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Hyperscalers: The New Heavy Industry

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Abstract

The balance sheets of Alphabet, Amazon, Meta, Microsoft, and Oracle are undergoing massive changes. This is evident from an analysis of their most recent reports. They are accumulating liabilities totaling more than \$2.6 trillion.

Zusammenfassung

Die Bilanzen von Alphabet, Amazon, Meta, Microsoft und Oracle ändern sich massiv. Das zeigt eine Analyse ihrer jüngsten Berichte. Sie türmen Verpflichtungen von mehr als 2,6 Billionen Dollar auf.



July 22, 2026, was a historic day in Alphabet's stock market history. For the first time since its 2004 initial public offering, the parent company of Google and YouTube reported negative free cash flow (FCF). Among analysts, FCF is considered the most important metric for stock valuation, as it answers the question of how much cash a company generated in the past reporting period after deducting all expenses. Based on projected future free cash flows, calculations can be made to determine what the fair value of a stock might be today (Wingenfeld 2008).¹

Yet just a few years ago, hardly anyone predicted that Alphabet would ever have more cash outflows than the search engine giant generates in cash inflows from its operations. Nevertheless, Alphabet's stock price is trading significantly higher than it was a few years ago: This likely reflects both the company's positive business performance in the past and hopes that the massive investments in artificial intelligence (AI)—which are responsible for the negative FCF—will pay off.² Whether this will be the case can, at best, only be predicted approximately at this time.

What can be determined, however, is how the balance sheets of the so-called hyperscalers—the major corporate investors in AI—have developed recently. This, along with the conclusions that can be drawn for the future, will be the focus of this study.

In addition to Alphabet, the ranks of companies whose investments in AI are projected to reach trillions of dollars include the online retailer and cloud provider Amazon, the social media giant Meta, and the software manufacturers Microsoft and Oracle. Hence the term “hyperscalers”: These five companies are investing far beyond the usual levels, with the goal of scaling future revenues from their AI-related businesses. To this end, the hyperscalers are making massive purchases of hardware such as semiconductors and data storage. Hundreds of billions of dollars and more are flowing into the construction of data centers.

New Investment Focus

This investment focus is new. In the past, the five companies' investments in buildings, machinery, and other tangible assets were limited. Instead, their businesses relied on so-called intangible assets: in-house developments based on employee expertise. However, these intangible assets were scarcely reflected in the balance sheets. The reason: Accounting rules set strict standards regarding the capitalization of intangible assets (Schäfer, Lindenmayer 2005). This made the hyperscalers'

¹ $\text{Barwert} = \frac{\text{CF}_t}{(1+r)^t}$ (CF{t}) = Free cash flow in t periods, r = discount factor (interest rate + risk premium or cost of capital), t = the number of periods

² The following applies to all publicly traded companies mentioned here: Past performance is not a reliable indicator of future performance. This is not a recommendation to buy or sell securities of the companies mentioned



balance sheets concise and easy to analyze—because key business drivers were not reflected in the financial figures (Schürmann 2022).

But that’s no longer the case. The balance sheets have already changed significantly. This is evident from an analysis of the most recent quarterly financial statements from Alphabet, Amazon, and Meta (each as of June 30, 2026), as well as from Microsoft and Oracle (annual balance sheets as of June 30 and May 31, 2026), each compared to their status five years ago. At that time, for example, the startup OpenAI—in which Microsoft holds a stake—was still in the process of developing the leading chatbot ChatGPT, so AI investments were barely reflected in the reports of today’s hyperscalers.

