

Useful lives; more useful data

The S&P 500 useful-life facts across fiscal 2023–2026, excluding utilities, and a closer look at Amazon, Meta and Alphabet

Background

What useful life is, and why it matters

What it is

An accounting estimate of how long a company expects to use an asset, such as a machine, a building, or a computer server, before the asset wears out or becomes obsolete.

Why it matters

Depreciation allocates the cost of an asset over its useful life. The estimate life therefore determines depreciation expense per period, which in turn affects reported earnings.

When it changes

Companies occasionally revise these estimates. A longer life *lowers* depreciation expense in any given period and raises earnings for that period; a shorter life *raises* depreciation expense and lowers earnings.

This means firms could manipulate useful-life estimates to manage earnings.

Approach

What Calcbench did

The S&P 500

To understand how often companies change their useful-life estimates, Calcbench examined every useful-life value that S&P 500 companies tagged in XBRL. Utilities (SIC 49xx) are covered in a separate report. We compared fiscal 2024 and 2025 annual reports (10-Ks) to find the changes, then worked back through quarterly reports (10-Qs) to see when each change was first disclosed to investors.

Three hyperscalers

We then closely examined three AI hyperscalers (Amazon, Meta and Alphabet) to compare how each one set the useful life of its computer servers.

For each, we traced what those choices meant for depreciation expense and earnings.

The data shows what changed and when it was disclosed. It does not show why.

Across the S&P 500, excluding utilities · FY2024 → FY2025 · 432 companies tag a useful life in both years

Finding 1: Changes are rare by fact, but not by company

93%

of FY2024 facts came back identical

2,500 of 2,679

44

lives lengthened

25

lives shortened

69

modified: same asset, different axis, member or range (Finding 2)

41

dropped: in FY2024 but not FY2025 (4 at a company that left the data)

The four boxes at right add up to the 179 FY2024 facts that changed, at 99 of 433 companies (23%); 54 companies (12.5%) gave at least one asset a new life. FY2025 also added 36 new combinations. Value changes on identical dimensions: 84 (FY23→24), 69 (FY24→25). Counts are XBRL facts, not companies. Utilities are excluded.

This work was done by examining every XBRL-tagged useful-life value in the Calcbench database. Do not attempt this at home.

Source: Calcbench

Across the S&P 500, excluding utilities · FY2024 → FY2025

Finding 2: Changes are hidden and subtle

30 times

Range structure changed

A single life split into a minimum and a maximum, or the reverse. The asset is still reported, but under a new regime. Includes 6 one-time change disclosures: 5 at Amazon, 1 at Meta.

Amazon: servers and heavy equipment

Servers: a single 6-year value became a 6-year maximum; the new 5-year life is in the text, not the XBRL. Heavy equipment: 10 years became a 10–13 year range. Neither shows up as lengthened or shortened.

33 times

Member renamed

The same asset reported under a new name. 33 facts at 18 companies; at two of them, the life changed too.

Ford Motor Company

Software was 8 years as ComputerSoftwareIntangibleAsset in FY2024 and 8 years as SoftwareAndSoftwareDevelopmentCosts in FY2025. Same asset, same life, new name.

6 times

Moved to another axis

The same member and life, moved from one axis to another. 6 facts at 2 companies; no lives changed.

International Paper

Buildings (20–40 years) and machinery (3–20 years) moved from the MajorPropertyClass axis to the PropertyPlantAndEquipmentByType axis. Same assets, same lives, different axis.

The headline counts are a floor: some real changes sit among the modified, dropped and new facts.

Source: Calcbench

Across the S&P 500, excluding utilities · FY2025 quarterly filings vs. the FY2024 10-K

Finding 3: Changes surface before the next 10-K

1 · Prior 10-K
Sometimes: new life disclosed as a subsequent event

→

2 · 10-Q
Effective at the start of the fiscal year; new life appears in a quarterly report

→

3 · Next 10-K
Change confirmed in the annual report

Company	Change	First seen	Confirmed
Union Pacific	Freight cars 22 → 23 years	Q1 FY2025 10-Q	FY2025 10-K
Union Pacific	Track 46 → 45 years	Q1 FY2025 10-Q	FY2025 10-K
Amazon	Some servers 6 → 5 years; heavy equipment 10 → 13 years	FY2024 10-K, subsequent event	FY2025 10-K
Meta	Most servers to 5.5 years	Q3 FY2025 10-Q, dated January 1, 2025	FY2025 10-K

In fiscal 2025, 16 companies tagged useful lives in a 10-Q, and 87% of those facts repeated the FY2024 10-K.

