider for FPS, the merged entity could have an incentive to foreclose FPS users that compete with Mastercard for the provision of payment services to customers. This could occur either through Mastercard degrading Vocalink's services or through increasing their cost (ToH 5), or by preventing competitors' innovations in FPS and BACS (ToH 6). Similarly, the merged entity may have an incentive to reduce or prevent innovation in payment methods relying on FPS and BACS.

In our view, the CMA was right to decide that card payments and A2A payments could compete (and indeed were to a degree competing already). However, it did not posit this clearly enough in its ToHs. Both its vertical concerns (ToHs 5 and 6 regarding future input foreclosure) and horizontal concerns (ToH 3 regarding potential competition between Mastercard and Vocalink-dependent Pay By Bank) dealt only partially with the primary question: whether, by acquiring a key component (Vocalink's CIS) in the provision of the main service that had the potential to compete with card payments (A2A payments), Mastercard might be eliminating (or at the very least managing) future competition in the payment markets.

First, the CMA considered that only debit card payments truly competed with A2A payments. Mastercard only had a small share of debit cards at the time of the merger (3%).[164] The CMA concluded that this made foreclosure through damaging of Vocalink's service (ToH 5) unlikely to be profitable as customers using A2A payments would divert to Visa (97% of debit cards), rather than Mastercard.[165] That was not a safe conclusion because the market is a bidding market with periodic negotiations, which means that market shares at any particular point can change relatively quickly. The PSR, predicts that Mastercard's debit card share will increase to around 30% by 2024 and is close to that number already.[166]

The CMA placed significant weight on this evidence in combination with an assumed separation of the debit and credit card market. That separation also required further testing. Contemporaneous evidence suggests that only little over a half of credit card users use credit cards to accrue a credit bearing balance, the rest paying their balance off in full.[167] […].[168] These trends continue to develop and strengthen[169] but

[162] PSR, 2016, Market review into the ownership and competitiveness of infrastructure provision – MR15/2.3 (last accessed 7 March 2022), paragraph 4.240.

[163] CMA's confidential internal evidence […].

[164] See UK Finance, 2018, UK Card Payments (last accessed 7 March 2022), page 5. The figure, although publicly available, was excised from the CMA decision at the time.

[165] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Confidential Final Report, paragraph 222.

[166] PSR, 2021, Our proposed PSR Strategy (last accessed 7 March 2022), figure 3.

[167] UK Finance, 2018, UK Card Payments, (last accessed 29 March 2022).

[168] […].

[169] UK Finance, 2021, Card Spending Update for December 2021, (last accessed 29 March 2022).

were already fully present at the time of the merger.[170] It would seem to us that the degree of substitutability between credit and debit cards is (and has for some time been) high for the large proportions of customers who do not seek credit just payment.

Secondly, the CMA also appeared to see competition from A2A payments to cards as still very much uncertain and emerging, and not established enough to support a finding of an SLC. We note that one payment provider, PayPal, was at the time of the merger already using both payment rails interchangeably. We also note that a "large number of third parties" indicated to the CMA at the time of the merger that such competition either existed or would emerge in the future.[171] There were also indications at the time of the CMA's analysis that Mastercard was pivoting towards a different, multi-rail, multi-service business model.[172] However, it is also true that A2A services were (and still are) in their infancy at the point of sale. Together these indications could have prompted the CMA to explore this issue further.

Finding potential competition concerns also depended on Vocalink's incumbency in the provision of CIS. If Vocalink's provision of CIS to FPS (BACS, Instant Payments and any other future payment scheme) were replaceable, then Mastercard's acquisition of it would likely be benign. The CMA had evidence suggesting that Vocalink had a non-negligible degree of incumbency advantage. In particular, […].[173, 174] We understand that the CMA took comfort from the contemporaneous regulatory changes in the market. We would nonetheless recommend that the CMA weighs such evidence which is by definition prospective and uncertain in outcome more carefully against the other evidence available to it.

Overall, we consider that in this case the CMA set itself a high bar for a finding of potential competition concern. We suggest that the CMA should have given itself more time to consider these issues in an in-depth Phase 2 investigation.

7.3 Assessment of the market outcome

In this section, we will consider the potential effects of the merger. Firstly, we outline general market developments in payment systems in the UK. Secondly, we discuss the market outcomes relating to each ToH separately.

As a caveat, it should be noted that a robust identification strategy would be necessary to pinpoint which market developments specifically were prompted by the merger. This is an econometric challenge even in cases where reliable data is plentiful. The merger between Mastercard and Vocalink is one of many

[170] UK Finance, 2018, UK Card Payments, (last accessed 29 March 2022).

[171] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Final Report, paragraph 111.

[172] For instance, Mastercard's 2017 financial statement states that: "Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known and trusted brands, including Mastercard®, Maestro® and Cirrus®. We operate a multi-rail payments network that provides choice and flexibility for consumers and merchants."

[173] […].

[174] […].

events in a dynamic market that is characterised by ongoing regulatory processes and steady innovation. The following assessments are therefore not to be taken as necessarily resulting from the merger.

7.3.1 General market trends

Cash usage in the UK is in decline, while digital payments are on the rise, accompanied by increasing consumer uptake of payments via smartphones and apps. The Covid-19 pandemic accelerated this trend, allowing further innovation in "overlay services" (which rely on existing payment rails and add a new service on top).[175] This generally takes one of two forms: (1) convenience such as Apple Pay, Google Pay, PayPal, and (2) credit provision such as Klarna or PayPal.

A2A payment services have developed in two distinct ways. Wholesale A2A payments, such as tax and wage payments, have enjoyed strong growth with the payment scheme Pay.UK.[176] However, A2A services at the retail level have not developed in a similar fashion. […].[177, 178] These services were considered nascent at the time of the merger and remain so now. […].[179]

The post-merger phase also coincided with a period of increased competition between Mastercard and Visa in card payments. Mastercard's market share of debit card transactions by volume have increased to around 30%, compared to 3% at the time of the merger. The increasing use of online payment services and payment wallets, coupled with many customers using credit cards in the same way as debit cards (for everyday transactions, rather than as a credit product),[180] intensified head to head competition between Mastercard and Visa.

Since the merger, technological innovations have been accompanied by further regulatory developments that have changed the market environment: Payment operators of BACS, FPS and Cheque & Credit ("C&CCC") consolidated into a single operator in 2017.[181] This change was anticipated at the time of the merger and was considered by the CMA. Further, the UK has accelerated the introduction of the second Payment Services Directive ("PSD2") between 2016 and 2018 as part of an initiative to open up payment markets to new entrants (Open Banking initiative).[182] The stakeholders we have spoken to suggested that Open Banking had been supercharged by the CMA's Retail Banking Investigation Order (2017) which they saw as responsible for increasing competition and enabling new services in banking.

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[175] However, some vulnerable consumers still remain dependent on cash, making this a policy issue. LINK provides a diminishing but still extensive network of free of charge ATMs. This access comes at a cost. Mastercard and Visa, who are alternative providers of cash infrastructure and services, are able to offer better rates to banks because they do not provide a free of charge ATM network. The decline in ATM numbers provides a boost to the Post Office, which is adapting its business model to handle more cash and provide other counter services. This development is transitional, as eventually the Post Office is likely to be affected by the disappearance of cash as well, and will have to evolve its business model again.

[176] In fact, UK Finance estimates that the number of businesses using this payment method has increased to the point where over four out of ten businesses-to-business payments were made via FPS and other remote banking in 2020. UK Finance, 2021, UK Payment Markets Summary 2021 (last accessed 7 March 2022).

[177] […].

[178] […].

[179] […].

[180] UK Finance, 2021, Card Spending Update for December 2021, (last accessed 29 March 2022).

[181] CMA, 2017, BACS / FPS / C&CCC Merger Inquiry – Final Report, (last accessed 7 March 2022).

[182] UK Finance, Payment services directive 2 and open banking, (last accessed 7 March 2022).