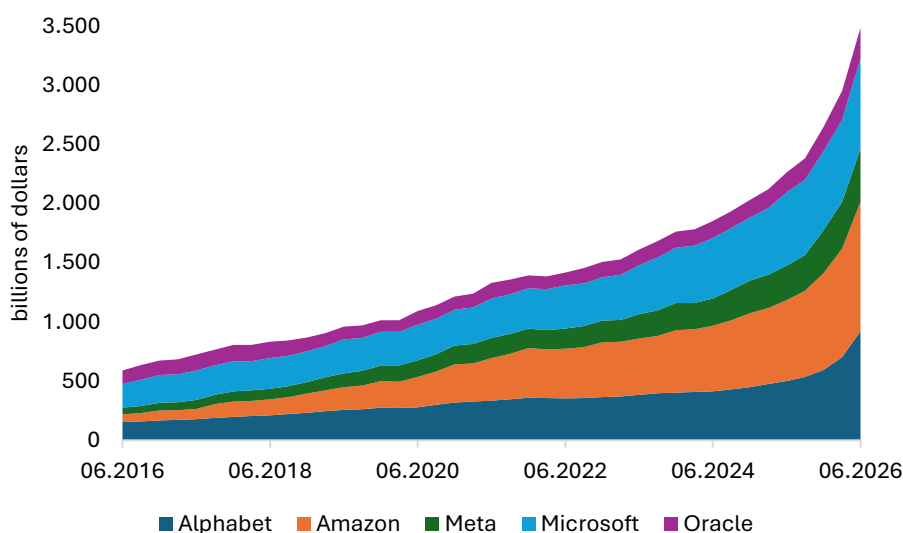
The comparison is based on the reports filed by the five companies with the U.S. Securities and Exchange Commission (SEC). Unlike a purely standardized data retrieval, some key figures were adjusted, and additional information from the reports beyond the usual standard format was taken into account. For comparison purposes, numerous data points were compared with those collected by the data provider Bloomberg for each company, and in some cases, standardized Bloomberg data was used.

Balance Sheet Items with Significant Changes

The results reveal significant changes. The total assets of the five companies rose by nearly 2.2 trillion dollars—or more than 160 percent—over the five-year period under review, reaching just under 3.5 trillion dollars. By comparison, for a heavy-weight like the oil company ExxonMobil, total assets did not even increase by a third during the same period (from \$368 billion to \$464 billion). Over ten years, the aggregate total assets of the five hyperscalers have actually increased nearly five-fold, with a significant acceleration since the beginning of 2025 (Figure 1).



Figure 1: Total Assets of the Five Hyperscalers



Source: 10-Q and 10-K reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute, as of August 2026.

In addition to total assets, other key balance sheet and off-balance-sheet items include assets, liabilities, equity, and contractual obligations. The greater the net assets (assets minus liabilities), the greater the shareholders' stake in their company. A high equity ratio ensures financial stability and acts as a buffer against write-downs. For companies with long-term business models, equity ratios below 30 percent are considered low to critical, while ratios above 50 percent are regarded as very solid. For companies with high turnover, such as retailers, however, even low equity ratios of 20 percent are acceptable—they do not need excessive long-term capital, such as equity, for their operations. Contractual obligations represent future expenditures and expenses.

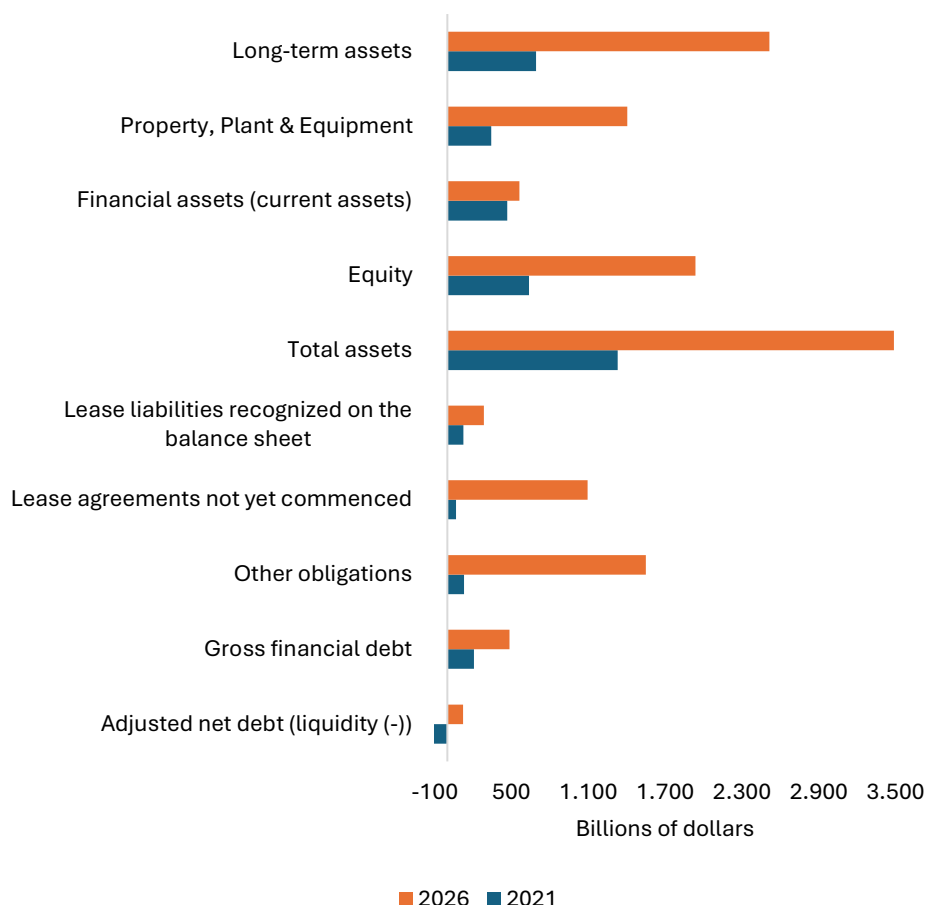
Over the five-year period under review, the five hyperscalers' long-term assets rose by a good 260 percent to more than \$2.5 trillion—a much sharper increase than that of total assets (up 160 percent). Data centers fall into a subcategory of this: Property, Plant & Equipment. The assets reported there have more than quadrupled to just over \$1.4 trillion within five years, rising 47 percentage points faster than long-term assets overall.

