

**CMA CLOUD MIR
LICENSING WORKING PAPER**

MICROSOFT RESPONSE

**MICROSOFT'S IP LICENSING TERMS DO NOT
MEANINGFULLY RAISE CLOUD RIVAL'S COSTS**

1. INTRODUCTION AND SUMMARY

- 1.1 Microsoft welcomes the opportunity to engage with the emerging views set out in the CMA's Licensing Working Paper published on 6 June 2024 (the "**Licensing WP**"), and its confidential licensing analysis disclosed on 14 June 2024 (the "**Disclosed Analysis**") as part of the CMA's market investigation ("**MIR**") into possible adverse effects on competition ("**AEC**") in the supply of cloud infrastructure services in the UK flowing from the terms on which Microsoft licenses its proprietary intellectual property ("**IP**").
- 1.2 In summary, Microsoft observes that the waters were, and remain, muddied by Amazon ("**AWS**"), Google ("**GCP**"), CISPE and others about the correct economic (AEC) question and how it is to be answered.
- 1.3 In Microsoft's view, the issues are as follows:

- (a) First, the central AEC issue is one of raising rivals' costs: meaningfully raising Amazon's and Google's costs to the point of genuine foreclosure.**

If Microsoft's IP '*licenses [were] more expensive when used with [Amazon and Google, this] ... may serve to raise rivals' costs*'¹ to the point they were weakened (and needed to charge higher prices), and their foreclosure would harm competition because over time it would also mean Microsoft could charge its own customers more.

- (b) Second, there are no 'real-world' signs of actual or future foreclosure.**

Amazon remains the market-leading hyperscaler in the UK and Google is a hyperscale competitor that is growing quarter-on-quarter and is profitable. Tellingly, while Windows Server is the *declining* operating system ("**OS**") relative to the dominant Linux in cloud OS share, and SQL Server is *second-ranked* to Oracle in relational databases, Amazon and Google are also both still *growing* their Windows Server and SQL Server Virtual Machine ("**VM**") vcore hour usage by UK customers.

- (c) Third, applying the standard framework decisively shows no risk of foreclosure when applying the test on the downstream *materiality* of the upstream input price.**

At its core, this debate is not about *total foreclosure* (refusal to license IP, tying Windows Server to Azure, *etc.*). It centres on a standard *raising rivals' costs* ("**RRC**")

¹ Licensing WP, para. 1.12.

or *partial input foreclosure* theory: the alleged high cost of the licensed IP input and how it affects downstream prices. In the downstream cloud services context, this boils down to whether Amazon or Google can afford to match Microsoft on *cash discounts* (they *can*). Given this question, the dispositive (and simple) materiality test for the “importance of the input” in this case shows that:

- (i) the **numerator** of Microsoft IP input costs paid by Amazon and Google is a small fraction of
- (ii) the relevant **denominator(s)**: Amazon’s and Google’s total revenues
 - (A) in competing in the downstream cloud infrastructure services market, that is, the defined focal market of the MIR itself; and
 - (B) also even more narrowly in relation to the slice that is “*respective Amazon and Google UK cloud revenues with a Microsoft IP nexus*” (that is, excluding total UK customer revenues where the customer does *not* source *any* Microsoft-licensed services from Amazon or Google; a lens that, as Microsoft explains below, is in any event arbitrary for assessing downstream foreclosure in this case).

In short, Amazon and Google appear from all accounts likely to have ample margin (cash) to play with and compete profitably. There is also some significance in their unwillingness to provide their own standard RRC analysis despite being easily best-placed to do so. Further work can be done by the CMA – and by Microsoft’s advisers with more confidentiality ring data – but even based on the evidence thus far, it is easily likely to corroborate the clear picture derived from what Microsoft’s advisers have been able to show: Amazon and Google surely have sufficient war chests of available margin to compete today. In any case, the foreclosure analysis cannot be a retrospective snapshot: Amazon and Google are investing \$50 billion and \$32 billion in capex² which demonstrates their committed “money where your mouth is” belief in a *profitable and competitive future in cloud*. These are not the actions of marginalised or weakened rivals struggling to compete with the burden of compensating Microsoft for making profitable use of its IP at (hyper)scale.

- (d) **Fourth, the data unravels the hypothesis that “Microsoft’s licensing practices... may weaken its rivals’ ability to acquire [bigger-spending] customers to benefit from scale advantages.”**³

The flipside of raising rivals’ costs is reducing rivals’ revenues and therefore scale; accordingly, the *larger*-spending the customer is, the *more valuable* it is for the retention of scale (for the #1, Amazon) and gaining of scale (for the #3, GCP). Hard data are the proof point: in reality, the larger the customer spend, the *smaller* the share of their total spend attributable to Microsoft IP and the *decreasing* spend/cost significance that Microsoft IP represents. Keystone finds that whilst the smallest UK customers with annual Azure spend between [X] outlay only [X]% of their total spend on Windows Server VM rental (still far from significant and thus still contestable), big-spender UK customers with [X] **spend on Azure outlay only [X]% of it on Windows VM server rental**. Given an assumed pro-Microsoft IP *bias* on Azure, this data is likely to be *upper bound* proxies for AWS or GCP. In short, relative costs relating to at most

² See Microsoft’s response to the Competitive Landscape WP, dated 1 July 2024, para. 12.

³ Licensing WP, para. 1.13.

[X] of spend is unlikely to move the needle on Amazon and Google winning big-ticket business and therefore (even greater) scale.

(e) Fifth, the case is miles away from a ‘margin squeeze’ while the CMA’s licensing fee comparison is asking itself the wrong question.

If the downstream market were by analogy for cars, the Disclosed Analysis focuses on the input price equivalent of *speedometers* (concluding that Microsoft’s speedometers are cheaper when you buy from Azure than from AWS or GCP) and not on the price of *cars* – that is, the downstream product customers are actually buying. *No-one can buy “speedometers” alone*: customers cannot buy a plain Windows Server cloud-use license from Azure, AWS or GCP. Customers buy access to a VM that includes an operating system – be it Linux (>75%) or Windows (<25%). Even then, no-one in the UK is buying (renting) VMs running Windows Server, without more, when they buy cloud services. Proof: [X]% of Azure revenues in the UK in 2022 are from service packages that have (a lot more in them than) simply “VM rental running an OS”, *i.e.*, Linux or Windows Server let alone just the latter. A numerator-only analysis is a hyperscaled red herring. When looking at the right denominator (“cars”, or cloud services packages), Amazon’s and Google’s margins will be ample to compete; the case is miles away from a margin squeeze. The Disclosed Analysis ignores the reality that all customers buy multiple cloud products – and even ignores that customers must always, at a minimum, rent VM hours – and instead, in essence, reverse-engineers a Windows License cost as the relevant downstream “product.” It is an input, not the final product.

(f) Sixth, in failing the foreclosure test as to adverse price effects, Amazon and Google should not residually succeed on an economics-free AEC by invoking the spirits of ‘choice’, ‘switching’ or ‘multi-cloud’.

Amazon and Google position the issue as one of restricting or preventing customer choice. Untrue: customers can freely use products such as Windows Server on AWS and GCP, and AWS and GCP can offer Microsoft solutions and compensate Microsoft for their use. It is important to ask: *what is it* that would adversely affect customers as they exercise choice? It is the “*potential impact of the price factors on ... choice*”.⁴ The hypothesis becomes: customers can still choose *but they will pay more*. They pay more, the theory goes, because AWS and GCP have such *high IP costs* that they are forced to pass on *higher costs* as *higher prices*, which in turn allows Microsoft to charge *higher prices*. If there is no material risk of foreclosure-driven *price effects* in the standard AEC sense (and there is not) the hyperscalers should not succeed by relying on vague notions of customer harm – especially when the notional customer harm stems from the hyperscalers’ own choices about the level discounts to offer and not from lack of access to Windows Server. This is a partial input foreclosure case, pure and simple: that is why the MIR Guidelines have discrete chapters for *Vertical Relationships* (Ch. 4, competitor foreclosure) and *Weak Customer Response* (Ch. 5, exploitation of consumers’ biases and challenges) and why the Licensing WP absolutely gets the opening question right: raising rivals’ costs (or reducing revenues).⁵

⁴ MIR, Updated Issues Statement (“UIS”), para. 77.

⁵ Licensing WP, paras. 1.12-13.

- (g) **Seventh, applying simple, standard economics, the CMA is exceptionally well-placed to dismiss this tussle over hyperscaler margin allocation by the Provisional Findings.**

Microsoft suggests that the time has arrived for disciplined quality control over the narrative debate, not least as the issues are not the centre of gravity of this MIR but are factually complex and a drain on bandwidth. The simple maths of the RRC's materiality-of-the-input-price step cuts through it all and does so objectively. Amazon and Google have competitive advantages (industry standard proprietary Linux OS from first-mover, Amazon, *which it does not license*; proprietary ad data from Google, *which it does not license*) but Microsoft concentrates its energies on competition on the merits – beating them in the market. This does mean that to compete with discounts (however labelled, e.g., “Azure Hybrid Benefit” (“AHB”), Amazon and Google have to sweat a bit harder and offer their own discounts. Cash is the ultimate way to compensate for a disadvantage (such as not having your own relevant IP), but Amazon and Google have ample margins (cash) to fund discounts that benefit customers. Is that effective competition in a well-functioning market? Yes it is.