With the advent of overlay services and the embedding of Open Banking, it is not clear that the separation between payment rails can safely be made anymore. The existence of competition between the card-payment rail and the A2A payments rail was confirmed to us by […].[183]

PayPal told us:

> *"It is important for PayPal to give consumers the choice between different payment rails and it does not promote any payment rail over the other to its users. Customers have at all times the option to choose their default payment method."*[184]

This view is not shared by Mastercard who told us that "payment rails are not substitutes for payment methods".[185]

The acquisition of iZettle by PayPal in 2018, shortly after the Mastercard/Vocalink deal, also dealt with the issue of inter-rail competition. iZettle provides payment services which allow merchants to accept card payments or QR code payments from end-customers. In this case, the CMA concluded that A2A payments (as well as the other payment forms considered) would not be sufficiently timely to materialise and effective to constrain card payments.[186]

This finding was in contrast with the overall intuition by the CMA that the market was evolving and that there was a risk that transactions may eliminate potential competition:

> *"An emerging trend in the payments services industry is the supply of omni-channel payment services, which in its most basic form is an integrated online and offline payment service. This market is in an embryonic state, but the competitive landscape is changing, and it is expected to develop over time through a combination of organic growth and acquisitions/partnerships by current and potential providers. It is important that when assessing such transactions, there is a thorough investigation of the rationale, including the valuation of a target provider, to ensure that the transaction is not a veiled attempted to remove a potentially strong competitor from the market."* [187]

The CMA also conclude that *"[…] where a forward-looking assessment of the markets at issue is particularly important, the CMA has sought to gather evidence providing insight into likely competitive conditions over several years."*[188]

It appears that the CMA was more aware of the potential vertical competitive effects in its assessment of PayPal/iZettle than in its assessment of Mastercard/Vocalink, although its conclusions were the same in both cases and the CMA cleared both transactions. It seems that the stumbling block in CMA's analysis was the relatively long time horizon required for competition to emerge and the degree of certainty with which the CMA would be able to make such judgments at the time of the merger as well as the fear of second guessing how the market may develop. These are understandable concerns. A number of stakeholders from the payment industry told us that it took decades for Mastercard, Visa and Vocalink to develop their respective networks and for Mastercard and Visa to develop their service offer and that any

[183] […].

[184] PayPal, Interview, 15 December 2022.

[185] Mastercard, Interview, 24 January 2022.

[186] *Op. cit.*, paragraph 11.1.

[187] CMA, 2019, Paypal / iZettle Merger Inquiry – Final report, paragraph 5.3.

[188] CMA, 2019, Paypal / iZettle Merger Inquiry – Final report, paragraph 5.9.

challenger might require time to test the market and gain critical mass. Such decisions are therefore likely to continue to be uncomfortable for the CMA to make.

7.3.2 Impact of the merger on the ATM market

Within the cash payment rail, LINK has held a procurement process for the supply of CIS. Vocalink was ultimately reappointed[189], […][190] LINK and its members have been satisfied with […] the level of service provided by Vocalink post-merger.

LINK indicated that although many stakeholders did not believe Vocalink was at real risk of being replaced by another provider, the Network Access Remedy and the Switching Fund Remedy gave reassurance that the risks and costs associated with a potential change of supplier could be mitigated to some extent. It felt the LIS5 Remedy was particularly good; transferring the property rights allowed LINK to keep an essential part of Vocalink's infrastructure. Further, given that all essential parts of the infrastructure are complements, the remedy prevented the merged entity from gaining bargaining power over LINK.[191]

Another stakeholder concern which the CMA successfully addressed in its decision was that Vocalink's ownership of LIS5 would allow the merged entity to prevent innovation and degrade maintenance levels within LINK.[192] The LIS5 Remedy was also perceived to be a good remedy for addressing partial input foreclosure. For example, LINK noted that Vocalink had not allowed its service to deteriorate post-merger.[193]

The outcome of the CMA assessment and its remedies (for ToH 4) are therefore generally considered to be good.

7.3.3 Impact of the merger on FPS and BACS

The stakeholders interviewed did not witness any increase in cost or degradation in the services provided by Vocalink, or underinvestment by Vocalink in the relevant infrastructure. On the contrary, […].[194]

Some stakeholders also suggested that Vocalink needed an experienced owner like Mastercard to make the most of A2A payments. It is also important to recognise that A2A payments were and still are a limited alternative to cards in online payments.

Mastercard told us that it did not consider Vocalink to have the ability to influence competition in A2A payment scheme services, since these services were provided by Pay.UK, an independent scheme operator.[195] We agree that this proposition needed to be tested, as the degree to which the merger might have been anticompetitive depended on the ability of Vocalink to influence the A2A market.

[189] Vocalink, 2019, Vocalink and LINK extend partnership until 2031, (last accessed 7 March 2022).

[190] LINK, Interview, 18 November 2021; PSR, Interviews, 17 and 26 November 2021.

[191] LINK, Interview, 18 November 2021.

[192] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Final Report, paragraph 247.

[193] LINK, Interview, 18 November 2021.

[194] […].

[195] Mastercard, Interview, 24 January 2022.

The main question for us is whether the CMA considered the right counterfactual when assessing this merger. We consider that, at the time of the merger, some overlay services providers were already using card and A2A services as *a priori* interchangeable inputs suggesting to us that competition between payment rails was a distinct possibility. Independent ownership of the key infrastructure provider for A2A services with ambition to enter the provision of retail payments might have meant that Mastercard would have faced a stronger competitive constraint absent the merger. In our view, this issue needed a more careful examination in a Phase 2 review.

Based on our industry interviews, the CMA might have underestimated the degree of Vocalink's incumbency and that it might be harder for its CIS competitors to dislodge it than the CMA concluded. In the A2A segment, […].[196]

7.3.4 Impact of the merger on the card market

We also assessed the impact of the merger on the card market. This was investigated by the CMA under a horizontal ToH 3. We found that ToH 3 interacted closely with vertical ToH 5 and ToH 6; all three refer to a changed competitive dynamic within a wider market and most of the evidence overlaps. ToH 3 addresses the unilateral effects of loss of potential competition between Pay By Bank and Mastercard, thereby affecting the card market segment.

While Pay By Bank did not have a significant market uptake at the time of the merger, in our view the CMA has not taken sufficient account of the possibility that Pay By Bank was a manifestation of a 'competing payment rail' with Mastercard's card services and may have been on the brink of being enabled by Open Banking.

That said, one industry stakeholder expressed the view that Mastercard's incentives were aligned with the development of Pay By Bank, as it would allow the company to better compete against Visa in real-time customer-to-merchant payments. This seems to be confirmed by industry commentators, who suggested, shortly after the merger, that Mastercard saw Pay By Bank as a way to grow in the debit transaction market.[197]

We find the CMA's focus on Pay By Bank specifically, rather than on emerging inter-rail competition more generally, was understandable given that it was being acquired by Mastercard, but also possibly misguided. While one concrete service may or may not have succeeded, the key question was whether a new class of services using A2A was to emerge and who was going to control it.

7.4 Our findings

The clearance of the merger was not, *prima facie*, problematic. None of the stakeholders we have spoken to considered the merger detrimental. They observed that Vocalink had continued investing in its infrastructure and providing high quality service. LINK was satisfied with the remedies the CMA devised for the cash payment rail, in particular the transfer of LIS5 messaging. LINK obtained a good offer for CIS from Vocalink following the tender process for cash payment infrastructure services. LINK and Mastercard

[196] […].

[197] Finextra, 2018, Mastercard enlists Worldpay to push Vocalink's Pay by Bank app (last accessed 7 March 2022).

appear to agree that Vocalink has to provide the same or better service under the new agreement. We further understand from LINK that […].

The merger appears to have coincided with intensification of competition between Mastercard and Visa for the provision of debit cards (where Visa has historically been strong, but not Mastercard). Industry stakeholders also preferred Mastercard to an independent owner, in particular a private equity owner, even if the cost of this were to be some lessening of competition. Based on the evidence we have seen in the CMA documents from the time of the merger, the most likely alternative purchaser of Vocalink was indeed a private equity fund.[198]

Still, with the benefit of hindsight, several things could have been done differently. Both the CMA and the PSR may have underestimated the role of inter-system competition: At the time of the merger, PayPal already used both card and A2A payment rails interchangeably.[199] Similarly, […].[200] Contemporaneous industry evidence also suggested evolution in Mastercard's business model.[201]

In considering future competition, the CMA focused on the role of a pure play A2A service, Pay By Bank, which was in its infancy at the time. The CMA concluded that Pay By Bank had been nascent for a long time, and so was not likely to be a major competitive threat to the card providers. At present, […]. We note that successful platforms may take time to emerge. The CMA may want to incorporate a rigorous assessment of the time requirement for a platform to get established in its competitive assessment.

