**BERNSTEIN**
SOCIETE GENERALE GROUP

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## U.S. IT Hardware

# US IT Hardware 2026 Outlook: Winners and losers in the AI driven data explosion - Top picks SNDK (TP $580) and STX (TP $370)



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**The Intelligence Revolution driving the data explosion, which still has room to run with no signs of slowing in 2026.** We still see the long-term value creation opportunity from AI as immense and with models still improving, we see no reason for model developers to slow down. As long as models keep improving the long-term value creation (or productivity benefits) will continue to grow and the need for training to continue.

**Memory and HDD key beneficiaries of the data explosion.** The data explosion necessary to enable and run AI models fuels an acceleration in memory and storage demand, creating an unprecedented memory & storage super cycle. Intense training/ inference workloads, richer content creation, and longer retention requirements all drive this data explosion thus creating insatiable (and price insensitive) demand for storage and memory driving unprecedented price hikes. Nvidia's recent announcement of Vera Ruben's KV Cache needs adds further fuel to the fire for NAND demand. Our analysis shows that this can ***potentially 5x NAND TB per GPU***.

**OEMs the losers in this memory/storage price environment.** We recently analyzed the impact of rising memory prices on OEMs and concluded that HPQ and SMCI have the most potential downside of 19% to EPS, with Dell and HPE impact at 6% and 4% respectively. Apple should be the mostly immune in the short term given their long term agreements with memory suppliers but will likely need to raise prices of future models which could impact unit growth later this year.

**Apple's year to shine in AI?** Following Apple recent confirmation that they are working with Google on AI models, there is growing anticipation of the upcoming iOS26.4 (expected by April 2026) with significant upgrades to Apple Intelligence and Siri. While we see Apple as a good defensive play, that significantly outperforms when AI bubble concerns come to the fore, we also see significant upside to Apple if they get AI right. We estimate 30% upside to AAPL FY28 EPS estimates from AI services revenue (17.4% upside) and accelerated replacement cycle to 3 years (12.4% upside) driven by AI.

Quantum Computing has finally moved beyond the scientific proof of concept phase and has the ability to upend today's computing paradigms, cryptography, finance, material science and drug discovery. Future challenges remain, but already some niche use cases are showing Quantum advantage, however, we are still far from widespread quantum supremacy. We think **2026 will bring increasing excitement about Quantum, which will drive volatility for the pure plays and potential upside for IBM (Market-perform)**. We estimate potentially 23% upside for IBM from Quantum though much of this may already be in the stock.

**Top picks for 2026: SNDK and STX (both Outperform).** For SanDisk we raise estimates on the back of unprecedented NAND shortages and price increases and increase TP to $580 based on 11x our FY27 EPS of $52.66 (129% above consensus). We think SNDK continues to have the most upside in the short-term. STX is a less volatile beneficiary of the data explosion also benefitting from its strong tech leadership in HAMR.



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## BERNSTEIN TICKER TABLE

| Ticker | Rating | Cur | 13 Jan 2026 Closing Price | Price Target | TTM Rel. Perf. | Cur | Adjusted EPS 2025A | Adjusted EPS 2026E | Adjusted EPS 2027E | Adjusted P/E (x) 2025A | Adjusted P/E (x) 2026E | Adjusted P/E (x) 2027E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AAPL (Apple ) | O | USD | 261.05 | 325.00 | (7.4)% | USD | 6.07 | 7.46 | 8.64 | 43.0 | 35.0 | 30.2 |
| DELL (Dell) | O | USD | 119.66 | 180.00 | (9.6)% | USD | 8.10 | 9.97 | 11.45 | 14.8 | 12.0 | 10.5 |
| HPE (HPE) | M | USD | 22.29 | 24.00 | (20.4)% | USD | 1.96 | 2.30 | 2.82 | 11.4 | 9.7 | 7.9 |
| HPQ (HPQ) | M | USD | 21.08 | 30.00 | (54.8)% | USD | 3.12 | 3.09 | 3.39 | 6.8 | 6.8 | 6.2 |
| IBM (IBM) | M | USD | 303.16 | 280.00 | 19.9% | USD | 10.32 | 11.50 | 12.48 | 29.4 | 26.4 | 24.3 |
| SNDK (SanDisk) | O | USD | 389.81 | **580.00** | NA | USD | 2.32 | **21.16** | **52.66** | 168.4 | 18.4 | 7.4 |
| *OLD* | | | | 300.00 | | | | 14.10 | 28.15 | | | |
| STX (Seagate) | O | USD | 318.44 | 370.00 | 229.7% | USD | 8.10 | 11.94 | 15.08 | 39.3 | 26.7 | 21.1 |
| SMCI (SMCI) | M | USD | 28.60 | 42.00 | (25.6)% | USD | 2.04 | 1.89 | 2.59 | 14.0 | 15.1 | 11.0 |
| WDC (Western Digital) | M | USD | 214.00 | 170.00 | 332.1% | USD | 4.96 | 7.61 | 8.70 | 43.1 | 28.1 | 24.6 |
| SPX | | | 6,963.74 | | | | | | | | | |

**PRICE TARGET CHANGE / ESTIMATE CHANGE IN BOLD**

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

DELL estimate is Reported EPS; AAPL, IBM base year is 2024;

Source: Bloomberg, Bernstein estimates and analysis.

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## DETAILS

## PART I: AI DRIVING THE DATA EXPLOSION, WITH NO SIGNS OF SLOWING IN 2026

**The intelligence revolution has substantial room to run as ongoing model improvements unlock new use cases and boost productivity, implying an estimated $1.3T in enterprise willingness to pay for AI in our base case. These improvements drive both training and inference needs, structurally benefiting AI infrastructure such as servers and memory. We believe that the most watched signpost - hyperscaler capex - may be more of a lagging indicator, while consistent model improvement should be a better sign post. We see near-to-medium term data points as healthy since models keep improving, and further note that if a digestion cycle happens, there is likely time to take profits before it fully unwinds.**

**We believe the intelligence revolution still has substantial room to run, driven by continued model improvement that expands the set of AI-addressable tasks.** Using the Anthropic Economic Index, we estimate a $16T global productivity opportunity, assume that enterprises demand a 10x ROI requirement for IT projects (in line with historical precedents), and assume 80% user penetration, which leads to a **$1.3T** enterprise AI willingness to pay in the **base case** (Exhibit 1-Exhibit 3). Importantly, this willingness to pay rises as models improve: better models address more complex tasks, unlock incremental productivity gains, justify continued investment in both training and inference, and expands willingness to pay. Based on the OSWorld Agentic Task Benchmark, we can see that model performance has been getting closer to the human benchmark (Exhibit 4), which we see as a positive leading indicator. While inference is where monetization ultimately occurs, training is strategically essential, since ongoing model improvements are required to expand addressable use cases and sustain future demand for inference and AI Infrastructure.

**Even if a digestion happens, there is likely still time to reduce exposure before things fully unwind.** If the scaling laws truly started to break down, the early indicator would be that AI labs start training new models which end up not being better than the smaller models of the previous generation. However, AI labs are unlikely to immediately publish those results. More likely, they would attempt to fix the issues by re-attempting a different run, which could take months. Even when it becomes clear that something is wrong, AI labs will be left guessing whether this is solely their own problem or an industry-wide breakdown in the scaling laws[1]. Word would likely get out gradually, through a trickle of researchers exiting or complaining to the press[2]. It will likely take months before it becomes clear that it is an industry-wide problem. Even then, VCs and hyperscalers will appear less concerned about this risk, in part because hyperscalers can redeploy excess GPUs to other workloads while VCs appear willing to accept these risks. Therefore, they are likely to be slow to react, and GPU-buying can continue for some time. On net, we believe it would likely be at least a year before it is clear that it is a problem, and hyperscaler capex would likely

[1] To that point: while we may have seen this with the disappointing GPT-5 release, the success of the Claude 4 release suggests this is more an OpenAI problem than an industry problem.