Source: Calcbench

Part 2

Zooming in: three hyperscalers

Amazon, Meta and Alphabet: what a useful-life change looks like inside these filings

Amazon, Meta, Alphabet · fiscal 2025

Three hyperscalers, one in each outcome

Meta

Lengthened

Most servers and network assets moved to 5.5 years, from a 4–5 year range

Amazon

Modified

A subset of servers shortened from 6 to 5 years, citing AI-driven obsolescence; only the 6-year maximum is tagged

Alphabet

Unchanged

Servers and network equipment held at 6 years

Same accounting, same year, three different results. Each is a case study of one outcome in the index-wide data.

Source: Calcbench

Amazon, Meta, Alphabet

Same across the firms

Accounting	All three use straight-line depreciation, so useful life drives expense numbers the same way at each firm.
Timing	Each change takes effect January 1. Amazon and Alphabet flagged theirs in the prior year’s 10-K as a subsequent event; Meta tagged its change only once it took effect.
Long-run direction	Amazon (2022, 2024) and Meta (2025) lengthened server lives; Alphabet moved its servers to 6 years in 2023.
Tagging	All three tag the useful life itself in XBRL, by asset type.
Outcome	All three now depreciate servers over roughly 5–6 years.

Source: Calcbench

Amazon, Meta, Alphabet · fiscal 2025

Differences?

	Amazon	Meta	Alphabet
2025 decision	A subset shortened, 6 → 5 years	Most lengthened to 5.5 years	None; held at 6 years
Depreciation effect	+$1.4B	−$2.92B	None
Effect measured on	2024 assets plus 2025 purchases	2024 assets only	Not applicable
Wording	“A subset”	“Most”	“Generally”
Reason given	AI-driven obsolescence	None stated	Not applicable
Gross servers tagged	Yes, $172.5B	Yes, $98.0B	No
Server depreciation tagged	No	Yes, $13.4B	No
Element for the effect	Depreciation, depletion and amortization; positive	Depreciation; negative	Not applicable

Source: Calcbench

Amazon, Meta, Alphabet · fiscal 2025

Useful life drives depreciation expense

Does it affect depreciation? Yes.

Amazon

+$1.4B

Depreciation up: a subset shortened, 6 → 5 years

Meta

−$2.92B

Depreciation down: most to 5.5 years

Alphabet

$0

No change: held at 6 years

What the estimates tell us

Pace. $100 of servers costs Alphabet $16.70 a year, Amazon $16.70 to $20, Meta $18.20 to $20.

Judgment. Same year, three calls: Amazon shortened, Meta lengthened, Alphabet held.

Plausibility. Meta: 18% cut in server depreciation fits a move from 4–5 to 5.5 years.

Estimates cannot tell us

The dollars. Those need gross cost by asset type. Amazon and Meta break out servers; Alphabet does not.

A cross-check. Only Meta tags server depreciation: its numbers imply about 7.3 years vs. 5–5.5 stated.

Useful life tells you how fast each company expenses its hardware and which way management is leaning. How much that costs, and whether it can be checked, depends on disclosure, and no two of these firms disclose in similar ways.

Source: Calcbench

Amazon, Meta, Alphabet · 2022–2025

Useful life is a judgment

2022	Amazon lengthens servers, 4 → 5 years
2023	Alphabet moves servers to 6 years
2024	Amazon lengthens servers, 5 → 6 years
2025	Meta lengthens most servers to 5.5 years (+$2.59B net income). Amazon shortens a subset, 6 → 5 (−$1.0B net income), and lengthens heavy equipment, 10 → 13.

What the data shows

The judgment, its direction and, where disclosed, its dollar effect.