The CMA considered the market shares in the debit card market to be more stable than they proved to be. This was a difficult issue to judge, since retail banks do not review their debit card providers very regularly (we have been told this was done broadly on a 5-yearly basis). That said, it was known that competitive interaction in the market was based on competition *for* the market rather than *in* the market.

The CMA (and the PSR) may have underestimated switching costs from Vocalink to another CIS (for both cash and digital payments), and reciprocally overestimated ease of entry for competing CIS providers. The CMA review may have given too much importance to the technical feasibility of entry, rather than the need to offer a trusted and resilient network which "cannot fail".

We believe that this might be due to the calibration of the CMA's SLC testing in this case. For entry into and switching of CIS, the "possible" and the "likely" appear to have been conflated. Conversely, the testing of possible exclusionary behaviour was very robust with scepticism applied every step of the way. In our view, this made the CMA's overall SLC assessment somewhat imbalanced. The CMA might want to consider whether this imbalance is a more general feature of its SLC testing, particularly in light of the legal challenges it faces; findings of exclusionary effects are more likely to be subject to a legal challenge than findings of ease of entry and switching. We note that the testing of the "entry" of Pay By Bank into the payment market (which in this case fell on the SLC side of the testing, as it would have created a horizontal concern), was treated with a scepticism similar to that regarding exclusionary behaviour.

[198] CMA, 2017, MasterCard / VocaLink Merger Inquiry – Final Report, paragraph 50.

[199] The Economist, 2007, A battle at the checkout (last accessed 7 March 2022).

[200] […].

[201] The desire to shift away from credit cards and to offer a broader range of services has been illustrated by contemporary commentary that calls the merger a "deeper and sustained shift" from the use of cash and cheques as well as a diversification of payment business. Finextra, 2016, MasterCard mulls £1 billion takeover of VocaLink – Skynews (last accessed 7 March 2022) and FinTech Futures, 2017, Mastercard's $920m acquisition of VocaLink officially closes (last accessed 7 March 2022).

Overall, we believe that a reference to Phase 2 would have been more appropriate than a clearance at Phase 1. However, we recognise that the market is complex, and the CMA did not receive major concerns either from industry stakeholders or the specialist regulator. We also recognise that the immediate effects of the merger appear to have been benign, or even positive. For us, the question that remains is whether the competition between digital payment rails would have been possible with three strong independent infrastructure providers (Visa, Mastercard, Vocalink), rather than just two (Visa and Mastercard/Vocalink).

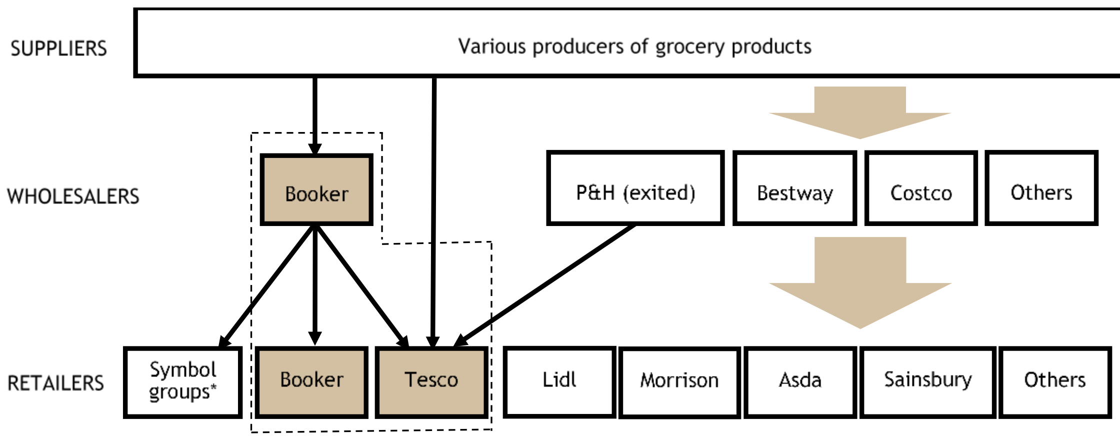
8 Tesco/Booker

8.1 Background

In 2017, Tesco plc ("Tesco") acquired Booker Group plc ("Booker"). Tesco was the UK's largest grocery retailer at the time of the merger, with 3,500 supermarkets and convenience stores.[202] Tesco accounted for an estimated 28% of the UK grocery retail market.[203] Booker was the UK's largest grocery wholesaler, accounting for an estimated 18% of the UK grocery wholesale market.[204] The company provided cash and carry wholesale services to retailers and caterers. Booker also owned the symbol group brands, Londis, Budgens, Premier and Family Shopper. Symbol group retailers are independent retailers that commit to minimum purchase requirements (and sometimes other conditions) in return for the use of a symbol brand. Overlaps between Tesco's and Booker's activities were mainly vertical, though Booker's ownership of some retail stores led to limited horizontal overlaps.[205]

Figure 9 describes the vertical chain for grocery supply in the UK. Wholesalers purchase grocery products from various suppliers and sell them onto retailers who resell these products to consumers. While some retailers are vertically integrated (such as Tesco), others rely more on third party wholesalers to source grocery products.

Figure 9: Industry and the merging parties - Tesco/Booker



Source: E.CA Economics based on the CMA Decision, research.

Note 1: Booker owns symbol brands for: Premier, Londis, Budgens and Family Shopper.

Note 2: Palmer and Harvey ("P&H") was Tesco's only third-party wholesaler pre-merger and P&H's revenue was "principally derived from Tesco".[206] Since CMA's provisional findings on Tesco/Booker, P&H had gone into administration and exited the market.[207]

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[202] Including some operated under the One Stop brand. See CMA, 2017 Tesco / Booker Merger Inquiry – Final Report, paragraph 4.

[203] CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 7.8.

[204] CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 8.54.

[205] Booker owned a small number of convenience and mid-sized stores. See CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 52.

[206] CMA, 2017. Tesco / Booker Merger Inquiry – Final Report, paragraph 7.123.

[207] *Op. cit.*, paragraph 7.5, Footnote 100.

The CMA launched its Phase 1 merger inquiry on 30 May 2017. Tesco and Booker requested a fast track referral to Phase 2 on 29 June 2017. The Phase 2 unconditional clearance decision was published on 20 December 2017.[208]

8.2 Assessment of the CMA's analysis

The CMA considered five ToHs in total of which three were vertical (ToH 2, ToH 3 and ToH 5). The CMA concluded that none of the ToH considered give rise to an SLC:[209]

- **Buyer power (ToH 1):** An increase in the buyer power of the merged entity vis-à-vis producers may benefit supply terms and lessen competition in the grocery wholesale market.

- **Wholesale to retail (Partial input foreclosure or "wholesale to retail" ToH 2):** The merged entity may increase wholesale prices (or reduce quality) to retailers in areas where the retail customers of Booker overlap with Tesco's retail stores in order to attract additional sales at the retail level.

- **Retail to wholesale (Partial downstream self-foreclosure or "retail to wholesale" ToH 3):** The merged entity may increase Tesco's retail prices (or reduce quality) in areas where Tesco's stores overlap with independent retail stores supplied by Booker in order to attract additional sales at the wholesale level.

- **Retail to retail (ToH 4):** This ToH assessed the effects of the limited horizontal overlap created by the merger at the retail level.

- **Customer foreclosure (ToH 5):** The CMA assessed the effect of Tesco potentially not using third party wholesalers in the future in order to privilege its new wholesale arm, Booker. This could weaken competition in the groceries wholesale market. P&H, the only wholesaler Tesco used pre-merger, had entered administration during CMA's proceedings.

Our review focuses on the vertical "wholesale to retail" concern (ToH 2) and the "retail to wholesale" concern (ToH 3). Due to P&H's exit from the market, the CMA did not consider customer foreclosure (ToH 5) in much detail in its Phase 2 decision. We agree with this. We considered the issue of buyer power (ToH 1) only to a limited extent. This is also because it no longer appears to be a CMA concern in the MAGs, which is a signal that in practice the CMA is rarely pursuing this kind of theory of harm.[210] We note, however, that increase in buyer power was likely a key reason for the merger, and a motivator for other similar transactions in the groceries sector. Finally, we did not review ToH 4, as it was horizontal in nature and only minor overlaps were identified.[211]

The following subsections will discuss each of the selected ToHs and the CMA's respective assessment. While sections 8.2.1 to 8.2.3 focus on conceptual topics, section 8.2.4 discusses some technical aspects of the vGUPPI analysis.