[2] We may have already seen with the troubled Orion model at OpenAI (and in that case, other AI labs really didn't seem to hit the same issues and OpenAI got things back on track with o3).

continue to be healthy for a few quarters after.

**We view the Intelligence Revolution as structurally positive for AI server and memory vendors.** As model size and complexity continue to expand, larger workloads and the growing need for nearline storage will further drive the demand for memory, which is positive for vendors like SNDK, STX, and WDC. Moreover, the expansion of AI use cases is driving growth in both training and inference over time, supporting the sustained demand for AI infrastructure including AI servers, supporting names like Dell, HPE, and SMCI.

EXHIBIT 1: **Bernstein AI infrastructure model – base case**

| AI TAM | 2024 | 2030 |
|---|---|---|
| IMF GDP Forecast | 109,569 | 132,106 |
| *IMF GDP growth* | 3.2% | 3.1% |
| **Total GDP** | **109,569** | **137,056** |
| *Imputed GDP growth* | 3.2% | 3.9% |
| Labor % of GDP | 53.8% | 53.8% |
| Labor contribution to GDP | 58,948 | 73,736 |
| Global Labor Force | 3.651 | 3.651 |
| **Average productivity per worker** | **16,146** | **20,196** |
| *% of workers addressable* | 62.7% | 62.7% |
| **Addressable users** | **2.29** | **2.29** |
| Daily average users (M) | 60 | 1,831 |
| *User growth (%)* | *361.5%* | *0.1%* |
| *User penetration (%)* | 2.6% | 80.0% |
| Average productivity increase per user (%) | 10.0% | 34.7% |
| Productivity increase per user | 1,611 | 7,001 |
| Aggregate productivity increase | 97 | 12,823 |
| Enterprise IT ROI requirement | 10x | 10x |
| **Enterprise AI Willingness to Pay** | **10** | **1,282** |
| Potential productivity increase | 3,690 | 16,033 |
| **Enterprise AI TAM** | **369** | **1,603** |

Source: Anthropic Economic Index, IMF, Bernstein estimates and analysis

EXHIBIT 2: **Bernstein AI infrastructure model – bull case**

| AI TAM | 2024 | 2030 |
|---|---|---|
| IMF GDP Forecast | 109,569 | 132,106 |
| *IMF GDP growth* | 3.2% | 3.1% |
| **Total GDP** | **109,569** | **166,279** |
| *Imputed GDP growth* | 3.2% | 10.5% |
| Labor % of GDP | 53.8% | 53.8% |
| Labor contribution to GDP | 58,948 | 89,458 |
| Global Labor Force | 3.651 | 3.651 |
| **Average productivity per worker** | **16,146** | **24,503** |
| *% of workers addressable* | 62.7% | 62.7% |
| **Addressable users** | **2.29** | **2.29** |
| Daily average users (M) | 60 | 2,289 |
| *User growth (%)* | *361.5%* | *0.2%* |
| *User penetration (%)* | 2.6% | 100.0% |
| Average productivity increase per user (%) | 15.0% | 100.0% |
| Productivity increase per user | 2,417 | 24,503 |
| Aggregate productivity increase | 145 | 56,088 |
| Enterprise IT ROI requirement | 5x | 5x |
| **Enterprise AI Willingness to Pay** | **29** | **11,218** |
| Potential productivity increase | 5,535 | 56,109 |
| **Enterprise AI TAM** | **1,107** | **11,222** |

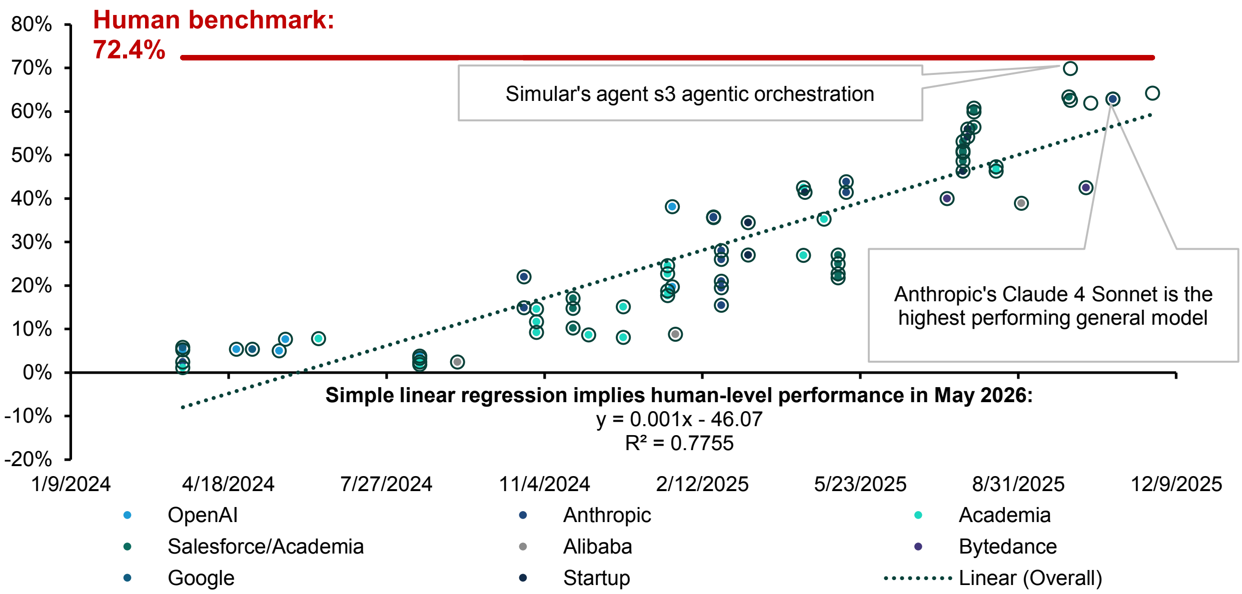
Source: Anthropic Economic Index, IMF, Bernstein estimates and analysis

EXHIBIT 3: **Bernstein AI infrastructure model – bear case**

| AI TAM | 2024 | 2030 |
|---|---|---|
| IMF GDP Forecast | 109,569 | 132,106 |
| *IMF GDP growth* | 3.2% | 3.1% |
| **Total GDP** | **109,569** | **132,874** |
| *Imputed GDP growth* | 3.2% | 3.1% |
| Labor % of GDP | 53.8% | 53.8% |
| Labor contribution to GDP | 58,948 | 71,486 |
| Global Labor Force | 3.651 | 3.651 |
| **Average productivity per worker** | **16,146** | **19,580** |
| *% of workers addressable* | 62.7% | 62.7% |
| **Addressable users** | **2.29** | **2.29** |
| Daily average users (M) | 60 | 1,145 |
| *User growth (%)* | *361.5%* | *0.0%* |
| *User penetration (%)* | 2.6% | 50.0% |
| Average productivity increase per user (%) | 10.0% | 15.0% |
| Productivity increase per user | 1,611 | 2,931 |
| Aggregate productivity increase | 97 | 3,356 |
| Enterprise IT ROI requirement | 10x | 10x |
| **Enterprise AI Willingness to Pay** | **10** | **336** |
| Potential productivity increase | 3,690 | 6,712 |
| **Enterprise AI TAM** | **369** | **671** |