What it does not show

Why. Differences in how each company uses its equipment may explain some of the gap.

A longer life lowers the depreciation expense. For a single server, it only shifts expense into later years. But for a company that buys more servers every year, those later years never catch up: as long as spending keeps growing, depreciation expense stays lower than it would be under a shorter life.

Company-wide depreciation per $100 spent this year

Spending growth	5-year life	6-year life	6-year lower by
Flat	$100.0	$100.0	0%
10% a year[1]	$83.4	$79.8	4.3%
20% a year	$71.8	$66.5	**7.3%**

[1] The 10% row is worked through year by year on the last slide of the appendix.

Source: Calcbench

Pulling back · what carries over to every company

No silver bullet for financial analysis, but a method

1

Read the lives

The useful-life facts and every dimension on them, compared year to year.

2

Find the dollars

The change-in-estimate disclosure, its dollar effect and what it measures.

3

Check the detail

What is tagged by asset type: gross cost, depreciation, accumulated depreciation.

4

Use the data

Meta allows a server-level check; Amazon, an estimate; Alphabet, a blended figure.

Next: across the S&P 500, which useful-life changes carry a tagged dollar effect, and on which element?

Caveats: the index counts are XBRL facts, not companies; some changes are tagging noise; three firms illustrate the patterns but do not prove them.

Source: Calcbench

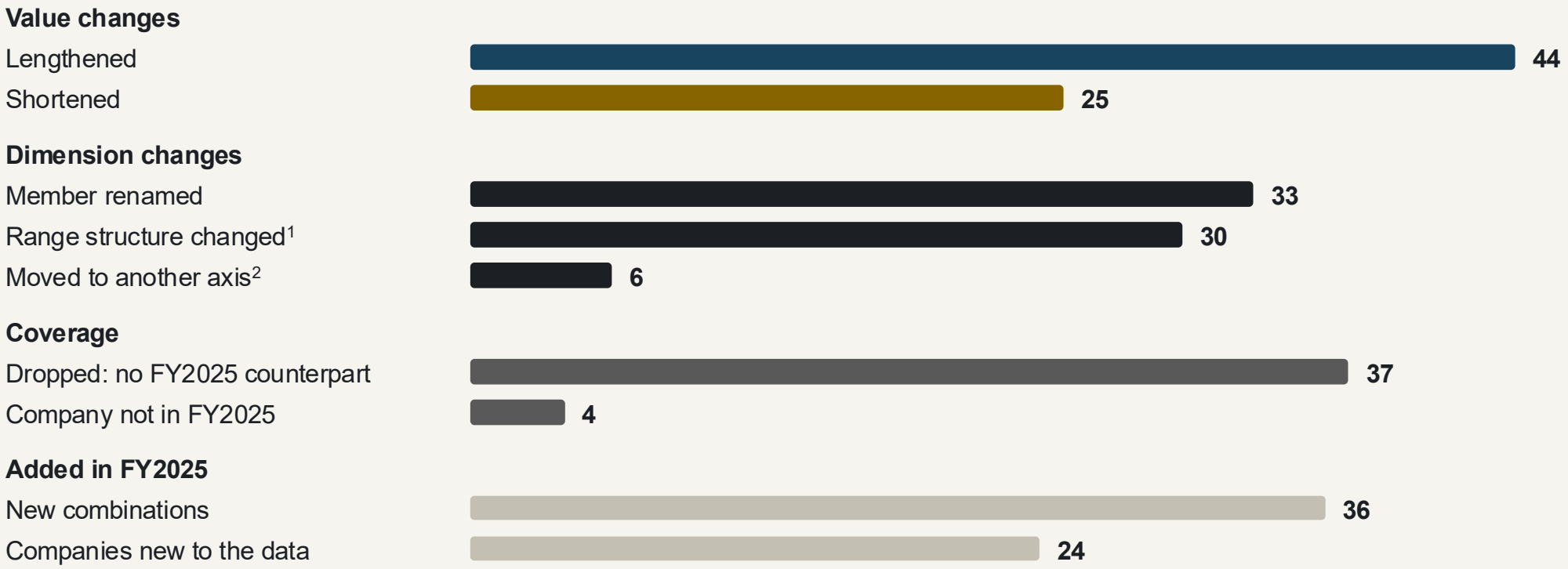
Appendix

The full S&P 500 comparison behind part 1: what changed, where, the biggest moves, and how the tagging shifted

Appendix · S&P 500 excluding utilities, FY2024 → FY2025

Facts

- Only 7% of facts changed: 179 of 2,679 FY2024 facts, at 99 of 433 companies (23%).
- Fewer than 3% got a new life: 69 facts (2.6%), at 54 companies (12.5%).