[208] *Ibid.*

[209] *Op. cit.*, paragraph 14.

[210] CMA, 2022, Merger Assessment Guidelines (last accessed 8 March 202), paragraph 4.20, page 32.

[211] CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 52-55.

8.2.1 Increase in buyer power (ToH 1)

As discussed above, we did not consider the post-merger increase in buyer power, ToH 1, in as much detail as ToH 2 and ToH 3. However, this ToH raises a couple of interesting points. We also note the case team's interest in understanding the impact of its analysis in this area.

First, we found that increase in buyer power through the achievement of greater scale was a key motivator, both for the merger, and other similar mergers (vertical and horizontal). This is apparent both from Tesco's stated rationale for the transaction, and from its public statements at the time[212]. It was also the rationale expressed in other similar mergers (Coop/Nisa[213], Costcutter/Bestway[214], etc.), and in our discussions with industry stakeholders. All stakeholders told us that scale was important for competitiveness and that all companies desired to obtain it.[215]

This is not the only case we reviewed where we found that one ToH might indeed be the rationale for the merger (see the discussion of Heineken/Punch). Increase in buyer power is however not in itself necessarily anticompetitive, as strong retail competition may drive strong competition upstream and therefore the need for scale by wholesalers and self-wholesaling retailers. Improved procurement terms may be then be passed down to end consumers.

Second, we think the buyer power theory demonstrates the ambiguity between horizontal and vertical effects. Tesco is widely seen by stakeholders as having a strong buying position. This buying position is upstream with suppliers of products to Tesco, whereby Tesco effectively circumvents the wholesale link in the chain by buying directly from suppliers. But Tesco's primary market is grocery retailing where its strong competitiveness is ultimately felt by its rivals. The effects on the wholesale market (vertical) are therefore derived from the primary competitive interaction in the retail market (horizontal). The rigid delineation of horizontal and vertical effects might therefore lead the CMA to assess two effects where in fact there is only one effect manifesting in different dimensions.

Finally, while we found that in grocery retailing and wholesaling the search for scale was primarily driven by a strong degree of competition at both levels (and the interconnection between them), its impact might be felt by suppliers at the top of the chain. We saw the change of the MAGs as a signal that the CMA is in practice rarely pursuing this kind of theory of harm. Nonetheless, there remains a CMA-initiated mechanism, Groceries Supply Code of Practice ("GSCOP") which regulates the impact of buyer power on upstream suppliers. We note that Tesco voluntarily extended the application of GSCOP to the Booker business following the merger.[216]

We note that the buyer power based ToH appears to have been most vocally championed by wholesalers, who are direct competitors of the parties, rather than ultimate suppliers.[217] We think that this ToH would have been hard for the CMA to ultimately evidence with regards to its impact on consumers. The CMA might instead (or in addition) have pursued a version of a "customer foreclosure" theory with respect to upstream suppliers whereby the merged entity might engage in partial foreclosure of upstream suppliers

[212] Tesco mentioned that its "proposed merger with Booker unlocks new growth and creates new volume". Tesco, 2017, AGM Presentation, page 28.

[213] CMA, 2018, Co-operative Group / Nisa Retail Merger Inquiry – Final Report.

[214] Convenience Store, 2021, Bestway completes Costcutter Acquisition (last accessed 22 March 2022).

[215] […], an integrated retailer and wholesaler, Interview, 22 February 2022; […], an integrated retailer and wholesaler, Questionnaire, 18 January 2022 and a […], a stakeholder in the wholesale space, Interview, 23 February 2022.

[216] The Grocer, 2017, Groceries Adjudicator calls on Booker to be signed up to GSCOP (last accessed 10 March 2022).

[217] CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 8.22.

based on its importance as a 'route to market' for those suppliers. However, we do not think that such a ToH would have ultimately been successful given the relative market shares of the parties. Unfortunately, we did not have sufficient data to pursue this analysis empirically.

8.2.2 Wholesale to retail – Partial input foreclosure (ToH 2)

The CMA investigated the possibility that the merged entity might increase its wholesale prices (or otherwise worsen its wholesale offer) in areas where its retail customers compete with Tesco stores. Lost sales upstream may then be offset by increased sales downstream. The CMA investigated such input foreclosure on both a national and local level and tested the merged entity's ability and incentive to foreclose rivals.

The CMA determined that it is unlikely that the merged entity could carry out a foreclosure strategy nationally.[218] The CMA concluded that, with the parties' market shares (Booker had 18% of the wholesale market, Tesco 28% of the retail market), too much diversion would be recaptured by other parties: retailers could switch to alternative wholesalers and recoupment downstream would be unlikely due to downstream retail competition. We found nothing to contradict this conclusion.

With respect to **local foreclosure**, the CMA considered the ability and incentive to foreclose in parallel. The CMA investigated the merged entity's ability to flex its wholesale offer at a local level and found that the merged entity had, a priori, the "technical ability" to do so.[219] The CMA also found that one other wholesaler, […], varied some aspects of the wholesale offer locally or even individually.[220] The parties put forward analysis showing […].[221] The CMA did not accept this as sufficient evidence.[222] Stakeholders interviewed by the CMA suggested that local flexing at the wholesale level was an exception and would immediately become apparent to price sensitive retail customers.[223] The CMA ultimately concluded that competitive parameters were set "almost exclusively" on a national level and did not find evidence that the current (limited) price variation was driven by local conditions of competition.[224] We found the evidence at the CMA's disposal convincing and agreed with the conclusion.

The CMA investigated the incentive to foreclose rivals locally using the vGUPPI analysis (see details in section 8.2.4 below). The CMA ran this analysis in parallel with its assessment of the parties' ability to foreclose. We understand why the CMA may need to proceed in this way in the course of an investigation when the time is short. We would note, however, that there remains a hierarchy in the SLC testing, whereby once ability is proven not to be present, incentives become irrelevant. While such a strict hierarchy may not be practical with new evidence coming in as a constant flow, the initial use of simplified screens for incentives (such as critical diversion ratios) may be useful. Given the extensiveness of the vGUPPI analysis and resources required, we would recommend engaging in a detailed local assessment only after an initial view has been formed based on ability and simplified incentive screens. Especially where there are early signs that (as we believe to be the case here) ability is not present, as resources may then be freed up for other workstreams.

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[218] *Op. cit.*, paragraph 9.15.

[219] *Op. cit.*, paragraph 9.37.

[220] *Op. cit.*, paragraph 9.26.

[221] […].

[222] CMA, 2017, Tesco / Booker Merger Inquiry – Final Report, paragraph 9.27.

[223] CMA, Tesco / Booker Merger Inquiry - Summary of interviews with third party wholesalers, paragraphs 21 – 22.

[224] CMA, 2017 Tesco / Booker Merger Inquiry – Final Report, paragraphs 9.22, 9.29 and 9.37.

The partial conflation of the three-pronged analysis of ability (first), incentive (second) and effects (third) leads to a lack of clear separation between these consecutive steps and a loss of clarity in the presentation of ideas and the argument put forward. Assessing elements of ability jointly with incentive may lead to some efficiencies, but also bears the risk of both assessments failing in case of an ill-judged technical assumption thereby impacting on both analyses. We found similar issues in other cases (most notably in the Mastercard/VocaLink case). We thought this ran the danger of undermining the CMA's case and, in the case of a prohibition decision, might strengthen grounds for appeal.

8.2.3 Retail to wholesale (ToH 3)

The CMA also investigated whether the merged entity might raise its retail prices (or worsen its retail offer), sacrificing retail sales in local areas where its retail stores overlapped with competing retail stores supplied by its wholesale arm. Some of the lost sales downstream might then be recaptured upstream in boosted wholesale sales to competing retailers.

This ToH does not fit in either the standard input or customer foreclosure categories comfortably as ultimately no competitor is foreclosed. It could at best be interpreted as "partial self-foreclosure" which in fact results in increased sales for competing outlets. The ToH rather provides the merged entity with an incentive to compete less aggressively downstream because of recapture through the wholesale arm.

We understand that the CMA wanted to understand all the possible effects of the merger, and that the coming together of a wholesaler and retailer provided new opportunities for recapture of sales and joint profit maximisation. Still, we thought it would have made more sense to consider this as a horizontal issue with a vertical recapture mechanism: following the merger, Tesco will be less constrained by the symbol groups supplied by Booker as it will recapture a portion of any diversion to them through increased upstream sales to Booker.