- 1.4 As mentioned above, GCP and AWS have not to Microsoft's knowledge provided their own standard RRC foreclosure analysis despite being best-placed to do so. Microsoft repeats its earlier submission using actual (HSPLA licensing fee) input costs as very small percentages of public reported revenues and costs for AWS and GCP with respect to the downstream market of cloud infrastructure services. However, to be conservative, Microsoft's external advisers have run that same analysis, using information from the confidentiality ring to assess actual input costs as proportion of actual “*Amazon and Google respective UK cloud revenues with a Microsoft IP nexus*” (that is, excluding total UK customer revenues where the customer does not source any Microsoft-licensed services from Amazon or Google).

- 1.5 **The results are as follows:**⁶

Table 1: [X]

Table 2: [X]

Table 3: [X]

Table 4: [X]

- 1.6 Two things are objectively clear from the above:

- (a) **The input cost of Windows Server and SQL Server as a % of total revenue is clearly immaterial.**
- (b) **AWS and GCP presumptively have a (very) significant amount of margin to compete with** (given software gross margins are high, and the share of revenue of these input costs is so very low).

⁶ For details on the sources and methodology for these tables, please see the Economics Annexes prepared by Keystone Consulting and attached to this submission.

- 1.7 **Why then all the fuss?** While the input cost numerator is such a small percentage of their costs and revenues, because the cloud denominator is such a huge market, the absolute numbers are worth lobbying regulators.⁷

2022	Amazon (AWS)	Google (GCP)
Numerator: <i>Paid Microsoft in IP fees (% of sales)</i>	[§<]	[§<]
Denominator: <i>Sales of</i>	\$80 billion	\$26 billion

- 1.8 [§<]

2. FRAMING THE RIGHT AEC QUESTION

- 2.1 Note that this paper, like the Licensing WP, focuses on far and away the most popular of Microsoft's software in the cloud, Windows Server and SQL Server. The Licensing WP itself does not address the tail of other products and non-price technical issues cited by third parties (in respect of which Microsoft refers the CMA to its December meeting and January response).

- 2.2 With that focus in mind, in the next sections, Microsoft first (1) addresses what the AEC question is not about in this case (to un muddy the waters); (2) focuses on what the AEC question is about; and (3) deploys standard tests that answer the correct AEC question.

A. The wrong AEC questions

- 2.3 Synthesising the nub of the demands of Amazon, Google and their allies, the AEC test is there, in this case, apparently to regulate and indeed eliminate an innovator's right to charge for valid intellectual property that it created and – without any legal obligation to do so – makes freely available to rivals so that they can make money incorporating it into their own cloud services – with one catch: *hyperscaler pays*.

- 2.4 As the largest distribution channel for Microsoft software use in the cloud, who make their own profitable commercial use of these solutions at scale, they must compensate Microsoft for use of its IP.

- (a) **Applied here, the AEC question is not whether Amazon and Google should be able to monetise Microsoft's IP on a hyper-industrial scale for free (or preferred 'right price')**

- 2.5 Microsoft's two most important counterparties and cloud distribution channels beyond Azure for use of Microsoft software in the cloud are rival hyperscalers. Both Amazon (from \$80 billion in 2022 to \$90 billion in 2023) and Google (from \$26 billion in 2022 to \$33 billion in 2023), are hyperscale, and growing, in cloud; they are parts of enterprises currently worth over \$2

⁷ HSPLA spend sourced from annex MSFT_CMA_Cloud_0000004. Note that the licenses and [§<]. AWS and Google revenues sourced from 10-K reports.

trillion (AMZN) and over \$2.3 trillion (GOOG) in market cap.⁸ It is natural when offering a product such as software to find the biggest distribution opportunities to monetise those channels. The hyperscale channel is a massive distribution opportunity unrivalled by other cloud providers who represent a much smaller total addressable market and have very different business models for which Microsoft has proportionately tailored its licensing and traditional SPLA terms. The CMA finds itself arbitrating the question: out of the total billions in sales that incorporate Microsoft IP, “*how much should Amazon and Google have to pay Microsoft?*” – although this leaves many other more important questions untouched.

- 2.6 This dispute on pricing terms only arises because Microsoft grants all rivals IP licenses in the first place to its software that is of most popularity for use in the cloud. It does this not because there is any legal obligation to share IP with closest rivals in cloud, but for commercial reasons. First, as noted, Amazon and Google are important cloud distribution channels for Microsoft software. Long before the cloud existed, Microsoft offered its software for use by ISVs (like Google and Amazon) for use in their solutions. This commercial usage is different to end customer use rights and carries a different licensing model and charges. Much like HP and Dell are important channels through which to license software on new PCs and receive compensation for use of Windows Client, AWS and GCP are important channels for use and compensation for solutions like Windows Server. Second, Amazon and Google are powerful commercial counterparties with whom Microsoft has dealings across a wide range of commercial issues that go well beyond IP licensing terms under their respective bespoke HSPLAs.
- 2.7 Microsoft believes it is common ground that companies, even if you assume they have market power, can license their software products for a fee that is non-zero. Microsoft believes it is also accepted that licenses to software can come with specific use rights and different use rights can have different fees. It is lawful to charge more for **bulk commercial use** (to play a movie before a theatre audience) than **discrete end-user use** (buy a DVD or streaming for home/personal use). Microsoft believes it is also lawful to give those rights away for free to smaller challenged competitors – as Microsoft has done for non-Listed Providers – while continuing to license for a fee to larger and more profitable firms. Discrimination is not simply applying dissimilar conditions to equivalent transactions but also seeking to apply *equivalent* conditions to *dissimilar* transactions (or counter-parties).⁹
- 2.8 Accordingly, Microsoft treats IP licensing counter-parties in a calibrated matter proportionate to their business model and scale; it does not pretend that unlike parties are alike, that Amazon is Aruba, or that a so-called “Big Tech” elephant is a small start-up mouse. Thus, the relevant consideration is not a specious claim of “*discrimination*” or demand for parity treatment, but whether software when offered on Azure compared to the terms on which it is available for Listed Providers – Amazon and Google – forecloses competition from them.
- 2.9 Of course, put like that, Amazon’s and Google’s advisers know that it does not sound like an attractive endeavour in an MIR and so the hyperscalers shift the ground to frame potential foreclosure concerns in many other altruistic and customer-centric sounding ways.

⁸ For Amazon, please see (<https://markets.ft.com/data/equities/tearsheet/summary?s=AMZN:NSQ>) and for Google please see (<https://markets.ft.com/data/equities/tearsheet/summary?s=GOOG:NSQ>). Market capitalisation measured as of 09 July 2024.

⁹ See e.g., COMP/36.568 – *Scandlines Sverige v Port of Helsingborg* (2004), para. 276.

- (b) **Applied here, the AEC questions are also not:**
- (i) **can IP creators offer different use rights at different prices?**
 - (ii) **must software licensed for *any* use right be licensed (for free or at a regulated price) for *all* use rights?**
 - (iii) **specifically, what is the ‘*right price*’ at which Microsoft (incrementally) charges end-users directly (or indirectly via cloud rivals) for the distinct IP use case of the cloud ‘subscription’ model?**

2.10 As explained in the December meeting, cloud is not a shrink-wrapped product model (product use is in perpetuity, i.e., for the expected lifetime of the underlying hardware, as per on-premise) but an IaaS, PaaS, or SaaS subscription or “service” model where the user derives value directly from Microsoft’s IP (if paid directly to Microsoft/Azure) or indirectly (via the wholesale charges applied to Amazon or Google via the HSPLA) and is fundamentally on “pay as you go”, or “pay for what you consume” basis (that is, as customers derive value, measured by consumption volumes or **vcore usage hours**) for “as long as you consume it” (**units of time**).

2.11 Google and Amazon seek to confuse this question by arguing that Microsoft should be required to grant customers licenses for Microsoft products for all use cases and customers should therefore be free to “take” those licenses to their cloud. This seeks to ignore the license terms and grant new rights to customer purchases that could have occurred a decade or more ago. The AEC question is not whether it is “*ok or not*” that – even when you have “*already paid the creator*” for a hardcover or paperback book, or for the *Financial Times* printed newspaper subscription, or paid for the cinema ticket – it costs you a quote “*duplicative*” license fee to:

- pay for the **e-book** version on your Kindle (from which Amazon gets a sizeable cut);
- pay for the **digital** *Financial Times* subscription on your smartphone (via the app in the Google Play store or Apple Store, from which Google or Apple collects, we assume, the standard 15-30% cut for digital services sold from apps in their ecosystem);
- pay for **Netflix** or **Disney+** or **Sky** for the at-home streaming subscription.

2.12 Microsoft does not believe that J.K. Rowling, Ian MacEwan or Zadie Smith should be required to license their e-book content to Amazon at no charge (for any customer who claims to have purchased the hard- or paperback already, perhaps many years ago) so that (i) they are not compensated while (ii) Amazon can achieve a higher e-book sales margin with no royalty payment. The same goes for the publisher of the *FT* and Google. The fact that the IP here at issue is enterprise software created by a large IT player, Microsoft, makes it perhaps a little less relatable if Microsoft were harmed by exploitation of its IP without compensation, but the principle of IP law protecting innovators and creators is exactly the same.