Collectively, the five hyperscalers now have net financial debt of \$9 billion; adjusted for short-term and/or volatile investments (such as stocks and restricted cash), some of which are locked up, the five companies most recently reported adjusted net financial debt totaling \$123 billion, with Oracle accounting for the lion's share (\$105 billion). Five years ago, the five companies still reported adjusted net liquidity of 209 billion dollars. The equity ratio has changed little, rising from an average of 46 percent in June 2021 to 50 percent most recently.



In addition, future obligations have skyrocketed. Lease agreements that have not yet commenced—which may, for example, involve investments in data centers—have multiplied from \$68 billion to just under \$1.1 trillion. Other commitments (purchases of software licenses, infrastructure, and energy) have risen from \$129 billion to \$1.55 trillion (Figure 2).

Figure 2: Key reporting data for hyperscalers



Data rounded; Alphabet, Amazon, Microsoft, and Meta as of June 30, 2021/2026; Oracle as of May 31, 2021/2026. Additional obligations: The amounts are generally comparable, as they represent off-balance-sheet purchase, procurement, and other contractual obligations, including current and non-current agreements. However, the exact composition may vary. Alphabet specifically includes content licenses, energy contracts, and open purchase orders. Additional obligations for Alphabet in 2021: as of December 31, 2020 (since not updated in the Q2 2021 10-Q). Some liabilities do not include the portion of long-term liabilities classified as current liabilities. Source: 10-Q and 10-K reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute. As of August 2026. **Historical trends in balance sheet data are not an indicator of future performance. No recommendations for trading in the securities of the companies mentioned can be derived from balance sheet data.**

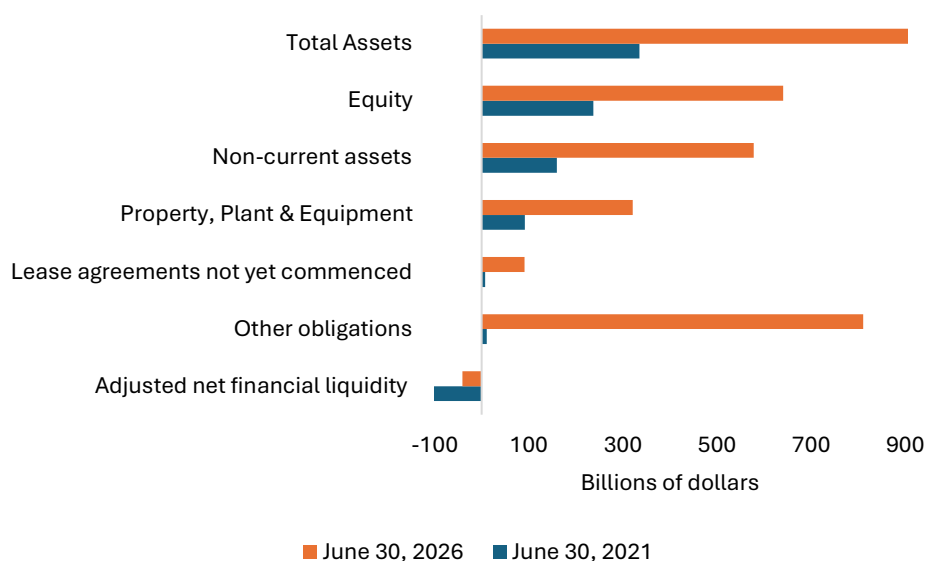


All in all, current obligations totaling well over \$2.6 trillion are not yet reflected on the balance sheet, although certain structures may allow (a portion of) investments to be carried off-balance-sheet (Schürmann 2025).³

