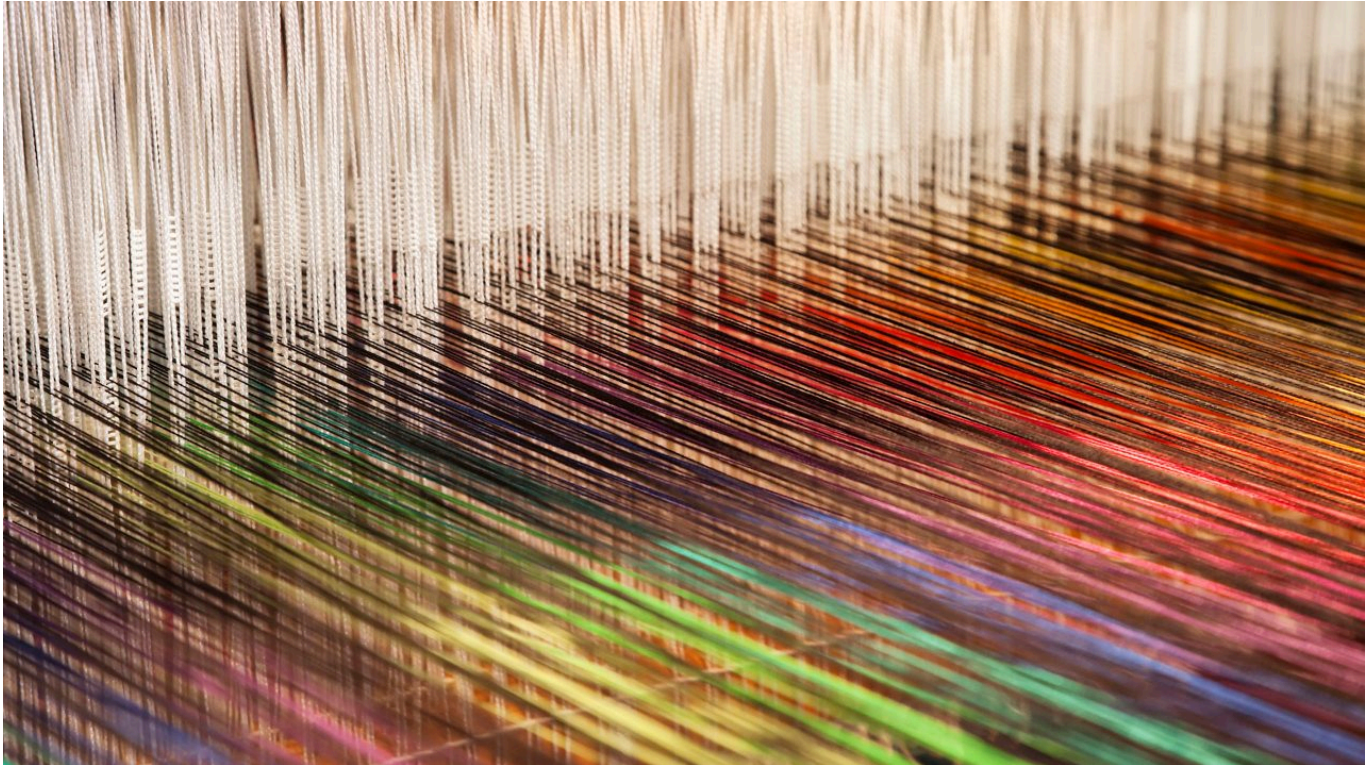


Assessing GenAI Vertical Partnerships Using the Ability and Incentive Framework

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1. Introduction

Generative AI (“GenAI”) has advanced considerably since the release of OpenAI’s ChatGPT in November 2022.¹ At the same time, computational scarcity—the scarcity of the computational resources that underpin GenAI models—could constrain the future growth of GenAI.² Operating against this constraint, the downstream labs supplying final GenAI products (e.g., chatbots) to end users are increasingly forming vertical partnerships with upstream hyperscalers (e.g., Google, Microsoft, Amazon) supplying computational resources required to develop, train, and deploy GenAI models at scale.