B. The right AEC question: foreclosure of rivals that then harms customers

Instead of the above, the correct AEC question, as the Licensing WP rightly puts it, is whether “*the practice of making software licenses more expensive when used with rival cloud infrastructure ... may serve to raise rivals’ costs*”.¹⁰

¹⁰ Licensing WP para. 1.12, citing CMA, *Guidelines for Market Investigations* (CC3, 2013) (“**MIR Guidelines**” or “**CC3**”), para. 269. Bold text in quotes in this letter represent emphasis added. Raising rivals’ costs is a more forensic expression better suited to the nub of the issues here, but the more generic wording of “*foreclosure [that] can involve rivals being ... materially disadvantaged and consequently competing less effectively*” equally applies.

(a) **The recognised framework: ‘raising rivals’ costs’ or ‘partial input foreclosure’**

2.13 The most appropriate economic framework to apply to this case is the well-established¹¹ RRC framework, otherwise known as partial input foreclosure.

2.14 For completeness, that framework is (i) set out in the CMA’s MIR Guidelines;¹² (ii) applied in practice in MIRs such as *Private Motor Insurance*; (iii) set out in merger guidelines (foreclosure in SLC and in AEC terms being the same economic focus on customer welfare through the correct lens of such a “weakening” of rivals that it harms customers); (iv) applied in CMA Phase 2 inquiries such as *BT/EE* and *Virgin/O2*; and (v) set out in EU guidelines and applied in multiple EC cases.

(b) **The critical step: the input price as a proportion of downstream price/costs**

2.15 While there are various steps (ability-incentive-effect) that need to be satisfied before RRC / partial input foreclosure is established, *one* critical *must-pass* step is the principle that the input is “*important*” to downstream competition: **the materiality test**. Importance can mean a couple of different things but only *one* type of “importance” is being investigated in the Licensing WP and relevant here: the *cost* element in *raising rivals’ costs* with respect to Microsoft’s software most popular in the cloud (namely, Windows Server, SQL Server). That is why the Licensing WP is spot on to frame the question as: “*the practice of making software licenses more expensive when used with rival cloud infrastructure ... may serve to raise rivals’ costs.*”¹³

2.16 At its core, the materiality test asks a simple question of the *numerator*, and the *denominator*: the cost to Amazon and Google of the input (whose price is alleged to be insufferably “*high*” - here a license to Microsoft’s IP) as *a percentage, or proportion* of **total revenues** (prices charged to end-customers) for the downstream product. In addition, the test can also be posed in relation to the smaller denominator of **total costs** (COGS, as opposed to revenues) as a first screen, and which may be most pertinent in a downstream industry with *low variable gross margins* (e.g., retail fuel) but is less pertinent in an industry like software with low variable costs and therefore *high* gross margins, which give players ammunition for discounting while still covering variable costs (and therefore making a contribution to fixed cost recovery).¹⁴

2.17 The Licensing WP’s approach of defining the input as Microsoft software and the downstream product market as being a market for the same Microsoft software sidesteps the reality of cloud competition and mislabels the input itself as the downstream product. It is like saying a speedometer maker can foreclose competition for the supply of cars because the price of the speedometer itself is more when sold stand-alone than when part of a car, despite being a tiny proportion of the overall car price.

2.18 Before turning to this materiality test in more detail, Microsoft notes that

- there are various aspects of the Licensing WP inquiry relevant to focusing it on the key issues. Some of these are addressed in **Annex 1**. (Note: a key point with respect to SQL Server (unlike Windows Server) is that customers have “License Mobility” i.e.,

¹¹ See Steven C. Salop and David T. Scheffman, “Raising Rivals’ Costs” Bureau of Economics, Federal Trade Commission, Working Paper No. 81 (January 1983).

¹² CC3, para. 267ff.

¹³ Licensing WP para. 1.12, citing CC3 at para. 269. Bold text in quotes in this letter represent emphasis added. Raising rivals’ costs is a more forensic expression better suited to the nub of the issues here, but the more generic wording of “*foreclosure [that] can involve rivals being ... materially disadvantaged and consequently competing less effectively*” equally applies.

¹⁴ As evident in the CMA’s extensive “GUPPI” practice under the SLC test, pricing pressure incentives are measured with reference to variable gross margins; see e.g., *JD Sports/Footasylum* (2021).

can “Bring Your Own License” (“BYOL”) to Amazon or Google just the same as any other cloud provider. In this BYOL scenario, AWS and GCP do not owe Microsoft HSPLA fees, and there can, by definition, be no issue of raising of AWS or GCP costs with respect to such BYOL scenarios.) Nevertheless, the main response that follows addresses what Microsoft argues is the pivotal issue, and pivotal test, and applies equally to Windows Server and SQL Server; and

- before getting into textbook maths tests to answer the AEC question, however, the reality of marketplace outcomes should not be the end point; it should be a starting point sense check, as set out in Section 3 below.

3. REALITY CHECK: AWS AND GCP ARE GROWING IN UK CLOUD SERVICES AND UK USAGE (VCORE HOURS) FOR WINDOWS SERVER AND SQL SERVER

3.1 The general success of Amazon and Google in cloud services has been documented in earlier submissions and is not repeated in this paper. This Section demonstrates that, with respect to cloud business that includes a Microsoft IP component, the *same is true*.

3.2 Both AWS and GCP actively market the ability to run Windows Server workloads on their clouds,¹⁵ and both AWS and GCP are continuing to profitably compete for and win Windows Server VM opportunities. In terms of growth, [X]

Figure 1: [X]

Source: [X]

Figure 2: [X]

Source: [X]

3.3 Similarly, AWS’ and GCP’s SQL Server vcore hours have increased over time, [X]

Figure 3: [X]

Source: [X]

3.4 To state the obvious, these data provide no prima facie support that Microsoft is weakening Amazon and Google’s ability to compete for cloud workloads that include Microsoft’s IP for its most popular cloud software, Windows Server and SQL Server.

4. THE COUNTERFACTUAL TEST AND CAUSATION

4.1 Cloud workloads for which the customer does not choose VMs running Windows Server OS (e.g., Linux OS) as a component of their cloud purchase are of course irrelevant for these purposes: there can be no prima facie question of foreclosure for the vast majority of workloads in the cloud that do not rely on any Microsoft software input. If there were a foreclosure concern warranting intervention, the CMA would need to show two things:

¹⁵ <https://aws.amazon.com/windows/?blog-posts-content-windows.sort-by=item.additionalFields.createdDate&blog-posts-content-windows.sort-order=desc>; <https://cloud.google.com/compute/docs/instances/windows/creating-managing-windows-instances>

- **Evidence of customer harm: the market is not well-functioning as Microsoft is overcharging customers.** First, evidence that the market is not well-functioning today. In other words, is Microsoft charging its own customers *prices significantly higher* than would reasonably be expected in the counterfactual of a well-functioning market?
- **Causation: the harm is as a result of raising rivals' costs.** Second, is the likely reason for this lack of competitive pressure on Microsoft's Windows Server VM pricing because it has raised rival hyperscalers' costs to such a degree that they are weakened and cannot compete effectively?

On the first point, as already noted in response to the UIS and the Competitive Landscape Working Paper, the CMA's general task applicable to all theories of harm, including Issue #4, is to define a counterfactual of a well-functioning market and compare that against current market outcomes to explain whether prices to customers are too high relative to that counterfactual. The Licensing WP does not attempt this exercise let alone deliver on it.

5. THE RRC TEST IN CMA AND EC GUIDELINES

- 5.1 On the second point, the Licensing WP and Disclosed Analysis constitute 125pp+ of hard work, and in leading up to its section on emerging views, covers a range of topics: history and background (section 2); alleged market power in various on-premise software markets (section 3 – as noted in Annex 1, Microsoft submits that much or most of this is irrelevant to cloud competition); differences in the stand-alone Microsoft IP licensing cost on Azure, AWS and GCP (section 4 – as explained below, comparing relative input costs is missing the point of the foreclosure question, which does not turn on “input price parity”); and a variety of issues as the extent of usage of Microsoft IP and third party views (section 5 – much of this is relevant but should build upon first conducting the critical piece of analysis).
- 5.2 In a different context, when presented with a checklist of various factors that the CMA took into account to reach a decision (in that case, on jurisdiction) the Supreme Court noted:

“This is not so much a test as a list of potentially relevant factors. So what is the underlying principle?”¹⁶

- 5.3 The underlying principle is articulated briefly in paragraph 1.12.

*“the practice of making software licenses **more expensive** when used with rival cloud infrastructure ... **may serve to raise rivals' costs.**”¹⁷*

RRC is the recognised economic framework for testing partial input foreclosure theories. Competition authorities receive many competitor complaints about foreclosure, so quality control is needed to separate the wheat from the chaff. The RRC test is that quality control and the Disclosed Analysis at para. 1.120 (cited at 3.3 above) is on point.