Source: Anthropic Economic Index, IMF, Bernstein estimates and analysis

EXHIBIT 4: **OSWorld Agentic Task Benchmark Performance by leading-edge models & select historical examples**

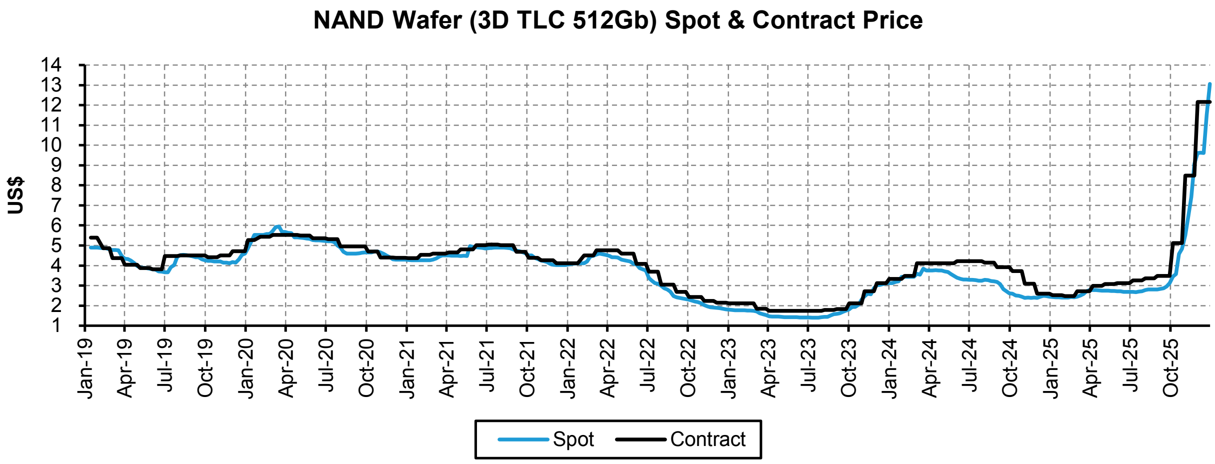



Models are a mix of agentic frameworks, specialized models, and generalist models. While agentic frameworks generally show best performance, and on-device agents will likely ultimately use such a framework, there is more risk that human-level performance on OSWorld does not translate to other activities for agentic frameworks and specialized models compared to general models
Source: OSWorld Benchmark, Bernstein estimates and analysis

## PART II: MEMORY & STORAGE HUGE BENEFICIARIES OF THE DATA EXPLOSION

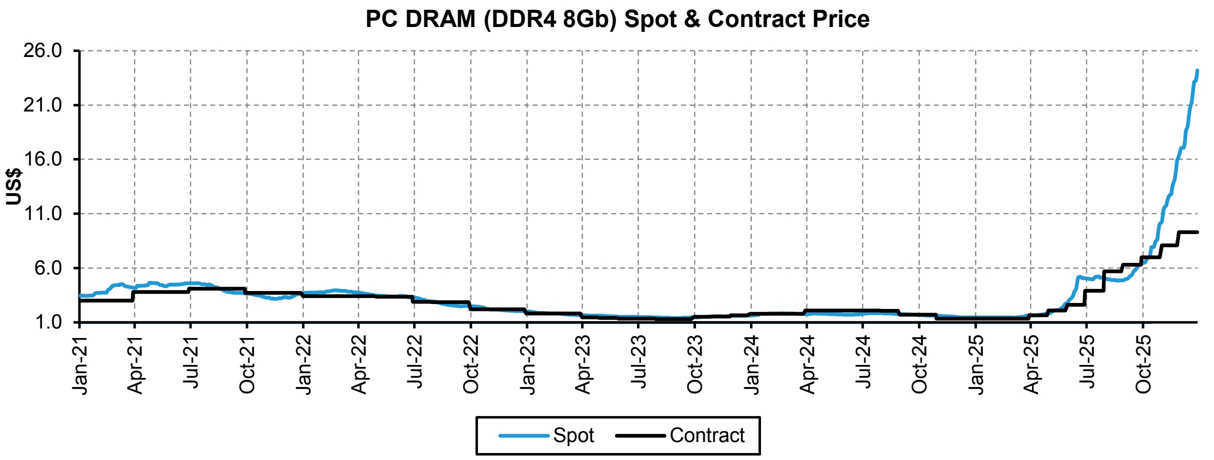
**The data explosion necessary to enable and run AI models fuels an acceleration in memory/storage demand, creating an unprecedented memory super cycle.** In the era of AI, intense training/inference workloads, richer content creation, and longer retention requirements all drove the data explosion, which is creating insatiable demand for storage/memory. The hot demand has created **unprecedented price hikes** across memory. Over the past quarter, NAND and DRAM have been experiencing an extremely sharp increase in ASP, while HDD ASP has also been much more supported than before (Exhibit 5-Exhibit 7).

EXHIBIT 5: **NAND Wafer (3D TLC 512Gb) Spot & Contract Price**



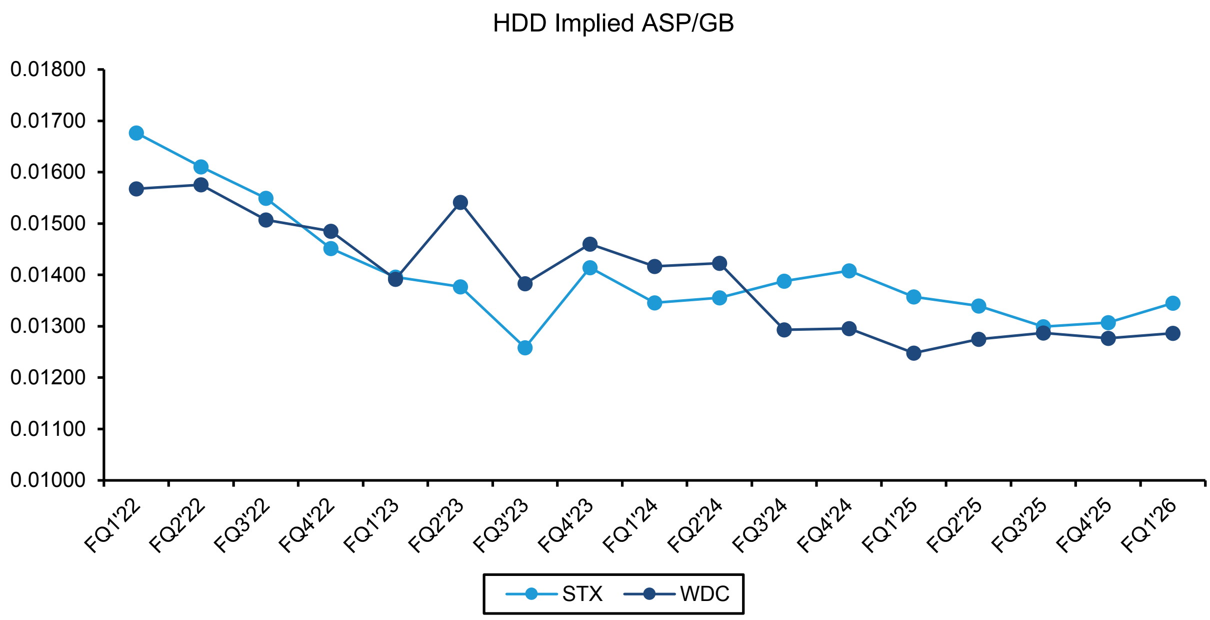

Source: DRAMeXchange, Bernstein analysis

EXHIBIT 6: **PC DRAM (DDR4 8Gb) Spot & Contract Price**




Source: DRAMeXchange, Bernstein analysis

EXHIBIT 7: **HDD ASP/GB has been more stable recently**




This chart shows implied ASP/GB calculated using company reported revenue and shipment
Source: IDC, company reports, Bernstein analysis

**"Context is the new bottleneck, Storage must be rearchitected" - we view Jensen Huang's recent CES keynote (Exhibit 8) as a game changer for NAND as it formally elevates rack-scale SSD into the AI inference critical path, reframing SSD as an active context layer that helps improve GPU utilization.** Here context memory refers to KV cache. For each new token, the GPU writes the resulting key-value pairs into KV cache, which functions as the model's working memory. KV cache must be retained and reused to support long-context, multi-turn, and agentic AI workloads.

