Insight

Dark Clouds Ahead: Analysis of Increasing Regulatory Scrutiny of Cloud Computing

JOSHUA LEVINE, JOHN BELTON | AUGUST 15, 2023

Executive Summary

- Driven by concerns of market concentration and anticompetitive conduct, the Federal Trade Commission and its European counterparts have begun examining the cloud computing market and exploring options such as breaking up large cloud computing firms.
- Despite these concerns, the current market structure for cloud computing provides significant benefits for firms, such as reduced costs and increased efficiencies, driving benefits for consumers that could be lost if the market is regulated too aggressively.
- Rather than requiring structural separation or imposing broad protectionist measures, regulators should use existing antitrust tools to target specific bad practices to protect competition without stifling the industry outright.

On March 22, the Federal Trade Commission (FTC), initiated a proceeding examining business practices and their impact on competition within the cloud computing market. European regulators have also begun examining the cloud market, with regulators in the United Kingdom (UK) opening an investigation into potentially anticompetitive aspects of the cloud market. Specifically, regulators are interested in licensing practices that allow certain cloud providers to simultaneously undercut competitors on the price for services while raising switching costs for customers of cloud services. These regulatory actions could prelude significant changes to the cloud market, with the breakup of cloud computing firms a potential option for regulators.

Cloud computing – the service that allows firms to purchase storage and computing power over the internet – has significant benefits for the global economy. Over 50 percent of businesses in the United States use cloud platforms to save on information technology (IT) costs, increase productivity, and introduce new products, resulting in a gross value add of $382 billion for U.S. businesses annually. Consumers use cloud tools as well; 71 percent of Americans say they use cloud storage for their data.

If regulators were to structurally separate or block the vertical integration of cloud providers, they could substantially reduce the benefits that cloud providers offer to businesses. Instead, regulators should use existing antitrust tools to target anticompetitive practices, enhancing the benefits of cloud computing for the firms and consumers that utilize the services.

What Is Cloud Computing?

Cloud computing refers to the rental of servers, computing resources, and services over the internet to store and process information. This innovative offering is an alternative to traditional on-premises servers and allows computing to be located at large data centers, increasing efficiency and reducing costs for businesses. These

offerings have become ubiquitous across the internet, including services such as Google Drive, Microsoft 365, and Zoom. These resources tend to be implemented in a "pay as you go" model, reducing IT spending by 31 percent and allowing businesses to allocate resources elsewhere.

Cloud providers develop offerings such as Amazon's AWS Marketplace, Microsoft's Azure Marketplace, and Google's Cloud Marketplace, creating a vertically integrated ecosystems of tools built on their technology. As an example of how cloud can be used, a firm can obtain its server infrastructure, platform, and software from Amazon, meaning that it can purchase multiple offerings from one provider, simplifying payment and functionality. This arrangement reduces costs and simplifies network design for businesses, but it has come at the expense of greater interoperability, the ability for platforms to integrate and share data with each other. Interoperability has been key to the widespread adoption of the internet and various other technologies, and limiting such capability among some cloud computing providers raises switching costs for firms and incentivizes businesses to concentrate operations with a single provider. These market conditions have heightened concerns about competition in the market, as these dynamics can benefit incumbents at the expense of potential competitors. In response to market pressures, however, providers have begun to implement interoperability into their services.

Regulatory Scrutiny of Cloud Computing

Regulators are examining the market concentration of three key cloud computing providers – Amazon, Microsoft, and Google. Data show that three firms – Amazon Web Services (32 percent), Microsoft Azure (22 percent), and Google Cloud (11 percent) – control 66 percent of the worldwide cloud infrastructure market. The industry's Herfindahl-Hirschman Index (HHI) value of 1,671[1], a measure of market concentration used in antitrust analysis, is at the "low end of moderately concentrated." Even when evaluating the market through the lens of the recently proposed draft FTC-DOJ Merger Guidelines, the industry's HHI of 1,671 is still below the "highly concentrated" level, indicating the market is still competitive.