The most recent data varies by company. Oracle’s equity ratio was most recently 16 percent (Alphabet 71 percent, Amazon 50 percent, Meta and Microsoft 58 percent each). Oracle reported a gearing ratio—the key debt metric representing the ratio of unadjusted net financial debt to equity—of 227 percent. For the other four, this metric is negligible to date (Microsoft) or they still have liquidity surpluses. A rule of thumb for gearing is: the higher the ratio, the more interest a company tends to have to pay on its loans.

Microsoft holds the largest position in lease commitments not yet commenced, at \$329 billion. In terms of other commitments, Alphabet stands out with \$811 billion. For all hyperscalers, total assets and long-term assets—including property, plant, and equipment—have surged compared to 2021 (Figures 3–7).

Figure 3: Key Financial Data for Alphabet

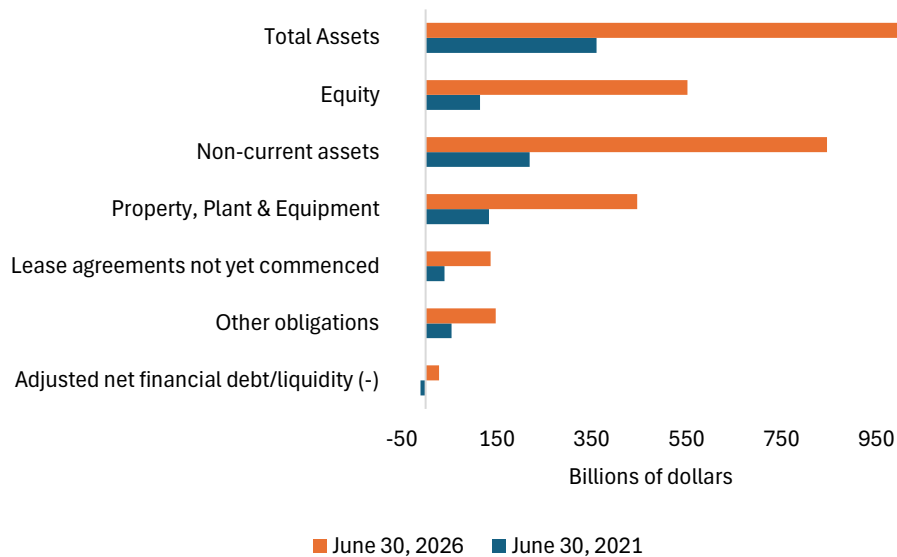


Data rounded; for adjustments, see the table in the Appendix; Source: 10-Q reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute; as of August 2026. **Historical performance of balance sheet data is not an indicator of future performance. No recommendations for trading in the company’s securities can be derived from balance sheet data.**

³ For example, companies are not required to recognize non-controlling interests in a joint venture on their balance sheets as long as auditors confirm this in accordance with currently applicable accounting standards