**Historically, the KV cache is stored almost entirely in HBM, but as context length grows, HBM capacity becomes the bottleneck.** That's why NVIDIA developed BlueField-4 (Exhibit 9), to allow a very fast cache memory stored right in the rack. With BlueField-4 DPUs and high-speed networking **enabling fast access to KV cache in rack-level SSDs**, lower-attention KV cache can now be stored outside the GPU without forcing recomputation.

**In the previous NVL72 configuration, each Nvidia GPU effectively mapped to only 1TB of SSD capacity at shipment,** since each NVL72 only comes with 12 8T-SSDs. Even after accounting for the 24-36 additional SSDs that customers typically install themselves, each GPU only corresponds to 3-4TB of SSD.

**The new Rubin GPU will feature an additional 16TB of storage,** what Jensen mentioned during CES is consistent with our calculations from the Vera Rubin pod configuration. As illustrated in Exhibit 10, eight racks of NVL72 correspond to roughly 16 context memory trays. Each tray houses four BlueField-4 chips, with each chip controlling 150TB of SSD storage. Consequently, each tray offers a total SSD capacity of 600TB. **600TB per tray *16 trays / (8 racks * 72 GPU/rack) = 16.67TB/GPU.**

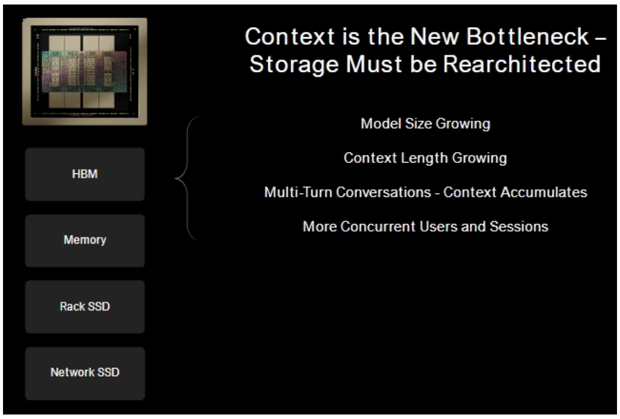
**Higher write intensity may shorten SSD replacement cycle, increasing long-term demand.** Because KV cache is continuously generated, migrated, and evicted during live inference, SSDs become a high-churn memory tier with sustained writes. This increases wear, shortens replacement cycles, and structurally raises long-term SSD demand.

**Importantly, this incremental demand arrives into an already tightened supply-demand backdrop.** Prior to Jensen's CES comments, SNDK guided to 17% NAND supply growth vs. mid-20% demand growth (major catalyst being data center) in FY26, implying an existing ~8% under-supply. SNDK explained that the data center market is now projected to become the largest market in NAND in CY26, with DC exabyte demand forecasts for '26 updated from mid-20% to mid-40% growth. Now, Jensen's CES comments further amplifies the under-supply by introducing incremental SSD demand that scales with accelerator units and inference intensity.

**Incremental demand skews to premium enterprise NVMe, improving mix.** The additional data center SSD demand is concentrated in higher-end enterprise NVMe SSDs that can handle latency-sensitive, continuous read/write workloads (higher bandwidth, endurance, and power-loss protection). As growth is disproportionately in these premium drives, the product mix improves meaningfully, supporting higher overall ASPs going forward.

**No NAND capacity is currently being added except for YMTC.** Some investors may be concerned about future NAND capacity additions, but we believe that as long as supply additions remain disciplined and demand continues to outgrow incremental capacity, ASPs and earnings would remain supported. We expect NAND Capex to gradually rise through CY2026 and 2027, though it will remain below the peak levels seen in 2021–2022. This trend reflects vendors' cautious stance and a more disciplined approach to adding supply (Exhibit 11).

EXHIBIT 8: **Jensen's comments on storage**

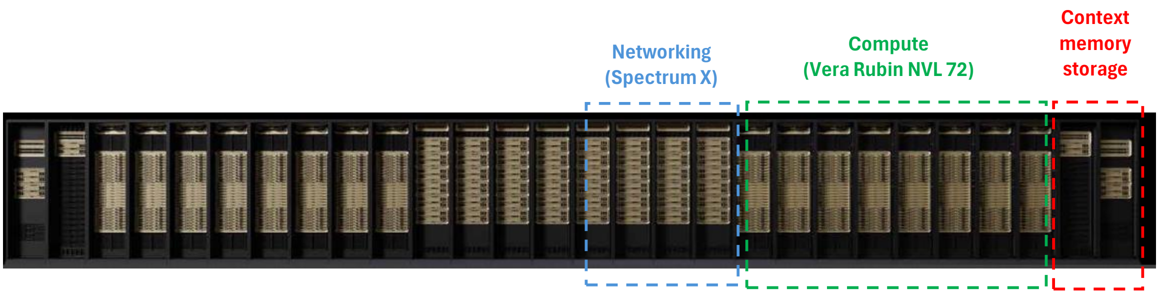



Source: NVIDIA CES 2026 company presentation

EXHIBIT 9: **NVIDIA's BlueField-4 Data and Storage Processor**

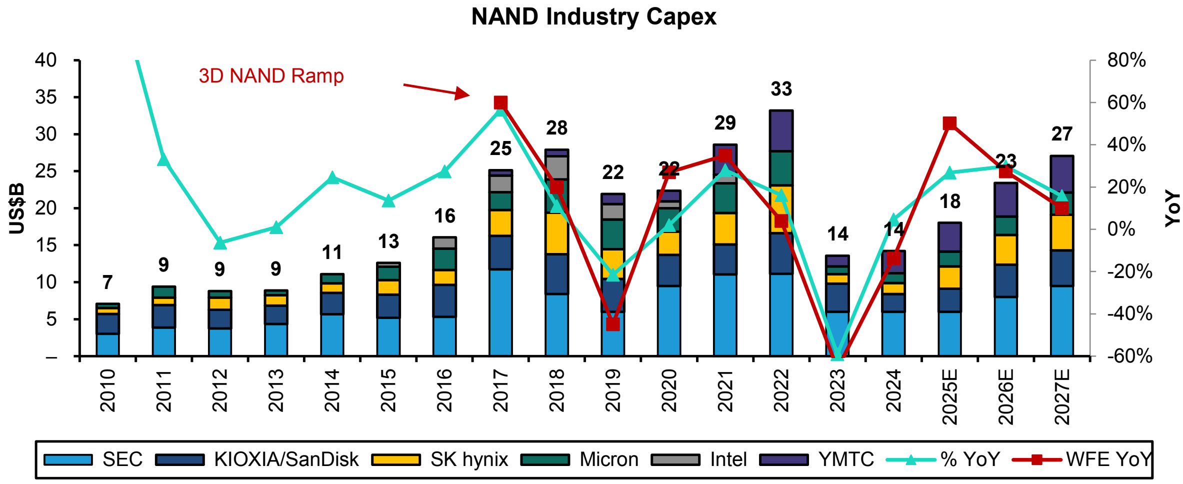

Source: NVIDIA CES 2026 company presentation

EXHIBIT 10: **Vera Rubin pod demonstration**




Source: NVIDIA CES 2026 company presentation

EXHIBIT 11: **NAND Industry Capex**




Source: Company reports, SEMI, TrendForce, Gartner, Bernstein estimates and analysis, Bernstein Asia Semiconductors and Equipment & Global Memory

