

Cloud Computing—What Are the Big Players Telling Us?

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Each earnings season, we become accustomed to certain patterns. One pattern involves the biggest tech companies reporting earnings before many other smaller and medium-sized firms. In what we know is a very difficult economic backdrop, it's important to look for the signals that some of the world's largest companies are giving us.

Additionally, since Microsoft Azure, Amazon Web Services and Google Cloud are three of the world's largest providers of public cloud infrastructure, it's possible that these reports contain details about how companies are spending more broadly on technology. Combining the annual revenues of just these businesses—recognizing that they are each part of a larger company—we see spending on cloud infrastructure annually in the hundreds of billions of dollars.

We believe that there is a difference between these three large public-cloud infrastructure providers and the much larger number of far smaller Software-as-a-Service (SaaS) providers. These three firms, for instance, are a major part of most market capitalization-weighted benchmark indexes. They are at a point in their life cycles where they should exhibit sensitivity to broad, global economic activity and growth expectations.

- **What Can They Tell Us?** The most important thing that we think the reports of the big public-cloud providers can tell us regards trends in broad-based information technology spending on cloud computing. Eventually, the enterprise market will have “moved to the cloud,” and the growth rates of these large players should drop significantly. We are not yet there, so in this type of environment, we want to really see the resilience of cloud spending in the face of a tougher economic backdrop. There haven't been that many economic slowdowns since the genesis of the cloud business model, and there certainly haven't been sustained periods of inflation or central bank tightening.
- **What Can't They Tell Us?** The smaller SaaS providers tend to help their customers with much more specific business initiatives. It may be accounting, compliance, cybersecurity, data analysis...the list is becoming endless. These companies are more idiosyncratic, in that their individual results do not translate to broad trends as clearly as the biggest company results would. However, we might see strong spending in cybersecurity, for example, and this may not be as clearly visible in the earnings results of the biggest companies.

Our initial sense is that it is important to remember that, in many cases, businesses transition to the cloud to create efficiency and accomplish more while investing either less time, less money or less of both. We think that this overall trend will continue, but it won't likely continue at the rates seen in recent years IF the global

backdrop is characterized by a deteriorating economic picture. It's also the case that many cloud-focused companies have seen their share prices drop significantly in 2022—this doesn't mean that all the risk is "priced in" by any means, but it does tell us that the valuation risk of the space is lower compared to the much higher valuations seen toward the end of 2021.

Microsoft

Microsoft is a leader in the cloud space, and it's important to note that the Azure infrastructure platform is one piece of the overall "Intelligent Cloud" effort. Most attention goes to the year-over-year revenue growth rates, so it is instructive to ground any discussion first in some of the recent quarterly figures, which are shown in year-over-year terms for Azure specifically below:¹

- September 30, 2021: 50%.
- December 31, 2021: 46%.
- March 31, 2022: 46%.
- June 30, 2022: 40%.
- September 30, 2022: 35%.

It also helps to look at the overall revenue base to ground any further thoughts about reasonable growth. While the quarterly results do look at more than the pure Azure revenues, broadening the picture to "Intelligent Cloud," we see that Microsoft's Intelligent Cloud revenue was \$16.91 billion as of September 30, 2021, and this figure increased to \$20.33 billion as of September 30, 2022. This is a quarterly figure, and it is beginning to be quite large, so part of the growth rate deceleration that we may be seeing could be attributed to the size and scale of these figures.

Analysts are seeing Azure customers very focused on optimizing their cloud workloads, which helps them save money. There is also evidence that customers are pausing on new workloads. It is reasonable to think that, in an environment of slower economic growth, consumption-based business models like public cloud infrastructure may indicate shifts in customer behavior toward more essential workloads.²

Amazon

Amazon Web Services (AWS) is the leading public cloud infrastructure platform on the basis of market share, often cited as having a figure of around 40% of the total. If we consider the year-over-year growth rates from recent quarters:³

- September 30, 2021: 39%.
- December 31, 2021: 40%.
- March 31, 2022: 37%.
- June 30, 2022: 33%.
- September 30, 2022: 27%.

Similar to the case of Microsoft, we are seeing decelerating growth rates. However, if we look to September 30, 2021, the trailing 12-month net sales for AWS was \$57.2 billion, and this same figure as of September 30, 2022, is \$76.5 billion. These are getting to be quite large numbers.

Also similar to the story with Microsoft, enterprise cloud customers are looking to reduce costs within the AWS ecosystem. Analysts are continuing to note the long-term potential and how this differs from the situation within the shorter-term macroeconomic backdrop.⁴

Alphabet—Google Cloud in Focus

Google Cloud, within Alphabet, does trail both Microsoft Azure and AWS in terms of market share, but Alphabet as a whole runs a formidable, cash-rich business. It has been known to make large, splashy deals to gain high-profile cloud customers. If we note the year-over-year growth figures:⁵

- September 30, 2021: 45%.
- December 31, 2021: 45%.
- March 31, 2022: 44%.
- June 30, 2022: 36%.
- September 30, 2022: 38%.