In the United States, the FTC has started to investigate the sector, issuing a request for comment regarding "Business Practices of Cloud Computing Providers that Could Impact Competition and Data Security." In the UK, a recent Ofcom report examined the market dynamics of cloud computing, citing "significant concerns we have about the cloud infrastructure market," before referring the industry to the Competitive Markets Agency (CMA) for investigation because of high egress fees, restrictive licensing, and market concentration.

Several groups that submitted FTC comments and Ofcom's report suggest "structural separation" as a potential enforcement action. In practice, this could be implemented by either requiring the cloud computing arm to be "spun off" from the firm or enforcing a split of different components of a firm's digital infrastructure and services. In a 2019 Columbia Law Review article, FTC Chair Lina Khan argued enforcers should "give structural separations a seat back at the table" when examining large technology companies.

The European Union (EU) is also considering implementing a new certification scheme for cloud providers. Currently, there is no specific certification program within Europe, but cloud providers are subject to provisions under the EU's Digital Markets Act. To earn the highest level of certification under the new framework, an organization is required to have its headquarters based in the EU. Given that the cloud industry is dominated by U.S. companies, this protectionist measure could effectively remove cloud services in Europe. While this rule is unlikely to be adopted soon, it is a clear signal of the EU's perspective on cloud computing.

Impacts of Potential Regulation

While there are potential anti-competitive concerns regarding cloud computing, overly aggressive regulation could have many negative consequences for consumers and small businesses. If the FTC were to pursue "structural separations," as some organizations recommend, or if the CMA implements "structural" remedies as Ofcom describes, it could fundamentally alter the nature of cloud offerings and destabilize global IT infrastructure. Such decisions could disrupt providers' flexibility to offer businesses services tailored to their needs. Practically, the forced breakup of vertically integrated providers would require firms to purchase servers, platforms, and software from different providers and then link them together. This method is inefficient, cost prohibitive, and less secure, stripping these providers of the benefits associated with cloud computing.

Potential Alternatives

Regulators need not structurally separate all firms. Instead, they can use existing tools to address specific anticompetitive practices. For example, a business practice that stakeholders, civil society groups, and regulators generally agree requires addressing is licensing restrictions. Microsoft has implemented a practice requiring businesses to pay up to five times more than what they otherwise would to use a Microsoft service hosted on a different cloud provider. This arrangement forces businesses to use Microsoft servers to host common services such as Microsoft Office. Ofcom's report asserts this practice is anticompetitive because Microsoft is leveraging the popularity of its operating system among firms to convince cloud customers to use its suite of offerings, simultaneously undercutting competing cloud providers on price and raising switching costs for businesses. According to the Ofcom report, this form of licensing results in $1.3 billion in added costs for businesses annually. It is important to note that this is not a sector-wide issue – other providers implement a more open cloud approach.

While cloud computing is a relatively new sector, issues such as product substitutability, foreclosing competition through existing market power, and artificial barriers to entry are longstanding competition issues. Rather than making significant changes to a competitive market, the FTC and CMA could use existing law to address acute competitive concerns in the cloud computing market. Section 2 of the Sherman Act and Section 5 of the FTC Act prohibit firms from monopolizing or attempting to monopolize a market through anticompetitive means. If the licensing restrictions provide few procompetitive benefits and significantly harm competition, the FTC could investigate the market and bring a case under existing law, limiting the need for further legislation or sector-wide regulation.

Conclusion

As the FTC, CMA, and EU regulators examine the cloud computing industry, they should understand the potential costs that poorly targeted regulation could impose on firms and consumers. Currently, cloud computing is the bedrock of IT infrastructure, and its importance in global markets is projected to grow significantly. Its benefits can be best observed for small businesses, allowing efficient scaling of their operations. Overly aggressive regulation would substantially reduce the benefits of the service enjoyed by consumers. Instead, regulators should consider a targeted approach focused on implementing changes that would promote cost savings for firms as well as competition, both contributing to benefits for consumers.

[1] HHI Calculated using the Department of Justice formula of squaring market share of each firm competing in the market and then summing resulting numbers. Data on worldwide cloud infrastructure market provided by Statista and Synergy Research Group.