## REVISING UP TOP PICK SNDK ESTIMATES AND TP TO $580 (OUTPERFORM)

**Given the significant SSD demand tailwind from the new NVL72 configuration, we believe there is meaningful room for NAND pricing to rally further. Therefore, we tweak up the NAND ASP in our SanDisk model, which drives substantial improvement in gross margin and EPS. Based on this we revise up our TP to $580 (11x FY27 EPS, previously 10.5x).**

- **We are seeing an unprecedented rally in NAND price.** The ***spot price for NAND has gone up over 250% qoq*** and ***contract price up over 100% qoq*** (Exhibit 5). We are currently in a NAND super cycle.
- **There is even further upside in ASP given the strong incremental demand from the new NVL72 configurations.** Previously, we thought the NAND under supply would be in the single digits (Exhibit 18). But with the new storage platform, each GPU will map to 16TB of SSDs, which is all incremental demand on top of the already substantial demand for NAND. Therefore, we now believe the demand will be much hotter than previously expected, leading to even higher ASP. We have tweaked up NAND ASP from 2Q26 to 4Q27 in our SNDK model, reflecting the much higher ASP expected (Exhibit 15, Exhibit 16).
- **The significant increase in ASP leads to better profitability for SNDK.** The new 2027 gross margin is 67.6%, which is 1221 bps above the old estimates at 55.5%, and the 2028 gross margin is 67.3%, which is1235 bps above the old estimates at 55% (Exhibit 13, Exhibit 17).
- **We are more bullish than consensus on SNDK.** Our FY26 EPS is $21.16, 61% above cons, FY27 EPS is at $52.66, which is 129% above cons, and our FY28 is at $53.66, which is 175% above cons (Exhibit 12). For 2Q26, our EPS is at $3.79, which is 14.5% higher than Bloomberg consensus at $3.31, so we are also slightly more bullish than cons for this upcoming quarter (Exhibit 14).
- **We assign new TP of $580.** We value SanDisk at 11x our FY27 EPS, implying EV 11.6x our estimate of $7.4B FY 27 FCF.
- **Catalyst for SNDK (Jan 29th earnings):** With upcoming earnings on January 29th we'll be looking for a beat, but more importantly the guidance for the following quarter will be important to drive the stock higher.

EXHIBIT 12: **Bernstein vs. Consensus**

| SNDK | FY26E | FY27E | FY28E |
|---|---|---|---|
| **Total Revenues ($M)** | | | |
| Consensus | $10,681 | $13,216 | $13,372 |
| **Bernstein Est.** | **$11,761** | **$17,899** | **$18,479** |
| *Bernstein vs. Cons.* | *10.1%* | *35.4%* | *38.2%* |
| | | | |
| **Company GMs** | 42.2% | 49.8% | 46.0% |
| vs. Bernstein | 49.9% | 67.6% | 67.3% |
| | | | |
| **Opex ($M)** | $1,873 | $2,027 | $2,073 |
| vs. Bernstein | $2,001 | $2,711 | $3,100 |
| | | | |
| **Non-GAAP EPS ($)** | | | |
| Consensus | $13.13 | $23.01 | $19.52 |
| **Bernstein Est.** | **$21.16** | **$52.66** | **$53.66** |
| *Bernstein vs. Cons.* | *61.2%* | *128.8%* | *174.9%* |
| | | | |
| **FCF ($)** | | | |
| Consensus | $2,149 | $3,684 | $3,192 |
| **Bernstein Est.** | **$2,603** | **$7,366** | **$7,746** |
| *Bernstein vs. Cons.* | *21.1%* | *99.9%* | *142.7%* |

Source: Bloomberg, Bernstein estimates and analysis

EXHIBIT 13: **SNDK Model Before vs After**

| | FY 2026E | | | FY 2027E | | | FY 2028E | | |
|---|---|---|---|---|---|---|---|---|---|
| *($USD Millions)* | New | Old | Delta | New | Old | Delta | New | Old | Delta |
| **Revenue** | **$11,761** | **$10,336** | *13.8%* | **$17,899** | **$12,919** | *38.5%* | **$18,479** | **$13,338** | *38.5%* |
| **Gross Profit** | **$5,885** | **$4,461** | *31.9%* | **$12,120** | **$7,170** | *69.0%* | **$12,445** | **$7,335** | *69.7%* |
| *Gross Margin %* | 50.0% | 43.2% | *688bps* | 67.7% | 55.5% | *1221bps* | 67.3% | 55.0% | *1235bps* |
| **Op. Profit** | **$3,884** | **$2,636** | *47.3%* | **$9,409** | **$5,075** | *85.4%* | **$9,345** | **$4,960** | *88.4%* |
| *OP Margin %* | 33.0% | 25.5% | *752bps* | 52.6% | 39.3% | *1329bps* | 50.6% | 37.2% | *1338bps* |
| **Net Income** | **$3,190** | **$2,122** | *50.3%* | **$8,103** | **$4,312** | *87.9%* | **$8,258** | **$4,390** | *88.1%* |
| **EPS ($ per share)** | **$21.16** | **$14.10** | *50.0%* | **$52.66** | **$28.15** | *87.0%* | **$53.66** | **$28.66** | *87.2%* |
| **Adj FCF** | **$2,603** | **$2,015** | *29.2%* | **$7,366** | **$3,851** | *91.3%* | **$7,746** | **$3,949** | *96.2%* |

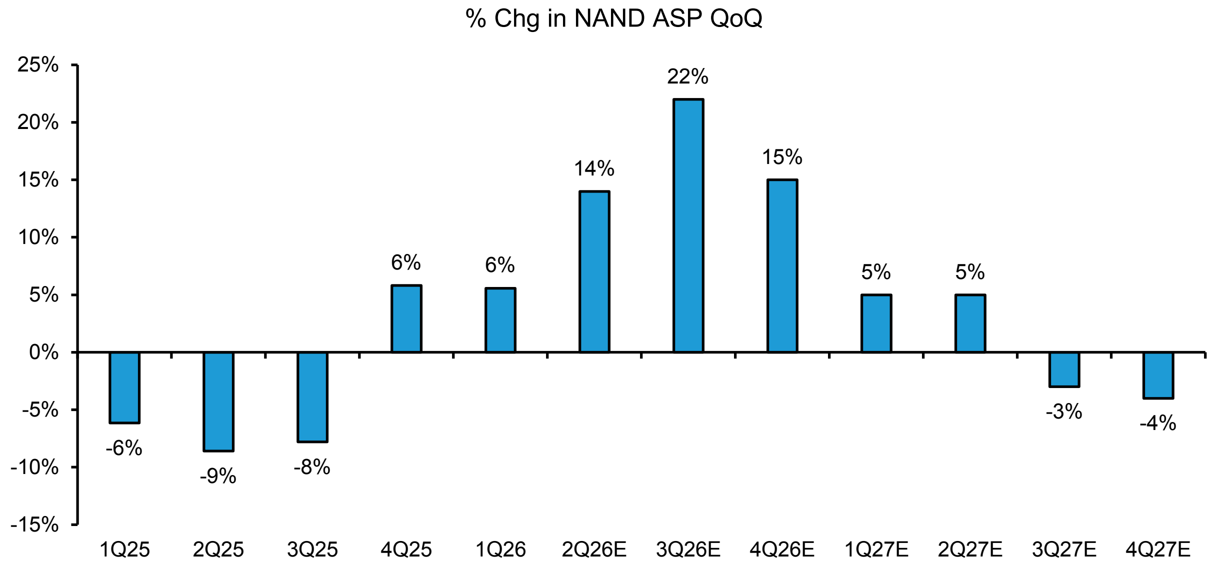
Source: Company reports, Bernstein estimates and analysis