Against this backdrop, antitrust enforcers are scrutinizing the impact of these vertical partnerships on competition. Current antitrust scrutiny focuses on whether these partnerships constitute “de facto mergers,”³ or enable hyperscalers and labs to unlawfully coordinate their actions through pooling talent and data.⁴ However, framing these partnerships as cooperative quasi-mergers may overlook a crucial industry dynamic: investors appear to envision a competitive “winner-takes-all” future for GenAI.

⁵ Viewed through this lens, the antitrust risk of these vertical partnerships might not be whether they result in unlawful coordination, but rather whether they foreclose competition. Motivated by this perspective, this article applies the ability and incentive framework to assess the theoretical foreclosure risks of GenAI vertical partnerships alongside their procompetitive efficiencies.

While GenAI vertical partnerships display many potential features, this article focuses on two that are relevant for assessing theoretical foreclosure risks: (1) *cloud investments*⁶ and (2) *margin squeezes*.⁷ On the one hand, when an upstream hyperscaler makes cloud investments in a downstream GenAI lab, this partnership may require that the lab apply the invested funds towards purchasing the hyperscaler’s cloud computing services.

⁸ This conduct might result in customer foreclosure if it locks in the downstream lab as an exclusive buyer of the vertically-integrated hyperscaler’s cloud computing services. On the other hand, a margin squeeze may occur when a vertically-integrated hyperscaler sells its cloud computing services to a downstream rival at a high wholesale price and sells its final GenAI product to end users at a low retail price.⁹ This conduct might result in input foreclosure if rival downstream labs cannot easily switch to other hyperscalers to procure cloud computing services more cheaply.

Ultimately, the potential foreclosure risks of GenAI vertical partnerships are fact specific and should be assessed on a case-by-case basis. Furthermore, while cloud investments and margin squeezes might theoretically foreclose competition, the foreclosure risks should be weighed against the procompetitive efficiencies of vertical partnerships. This article offers an economic framework for performing this careful balancing act: weighing theoretical foreclosure risks against the costs of penalizing vertical partnerships that generate procompetitive efficiencies in a dynamic industry.

2. Background on GenAI Vertical Partnerships

In industries that require substantial upfront investments, high fixed costs can result in a market structure with few upstream firms.¹⁰ For example, in telecommunications, the significant capital investments required to build physical networks creates a market

structure with a few upstream infrastructure owners and downstream mobile providers that lease network bandwidth from these upstream firms to serve end customers.¹¹ Even though the GenAI industry is highly dynamic and continually evolving, it appears to exhibit a similar market structure. Because supplying cloud computing services requires making substantial capital investments, the GenAI industry has structured itself around a few upstream hyperscalers that provide these services.

Securing the scarce computational resources required to develop, train, and deploy GenAI models appears to be an important driver of vertical partnerships between downstream labs and upstream hyperscalers. For example, OpenAI extended its partnership with Microsoft in January 2023 to “build multiple supercomputing systems powered by Azure” that OpenAI can use to develop its GenAI models.¹² Through this vertical partnership, OpenAI secured a custom cloud computing architecture that might otherwise be prohibitively expensive for it to build independently. Similarly, Anthropic, the lab behind Claude Code, signed a new agreement with Amazon in April 2026 under which Anthropic is “committing more than \$100 billion over the next ten years to Amazon Web Services (“AWS”) technologies” and using “AWS as [its] primary training and cloud provider for mission-critical workloads.”¹³ Here again, a driver of the vertical partnership is that Anthropic can “secure up to 5 gigawatts (GW) of capacity for training and deploying Claude.”¹⁴