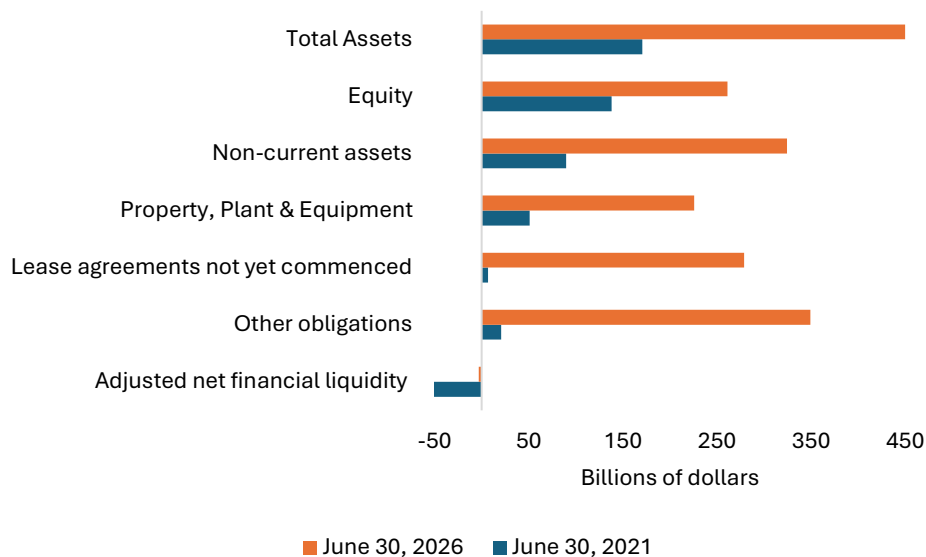


Figure 4: Key Financial Data for Amazon



Data rounded; for adjustments, see the table in the Appendix; Source: 10-Q reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute; as of August 2026. **Historical performance of financial data is not an indicator of future performance. No investment recommendations regarding the company's securities can be derived from financial data.**

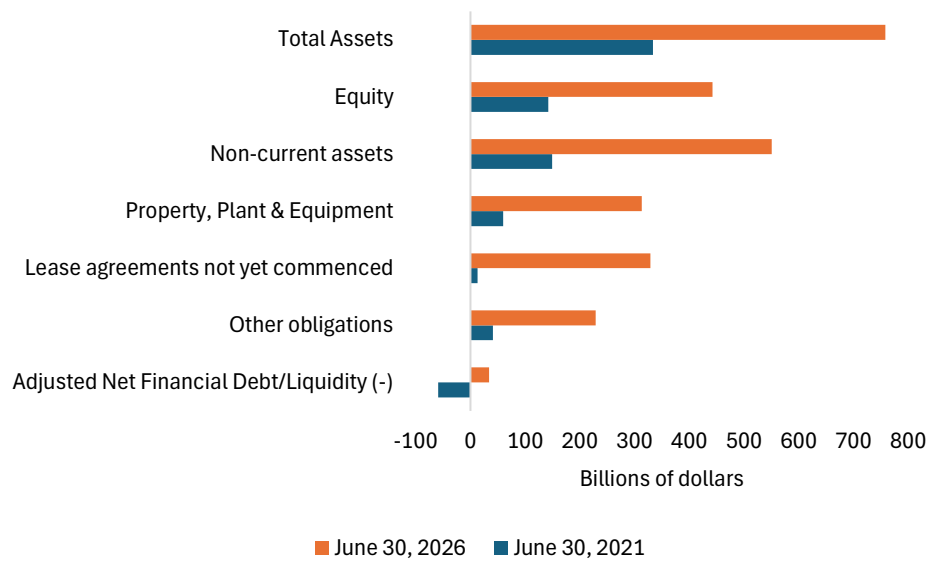
Figure 5: Key Financial Data for Meta



Data rounded; for adjustments, see the table in the Appendix; Source: 10-Q reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute; as of August 2026. **Historical performance of financial data is not an indicator of future performance. No investment recommendations regarding the company's securities can be derived from financial data.**