- 5.4 The RRC test features in the MIR Guidelines, which note that:

*... foreclosure may be achieved ... restrict[ing] access to essential inputs or **rais[ing] rivals' costs**, or limit[ing] rivals' ability to acquire sufficient ... scale ...*

*Foreclosure of access to key inputs ('input foreclosure') may lead to a reduced competitive constraint on a vertically related firm. ... [which, if] it has significant market power in the upstream market ... may have an incentive ... to **increase the costs of competing downstream firms**. By being subjected to **higher input prices** — of which*

¹⁶ *SCOP v CMA ('Eurotunnel')* [2015] UKSC 7, Judgment of 16 December 2015, para. 37.

¹⁷ CC3, para. 269.

an extreme form is a ‘margin squeeze’ — downstream competitors may be unable to compete effectively.

As a result of such foreclosure effects a vertically integrated firm may be able to maintain high prices and/or increase the prices charged to customers relative to the prices obtained in the absence of vertical integration.¹⁸

- 5.5 The MIR Guidelines date from 2013 but (i) foreclosure is a rare AEC issue (Microsoft’s advisers can find no examples of a foreclosure-based AEC under the Enterprise Act 2002) and (ii) the economics are the same regardless of the procedural tool. Given case throughput, there is more agency experience of foreclosure theories in merger control than in MIR or single-firm conduct (abuse of dominance) cases. Merger guidelines are therefore also relevant. The CMA’s 2010 Merger Assessment Guidelines (“**2010 MAG**”), a reference point when the 2013 MIR Guidelines were being revised, and in force at the CMA from 2014-2021, note:

The cost of the input relative to all costs of the final product. All else being equal, if the input accounts for only a small part of the total costs incurred, the merged firm will be less able to harm its rival manufacturers’ ability to compete than if the input accounts for a greater part of the total costs

- 5.6 The 2010 MAG were, in turn, prepared in the light of the (then-landmark) 2008 EU Non-Horizontal Merger Guidelines (“**EU-NHMG**”).¹⁹ The EU-NHMG influentially both codified the ability-incentive-effect framework and demarcated the concepts of input foreclosure and customer foreclosure.²⁰

Input foreclosure may raise competition problems only if it concerns an important input for the downstream product. This is the case, for example, when the input concerned represents a significant cost factor relative to the price of the downstream product.

- 5.7 The 2010 MAG followed the EU-NHMG and added the distinction between “*partial*” input foreclosure (relevant here, i.e., raising rivals’ costs) and “*total*” input foreclosure” (refusal to supply). On partial input foreclosure, the same underlying principle and RRC test has been kept in the CMA’s 2021 Merger Assessment Guidelines.²¹
- 5.8 The above set out the underlying materiality principle to test whether, as per the UIS, “*Microsoft’s rivals ... do not have an effective counter strategy*”²² or “*are materially disadvantaged, such that they consequently compete less effectively.*”²³

¹⁸ CC3, paras. 268; 270.

¹⁹ Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2008/C 265/07).

²⁰ EU-NHMG, para. 34

²¹ See CMA, Merger Assessment Guidelines (2021) (CMA129), para. 7.9.

²² UIS, para. 72(b).

²³ UIS, para. 73.

6. THE ‘IMPORTANCE OF THE PRICE OF INPUT’ TEST AS PART OF RRC ANALYSIS IN RELEVANT CMA PRECEDENTS (AEC, SLC)

A. An AEC test precedent: *Private Motor Insurance*

6.1 The CMA has previously carried out this analysis with rigour, for example, in the *Private Motor Insurance* MIR applying the MIR Guidelines.

6.2 In that investigation, the CMA considered whether the vertical relationship (albeit by contract rather than common ownership) between downstream competitors in private motor insurance and upstream suppliers of inputs for repair services might give rise to harmful foreclosure effects; in particular, whether integrated firms restricted supply or increased the price of relevant inputs, such as OEM and non-OEM car parts, in a way that raised the costs of rival repairers, and, if so, the likelihood of harm.²⁴

6.3 The CMA noted that:

When assessing the likelihood of harm from ‘raising rivals’ costs’ the usual approach is to consider the issue under three headings: - ability ... incentive ... effect... [...] Our Guidelines, and general economic theory, point to three conditions which are necessary for vertically integrated companies to have the ability to raise rivals’ costs (input foreclosure), which we discuss in turn.

The importance of the input

All else being equal, if the input accounts for only a small part of the total repair costs incurred, the integrated firm will be less able to harm its downstream rival repairers’ ability to compete than if the input accounts for a greater part of the total repair costs. This is the case since a small increase in a large total repair cost would have a small effect on rival repairers’ costs.²⁵

6.4 In that MIR, the CMA found that the share of the downstream repair bill accounted for by the upstream input costs of OEM parts (upper bound: 6%) and non-OEM parts (no more than 4%), including glass, was so low that: “it appears to us that vertical supply contracts for such parts could not raise rivals’ costs.”²⁶

B. CMA Phase 2 SLC test precedents

BT/EE

6.5 In the *BT/EE* Phase 2 merger inquiry of the CMA, one foreclosure concern raised by rival mobile network operators (“MNOs”) was the input of “mobile backhaul costs”, payable by EE’s MNO rivals to BT. Ofcom reported to the CMA:

... the ability to materially affect downstream outcomes will depend on the size of backhaul costs relative to other costs of supplying mobile services. If managed backhaul services costs, net of regulated leased lines prices, are small in proportion

²⁴ See CMA, *Private Motor Insurance Market Investigation* (“PMI”), Provisional Findings [Appendices](#), Appendix 9.2, *Analysis of potential foreclosure as a result of vertical relationships*, para. 9.

²⁵ As above, paras. 11, 13-15.

²⁶ As above, paras. 39-40. It is not 100% clear whether by “total repair costs” the CMA meant the total “repair bill” paid by the customer/insurer (i.e., revenues) or the total costs of goods sold of the repair (excluding the mark-up to the end-customer/insurer). The CMA’s analysis of paint indicate the reference is to the repair bill, i.e., revenue (cf. para. 26).

*to other costs then there will be limited ability to create a distortion and foreclose by manipulating them. However if they are relatively large, there may be greater ability.*²⁷

- 6.6 Ofcom estimated that 18% of MNO's total network costs, and 8% of MNO's total costs were backhaul input costs:²⁸

Table 16.1: Incidence of backhaul on MNOs' costs

	EE	H3G	Telefónica	Vodafone	Ofcom estimate*	%
Backhaul costs as a percentage of total network costs	[<]	[<]†	[<]	[<]†		18
Backhaul costs as a percentage of total cost	[<]	[<]†	[<]	[<]†		8

Source: CMA calculations.

*Some of Ofcom's estimates are taken from the 2015 MCT model designed for the MCT market review, which was published in March 2015. These figures are subject to the caveat that Ofcom's 2015 MCT model was not designed to calculate backhaul costs specifically, and backhaul was not explicitly considered as part of Ofcom's calibration exercise. The exact proportions used by different MNOs will also differ depending on their individual strategies.

†Opex only.

- 6.7 The CMA concluded that backhaul accounted for a small proportion of an MNO's total costs in providing retail mobile services, and (together with other facts) found no risk of foreclosure in this respect.

Virgin/O2

- 6.8 In the more recent *Virgin/O2* case, the relevant analysis was similar to *BT/EE*. The CMA found that:

*...mobile backhaul costs represent a relatively small proportion of the overall costs MNOs incur...*²⁹

*... the evidence indicates that mobile backhaul costs account for, and will continue to account for, a relatively small proportion of MNOs' costs, and that this proportion is even smaller when only considering mobile backhaul sourced (or anticipated to be sourced) from Virgin [...] We therefore found that, going forward, the Merged Entity's ability to engage in an input foreclosure strategy is also limited.*³⁰

- 6.9 The CMA dismissed rivals' concerns about input foreclosure for lack of materiality of the input costs.

C. Inferences for the RRC test in this case

- 6.10 The precedent suggests the obvious point that input costs that are only **4-6%** (*Private Motor Insurance*) or **8%** (*BT/EE*) of **the total customer bill are unlikely** to generate foreclosure because the input cost share is too small to move the needle on downstream customer pricing and therefore competitive strength to win customer business at competitive prices.

- 6.11 **Properly framed, the key issue is: do Microsoft's IP cost terms amount to such high proportions of AWS's and GCP's downstream revenues that they have insufficient**

²⁷ Ofcom, *Response to CMA Issues Statement regarding anticipated acquisition by BT plc of EE Limited*, dated 31 July 2015, para. 5.36.

²⁸ Ofcom, *id.*, para. 5.38; see also CMA, *Anticipated acquisition by BT plc of EE Limited*, Final Report dated 15 January 2016, at para. 16.22.

²⁹ CMA, *Anticipated joint venture between Liberty Global plc and Telefónica S.A.*, Final Report dated 20 May 2021, at para. 8.103

³⁰ As above, paras. 8.264; 8.269.

margin left both (1) to price competitively to customers and thus win business and (2) to generate positive margins over time? As set out below, they do not.