Counts are XBRL facts. The first three groups are FY2024 facts; the last group is FY2025 facts with no FY2024 counterpart.

[1] As defined on slide 5: a single life split into a minimum and a maximum, or the reverse.

[2] For example, Akamai moved software (3–10 years) from the PP&E axis to the intangible-assets axis, with the same life.

Source: Calcbench

Appendix · S&P 500 excluding utilities, FY2024 → FY2025

By asset type, software leads the changes

Asset class	Longer	Shorter	Renamed	Range	Axis	Dropped	New	FY2024 facts	Changed
Buildings and structures	6	5	2	6	2	8	8	662	4.4%
Machinery and equipment	14	11	4	5	2	8	10	652	6.7%
Furniture and office	4	1	2	·	·	2	5	335	2.7%
Software	**5**	**2**	**25**	**4**	**2**	**6**	**12**	**266**	**16.5%**
Computer and IT hardware	3	·	·	10	·	6	6	218	8.7%
Leasehold improvements	3	2	·	1	·	2	5	132	6.1%
Land and land improvements	2	·	·	·	·	1	5	120	2.5%
Other	3	2	·	1	·	3	·	100	9.0%
Vehicles and transport	3	1	·	·	·	1	5	95	5.3%
No asset type tagged	1	1	·	3	·	4	4	72	12.5%
Utility and energy	·	·	·	·	·	·	·	27	0.0%

“Changed” is the share of FY2024 facts that did not carry over unchanged.

Source: Calcbench

Appendix · S&P 500 excluding utilities, FY2024 → FY2025

Most of the biggest moves are in the minimum of a range

Largest increases

Company	Asset and bound	Years
Moody's	Leasehold improvements, minimum	1 → 4
Thermo Fisher	Machinery and equipment, minimum	3 → 8
VICI Properties	Land improvements, minimum	2 → 5
Sherwin-Williams	Buildings, maximum	25 → 60
Danaher	Machinery and equipment, maximum	10 → 20
Textron	Machinery and equipment, minimum	1 → 2

Largest decreases

Company	Asset and bound	Years
Axon	Equipment, minimum	3 → 1
Adobe	Machinery and equipment, maximum	20 → 8
Expand Energy	Other PP&E, maximum	30 → 15
Tesla	Assets leased to others, minimum	30 → 15
Super Micro Computer	Machinery and equipment, minimum	5 → 3
eBay	Software, maximum	5 → 3

Source: Calcbench

Appendix · worked example

How the 10% row is calculated

Year	Spent this year	5-year life	6-year life	6-year lower by
1	$100.0	$20.0	$16.7	16.7%
2	$110.0	$42.0	$35.0	16.7%
3	$121.0	$66.2	$55.2	16.7%
4	$133.1	$92.8	$77.4	16.7%
5	$146.4	$122.1	$101.8	16.7%
6	$161.1	$134.3	$128.6	**4.3%**
7	$177.2	$147.7	$141.5	**4.3%**
8	$194.9	$162.5	$155.6	**4.3%**

Year 6, step by step

5-year life: batches from years 2–6 total $671.6. Divided by 5: $134.3.

6-year life: batches from years 1–6 total $771.6. Divided by 6: $128.6.

Per $100 spent in year 6 ($161.1): $83.4 vs. $79.8, the 10% row on slide 12.

Assumes $100 of server spending in year 1, growing 10% a year, with straight-line depreciation and no salvage value. Years 1–5 are the build-up, when both lives are still adding batches. From year 6 on, the 6-year life stays 4.3% lower for as long as growth continues.

Illustration: Calcbench