EXHIBIT 14: **Model New vs Old**

| 2026Q2 | | | | | |
|---|---|---|---|---|---|
| *($USD Millions)* | New | Old | Delta | Consensus | Delta |
| **Revenue** | **$2,697** | **$2,638** | *2.2%* | **$2,652** | *1.7%* |
| **Gross Profit** | **$1,172** | **$1,113** | *5.3%* | **$1,108** | *5.8%* |
| *Gross Margin %* | 43.5% | 42.2% | *127bps* | *41.8%* | *169bps* |
| **Op. Profit** | **$697** | **$650** | *7.3%* | **$640** | *8.9%* |
| *OP Margin %* | 25.9% | 24.6% | *123bps* | *24.2%* | *171bps* |
| **Net Income** | **$567** | **$526** | *7.9%* | **$504** | *12.6%* |
| **EPS ($ per share)** | **$3.79** | **$3.51** | *7.9%* | **$3.31** | *14.4%* |
| **Adj FCF** | **$325** | **$315** | *3.0%* | **$347** | *-6.4%* |

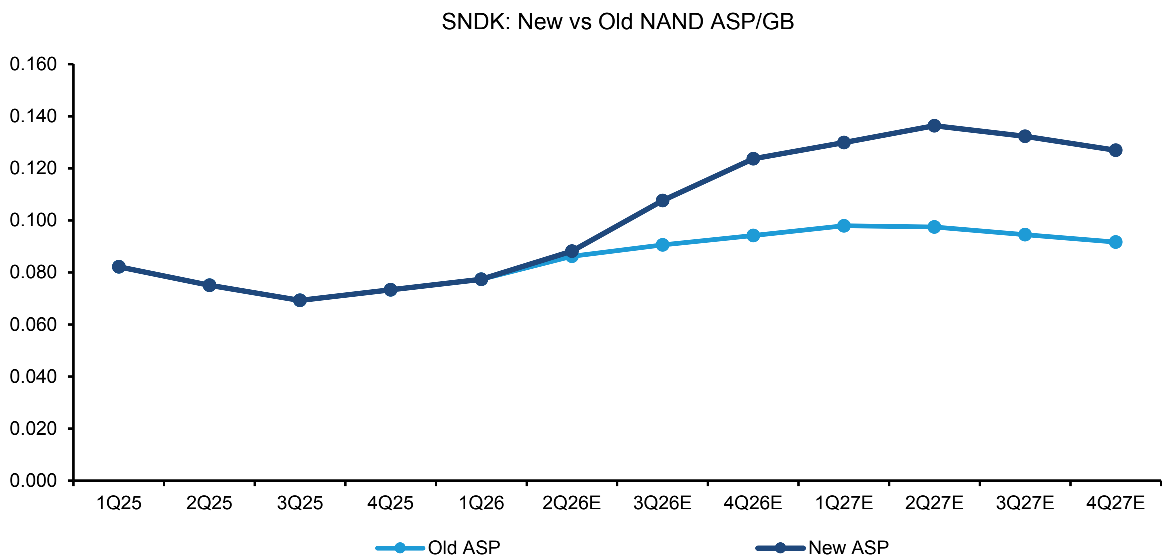
Source: Company reports, Bloomberg, Bernstein estimates and analysis