The growth rates are similar to what we noted with Microsoft Azure and AWS, but the dollar figures are much lower. As of September 30, 2021, the quarterly revenue from Google Cloud was reported at \$4.99 billion, and then as of September 30, 2022, this figure had grown to \$6.87 billion.

It is notable that, while Microsoft and Amazon saw quarter-to-quarter decelerations in growth rates, Google Cloud is cited as a bright spot of growth acceleration in Alphabet's results. However, we'd note that Alphabet's core business was certainly not immune to deteriorating economic conditions, and that the revenue figures are growing from a smaller overall base.

Conclusion: The Economy Matters, but This Is Not the Year 2000

The primary conclusion that we reach at this point is that economic conditions do matter for cloud computing companies. We have already seen their share price performance for 2022—it is crystal clear that market participants have reassessed the appropriate valuation multiples for these firms considering higher inflation and higher interest rates. We will be watching closely to see how much revenue growth these companies can maintain as they continue to report earnings for the period ended September 30, 2022. The biggest companies, so far, have reported a range of 27% to 38%. It clearly isn't the euphoric environment of 2020 any longer, but we don't think it appropriate to say a "tech bubble is bursting" either.

For investors seeking to analyze groups of companies focused on cloud computing, there is the [WisdomTree Cloud Computing Fund \(WCLD\)](#), and for those looking at a specific functional group of SaaS companies, there is the [WisdomTree Cybersecurity Fund \(WCBR\)](#). Many people see cybersecurity as a necessity, not a discretionary purchase, and it will be notable to see how those firms hold up against cloud computing players more broadly.

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As of November 16, 2022, WCLD held 0%, 0% and 0% in Amazon, Microsoft and Alphabet. Click [here](#) for a full list of Fund holdings. Holdings are subject to change.

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1 Source: Microsoft's First Quarter Fiscal Year 2023 Results, 10/25/22. Revenue figures are presented in the generally accepted accounting principles (GAAP) format.

2 Source: Brad Sills and Adam Bergere, "Expected Azure decel likely temporary, cyclical; model largely derisked," Bank of America Securities, 10/26/22.

3 Sources: Amazon's Quarterly Earnings Conference Call Slides for the specific periods ended 9/30/22, 6/30/22, 3/31/22, 12/31/21 and 9/30/21. The revenue growth figure is taken as the year-over-year growth without foreign exchange adjustment.

4 Source: Justin Post and Michael McGovern, "Expecting Less this Holiday," Bank of America Securities, 10/28/22.

5 Sources: Alphabet's Quarterly Earnings Announcements, which specify the revenues from different business units on a quarterly basis for the periods ended 9/30/22, 6/30/22, 3/31/22, 12/31/21 and 9/30/21. Percentage growth is calculated directly from the figures that Alphabet reports for Google Cloud, all in USD terms.

Important Risks Related to this Article

WCLD: There are risks associated with investing, including the possible loss of principal. The Fund invests in cloud computing companies, which are heavily dependent on the internet and utilizing a distributed network of servers over the internet. Cloud computing companies may have limited product lines, markets, financial resources or personnel and are subject to the risks of changes in business cycles, world economic growth, technological progress and government regulation. These companies typically face intense competition and potentially rapid product obsolescence. Additionally, many cloud computing companies store sensitive consumer information and could be the target of cybersecurity attacks and other types of theft, which could have a negative impact on these companies and the Fund. Securities of cloud computing companies tend to be more volatile than securities of companies that rely less heavily on technology and, specifically, on the internet. Cloud computing companies can typically engage in significant amounts of spending on research and development, and rapid changes to the field could have a material adverse effect on a company's operating results. The composition of the Index is heavily dependent on quantitative and qualitative information and data from one or more third parties, and the Index may not perform as intended. Please read the Fund's prospectus for specific details regarding the Fund's risk profile.

WCBR: There are risks associated with investing, including the possible loss of principal. The Fund invests in cybersecurity companies, which generate a meaningful part of their revenue from security protocols that prevent intrusion and attacks to systems, networks, applications, computers and mobile devices. Cybersecurity companies are particularly vulnerable to rapid changes in technology, rapid obsolescence of products and services, the loss of patent, copyright and trademark protections, government regulation and competition, both domestically and internationally. Cybersecurity company stocks, especially those that are internet related, have experienced extreme price and volume fluctuations in the past that have often been unrelated to their operating performance. These companies may also be smaller and less experienced companies, with limited product or service lines, markets or financial resources and fewer experienced management or marketing personnel. The Fund invests in the securities included in, or representative of, its Index regardless of their investment merit, and the Fund does not attempt to outperform its Index or take defensive positions in declining markets. The composition of the Index is heavily dependent on quantitative and qualitative information and data from one or more third parties, and the Index may not perform as intended. Please read the Fund's prospectus for specific details regarding the Fund's risk profile.