These vertical partnerships between upstream hyperscalers and downstream labs have drawn antitrust scrutiny. For example, in the United States, the FTC launched a Section 6(b) inquiry in 2024 into “Generative AI Investments and Partnerships” to “scrutinize corporate partnerships and investments with AI providers to build a better internal understanding of these relationships and their impact on the competitive landscape.”¹⁵ Similarly, in the United Kingdom, the Competition and Markets Authority stated in 2024 that “[vertical] partnerships have the potential to bring pro-competitive benefits,” while noting that it “remains vigilant against the possibility that incumbent technology firms could use [vertical] partnerships and investments to shield themselves from competition.”¹⁶ Vertical partnerships have also surfaced in private antitrust litigation. For example, in *Samuel Bryant et al. v. Microsoft*, a plaintiff class of ChatGPT subscribers alleged that Microsoft and OpenAI entered into an anticompetitive agreement under which Microsoft restricted the supply of compute to OpenAI that in turn suppressed the output of ChatGPT products.¹⁷ Plaintiffs alleged that this purported conduct resulted in supracompetitive subscription prices for ChatGPT products.¹⁸

3. Applying the Ability and Incentive Framework to GenAI Vertical Partnerships

The ability and incentive framework is an established framework in antitrust economics that merger practitioners typically use to assess whether a vertical merger might foreclose competition.¹⁹ The following subsections apply this framework in two parts: first, examining how cloud investments might result in customer foreclosure; and second, how margin squeezes might result in input foreclosure. Throughout, I assess the theoretical foreclosure risks of vertical partnerships alongside their procompetitive efficiencies.

3.1. Cloud Investments, Customer Foreclosure, and Cost Efficiencies

Consider a hypothetical vertical merger between an upstream supplier and a downstream firm. Following this merger, customer foreclosure might arise if the integrated downstream firm purchases inputs exclusively from its upstream supplier.²⁰ As a result, upstream rivals might be foreclosed if they lose the integrated downstream firm as a buyer of their inputs. This customer foreclosure could pose an antitrust risk if the integrated downstream buyer represents such a significant portion of demand for upstream rivals that these rivals cannot reach the minimum efficient scale needed to compete.²¹ For example, if upstream rivals cannot easily substitute to other downstream buyers, their ability to attain this necessary scale to compete with the vertically integrated firm is diminished. In this case, vertical integration might harm competition through customer foreclosure.

Mapping this hypothetical merger to GenAI vertical partnerships specifically, cloud investments could theoretically result in customer foreclosure. Cloud investments might require that the lab applies the invested funds to purchase the hyperscaler's cloud computing services. A hyperscaler could possess the ability to foreclose competition using cloud investments if these investments lock in the downstream lab to the hyperscaler as its sole supplier of cloud computing services, or make it prohibitively costly for the downstream lab to procure cloud computing services from rival hyperscalers.²² However, if the downstream lab can easily multi-home across different hyperscalers, the hyperscaler is unlikely to possess the ability to foreclose competition using cloud investments. Anthropic provides an example of this multi-homing because it procures cloud computing services from two rival hyperscalers: Amazon and Google.²³

An upstream hyperscaler has the incentive to make cloud investments in its vertical partnership with a downstream GenAI lab if the benefits of securing an exclusive buyer for its cloud computing services offset the costs of making cloud investments. However, even

if a hyperscaler has the incentive to make cloud investments, these investments can generate procompetitive efficiencies. Securing demand from a leading GenAI lab using cloud investments can enable the hyperscaler to cover the significant fixed costs of building and operating AI data centers.²⁴ In addition, securing demand using cloud investments can allow the hyperscaler to relieve computational scarcity directly through unlocking economies of scale that cannot generally be attained without securing large volumes of demand.²⁵

Antitrust practitioners should weigh the theoretical customer foreclosure risks of cloud investments against their procompetitive efficiencies. Cloud investments can foster competition by enabling entry of new labs in the downstream market. Unlike established hyperscalers, emerging GenAI labs operate with startup financial profiles and hence lack the robust balance sheets and investment-grade ratings required to secure traditional financing.²⁶ Hyperscalers can fill this financing gap for emerging labs using cloud investments that provide “in-kind” financing.²⁷ Cloud investments can also reduce the costs of innovation for frontier downstream labs who need not pay market rates associated with traditional financing methods because they can instead obtain computational resources at a lower cost through cloud investments.²⁸