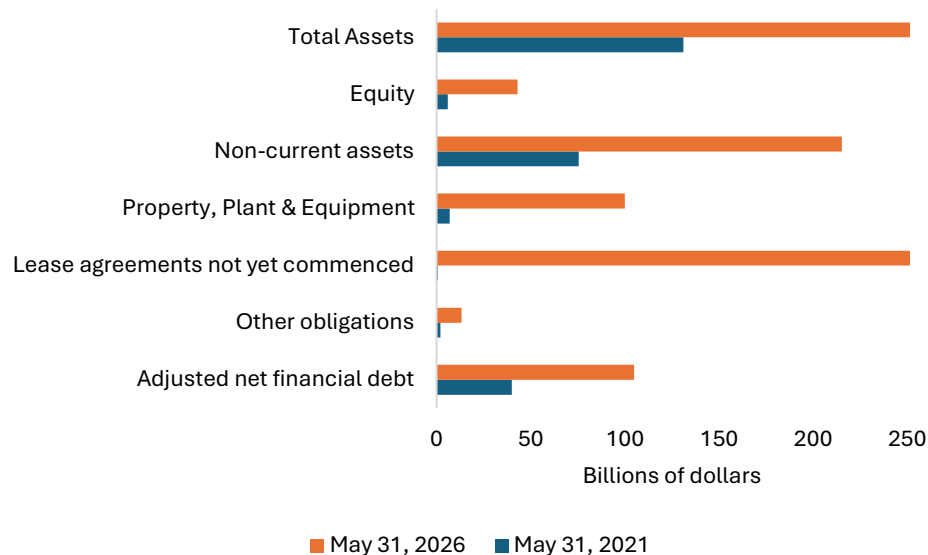


Figure 6: Key Financial Data for Microsoft



Data rounded; for adjustments, see the table in the Appendix; Source: 10-K reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute; as of August 2026. **Historical performance of financial data is not an indicator of future performance. No investment recommendations regarding the company's securities can be derived from financial data.**

Figure 7: Key Financial Data for Oracle



Data rounded; for adjustments, see the table in the Appendix; source: 10-K reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute; as of August 2026. **Historical performance of financial data is not an indicator of future performance. No investment recommendations regarding the company's securities can be derived from financial data.**



Depreciation and Amortization of Tomorrow

Examining the balance sheet items of the hyperscalers is highly relevant. For instance, liquidity reserves are shrinking. Even today, the hyperscalers can no longer finance their operations on their own. With bond issuances totaling over \$220 billion this year alone as of the end of July 2026, they have become major players in the bond market. According to estimates by JPMorgan, the hyperscalers are expected to borrow two trillion dollars in financing. The interest incurred on these loans must be generated separately to prevent net profit margins from coming under pressure. Interest income from what was once abundant liquidity is shrinking or disappearing entirely.

It's also important to note that today's investments are tomorrow's depreciation charges. That's why long-term assets—and in particular, property, plant, and equipment—are of great interest to investors. Investors should examine whether depreciation charges could also arise from off-balance-sheet investments and impact the balance sheet.

No one can predict exactly how quickly investments will be depreciated. If business performance is worse than expected, extraordinary write-downs are inevitable. Furthermore, companies have the flexibility and ability to adjust depreciation periods. For example, Microsoft has recently increased the expected useful life of data centers and office buildings from 15 to 25 years.

All five hyperscalers have extended the useful lives of their server and network equipment in recent years from three (Microsoft network equipment: two) to four, then in some cases to five (Amazon, Oracle), and most recently to six (Meta 5.5) years. This is evident from their annual reports (10-K). Amazon has reverted to a five-year useful life for some of its assets. In contrast, as of January 1, 2025, Amazon extended the useful life of "certain types of heavy machinery" from 10 to 13 years.⁴

All other things being equal, such extensions result in higher reported profits. Amazon, for example, estimated that extending the useful life from 10 to 13 years would increase its operating income in 2025 by approximately \$0.9 billion.⁵

The extensions, however, have no impact on free cash flow: Depreciation is added back when calculating cash inflows, so it is cash-neutral regardless of its amount.

⁴ Alphabet 10-K 2021, page 54; Alphabet 10-K 2023, page 56; Amazon 10-K 2020, page 43; Amazon 10-K 2022, page 41; Amazon 10-K 2024, page 41; Meta 10-K 2025, page 85; Meta 10-K 2025, page 107; Microsoft 10-K, page 41; Microsoft 10-K 2023, page 41; Oracle 10-K 2025, page 70