EXHIBIT 15: **% Chg in NAND ASP QoQ**



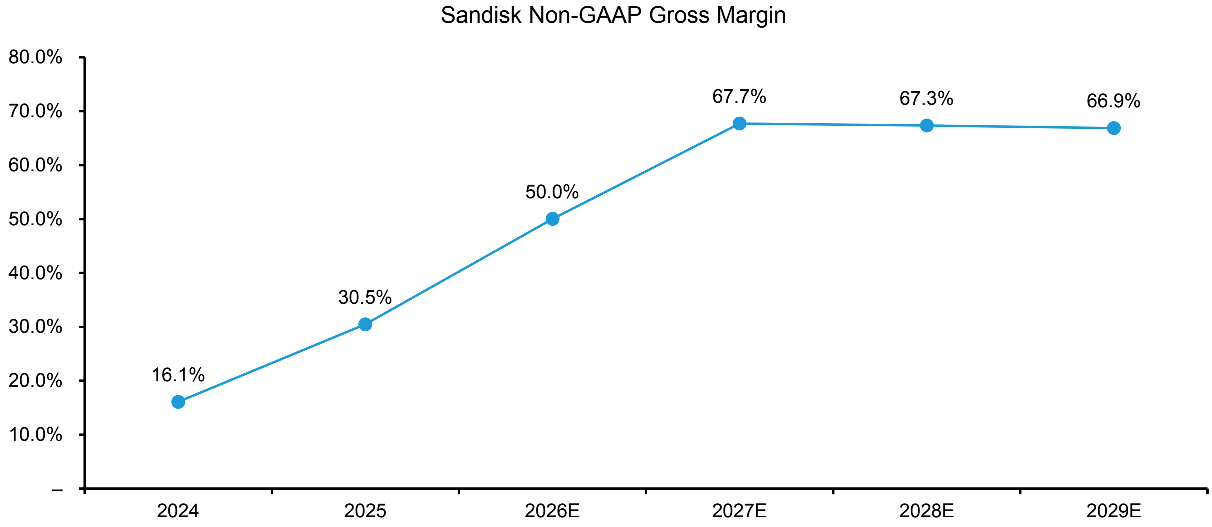

Source: Company reports, Bernstein estimates and analysis

EXHIBIT 16: **SNDK New vs Old NAND ASP/GB**



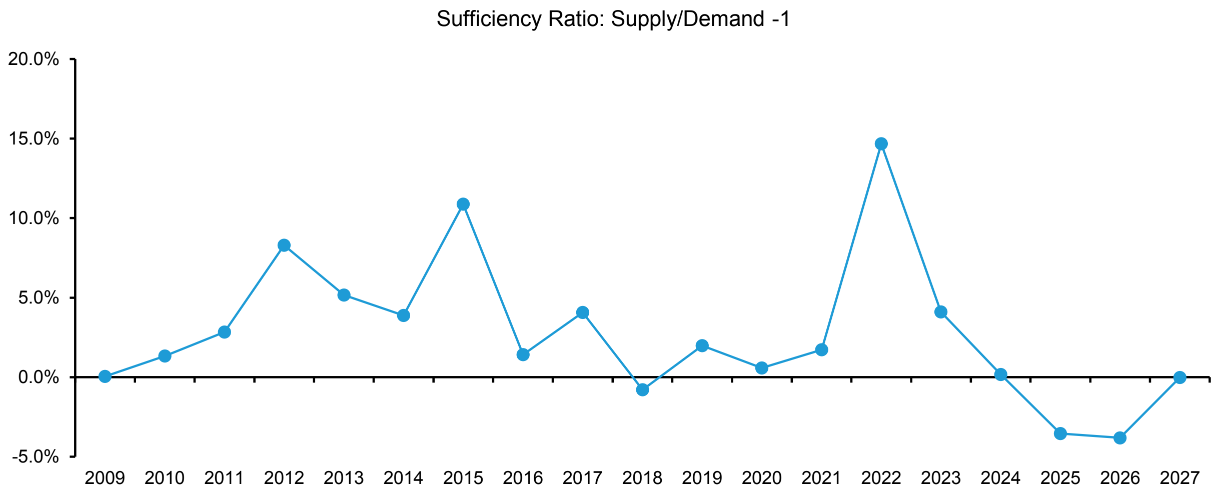

Source: Company reports, Bernstein estimates and analysis

EXHIBIT 17: **Sandisk Non-GAAP Gross Margin**




Source: Company reports, Bernstein estimates and analysis

EXHIBIT 18: **NAND Supply/Demand Sufficiency Ratio**




Source: DRAMeXchange, Bernstein analysis

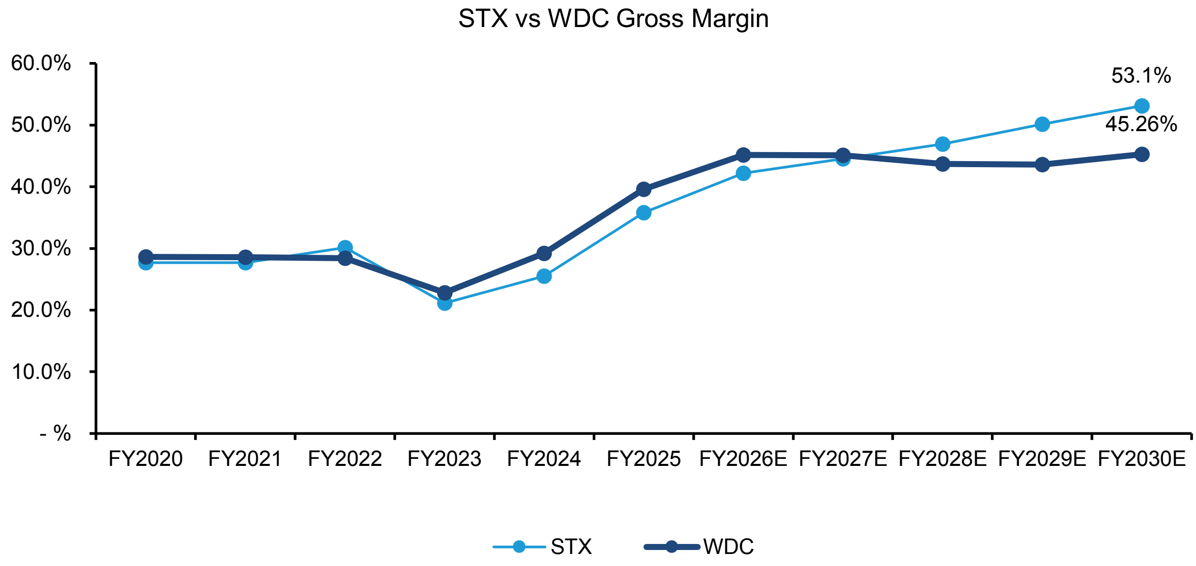
## STX (OUTPERFORM, TP $370) OUR TOP PICK IN STORAGE / HDD

In addition to SanDisk as our pick in memory, Seagate is our long-term pick in storage.

- **Among NAND, DRAM and HDD segments, HDD has the lowest risk of capacity additions, which is supportive for longer term pricing and profitability.** In highly concentrated markets such as HDD, incremental capacity additions tend to be disciplined: with few competitors, suppliers are more inclined to prioritize profitability and ASP rather than pursue aggressive market-share gains.

- **STX has advantage over WDC from the more advanced HAMR ramp.** HAMR will be the most important driver of areal density improvements, which then drives cost/GB and overall profitability. Moreover, the gap between Seagate and WDC's qualification timing already suggests a two-year lead of Seagate over Western Digital, so we expect Seagate's HAMR leadership to sustain in the near future. As a result, Seagate's lead in HAMR will translate to greater margin improvements. We estimate 53.1% margin for STX and 45.3% margin for WDC in 2030E (Exhibit 19).

EXHIBIT 19: **STX vx WDC Non-GAAP Gross Margin**




Source: Company reports, Bernstein estimates and analysis

### OEMS WILL BE THE LOSERS IN THIS MEMORY / STORAGE PRICE ENVIRONMENT

We recently analyzed the impact of rising memory prices on OEMs and concluded that HPQ and SMCI have the most potential downside of 19% to EPS, with Dell and HPE impact at 6% and 4% respectively. Apple should be the mostly immune in the short term given their long term agreements with memory suppliers but will likely need to raise prices of future models which could impact unit growth later this year.

## PART III. APPLE - THE GATEWAY TO THE INTELLIGENCE REVOLUTION

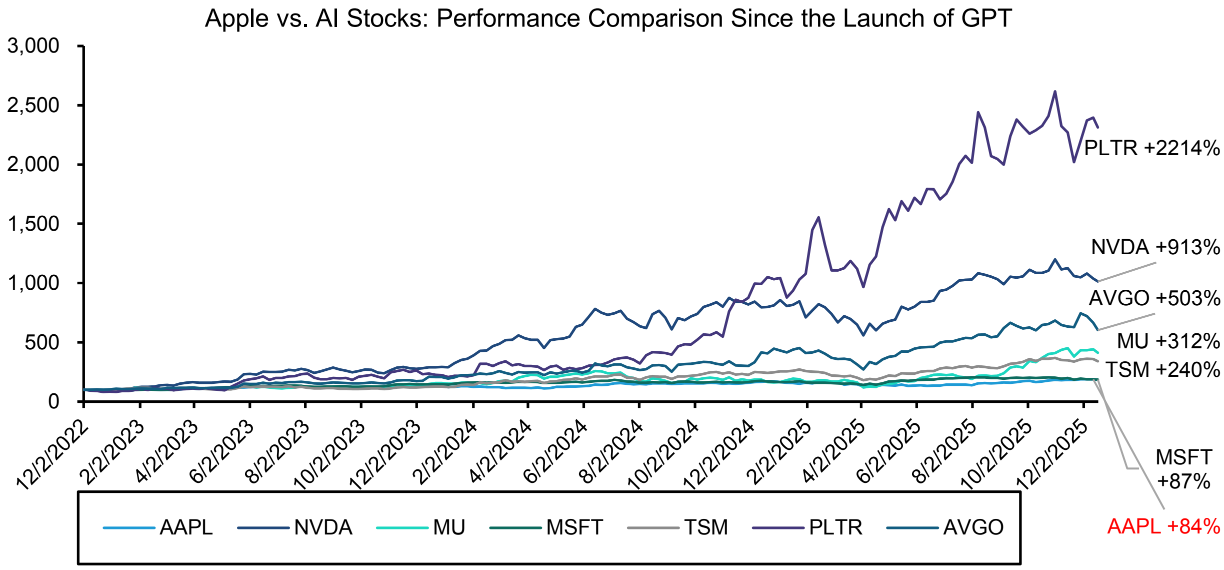
**Apple's year to shine in AI?** Following Apple recent confirmation that they are working with Google on AI models, there is growing anticipation of the upcoming iOS26.4 (expected by April 2026) with significant upgrades to Apple Intelligence and Siri. While we see Apple as a good defensive play, that significantly outperforms when AI bubble concerns come to the fore, we also see significant upside to Apple if they get AI right. We estimate 30% upside to AAPL FY28 EPS estimates from AI services revenue (17.4% upside) and accelerated replacement cycle to 3 years (12.4% upside) driven by AI.