ToH 3 is a valid theoretical concern: at the margin, Tesco will have an incentive to raise retail prices if parts of the loss in sales are recaptured upstream by Booker.[225] The question is whether ToH 3 is also a likely concern in practice. In practice, ToH 3 depends on a "double diversion" assumption. First, the merged entity needs to recapture a sufficient volume of sales locally via Booker-supplied stores. Second, the merged entity needs to recapture a sufficient proportion of the sales diverted downstream through additional sales upstream. The CMA's entry and exit analysis did not discover Booker-supplied stores as particularly strong competitors to Tesco.[226] The dependence of Booker-supplied stores on Booker ranges from […] to […] of their purchases.[227] Taking this evidence together, we consider the CMA may not have needed to conduct a detailed vGUPPI analysis to discard this ToH.

In contrast to ToH 2, ToH 3 does not depend on the merged entity's ability to flex its wholesale offer locally (which was incidentally demonstrated by the CMA to be unlikely), but rather on the ability to flex the retail offer locally. The CMA found that Tesco's competitive offering was mostly determined nationally,[228] with only limited evidence of Tesco varying its local offer to respond to local competitive conditions.[229] Even if Tesco were to vary its local retail offer in an effort to exploit ToH 3, this would require a significant amount of granular, product-specific data. Tesco would need to estimate the share

[225] This follows from the theory of profit maximisation.

[226] CMA, 2017 Tesco / Booker Merger Inquiry – Final Report, paragraphs 7.26-7.27.

[227] […].

[228] CMA, 2017 Tesco / Booker Merger Inquiry – Final Report, paragraph 10.8.

[229] *Op. cit.*, paragraph 10.12.

of lost sales recaptured upstream via Booker. This is possible in theory, but hard in practice, since it will be different for each and every Tesco store, and potentially vary from product to product. Moreover, since we expect the overall profit-increasing potential of ToH 3 to be small, Tesco's estimate would need to be rather precise, which would make it very costly, and so unlikely to be profitable.

The CMA ultimately concluded that this ToH (expressed as a vertical concern) was unlikely to be implemented, as it would likely lead to a reduced profitability.[230] We agree with this assessment.

8.2.4 The vGUPPI analysis

The CMA assessed the merged entity's incentive to engage in foreclosure at a local level using the vGUPPI analysis. The vGUPPI analysis is based on Moresi and Salop (2012) (hereafter "the Moresi Salop paper").[231] The section below discusses this analysis. We focus mainly on the "wholesale to retail" ToH 2 which we consider the more plausible and inherently vertical ToH. As discussed above, we consider ToH 3 to be a horizontal concern with a vertical recapture mechanism, and unlikely to occur in this case.

The CMA's vGUPPI analysis had many components, including entry and exit analysis, to assess competitive constraints posed by different stores. We found the work to be both well laid-out and meticulously carried out. We found no errors in the technical analysis. We discuss a number of areas where we think the analysis could be improved below.

8.2.4.1 Choosing the right vGUPPI

The Moresi Salop paper focuses on input foreclosure, and discusses the advantages of the vGUPPI, proposing a number of permutations based on the exact market setting. The CMA and the parties used the paper as the source of its vGUPPI analysis, and worked with adaptations of some of the paper's equations. These are examined below.

Wholesale to Retail vGUPPI (ToH 2):

$$vGUPPI_{Booker\ Wholesale\ to\ Tesco} = \left(DR_{Booker\ Supplied\ to\ Tesco} * \alpha_{BS} * \frac{P_{BW}}{P_{BS}} * \frac{m_{BW}}{m_{BS}} * m_t * \frac{P_T}{P_{BW}}\right) * \gamma_{BS}^{BW}$$

Where:

$DR_{BS\ to\ T}$ is the diversion ratio from Booker-supplied retailer to Tesco store;

α_{BS} is the Booker-supplied retailer's pass-through rate;

$\frac{P_{BW}}{P_{BS}}$ is the ratio of Booker's wholesale price and Booker-supplied retailer's price;

$\frac{m_{BW}}{m_{BS}}$ is the ratio of Booker's wholesale margin to Booker-supplied retail margin;

[230] *Op. cit.*, paragraph 10.23.

[231] Moresi, Serge and Salop, Steven C., 2012, vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers, Antitrust Law Journal, Vol. 79, pages 185-214.

m_t is Tesco's retail margin;

$\frac{P_T}{P_{BW}}$ is the ratio of Tesco's retail price to Booker wholesale's price; and

γ_{BS}^{BW} is the share of purchases a Booker-supplied store makes from Booker.

This formula, as described in Adlard and Foster (2018),[232] is equivalent to equation A8 in the Moresi Salop paper[233] but for the addition of the share of purchases (or "share of wallet") parameter. The CMA added at a later stage to reflect the fact that Booker was not the sole supplier of the independent retailers who would be partially foreclosed under this ToH.[234]

In our view, the choice of the formula is appropriate while the additional application of the share of wallet parameter for the incentive analysis is not: Incentives on the wholesale level are already captured by the formula without this addition. However, the parameter may be useful to gauge the effects of any foreclosure on customers, as it reflects the share of the retail offer that is affected by the foreclosure.[235]

Retail to Wholesale vGUPPI (ToH 3):

$$vGUPPI_{Tesco\ to\ Booker\ Supplied} = DR_{Tesco\ to\ Booker\ Supplied} * \gamma_{BS}^{BW} * \frac{P_{BW}}{P_T} * m_{BW}$$

Where:

$DR_{Tesco\ to\ Booker\ Supplied}$ is the diversion ratio from Tesco to Booker-supplied stores;

γ_{BS}^{BW} is the share of purchases a Booker-supplied store makes from Booker;

$\frac{P_{BW}}{P_T}$ is the ratio of Booker's wholesale price to Tesco's retail price; and

m_{BW} is Booker's wholesale margin.

This formula can again be found in the Moresi Salop paper but for the share of purchases (or "share of wallet") parameter.[236] However, while not shown explicitly within the formula, the share of wallet is needed to capture the combined effect of horizontal diversion (diversion from Tesco to Booker-supplied stores) and the further requirement for upstream recapture (the share that Booker may hope to capture upstream from additional sales by Booker-supplied and other stores). This step is discussed within the Moresi Salop paper by means of an example.[237]

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[232] Adlard, J. and Foster, D., 2018, Post-merger incentives in retail-to-wholesale mergers, page 14.

[233] An Appendix that describes the formal economic model underlying the vGUPPIs and provides technical details for several formulas is available as a stand-alone paper. See Moresi, Serge and Salop, Steven C., Appendix, equation A8, page 8.

[234] CMA, 2017, Tesco / Booker Merger Inquiry - Appendices and Glossary, Appendix C, paragraph 8, and Adlard, J. and Foster, D., 2018, Post-merger incentives in retail-to-wholesale mergers, page 19.

[235] We note that the CMA draws this distinction in CMA, 2017, Tesco / Booker Merger Inquiry - Appendices and Glossary, Annex to Appendix C.

[236] Moresi, Serge and Salop, Steven C., 2012, vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers, Antitrust Law Journal, Vol. 79, No. 12-022, equation 3, page 197.

[237] *Op. cit.*, example 3, page 198.

More generally, the share of wallet in this case reflects the fact that Booker was not the sole supplier of the independent retailers through whom the merged entity would recapture the sales lost through Tesco increasing its retail price (or worsening retail offer). In this essentially horizontal ToH, with vertical recapture, the share of wallet helps to approximate a diversion ratio which is not just reflecting the losses Tesco will make by sales not diverting in their entirety to Booker-supplied stores, but also Booker not being able to recapture all the sales from Booker-supplied stores, as it only supplies a portion of those stores' requirements.