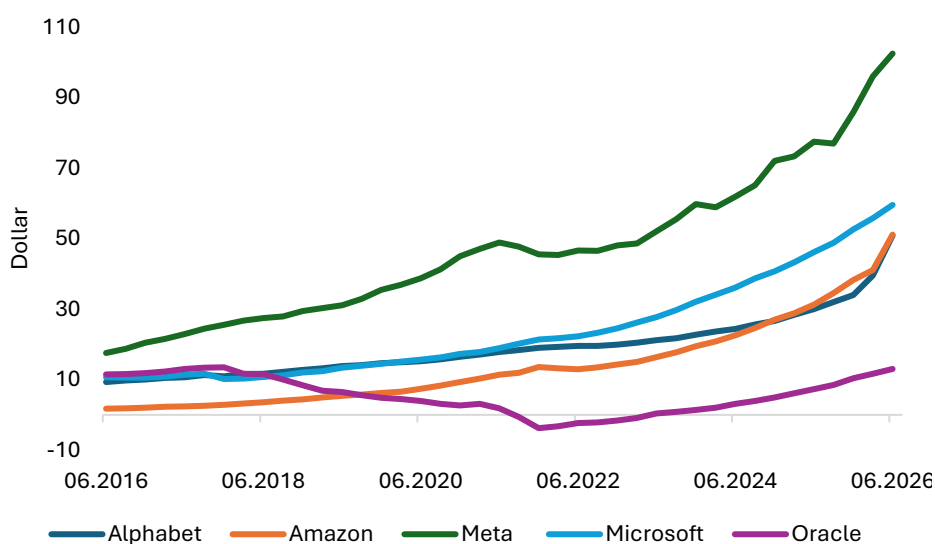
⁵ Amazon 10-K 2024, page 41



Book values increase

As tangible assets increasingly appear on balance sheets, book value (per share)—one of the traditional metrics for stock valuation—is also gaining relevance. Book value is calculated as total assets on the balance sheet minus liabilities and represents the equity attributable to shareholders. This value is then divided by the number of shares outstanding for the respective company. Among the hyperscalers, book values are showing dynamic trends. Only Oracle has shown no net change over a ten-year period (Figure 8). The reason: Oracle finances its operations to a large extent with debt, which has a negative impact on book value.

Figure 8: Trend in book value per share for the five hyperscalers

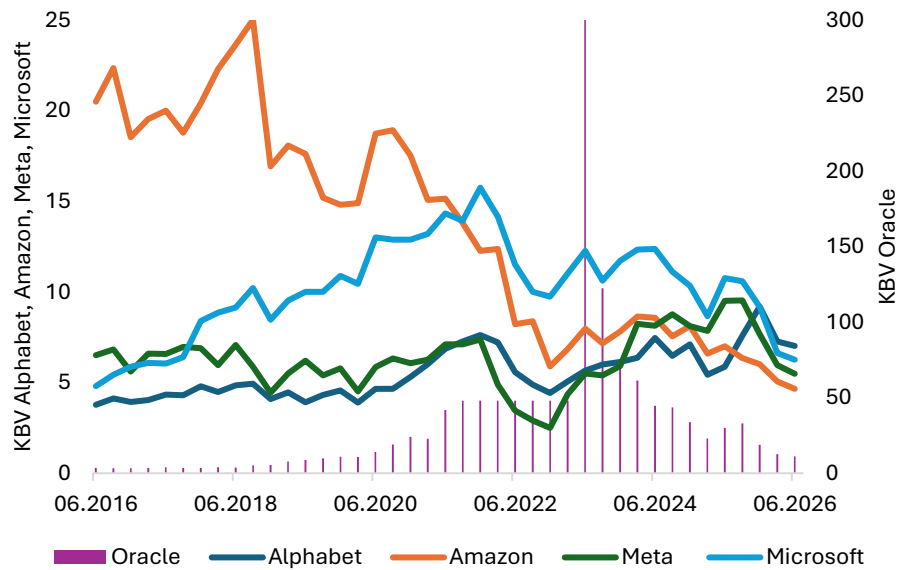


Source: Bloomberg, Flossbach von Storch Research Institute, as of August 2026. **Past performance is not a reliable indicator of future results.**

The lower the ratio of book value per share to the company's stock price (price-to-book ratio/P/B ratio), the more conservative the valuation appears at first glance. Upon closer inspection, however, a low P/B ratio can also be misleading. For example, if a company consistently fails to earn its cost of capital over the long term, low P/B ratios result. Reason: The book value will then shrink in the future; the company is destroying shareholder equity—ideally, the market anticipates this and assigns the company only a low P/B ratio. Given the enormous investments involved, capital destruction cannot be ruled out, even among the hyperscalers. Most recently, the P/B ratios of the hyperscalers have been declining and, at 6.3 (median), are at a relatively low level (Figure 9).



