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# 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:<sup>1</sup>

- 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.<sup>2</sup>

#### 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:<sup>3</sup>

- 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.<sup>4</sup>

#### 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:<sup>5</sup>

- 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.

Christopher Gannatti is an employee of WisdomTree UK Limited, a European subsidiary of WisdomTree Asset Management Inc.'s parent company, WisdomTree Investments, Inc.

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

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

<sup>3</sup> 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.

<sup>4</sup> Source: Justin Post and Michael McGovern, "Expecting Less this Holiday," Bank of

America Securities, 10/28/22.

<sup>5</sup> 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.

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## DEFINITIONS

**Cloud infrastructure**: Cloud computing infrastructure is the collection of hardware and software elements needed to enable cloud computing. It includes computing power, networking, and storage, as well as an interface for users to access their virtualized resources.

**Software-as-a-Service (SaaS)**: Software applications provided over a network connectio.

**Market capitalization-weighting**: Market cap = share prices x number of shares outstanding. Firms with the highest values receive the highest weights in approaches designed to weight firms by market cap.

**Cloud computing**: computing capabilities deployed via internet connection in form of applications, platform services, or infrastructure.

**Cloud deployment model**: There are four cloud deployment models: public, private, community, and hybrid. Each deployment model is defined according to where the infrastructure for the environment is located. There are three main cloud service models: Software as a Service, Platform as a Service, and Infrastructure as a Service.

**cybersecurity**: Refers to the measures taken to protect devices, networks, and data from unauthorized access and criminal use

**Valuation**: Refers to metrics that relate financial statistics for equities to their price levels to determine if certain attributes, such as earnings or dividends, are cheap or expensive.

**Inflation**: Characterized by rising price levels.

**Interest rates**: The rate at which interest is paid by a borrower for the use of money.