7. THE CORRECT NUMERATOR MATCHED WITH THE CORRECT DENOMINATOR IN A RRC ANALYSIS

7.1 As noted, in order to conduct a robust RRC assessment of whether for example:

*the input concerned represents a significant cost factor relative to the price of the downstream product.*³¹

7.2 RRC analysis requires not only the cost of the input (the numerator, the IP licensing cost under Amazon's HSPLA and Google's HSPLA) but "*the price of the downstream product*" (the denominator).

A. The pitfall of looking only at the (relative) price of the numerator

7.3 The denominator is of course crucially important. As flagged earlier, by way of illustration, a car manufacturer has a subsidiary that makes the industry-standard speedometer and also resells those speedometers to rival car manufacturers. To find a risk of foreclosure, one has to ignore the actual downstream car market and instead assume that the speedometer itself is both an input and its own downstream product market. Of course, such an analysis would always (falsely) show a risk of foreclosure because the input and the "downstream product" are the same and the costs of the downstream product is always 100% of the cost of the input. Once the downstream market is properly defined as "*new cars*" – because customers buy cars and not speedometers as such – then the relevant denominator figure is the total car sales revenues of those rivals (from which one can derive [*speedometer*] cost as proportion of total [*car*] revenues).

7.4 Microsoft includes this example because the closest the Disclosed Analysis (or Licensing WP) comes to a cost analysis is to look only at the input (the equivalent of treating the downstream market as speedometers, not cars). It eschews any denominator tied to the downstream market and effectively compares, using the above analogy, the cost of speedometers across Azure, Amazon and Google taking into account Microsoft's AHB discount as the cost of the speedometer on Azure. The Disclosed Analysis contains this table:

Figure 4: [REDACTED]

7.5 This produces unsurprising conclusions. It is not only that it makes no sense to look only at numerators; is also that the numerator calculations and comparison itself has gone badly awry.³² But the entire focus is wrong: it ought to be on downstream competition in cloud (cars) not on IP licenses costs (speedometers.)

B. What is the denominator a.k.a. the downstream market price (revenues)?

(a) The downstream market is, as the CMA suggests, 'cloud infrastructure services'

7.6 The downstream market, by the CMA MIR's own definition is cloud infrastructure services.³³The starting point is therefore the total costs, and total revenues, of Amazon and

³¹ EU-NHMG, para. 34.

³² [REDACTED]

³³ Licensing WP, para. 1.10; UIS, para. 72.

Google in cloud infrastructure services. Otherwise, the CMA would have to define different downstream markets, for which no evidence has been cited.

(b) By contrast, at the absurd extreme, the downstream market cannot instead be: “Windows Server (or SQL Server) sub-licensing” – that is a hypothetical market

7.7 As noted above, comparing the stand-alone cost of Windows Server IP on Azure, AWS and GCP in and of itself makes no economic sense because the denominator is wrong. The numerator is not *also* the denominator. Put differently, the numerator would be the denominator if the input were the final product. But it is not. AWS and GCP are not in the business of being resellers of Windows Server or other Microsoft products. They sell cloud services of which those products could be one among numerous inputs.

(c) By contrast, the downstream market is obviously not “VM rental running any OS” let alone “VM rental running Windows Server OS” – that is also a hypothetical

7.8 Nor is there a meaningful denominator (candidate foreclosed downstream market) for the narrow supply of VMs running Windows Server OS. In 2022, UK customers that purchased only VMs rental (including Windows and Linux) accounted for less than [X]% of revenue (“Azure Consumed Revenue”) and less than [X]% of Azure customers.³⁴

7.9 Put another way, **over** [X]% of workloads incorporated more services by revenue, **and over** [X]% of Azure customers by headcount bought more than just this service as their workload.

7.10 The share of VMs running only Windows Server will be a smaller fraction still because the majority of VM OS usage is Linux, even on Azure. Considering Windows Server is a Microsoft product, and considering that the hypothetical assumes that this is all the customer is buying, one might expect the Azure figures greatly to over-index on Windows Server usage and bias the results upwards: if *all a customer really wants is VMs running Windows Server*, one would intuitively expect this fraction of demand to gravitate to Microsoft. But demand for this service alone on Azure does not meaningfully exist. And so it is most unlikely meaningfully to exist on AWS or GCP either.³⁵ The CMA can test this to be sure but it is implausible that, if such *de minimis* demand (cf. [X]% of revenue) even exists, it poses a meaningful foreclosure question.

7.11 In summary, foreclosure cannot occur with hypothetical downstream markets, and the above shows that the two most obvious scenarios – where Windows Server IP cost may be at its “*highest*” proportion of input cost – are hypothetical.

(d) It would be arbitrary to reverse-engineer a denominator (gerrymander a downstream market definition) that gives a ‘high’ percentage of cost

7.12 For the sake of hypothetical argument, it is also not appropriate to define a downstream market (generate a denominator) that is wider than “VMs running an OS” but narrower than “cloud infrastructure services”, and is instead demarcated in respect of customers who have a “high” input cost of Microsoft IP when measured against an arbitrary threshold.

7.13 First, that downstream “market” would arbitrarily ignore competing inputs to Microsoft IP. As described above, Windows Server remains second to Linux as an OS, and SQL likewise remains second to Oracle in database systems (see Annex 1). Amazon and Google are perfectly able to encourage customers to switch to these market leading alternatives as part of their cloud migration or cloud switch to the extent customers were not considering them already. More

³⁴ [X] See Keystone Economics Analysis regarding Microsoft’s Software Licensing, 18 March 2024, para. 12.a (“Keystone Economic Analysis”).

³⁵ Keystone Economic Analysis, para. 13.

specifically, “cars with **digital** speedometers” might be the analogy to **Linux OS**, rather than traditional **analogue** speedometers (**Windows OS**), a declining share of all speedometers. Some people prefer analogue, to be sure, but the market trend is clear (even on Azure).

- 7.14 Second, it is common ground that cloud services are differentiated and have some complexities given the nature of cloud services competition for a vast array of bespoke customer workloads. The relative significance or not of the component that is “*VMs running Windows Server OS*” will also vary widely according to bespoke customer needs, projects and workloads. But it is also clear that there is a spectrum and no bright line or threshold at which point one can say: ah-ha, when Microsoft IP-based services amount to this percentage of total costs, it becomes a separate downstream market.
- 7.15 No analogy is perfect but that would start to resemble looking at the car market ... but only
- cars with **analogue** (Window Server) not **digital** (Linux) speedometers ...
 - and within those, only those cars with
 - *extremely expensive analogue* speedometers (where it is a higher proportion of car cost)
 - and where it is objectively unclear
 - how expensive “*really expensive*” is.
- 7.16 This would surely be entirely arbitrary and unreasonable.
- 7.17 Instead, the downstream market is cloud infrastructure services. In a differentiated market, there are various factors that impact the competitiveness of Amazon, Google and Microsoft for a particular workload. If the customer prefers Amazon’s proprietary Linux OS (not licensed out to rivals), Amazon will have the advantage and this would need be a principle of market definition to be factored in (this might “not be contestable by Azure” because Amazon does not license its proprietary OS to Microsoft at any price); if the customer wants to utilize proprietary Google ad data (not licensed out to rivals) this would be a principle of market definition to factor in (this will “not be contestable by Azure” because Google does not license its proprietary data to Microsoft at any price).
- 7.18 It cannot be right to single out one input cost to the exclusion of the many other factors that drive choice of cloud providers. As noted, in a differentiated market, the currency in which to compensate for a disadvantage is: *cash*. And as shown above: Amazon and Google appear to have the margin (cash) to fund discounts to compete.
- 7.19 Nevertheless, without prejudice to these points, while Microsoft’s economic advisers, Keystone, do not have access to Amazon and Google relevant data, they can present the following analysis for Azure of the distribution of Windows VM revenues as share of total cloud spend of UK customers in the year 2022.³⁶

Figure 5: [REDACTED]

Source: [REDACTED]

- 7.20 [REDACTED].

³⁶ [REDACTED]

7.21 [REDACTED]. To the extent the concern is:

*“Microsoft’s licensing practices may have the effect of making a **significant proportion of customer demand less contestable** to rivals. Over the longer term this may weaken rivals’ ability to acquire sufficient customers to benefit from **scale advantages**.”³⁷*

then this analysis, as a proxy for Amazon and Google, shows that Windows Server is of even lower relevance to such customers in choosing a cloud provider. Microsoft licenses all cloud rivals who wish to use Windows Server in their offering, so there is no question of refusal to supply an essential input. What the above analysis shows is that the price of the speedometer is not driving Amazon and Google to lose business from candidate bigger spenders (who buy “many cars”). This is also because, if anything, there would be a bias in favour of Windows VM revenues on Azure relative to Amazon or Google.