8.2.4.2 Testing the results

The vGUPPI is a cousin of the horizontal GUPPI, and it therefore shares its benefits but also its drawbacks. This section will briefly highlight selected aspects of relevance for the case:

Margins

Margins are a key input into any merger analysis. They capture the value of the diverted sales to the post-merger firm. Using the Lerner condition, inverse margins also infer the wholesale price elasticity of demand.[238] The original GUPPI and vGUPPI formulae, as derived from first order conditions of profit maximisation, require the use of marginal costs. Since those are rarely available to parties and competition authorities alike, the CMA tends to use variable costs. In this case, the CMA calculated variable margins for the base case scenario and gross variable margins for a sensitivity analysis.[239]

This is not without consequences. There are likely to be different business models across the supply chain, with companies requiring different variable and gross margin levels to cover their fixed costs. In particular, Tesco's retail offer depends on many elements that stretch beyond the realm of short-term variable costs, and price setting will depend on covering costs in its retail offer, along with immediate demand. As a consumer facing business, Tesco may require greater fixed investment into stores to remain competitive than would be necessary at the wholesale level. Its variable margins might therefore be difficult to compare with the margins of a wholesale business.

This point of course applies more widely to the horizontal GUPPI where variable cost-based margins may overstate the merger's price effects in industries with large fixed costs. Some commentators drew attention to this when GUPPIs were first introduced[240], though this issue has not, to our knowledge, been seriously challenged in competition proceedings since. In the horizontal setting, choosing an industry appropriate GUPPI thresholds might be a solution. In this case, the CMA made a broad reference to past cases across industries.[241] Given that these industries may not be comparable, we would recommend that the CMA does not automatically compare across industries but considers evidence appropriate for each sector.

In the vertical setting, solutions to this problem are likely to be more complex. One option would be to consider carefully which costs are used to respond to competition at each segment of the industry, potentially including some fixed costs. Rigorous sensitivity testing might provide additional clarity as to

[238] CMA, 2017, Tesco / Booker Merger Inquiry - Appendices and Glossary, Appendix C, paragraph. 63 (b).

[239] *Op. cit.*, Appendix C, paragraph 75.

[240] RBB Economics, The Joint OFT/CC Commentary on Retail Mergers: FAQ, November, 2011, (last accessed 8. March 2022).

[241] CMA, 2017 Tesco / Booker Merger Inquiry – Final Report, Footnote 249.

how business structures may influence the results. However, these are likely to be only imperfect solutions.

The issue of measuring margins and consequent fallacies when using accounting data regarding merger enforcement have been raised *inter alia* by Padilla (2018), who pointed out that the application of GUPPIs does not make much sense when the merging companies are not close competitors and have low (horizontal) diversion ratios.[242] The concerns raised by Padilla regarding the use of relative margins have been shared by Valletti and Zenger (2018),[243] who urged caution around (vertical) GUPPIs. We would suggest that vGUPPIs may therefore always need to be used with an extra degree of caution and, if possible, as part of wider evidence.

Assumptions and averaging

While the local vGUPPI analysis aimed at establishing results in the local areas affected by the merger, we note that those results are based on a substantial number of averages and assumptions. For example, averaging of some variables occurs across different geographic areas as well as product categories. We do understand that the CMA may have been concerned about the robustness of any individual variable. However, we think extensive averaging may have removed useful information and could bias local results towards the mean, making it more difficult to identify critical areas of concern. It may have also made the results in any given local area somewhat artificial, and so less useful for potential divestment: While the results may have approximated the general extent of the competition concern, they would not have determined it with sufficient clarity in any given area. Had the CMA determined the merger to be problematic based on this evidence, it might have been vulnerable on appeal if factual local conditions deviated substantially from the modelled ones. However, without the results of a wider scale calibration exercise there is little additional insight we can offer on this.

We found the following examples of potentially excessive averaging:

- The use of a mixture of national and local margin data for Booker retail and wholesale[244], while there clearly is some margin variation on local level.[245]

- The variable “share of wallet” capturing Booker’s wallet share with supplied retailers is based on a default assumption (78% for symbol group retailers and 60% for independent retailers), with some adjustments for retailers that spent little with Booker.[246]

- Price ratios are derived from national price levels though they are likely to vary locally.

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[242] Padilla, J., 2018, Should Profit Margins Play a More Decisive Role in Horizontal Merger Control?, Journal of European Competition Law & Practice (9), pages 260-266.

[243] Valletti, T., Zenger, H., 2018, Should Profit Margins Play a More Decisive Role in Merger Control? – A Rejoinder to Jorge Padilla, Journal of European Competition Law & Practice (9), pages 336-342.

[244] The CMA uses a combination of national and local data for the estimation of margins (See CMA, 2017, Anticipated acquisition by Tesco PLC of Booker Group plc, Appendices and Glossary, Appendix C, Table 2). […].

[245] […]

[246] CMA, 2017, Anticipated acquisition by Tesco PLC of Booker Group plc, Appendices and Glossary, Appendix C, paragraph 81(a) and 82.

- In its computation of diversion ratios, the CMA applies weights to certain store types to express how effectively these stores compete with the parties' focal stores, and if they stock certain products, e.g., tobacco, without clarity as to why this has been done.[247]

Another example of problematic averaging came in the form of combining multiple variables that are all subject to some form of measurement error. For instance, the diversion ratios were based on the results of the entry and exit analysis which established an effective competitor set (itself an average). This led to the construction of diversion ratios based on a further interpretation of closeness of competition from this analysis (further averaging). In our view, this increases the risk of spurious local predictions and stylised results.[248]

We recognise that averaging was likely a result of the CMA trying to avoid random error and to make its results more robust. We also consider the individual assumptions made by the CMA to be rational. In many merger cases, the averaging strategies deployed by the CMA in Tesco/Booker would likely be unproblematic. In this case, however, the extent of averaging and the layering of assumptions brings the risk that individual local results become meaningless, and so unsuitable for use in a potential divestment discussion.

Diversion ratios

The diversion ratio used by the CMA in the vGUPPI formula is an approximation of the diversion ratio between the upstream merging party's wholesale arm (Booker), and the downstream merging party's retail arm (Tesco), under ToH 2. Given that this relationship is not directly observable[249], the formula is simplified to account for a diversion ratio that is directly measurable, that is, the diversion ratio from Booker-supplied stores to Tesco stores and the wallet share (for ToH 3).[250]

The CMA uses a weighted share of shops (WSS) methodology to model these diversion ratios. The methodology assumes two key aspects of local retail competition: distance between the focal stores, i.e. parties' stores and other stores in the defined catchment, and the closeness of competition between fascia, given that certain fascia are less close competitors than others.[251] While we do not object to the rationale underpinning this analysis, this type of modelling potentially produces a stylised average diversion ratio and may not reflect actual choices made by consumers in some locations.[252] A different, more representative, approach was taken in Sainsbury's/Asda where survey data was used to supplement

[247] *Op. cit.*, Appendix C, Table 3.

[248] See for example Gaussian error propagation whereby the error propagation is the outcome of measurement errors from uncertain measurements to calculate something else. Lo, A., 2005, Reconciling Efficient Markets With Behavioral Finance: The Adaptive Markets Hypothesis, Journal of Investment Consulting, Vol. 7, No. 2, pages 21-44.

[249] In the paper, the diversion ratio for the wholesale arm to the retail arm is broken down into a product of: the proportion of volume loss at the wholesale level following a price rise at the wholesale level, and the proportion of downstream retailer's total volume loss that diverts to the retail arm of the merged entity. The latter is equivalent to the diversion ratio from the downstream retailer served by the wholesaler and the merged entity's wholesale arm. See Adlard, J. and Foster, D., 2018, Post-merger incentives in retail-to-wholesale mergers, page 12.

[250] Adlard, J. and Foster, D., 2018, Post-merger incentives in retail-to-wholesale mergers (last accessed 8 March 2022) page 14.

[251] CMA, 2017, Anticipated acquisition by Tesco PLC of Booker Group plc, Appendices and Glossary, paragraph 41 and 42.

[252] For example, this methodology assumes all local areas have the same liking or appeal to each fascia, but these may vary across local areas/neighbourhoods.

the WSS methodology. This gave a more rounded assessment on diversion ratios that covers a wider range of factors impacting diversion in local areas.[253]

In a more conservative approach, the CMA could use the vGUPPI analysis as a “first flush” analysis relying on a minimum of assumptions, including calculation of a “critical diversion ratio” - thereby avoiding the need for problematic assumptions. Alternatively, the CMA may only use it in vertical settings with more robust local data, or national data where individual vGUPPIs can be calculated with a greater degree of certainty.

Estimating a 5% vGUPPI

We performed a number of sensitivity tests of some parameters used by the CMA’s in the vGUPPI calculation to see the extent to which the results of the CMA’s analysis depended on the assumptions made.