Figure 9: Price-to-Book Ratios of Hyperscalers



Source: Bloomberg, Flossbach von Storch Research Institute, as of August 2026. **Past performance is not a reliable indicator of future results.**

Conclusion

Hyperscalers are not only highly capitalized companies on the stock market. Recent reports show that their balance sheets have also come to carry significant weight. Further growth in their balance sheets is certain: this is evident from the off-balance-sheet obligations. While investors in the past had little reason to scrutinize the hyperscalers' balance sheets due to a lack of information about the value drivers of the companies' businesses, the situation is now completely different. The reports have become more complex and informative, so the time spent analyzing them should be worthwhile. For example, under certain assumptions, profit-reducing factors such as future depreciation, interest expenses, or lease expenses can be identified. However, the hyperscalers still cannot be comprehensively analyzed based on their now-heavier balance sheets alone. Off-balance-sheet intangible drivers continue to play a role, albeit a smaller one now. In addition, investors must grapple with the complex structures of data centers in order to assess their impact on balance sheets, profits, and cash flows.



Appendix

Table: Key Balance Sheet and Other Data for Individual Hyperscalers

Company	Reporting Date	Total Assets in billions of dollars	Current Assets in billions of dollars	Financial Assets (Current Assets) in billions of dollars
Alphabet	30.06.2021	335	176	136
Alphabet	30.06.2026	922	344	242
Amazon	30.06.2021	360	141	90
Amazon	30.06.2026	1.096	249	123
Meta	30.06.2021	171	81	64
Meta	30.06.2026	450	125	90
Microsoft	30.06.2021	334	184	130
Microsoft	30.06.2026	758	208	77
Oracle	31.05.2021	131	56	47
Oracle	31.05.2026	262	47	32
		Non-current assets in billions of dollars	Property, Plant & Equipment in billions of dollars	Equity in billions of dollars
Alphabet	30.06.2021	160	92	238
Alphabet	30.06.2026	578	321	640
Amazon	30.06.2021	219	134	115
Amazon	30.06.2026	846	446	552
Meta	30.06.2021	90	51	138
Meta	30.06.2026	324	226	261
Microsoft	30.06.2021	149	60	142
Microsoft	30.06.2026	551	313	442
Oracle	31.05.2021	76	7	6
Oracle	31.05.2026	215	100	43
		Gross financial debt in billions of dollars	Recognized lease liabilities in billions of dollars	Lease agreements not yet commenced in billions of dollars
Alphabet	30.06.2021	13	15	7
Alphabet	30.06.2026	100	21	91
Amazon	30.06.2021	52	71	40
Amazon	30.06.2026	132	110	137
Meta	30.06.2021	0	13	7
Meta	30.06.2026	84	29	279
Microsoft	30.06.2021	58	24	13
Microsoft	30.06.2026	40	89	329
Oracle	31.05.2021	84	3	1
Oracle	31.05.2026	130	38	260
		Other obligations in billions of dollars	Net financial debt (liquidity (-)) in billions of dollars	Adjusted net financial debt (liquidity (-)) in billions of dollars
Alphabet	30.06.2021	11	-121	-115
Alphabet	30.06.2026	811	-142	-41
Amazon	30.06.2021	54	-13	-11
Amazon	30.06.2026	148	23	28
Meta	30.06.2021	21	-64	-64
Meta	30.06.2026	349	-7	-3
Microsoft	30.06.2021	41	-60	-59
Microsoft	30.06.2026	229	30	34
Oracle	31.05.2021	2	40	40
Oracle	31.05.2026	13	105	105

Data rounded; from the adjusted net liquidity, equity securities or “restricted cash/restricted investments” were deducted from liquidity (current assets). For example, of the marketable equity securities classified as liquidity by Alphabet—totaling just over \$101 billion as of June 30, 2026—\$94 billion consisted of SpaceX shares subject to short-term (\$80 billion) and medium-term sale restrictions (\$14 billion through 2027). This item is therefore not equivalent to ordinary liquidity or short-term government bonds. The potential future sale value of other equity securities is uncertain; their current book value is also deducted for all companies. In June 2021, Alphabet held equity securities in current assets totaling 6.3 billion, Amazon 1.9 billion (2026: 4.7 billion), Meta: none in 2021 (2026: 3.5 billion), Microsoft in 2021/2026 and Oracle in 2021/2026: zero. The amounts of other liabilities are generally comparable, as they represent off-balance-sheet purchase, acceptance, and other contractual obligations, including short- and long-term agreements. However, the exact composition may vary. Source: 10-Q and 10-K reports filed with the SEC, Bloomberg, Flossbach von Storch Research Institute, as of August 2026. **Historical performance of balance sheet data is not an indicator of future performance. No recommendations for trading in the securities of the companies mentioned can be derived from balance sheet data.**



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