Figure 6: [REDACTED]³⁸

Source: [REDACTED]

8. RRC ANALYSIS SHOWS MICROSOFT IP COSTS DO NOT COME CLOSE TO FORECLOSING AMAZON OR GOOGLE AS CLOUD COMPETITORS

8.1 By way of context to the RRC framework and the input cost materiality test, the CMA’s Disclosed Analysis argues that:

importantly, we note that providers set their prices in light of the input costs they face – in this case, the amount that cloud providers pay to Microsoft for rights to license .. [i]n this regard, we consider that a profit-maximising firm is unlikely to continue to absorb high and increasing input costs in its margins. As such, licensing terms are likely to affect AWS and Google’s competitive offerings.³⁹

8.2 This begs a number of questions.

8.3 First, firms set downstream price in light of input costs but also in light of competition. A firm might rationally absorb input costs into its margins if the market were *extremely competitive* and competitive pressure meant that it was more profit-maximising to secure lower-margin revenue than to lose the revenue (and any margin with it) entirely to rivals. This assumes sufficient margin over time to stay committed to the market, which raises the next point.

8.4 Second, this argument begs the question to be tested: that Amazon’s and Google’s costs for Microsoft IP are “*high and increasing*” such that the licensing terms are “*likely to affect*” their “*competitive offerings*”. But are they “*high*” in any relevant sense to competitiveness? The RRC test in various guises provides an answer (no, they are not high).

A. RRC sense check #1 – no foreclosure on the downstream cloud services market

Public revenue and cost data already show that any relevant HSPLA input costs are tiny fractions of Amazon’s and Google’s reported cloud revenues (and costs), leaving ample margin to compete

³⁷ Licensing WP, para. 1.13.

³⁸ As outlined in Annex 1 to this submission, the CMA is correct to prioritise Windows Server, since pre-existing customers of SQL Server benefit from “License Mobility”. In any case, the proportion of cloud spend allocated to SQL Server would be even lower than Windows Server.

³⁹ Disclosed Analysis, para. 1.12.

8.5 As submitted to the CMA in its submission of 1 December 2023 (“December Paper”):

[REDACTED]⁴⁰

This is graphically depicted below.

Figure 7: [REDACTED]

Source: [REDACTED]

8.6 These figures are comparable to the figures the CMA used to decide “it appears to us that vertical supply contracts for such parts could not raise rivals’ costs.”⁴¹

8.7 The CMA’s Disclosed Analysis points out AWS and GCP costs and revenues will include workloads in which Microsoft IP is *not used*, as well as those in which *it is* (1.13). As noted, this is like excluding sales of cars with digital speedometers (e.g., the only OS used by the customer is Linux, the only database system used is Oracle, etc. and there is no Microsoft IP component to any of the workload package).

8.8 Without prejudice to these points, the foreclosure analysis does not turn on downstream market definition or sub-segmentation because no concerns arise on a narrower basis of “cars with analogue speedometers” (containing Microsoft IP only). The Confidentiality Ring data solves this problem: see B. below.

8.9 The Disclosed Analysis also raises the idea that the above analysis:

“may suffer from endogeneity ... it is possible that AWS and Google spend relatively little on SPLA because Microsoft’s licensing practices discourage customers from using Microsoft software on non-Azure clouds.”⁴²

8.10 [REDACTED]

- [REDACTED].⁴³
- [REDACTED].⁴⁴

8.11 [REDACTED].

8.12 [REDACTED].⁴⁵

B. RRC sense check #2 – no foreclosure even excluding all workload revenue where Microsoft IP was irrelevant (not used)

When the analysis is re-run using only AWS or GCP revenues in which Windows Server or SQL Server are a part, the conclusions are the same, leaving ample margin to compete

8.13 Keystone’s annex containing Confidentiality Ring data is supplied separately as a precaution.

⁴⁰ [REDACTED].

⁴¹ PMI, Appendix 9.1, paras. 39-40.

⁴² Disclosed Analysis, para. 1.13.

⁴³ [REDACTED].

⁴⁴ [REDACTED].

⁴⁵ [REDACTED].

- 8.14 Keystone finds that both Amazon and Google can profitably compete downstream despite their HSPLA costs.
- (a) There is no evidence of input foreclosure as the licensing cost paid by the hyperscalers to Microsoft has consistently made up a small portion of their revenues from UK customers that rely on Microsoft’s software.
 - (b) [REDACTED].
 - (c) [REDACTED].
- 8.15 The picture from comparing input costs to relevant revenues (even limited to revenue in which Windows Server/SQL Server played a role) is already clear: any variation of a RRC analysis does not, remotely, produce results consistent with input foreclosure concerns.
- 8.16 Finally, with respect to Section 2 of the Disclosed Analysis, simply looking at how many customers use products running Microsoft IP in the cloud will give no sense of proportion of cost or revenue that the Microsoft IP represents for rivals, and ultimately whether competition is harmed. In other words, while Section 2 of the Disclosed Analysis is interesting, it does not get to the nub of the issue.
- 8.17 Conversely, a RRC materiality test focus on input costs vs. total costs and total revenues does: it shows Amazon and Google have substantial margin to compete, including with the use of all manner of discounts, whether “applied” to the IP costs or “applied” to any other part of the customer offer.

C. RRC sense check #3 – no margin squeeze, even on the one component of cost

AWS and GCP give themselves a good margin when passing on HSPLA licensing costs

- 8.18 Finally, Microsoft has explained before that, if an input cost were genuinely so “*high*” it were weighing on the competitiveness of a downstream supplier, and “*weakening it*”, one might expect that supplier to have to pass on the input cost without any mark-up over cost, that is, pass it on *at cost*. In more extreme cases of *margin squeeze*, they might have to pass on that cost *at a loss* (negative mark-up) – in other words, subsidise the customer in that respect, simply to win the business.
- 8.19 In March, Keystone on behalf of Microsoft submitted analysis showing that AWS and GCP currently charge list prices with a positive markup over their HSPLA costs of approximately [REDACTED]%.⁴⁶ This does not suggest a margin squeeze or severe cost pressure. It is consistent with the notion that Microsoft HSPLA input costs are relatively low in the scheme of things such [REDACTED] – and still be competitive in a competitive market.

D. RRC sense check #4

In any case, competition is not rivalry about mark-up over HSPLA cost. The-counter-strategy to *win the entire workload* is to fight *cash discounts* with ... *cash discounts*

- 8.20 Microsoft’s advisers consider that Google puts it best when it says:

[REDACTED]⁴⁷

⁴⁶ Keystone Economic Analysis, March 2024 submission to CMA, para. 19 onwards.

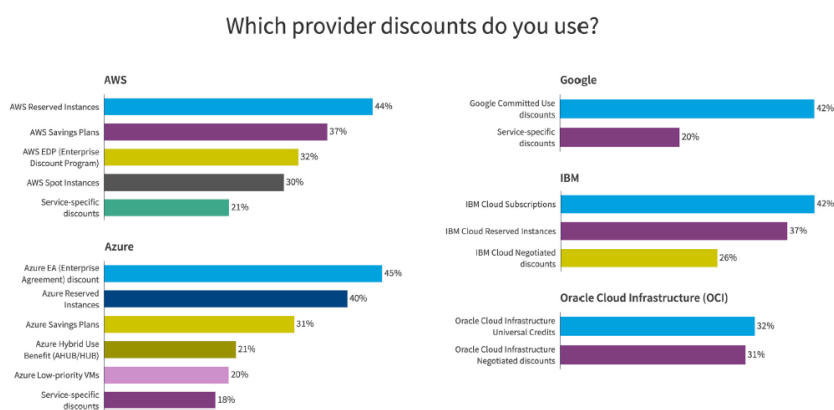
⁴⁷ [REDACTED]

- 8.21 This is exactly right. Google is describing competition at work, and customers benefit. Competition may include services components where GCP has an advantage, not Microsoft: [REDACTED]. Competition, including on “price” – that is “discounts” – is [REDACTED] because cash (discounts) are fungible: it is the total deal price that matters to the customer (and Google). [REDACTED].
- 8.22 Of course, notwithstanding the common ground about how competition does (and is supposed to) work, Google complains that HSPLA costs are higher than it would prefer:
- [REDACTED]
- 8.23 However, as already demonstrated, this grievance is without competition law merit because the data available presumptively suggest that Google has ample margin to compete – even if it cannot have its ideal margin (ideally derived from having no HSPLA costs at all).
- 8.24 One of the factors in a foreclosure analysis (which really only arises if the input is a high proportion of costs and revenues; but see above) is the existence of counter-measures by rivals to maintain their competitiveness; see CC3 para. 277(d). In this connection, Microsoft’s AHB discounts looms large in the narrative on unfairness, discriminatory or unequal treatment of “Listed Providers”.
- 8.25 The relevant point here is: cash is the counter-strategy. It is not that Microsoft has coined a special name for its own discount, *AHB*, or that it has given a different name to a similar license right (“*Flexible Virtualisation Benefit*”) with respect to all rivals except the Listed Providers. It costs Microsoft, Google and Amazon nothing to label their discounts however they please. The point is that they are all discounts, that is, cash or cash savings. They are the ultimate fungible counter-strategy and they are available to Amazon and Google who do, in practice, use them. Whether a car maker offers a discount in the amount of the costs of the speedometer or markets its discount as “get a speedometer free” with the purchase of the car, the economics and the foreclosure analysis are the same.
- 8.26 In practice, for example, Amazon offers a discount of up to \$200 per Windows Server for migrations of at least 40 servers and \$250 for migrations of more than 80 Windows Servers.⁴⁸ The Flexera State of the Cloud 2024 Survey found that customers enjoy a range of discounts across all cloud providers (see figure below) and that only 21% benefitted from AHB.⁴⁹ Moreover, AHB is declining in relevance on Azure.⁵⁰

⁴⁸ See <https://aws.amazon.com/application-migration-service/windows/>

⁴⁹ See https://info.flexera.com/CM-REPORT-State-of-the-Cloud?lead_source=Organic%20Search

⁵⁰ Keystone Economic Analysis, section 5.