To start with, we only changed one parameter value at a time using the CMA’s analysis as a Base Case scenario. We find some variation of results when we change some of the assumptions which are easier to alter. However, the overall level of concern does not change its order of magnitude. While the CMA’s analysis filtered out 10 stores out of 12,000, changes in any one assumption do not filter out more than around […] (see Table 4 below).

Table 4: Sensitivity of the vGUPPI to changes in parameters

Changes parameter by parameter from the Base Case	No of problematic with a predicted vGUPPI of 5% or more
Base Case (i.e. the CMA’s choices)	[…]
Excluding Pipeline Competitors	[…]
Weight set to 0 when symbol store is a focal store	[…]
Own store diversion set to 0	[…]
Commercial Gross Margins used instead of Variable Margin	[…]
Pass through set at 100%	[…]
Out of market diversion set to 0	[…]
Wallet share set at 100%	[…]
Purchase Threshold set to 0	[…]

Source: E.CA Economics based on CMA analysis.

Our assessment shows that the number of problematic stores can vary much more substantially when the assumptions (on the most sensitive parameters) are altered in a cumulative manner. To us, this seems the more realistic scenario, and an important additional sensitivity check. Using such an approach, the

[253] CMA, 2019, J Sainsbury Plc / Asda Merger Inquiry, Appendices and Glossary, Appendix I.

most lenient scenario yields a modest result of just […] problematic store(s), whereas the harshest scenario finds up to […] problematic stores, a major difference.

When we consider the CMA's base case scenario and only change the threshold (with all other inputs and parameters unchanged), we observe that we get over […] problematic stores, showing that the vGUPPI threshold is by far the most sensitive variable (see Table 5 below). To us, this indicates that it should receive additional explanation in the decision.

Table 5: Sensitivity of the vGUPPI to cumulative changes in parameters

Parameters	Lenient Scenario	Base case Scenario (i.e., the CMA's choices)	Base case scenario with a vGUPPI threshold of 1%	Harshest scenario with a vGUPPI threshold of 1%
Tobacco weight	ON	ON	ON	ON
Weight assigned to independent stores	1	1	1	1
Weight assigned to symbol focal stores	0.5	0.5	0.5	0
Downweight symbol stores	ON	ON	ON	ON
Own store diversion	Store Specific	Store Specific	Store Specific	0
Pass through	50%	75%	75%	100%
Wallet share data used and purchase threshold criteria applied	Yes	Yes	Yes	No
Margins	Variable	Variable	Variable	Commercial Gross
Exclude certain competitors (not effective)	ON	ON	ON	ON
Pipeline stores	Incl.	Incl.	Incl.	Incl.
Out of market diversion	0.1	0.1	0.1	0
No of Problematic Stores	[…]	[…]	[…]	[…]

Source: E.CA Economics based on CMA analysis.

The CMA has done a sensitivity analysis as well, where parameters are only changed in an individual manner rather than cumulatively. It also appears to have “mixed and matched” conservative and lenient assumptions in its choice of the base case and assessment of sensitivities. For example, the CMA uses a more extreme estimate for its margins (gross margins), a potentially more lenient estimate for diversion (equal diversion of sales%), and a higher out of market diversion rate, in its sensitivity checks. It has also left certain parameters, such as the share of wallet, out of its sensitivity checks entirely. In our view, it would have been more informative to present the boundary of estimates, with all lenient estimates combined for a reasonable lower bound vGUPPI result, and all conservative estimates for combined for a reasonable upper bound vGUPPI result as well as the distribution of the vGUPPI within these boundaries depending on parameter variation. The CMA could then have tested which of the components was most sensitive to the assumptions made. This would have allowed the CMA to see which of its assumptions were making most difference.

Establishing an appropriate vGUPPI threshold

We found that by far the largest difference to the vGUPPI results could be obtained by changing the assumptions for the threshold for concern. In Tesco/Booker, the CMA chose the 5% threshold which the parties had proposed to it. The CMA made a similar assumption in the equivalent Coop/Nisa merger[254], which it reviewed shortly after Tesco/Booker. However, in the 2019 Sainsbury’s/Asda decision, it initially considered a 2.5% threshold[255] before ultimately increasing it to 2.75% in its final decision.[256] In that decision, the CMA explicitly referred to Tesco/Booker, stating that the Tesco/Booker threshold was only appropriate for a vertical setting.[257]

Figure 10 shows the distribution of the CMA’s vGUPPI results in the Base Case scenario based on changing assumptions on the vGUPPI threshold. While the CMA has not done this analysis in Tesco/Booker, it has done so in Sainsbury’s/Asda with very similar results.[258]

Figure 10: The number of ‘stores of concern’ filtered out based on the chosen vGUPPI threshold

[…]

Source: E.CA Economics based on CMA analysis.

Note: the total number of stores considered under ToH 2 was 12,000.

Both the vGUPPI and GUPPI are simple measures with just three key inputs: diversion ratios, margins and price levels. While diversion ratios are driven by closeness of competition, margins (as approximated by the CMA by different forms of variable cost margins) are likely to be sector specific.

We also note an explicit distinction being made between vertical and horizontal mergers in the CMA’s choice of threshold. We present in chapter 4 the current debate surrounding the historic presumption of vertical mergers being benign, and the pushback that this presumption is now facing from some commentators. We would recommend that the CMA explains its decision for different thresholds wherever possible based on empirical evidence.

[254] CMA, 2018, Co-op / Nisa Merger Inquiry – Final Report, paragraph 99.

[255] CMA, 2019, J Sainsbury Plc / Asda Merger Inquiry - Provisional Findings, paragraph 42.

[256] CMA, 2019, J Sainsbury Plc / Asda Merger Inquiry – Final Report, paragraph 8.296.

[257] CMA, 2019, J Sainsbury Plc / Asda Merger Inquiry - Provisional Findings, paragraph 8.225(a).

[258] *Op. cit.*, Figure 8.9.

As discussed in section 8.2.3 above, we consider ToH 3 to be essentially a horizontal ToH with a vertical recoupment mechanism, and would therefore advise the same treatment of this ToH as with a horizontal GUPPI.

8.3 Assessment of the market outcome

8.3.1 General market trends

Most stakeholders we have spoken to agree that the market has evolved considerably, and is continuing to evolve, to grapple with exogenous shocks over the past few years due to exit of the UK from the EU and the COVID-19 pandemic. In particular:

- The convenience store business model was evolving even before the pandemic, including integration with post offices, offering bakeries, or being a delivery point for retailers such as Amazon.[259] As lockdowns changed customer shopping patterns in favour of local stores, the market experienced significant growth. We were told that "neighbourhood stores experience[d] a 76% uplift during the pandemic".[260] The convenience stores industry is said to have grown by 10.1% between 2020-2021,[261] and the sector's total turnover increased by 6% in 2020 alone.[262]

- Exogenous shocks have impacted supply causing shortages and a temporarily reduced range of products. As a result, independent retail stores have further developed multi-sourcing. Since the onset of the pandemic, they have been using multiple wholesale channels where necessary, in an attempt to mitigate shortages.[263] Multi-sourcing makes foreclosure less likely, or even impossible.

- There was increased consolidation over the years that followed the Tesco/Booker merger. Stakeholders suggested that the main driver of these mergers was the desire to gain "scale" and enhance buying capacity in the wholesale market.[264] Since this kind of consolidation generally leads to better wholesale prices, it is also seen as pro-competitive.[265] Resilience in the supply chain is seen as a secondary reason.[266] Independent retailers benefit from this development when using buying platforms, or similar entities.[267] For example, Amazon has entered the wholesale market. While they do not supply directly to retail, they do sell to consumers directly, and allow wholesalers to reach customers directly through their platform. We have been told that Amazon is expected to grow into a stronger competitor in the future.[268]

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[259] […], a stakeholder in the wholesale space, Interview, 23 February 2022

[260] […], a stakeholder in the retail space, Interview, 7 December 2022.

[261] IBISWorld, 2021, Industry Report G47.120 Convenience Stores in the UK, page 11.

[262] Convenience Store, 2021, Convenience sector sees 6% turnover growth in 2020, (last accessed 8 March 2022).

[263] […], stakeholders in the retail and wholesale space, Interviews, 2021, 2022.

[264] […], an integrated retailer and wholesaler, Interview, 22 February 2022.