3.2. Margin Squeezes, Input Foreclosure, and Elimination of Double Marginalization

While customer foreclosure might harm competition between upstream firms, input foreclosure might harm competition between downstream firms. Returning to the hypothetical vertical merger between an upstream supplier and a downstream firm, input foreclosure could arise if the integrated upstream supplier restricts a downstream rival’s access to a critical upstream input, or makes it prohibitively expensive for downstream rivals to purchase this critical input. A margin squeeze represents a specific mechanism for input foreclosure. This can occur when a vertically integrated firm sells its upstream input to a downstream rival at a high wholesale price and sells its own downstream product at a low retail price to end consumers. This conduct could potentially “squeeze” the downstream rival’s profit margin, which is the difference between its retail price and wholesale cost. If downstream rivals cannot easily substitute to other upstream input suppliers, their production costs increase, thereby potentially lessening competition between downstream firms.

GenAI vertical partnerships may create scope for margin squeeze conduct that could theoretically result in input foreclosure. This might occur if a vertically-integrated hyperscaler charges rival downstream labs a high wholesale price for cloud computing

services and sells its own final GenAI product at a low retail price to end users. However, economists note that for a margin squeeze to successfully foreclose competition, a narrow gap between the wholesale price and the retail price is necessary, but not sufficient. The integrated hyperscaler must also possess substantial market power.²⁹

This market power could arise if rival downstream labs cannot easily substitute to other hyperscalers to procure cloud computing services more cheaply. Yet competition trends in GenAI appear to detract from such market power concerns. For example, the presence of alternative cloud computing providers—including Oracle and specialized GPU Clouds like CoreWeave and Lambda Labs—suggests that downstream labs can substitute to other cloud computing suppliers in response to a hyperscaler’s attempted margin squeeze,³⁰ thereby limiting hyperscalers’ potential market power to engage in margin squeeze conduct.

A vertically-integrated hyperscaler possesses the incentive to enact a margin squeeze if doing so is profitable. However, a margin squeeze can be costly for a hyperscaler. First, in lowering its retail price, the integrated hyperscaler loses retail revenues and hence loses profits on those revenues. Second, in raising its wholesale price, the integrated hyperscaler risks downstream labs substituting to rival hyperscalers that offer lower wholesale prices, thereby losing wholesale revenues and hence losing profits on those revenues. Thus, a vertically-integrated hyperscaler would only attempt a margin squeeze if the expected profits from foreclosing a downstream rival outweigh the lost profits. Yet the likelihood of “leapfrogging” in this industry based on open-source GenAI frameworks could detract from a hyperscaler’s incentive to enact a margin squeeze.³¹ If an integrated hyperscaler incurs losses to foreclose a rival downstream lab through a margin squeeze, the hyperscaler risks never recouping those losses if its GenAI model is leapfrogged by a competing GenAI model predicated on open-source frameworks like Meta’s Llama.³²

Even if an integrated hyperscaler possesses both the ability and incentive to enact a margin squeeze, antitrust practitioners should weigh the theoretical input foreclosure risks of a margin squeeze against the procompetitive efficiencies of vertical partnerships. What might look like a margin squeeze could instead reflect a procompetitive economic efficiency: the elimination of double marginalization.³³ When a downstream lab vertically integrates with an upstream hyperscaler, the hyperscaler no longer views the lab as a regular customer, but rather as an affiliate whose profits it seeks to maximize. As a result, economic theory predicts that the hyperscaler would supply cloud computing services to its downstream affiliate at, or near, marginal cost. All else equal, the downstream lab finds it profitable to pass through this cost saving to end consumers by lowering the price of its final GenAI products.

4. Conclusion

While an integrated hyperscaler might theoretically possess the ability and incentive to lock in a downstream lab using cloud investments, these investments also play an important role in covering the high fixed costs that hyperscalers incur in building and operating AI data centers, and in enabling downstream labs to access scarce computational resources more easily and cost effectively. Furthermore, what might appear to be an anticompetitive margin squeeze could instead reflect the procompetitive elimination of double marginalization that benefits end users through lower prices. Therefore, antitrust practitioners should evaluate GenAI vertical partnerships on a case-by-case basis: weighing theoretical foreclosure risks against the costs of penalizing procompetitive vertical partnerships in a highly dynamic industry.

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