Figure 8: Use of cloud discounts, Flexera 2024 survey

9. CUSTOMER EVIDENCE CORROBORATES COMPETITIVE OUTCOMES IN SHOWING THAT INPUT FORECLOSURE IS NOT CREDIBLE

9.1 Finally, consistent with this, customers are *not* telling the CMA that Microsoft IP-protected software drives their choice of cloud:

- Specific customer evidence gathered for the Licensing WP supports that licensing is only one factor, in the round, with a range of other selection criteria – and a few customers do not consider it all.⁵¹
- When asked whether differences in software products between Azure and non-Azure clouds impacted their choice of cloud, “half” of customers said it did not affect their choice at all. The other half only said it affected their choice, with no indication by how much.⁵²
- The Jigsaw report found that individual factors did not necessarily affect participants’ attitudes towards multi-cloud or switching significantly on their own – and participants “*did not single out licensing as a key factor on its own influencing their decision.*”⁵³
- The Jigsaw report is clear that Microsoft software isn’t the main reason customers choose Azure. For example, “*The direct connection between software licensing and the decision to go with Azure is generally not recognized by Azure users*” and: “*participants generally do not see a direct causal link between their organization’s decision to choose Microsoft for its software needs and its decision to choose Azure.*”⁵⁴
- Accordingly, neither AWS nor GCP, in their working paper responses, are able to cite the Jigsaw report in a way that convincingly supports their allegations that Microsoft’s licensing practices cause customer harm. AWS makes no attempt at all. The scant Google citations are at best cherry-picked, or at worst misleading. Only a “*small number of participants*”⁵⁵ raised that licensing could potentially “*discourage both*

⁵¹ Licensing WP, para. 5.28.

⁵² Licensing WP, para. 5.30.

⁵³ Licensing WP, para. 5.31.

⁵⁴ Jigsaw report, paras. 1.4.37; 7.1; 7.2.

⁵⁵ Jigsaw report, para. 7.2.3

*switching or a potential multi-cloud strategy*⁵⁶; and as above detailed above, customer complaints that they have become “*tied into the software agreements*”⁵⁷ are simply not accurate since Microsoft does not refuse to license, tie, or self-preference its software products.

10. IN ESSENCE, AWS AND GCP WANT THE CMA TO IMPOSE IP PRICE CONTROLS WITHOUT OFFERING THEIR OWN FORECLOSURE / RRC ANALYSIS

A. The conspicuous absence of complainants’ own foreclosure analysis is telling

- 10.1 The advantage of an RRC analysis to a complainant is that it is about that rivals’ *own costs* (own input costs, own total costs, own total revenues, own total gross margin (total revenues minus total costs): it has all the data points at the fingertips of its economic advisers. Also, the maths is simple as long as the right numerator and denominators are selected, so it is not an expensive piece of work to commission. What happens if the numbers are run and the formal RRC case is weak? Of course, the work product is parked: there is no obligation to volunteer it if the agency has not asked for it.
- 10.2 In this case, Amazon and Google are complaining to the CMA about that they are the victims of a Microsoft IP licensing strategy that raises rivals’ costs – theirs. Both hyperscalers have retained very high quality legal and economic to advise them during the MIR.
- 10.3 Nevertheless, Microsoft can discern no evidence of the existence of a RRC analysis presented to the CMA either by Amazon or Google.
- 10.4 First, neither references the existence of any such analysis (however labelled) in their responses to the Issues Statement (“IS”) or UIS. In response to the IS, Google⁵⁸ does claim that “*Microsoft raises rivals’ costs*” (para. 35) but neither Google nor Amazon cite any annex or analysis suggesting any form of RRC analysis; nor does they cite the MIR Guidelines on foreclosure or any CMA foreclosure precedent.⁵⁹ Google does cite one UK precedent – the Competition Commission (“CC”) 2011 *Local Bus Market Investigation*. This did not involve input foreclosure but allegations of various forms of street-level skulduggery.⁶⁰ Second, neither Amazon nor Google suggest any RRC foreclosure analysis in their recent responses to the UIS or Licensing WPs.⁶¹ Third, neither the Licensing WP nor the CMA Disclosed Analysis

⁵⁶ Google, Response to CMA Competitive Landscape Working Paper, 23 May 2024, para. 12.

⁵⁷ Google, Response to CMA Competitive Landscape Working Paper, 23 May 2024, para. 13.

⁵⁸ Google/GCP, Response to the CMA Issues Statement dated 9 November 2023, para. 45.

⁵⁹ Both cite the Jenny report for CISPE, which does not contain any RRC analysis of any kind let alone with respect to Google or Amazon’s HSPLA costs as a proportion of their downstream prices or costs. Microsoft considers the Jenny report methodology flawed and a public relations tool. Regardless, it is in any event irrelevant to the analysis of foreclosure at hand.

⁶⁰ At footnote 42 of its response, Google draws an analogy to “*cheap exclusion*” with reference to local bus rivalry allegations cited by the CC, these being “... *deliberately blocking or delaying [bus] services on the road; preventing them from using bus stops and stands; intimidating drivers; causing damage to a rival’s vehicles, depots or other facilities; removing rival operators’ publicity and timetables; providing misinformation about a rival’s services to passengers; imitating a rival (such as copying its livery); and guiding passengers at a bus stop away from boarding a rival’s services*” (8.275-77). For the record, Microsoft has not engaged in analogous such practices, whether in the cloud or on the road.

⁶¹ Google, Response to CMA Competitive Landscape Working Paper, 23 May 2024; Amazon, Response to the CMA Issues Statement dated 25 June 2024.

cite or imply the existence of any RRC foreclosure analysis presented by Amazon or Google (or conducted proactively by the CMA).⁶²

- 10.5 Instead of robust evidence, therefore, the CMA has been confronted with narrative (and economic theory-free claims and hypotheses). The idea seems to be that while framing the case in classic RRC terms head-on may be weak, they can leverage a more oblique strategy based on the premise that AEC can mean, well, whatever you want, as long as it is presented as a customer choice, switching or demand-side inertia issue. With this strategy in mind, Amazon is concerned that “customers [are]... prevented from using Microsoft’s services on the IT provider of their choice”⁶³ and Google is worried about the “freedom to choose ... without incurring the significant artificial surcharge”⁶⁴ (Google); CISPE, whose member spending on Windows Server licensing costs is over [X%] accounted for by Amazon, calls out Microsoft’s “unfair practices, including Azure’s self-preference and discrimination.”⁶⁵
- 10.6 Done properly, economics (the numbers) have objectivity that subjective narrative – whether the self-interested words of Microsoft, Amazon or Google – does not. This response aims to cut through the noise by applying standard economic theory. The AEC test does not mean whatever a complainant wants, rather it is a test that is (or should be) grounded in economics.

B. Intervention in IP rights requires exceptional justification that is manifestly lacking

- 10.7 Adding to the CMA’s challenge of managing these demands, and under deadline pressure, is the need to adhere to the MIR Guidelines, which recognise that, unlike other inputs, IP rights (“IPRs”) “provide an incentive to innovate because they prevent rivals ‘free-riding’⁶⁶” and highlight that “specific interventions in relation to IPRs may risk creating distortions, for example by reducing incentives to innovate.”⁶⁷
- 10.8 The MIR Guidelines reflect generally accepted CMA and peer agency wisdom. As the European Commission (“EC”) puts it, European court jurisprudence is clear that intervention would only be warranted in “exceptional circumstances”⁶⁸ where an IPR holder refuses to license must-have IP outright (which Microsoft does not do) and where that refusal prevents the emergence of a new market for which there is separate consumer demand (also irrelevant here).⁶⁹ This caution is reflected in the fact that at no point, under the modern Enterprise Act

⁶² Microsoft concludes from the above that neither Amazon nor Google submitted any such analysis. The only alternative explanation, it seems to Microsoft, is that Amazon or Google did present such an analysis, did not mention it in their responses to the IS and UIS, and the CMA declined to refer to it in any of its work product shared with Microsoft.

⁶³ Amazon, Response to the CMA Issues Statement dated 23 November 2023, para. 33.

⁶⁴ Google/GCP, Response to the CMA Issues Statement dated 9 November 2023, para. 46.

⁶⁵ CISPE, Response to the CMA Issues Statement dated 9 November 2023, page 2. [X].

⁶⁶ A term defined at footnote 142 of the CC3 as: “where other parties benefit from the provision of a good or service without paying for its provision”; see also CC3, para. 235.

⁶⁷ CC3, para. 374.

⁶⁸ *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings* (2009/C 45/02, 24 February 2009), footnote 50 citing the *Magill* and *IMS Health* judgments.