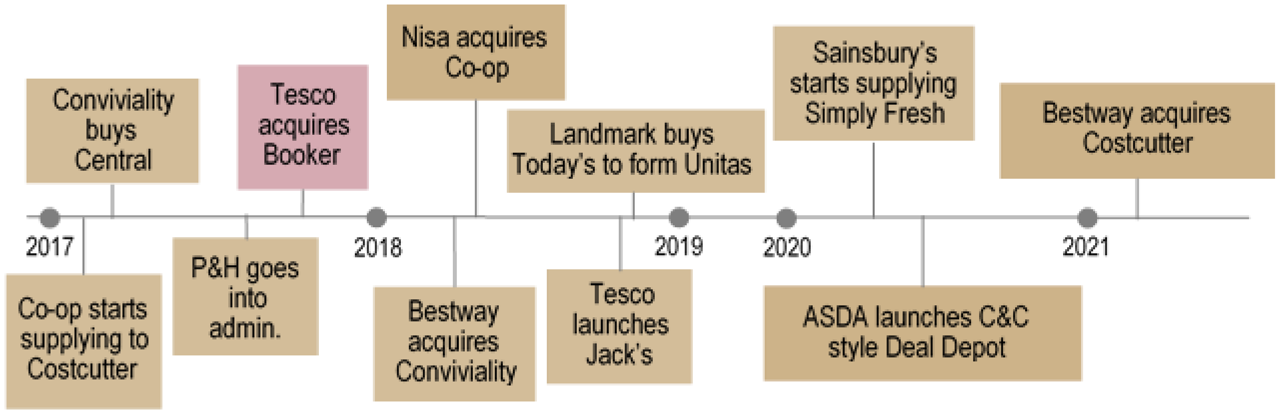
[265] […], a stakeholder in the wholesale space, Interview, 23 February 2022.

[266] […], an integrated retailer and wholesaler, Interview, 22 February 2022.

[267] […], a stakeholder in the retail space, Interview, 7 December 2021.

[268] Tesco, Interview, 21 December 2021.

Figure 11: Timeline of key consolidation events in the UK grocery retail sector



Source: E.CA Economics based on public evidence.

8.3.2 Impact of the merger

We have spoken to a number of stakeholders in the retail and wholesale space. None of them reported merger specific concerns or related adverse market developments. Rather, according to the stakeholders we interviewed, the merger had no material impact on the wholesale and retail groceries sector. More specifically:

- We have been told by various stakeholders that the merger will have a positive impact on buying terms and conditions for Booker from which the independent retailers they supply will benefit.[269] This includes an increase in the product range, with one symbol group retailer telling us that "my customers are happy to know that we also ranged some Tesco branded lines." [270] A stakeholder in the retail space, […], for example, acknowledge Tesco's buyer power which would, in general, make it harder for independent retail stores to compete. However, the ability of Booker-supplied stores to benefit from the improved Tesco/Booker buyer power seems to have narrowed the gap between Tesco and independent retail stores[271].

- We have been told that no groceries wholesaler has left the market as a result of the merger. Furthermore, out of the 30 wholesalers named by Grocer at the time of the merger, 26 remained unchanged. There were some new competitors in the wholesale market, including Morrisons, ASDA, and Sainsbury's (with Simply Fresh). Overall, Tesco believes that competition in the groceries wholesale market has increased since the merger.[272]

- None of the stakeholders we spoke to reported any merger related change in local competitive conditions, a concern which was at the heart of ToH 3 and ToH 4.

- We investigated the limited number of complaints that we have found online regarding the merger, Tesco told us that these were likely due to supply challenges during the pandemic. We discussed one

[269] […], a stakeholder in the retail space, Interview, 7 December 2021; […], a stakeholder in the wholesale space, Interview, 16 December 2021.

[270] […], a symbol group retailer, Questionnaire, 3 December 2021.

[271] […], a stakeholder in the retail space, Interview, 16 December 2021.

[272] Tesco, Interview, 21 December 2021.

complaint in more detail, […].[273] Some symbol group retailers that responded to our questionnaires also added that there were no notable changes in contractual terms or services since the merger. They raised some concerns regarding the lack of drivers and stock availability. We suspect, however, that these may be due to the exogenous events described before.

- Tesco adheres to the GSCOP.[274] Since the merger took place, Tesco voluntarily extended GSCOP application to Booker, and this has to a certain extent ensured that the impact on the supplier was lessened, and that the merged entity's buyer power has not been abused post-merger.[275]

The qualitative evidence we have gathered therefore largely supports the CMA's clearance decision. We note that the industry's currently sanguine response might reflect a number of more significant changes since the merger. The Covid-19 pandemic and the exit of the UK from the EU have had a major impact since the merger and focussed minds elsewhere. Further consolidation, including vertical, has also put the Tesco/Booker transaction into wider industry perspective.

8.4 Our findings

Our evaluation confirms the outcome of the CMA's assessment - in particular, no stakeholder we have spoken to indicated concerns regarding the Tesco/Booker merger. Most stakeholders, including those originally critical of the deal, considered the industry to be highly competitive at both the wholesale and retail level.

We determined that the CMA has undertaken a detailed, high quality assessment, with only a small number of analytical choices which we did not agree with. Most pressingly for us, the merger exemplified the need to define ToHs carefully and be mindful of the ambiguity between horizontal and vertical effects that may sometimes frustrate neat definitions.

As with the other cases that we evaluated as part of this study, we found that proliferating its ToHs did not help the CMA achieve this clarity. Some ToHs were contradictory. Thinking about their compatibility might have helped the CMA to refine its approach earlier.

We think that focusing the analysis earlier on the most promising theories earlier might have reduced the strain on both the CMA and the parties. The Retail to Wholesale concern (ToH 3) in particular, which seems to us horizontal in its nature, could have arguably been eliminated at an earlier stage. Similarly, rephrasing the buyer power concern (ToH 1) as a horizontal concern presented by competitors might have led to earlier elimination.

As in the Heineken/Punch case we reviewed, we found that one ToH was indeed the rationale for the merger (ToH 1). In this case, we found this theory unambiguously unproblematic, but note that vertical mergers may bring a similar degree of discomfort in the future, given the more complex nature of the relationships that the CMA may need to appraise.

Our most general conclusion is that the CMA might have arrived at its decision sooner, perhaps in Phase 1, or with a reduced burden in Phase 2. Strong evidence pointed to competitive upstream and downstream

273 Tesco, Interview, 21 December 2021.

274 Making Business Matter (UK), GSCOP Ultimate Guide - Groceries Supply Code of Practice (last accessed 10 March 2022).

275 […], a stakeholder in the wholesale space, Interview, 23 February 2022.

markets without major credible stakeholder concerns. That said, we recognise that the CMA received some complaints at the time of the merger (albeit mainly from competitors), and may have needed to spend more time on the complex vGUPPI tool, which was at that time novel for appraising vertical mergers. In that regard, we caution that in this case the vGUPPI tool may have been pushed further than its designers originally intended: it was devised as a first flush analysis tool, and we would advise its simplified application in future. We also note that some of the weaknesses of this methodology when applied by practitioners are more pronounced in the vertical setting.

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Appendix 2 List of interviewed stakeholders

Tulip Easey:

Agriculture and Horticulture Development Board ("AHDB")

A purchaser of pork products [...]

An industry insider [...]

Heineken/Punch:

The Campaign for Real Ale ("CAMRA")

The Society of Independent Brewers ("SIBA")

Punch Tennant Network ("PTN")

A lease holder of a former Punch current Heineken pub [...]

Curren Goodden Associates ("CGA")

Pubs Code Adjudicator ("PCA")

Mastercard/Vocalink:

Mastercard

Payment Systems Regulator ("PSR")

Pay.UK

LINK

PayPal

Post Office

[...]

[...]

[...]

Tesco/Booker:

Tesco

A stakeholder in the retail space, […]

A stakeholder in the retail space, […]

A symbol group retailer, […]

An integrated retailer and wholesaler, […]

An integrated retailer and wholesaler, […]

A stakeholder in the wholesale space, […]

About E.CA Economics

E.CA Economics is working on central topics in the field of competition policy and regulation. These include case-related work on European competition matters, e.g. merger, antitrust or state aid cases, economic analysis within regulatory procedures and studies for international organisations on competition policy issues. E.CA Economics applies rigorous economic thinking with a unique combination of creativity and robustness, in order to meet the highest quality standards of international clients.

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