⁶⁹ OECD (2013), *Supporting Investment in Knowledge Capital, Growth and Innovation*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264193307-en>. There are specific issues in relation to patents incorporated into an industry standard (so-called “standard-essential patents” or SEPs) that have no analogy in this case: it does not involve patents, and if in copyright terms there is an industry standard in cloud virtual machine operating systems, it is *Linux*. In any event, those cases do not involve enforcement obliging the patent holder to give away the IP for free (as some complainants urge here) but instead compel fair, reasonable and non-discriminatory pricing (“FRAND” pricing). There is more appetite from public authorities to intervene where market power is conferred by a natural

2002 MIR rules or Competition Act 1998 rules, has the CMA or a predecessor obliged the compulsory licensing of IP or imposed price regulation on the terms at which IP licenses are granted.⁷⁰

- 10.9 Any intervention under the AEC test with respect to Microsoft's IP in connection with UK customers and competition would therefore be a ground-breaking development both in setting a general precedent in the UK and specifically with respect to cloud services competition, because the UK would be regulating IP licensing terms that are not the subject of any current regulation or enforcement action in the US, EU or indeed any other jurisdiction (unlike, for example, egress fees under EU rules).
- 10.10 Amazon and Google have provided far from sufficient justification to warrant such exceptional intervention.

11. CONCLUSION

- 11.1 Microsoft respectfully suggests that its licensing practices do not come close to raising Amazon's or Google's costs in a manner or level remotely consistent with an AEC based on material foreclosure effects. This is shown by:
- an evaluation of market outcomes (their success and growth generally in relation to revenues related to Microsoft IP);
 - the application of the standard RRC framework as per CMA MIR and other guidelines, and CMA MIR and other precedents; and
 - decisively, the test for the importance of the price of the input as a proportion of downstream prices and costs.
- 11.2 In short, Amazon and Google's claims flunk the materiality test under the standard foreclosure framework set out in the MIR (and other) guidelines and MIR (and other) CMA decisional practice. The relevant data and economic logic objectively show their claims are not a marginal case but well below a passing grade.
- 11.3 The CMA therefore has ample grounds to dismiss these concerns as lacking merit for the purposes of a provisional AEC finding, let alone a robust finding on the balance of probabilities.

monopoly, for example, the firm that controls the only port on a coastline, or a grant of the state e.g. the privatisation of BAA as a London airport near-monopoly (rather than the privatisation of each of Heathrow, Gatwick and Stansted to three respective independent firms that would use their awarded airport compete). These intervention fact patterns do not cut across the public policy goal of rewarding innovators who develop IP, and to preserve incentives to innovate, as the relevant natural or state-granted monopolies were not the fruits of innovation.

⁷⁰ CC3, footnote 201: “[a]t the time of publication of these Guidelines [April 2013] the CC had not used an IP remedy in any market investigation”; none have been imposed in the 2013-24 period. A handful of IP remedy examples exist in UK merger control but that is very different. Those issues are prompted by structural market change brought about by M&A and merging parties have a choice whether to accept conditional deal clearance on such terms. MIR and CA98 remedies can be imposed without the IPR holder's consent.

ANNEX 1

12. KEY ISSUES THAT SHOULD (CONTINUE TO) BE THE FOCUS OF THE INQUIRY

12.1 The CMA's emerging thinking has, quite understandably, focused first on priority issues and Microsoft responds in this paper accordingly.⁷¹

A. The CMA is correct to focus on Windows Server licensed to cloud hyperscalers

12.2 Microsoft by and large agrees with what should be the centre of gravity of the CMA's emerging thinking to date. The CMA has focused its "*evidence gathering and analysis so far ... on ... price factors*"⁷² in relation to two Microsoft products, Windows Server and SQL Server – notably:

- (a) Microsoft discounts that allow customers "*to use their on-premises Windows Server and SQL Server licences on Azure at a reduced cost.*"⁷³
- (b) the CMA's data analysis that seeks to estimate "*the implied difference in the licensing costs for Windows Server and SQL Server on Azure compared with AWS or GCP*" (Licensing WP 6.10(a)) and the "*relative usage of Windows Server and SQL Server on Azure compared with AWS and GCP.*"⁷⁴

12.3 The CMA is correct to focus on a raising rivals' costs or input foreclosure theory where the **rivals are the hyperscalers, Amazon and Google**. It says in its Disclosed Analysis:

*"Windows Server and SQL Server licensing costs can be considered an input cost in the provision of certain cloud services for AWS and Google. Microsoft could therefore have, in principle, the potential to harm [these rivals'] competitiveness by charging them a higher price than ... if it were not competing with them."*⁷⁵

- (a) Due to the 2019/22 changes to its licensing policy, Microsoft grants like-for-like economics between Azure and a variety of smaller European cloud providers, known collectively as the non-Listed Providers.
- (b) There is no prima facie case to answer on raising rivals' costs (or "price-based input foreclosure") in practice with respect to third-party cloud service providers beyond Amazon and Google.

12.4 The CMA is correct to prioritise its focus on **Windows Server**.

- (a) While Linux is the dominant OS in the cloud and growing at Windows Server's expense, even on Azure, Microsoft accepts that there is a substantial residual (but steadily declining) share of cloud business for which the customer seeks to purchase

⁷¹ The allegations on **non-price** foreclosure with respect to products other than Windows Server and SQL Server are not analysed in the Licensing WP and were addressed in the Microsoft Licensing Follow-Up Submission of 23 January 2024.

⁷² Licensing WP, para. 6.7.

⁷³ Licensing WP, para. 6.5(b).

⁷⁴ Licensing WP, para. 6.10(c).

⁷⁵ Disclosed Analysis, para. 1.20

cloud services that have VMs running Windows Server (somewhat less than 1 in 4, compared to Linux) as a component of that package.

- (b) As less than a quarter of a large market is far from de minimis, Microsoft agrees this should be an area of focus.

12.5 In looking at cloud market foreclosure, the CMA should not treat Microsoft's *database* product **SQL Server** on par with its OS product, Windows Server, as an area of focus.

- (a) First, for customers without a pre-existing SQL Server license, Oracle is a close competitor and close substitute. Microsoft's share of supply RDBMS does not in any year reach 30%, the traditional threshold at which ability to foreclose concerns could arise.⁷⁶

- (b) Second, for that notionally "stickier" demand where the customer *already has an on premises license to SQL Server*, likes it, and prefers not to switch to Oracle or another RDBMS for cloud usage, there is a complete answer on price-based foreclosure already: SQL Server has always had "License Mobility", that is, customers who have SQL Server on-premise with Software Assurance are free to "Bring Your Own License" ("BYOL") at no extra charge to any cloud provider beyond Microsoft Azure itself – including all small cloud rivals and Amazon and Google.⁷⁷ They can continue with SQL Server and BYOL to use Amazon or Google clouds. In this scenario, Amazon and Google owe Microsoft zero dollars under their HSPLA. This long-existing fact dismantles the "stickiness" hypothesis. Microsoft cannot raise rivals costs when rivals, Amazon and Google, pay zero under the contract.

B. The lack of ability to foreclose Amazon and Google in the cloud market does not turn on whether Microsoft has any market power in a variety of on-premises software markets

12.6 In some cases, the question of raising rivals' costs or input foreclosure turns on market power in the upstream input market. Here, that is not the case because most of the software cited by complainants (save for Windows Server and SQL Server, noted above) are not material inputs into cloud services competition.

12.7 In Chapter 3 of the Licensing WP, the CMA has only had time to conduct a preliminary analysis of competition across a range of software input markets and leans invariably to the emerging view that Microsoft likely has significant market power with respect to **Windows Server**⁷⁸, **Windows Desktop OS 10/11**⁷⁹, **SQL Server**⁸⁰, **Visual Studio**⁸¹, **Microsoft 365**⁸², and muses that there may be cumulative effects.⁸³

12.8 This is the very first opportunity for Microsoft to respond to these points. Microsoft strongly disagrees with important aspects of this preliminary analysis. It would far from suffice to establish either a finding of dominance in a Competition Act 1998 context or one of significant

⁷⁶ EU-NHMG, para. 25.

⁷⁷ As explained in the December Paper, page 16; and Microsoft Licensing Follow-Up Submission of 23 January 2024, page 7 (Question 9-b).

⁷⁸ Licensing WP, para. 3.77.

⁷⁹ Licensing WP, para. 3.114.

⁸⁰ Licensing WP, para. 3.143.

⁸¹ Licensing WP, para. 3.175.

⁸² Licensing WP, para. 3.211.

⁸³ Licensing WP, para. 3.213ff.

market power in the context, say, of a detailed and focused market study (cf. the CMA's *Digital Advertising* market study) let alone an MIR on the question, or in the SMS Regime context against a balance of probabilities standard.

- 12.9 However, these disagreements can be put to one side, because there is no need for the CMA to develop its preliminary analysis into a robust fully-fledged one, because the foreclosure case does not turn on these questions. A lack of ability to foreclose in cloud services can be decided, compellingly, on other grounds – as addressed in the main body of this response.
- 12.10 Microsoft's submissions in this MIR are therefore without prejudice to its position (or any future submissions) on alleged degrees of market power in the various on-premises software products cited by the CMA.