Apple is in a unique position as both a long term winner in AI (though that has yet to play out) and yet also a defensive player that would benefit from AI bubble burst or digestion period. Below we explain why.

**Setbacks can be blessings in disguise, Apple stands out as a candidate for defensive AI play.** Apple's steadfast commitment to user privacy, while setting it apart in the market, has introduced complexity and limits scalability in the development of on-device AI. However, as Apple's cautious and slower-than-expected roll-out of AI features has drawn criticism as reflected in the lukewarm stock performance (Exhibit 20), the constrained investment in AI has also shielded the company from the volatility when AI sentiment went sour.

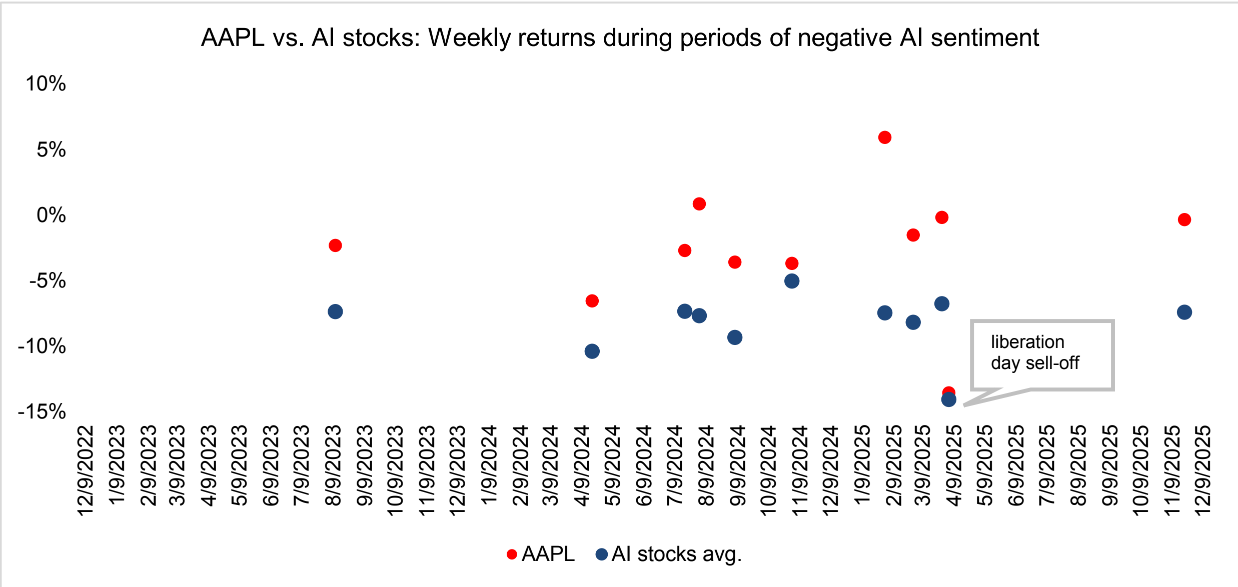
Here we compared Apple's weekly returns since the launch of GPT in late 2022, to a basket of high-beta AI stocks. Notably, during periods when the average weekly return of the AI basket fell below -5%, indicating negative AI sentiment, Apple has consistently outperformed (red dots in Exhibit 21) compared to the AI basket (blue dots). **We consider Apple to be a great diversification in the portfolio.**

EXHIBIT 20: **Apple vs. AI Stocks Performance Comparison Since the Launch of GPT**




Stock performance updated as of 12/18/2025.
Source: Bloomberg, Bernstein analysis

EXHIBIT 21: **AAPL vs. AI sector stocks weekly returns during periods of negative AI sentiment (average weekly return of the AI basket below -5%0**




High-beta AI stocks selected are NVDA, AVGO, MU, MSFT, TSM, PLTR. Stock performance updated as of 12/18/2025.
Source: Bloomberg, Bernstein analysis

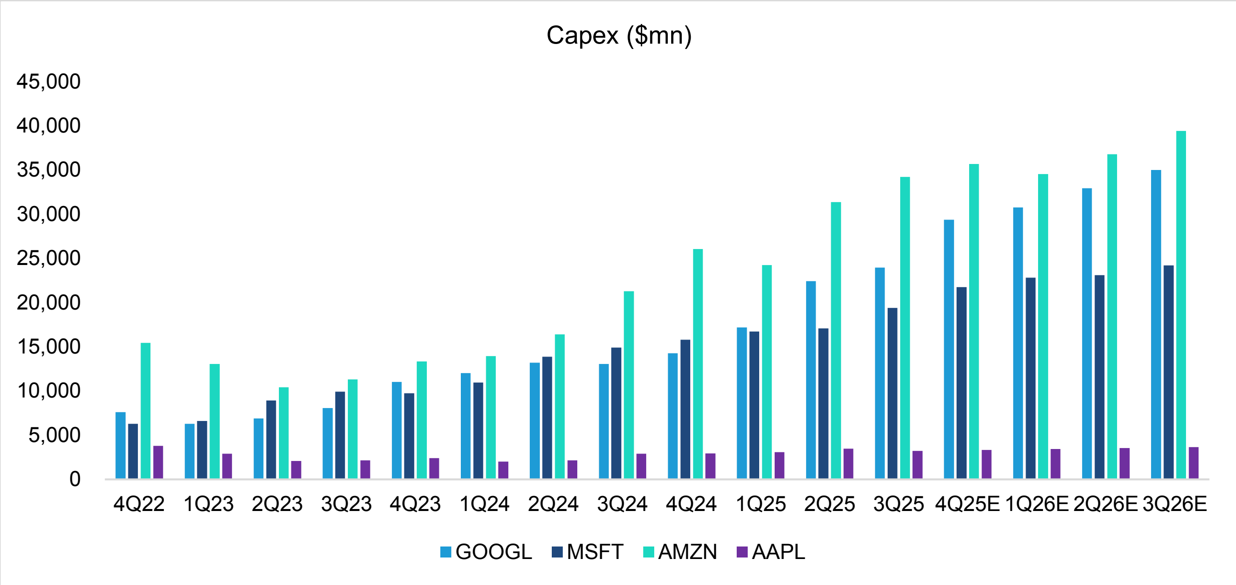
**Due to either luck or genius (or perhaps a bit of both), we believe Apple has chosen the right business model in AI: Partnership (vs. building their own foundation model).** While multiple LLMs exist in the market, there is only one Apple - boasting the most sticky and lucrative >1.3bn installed base. This gives Apple significant negotiating leverage over AI model providers. Meanwhile, the cost of training cutting-edge AI models continues to escalate sharply (Exhibit 22, Exhibit 23).

Apple reportedly pays Google approximately $1bn annually for access to Gemini, one of the most advanced AI models available. This contrasts with Google′ s estimated $80 bn annual Capex to train such models. Although this $1bn figure is unconfirmed, if accurate, it underscores Apple’s strong negotiating leverage. We believe Google depends on Apple more than vice versa.

Apple's ecosystem generates substantial search revenue for Google. If Google walks away, Apple can easily replace with alternative AI model such as ChatGPT, but Google would face existential threat from competing AI models cannibalizing search.

**We favor Apple's partnership-driven AI strategy as it leverages the vast user base to potentially secure favorable terms while positioning itself defensively against competitive risks in the AI landscape.**

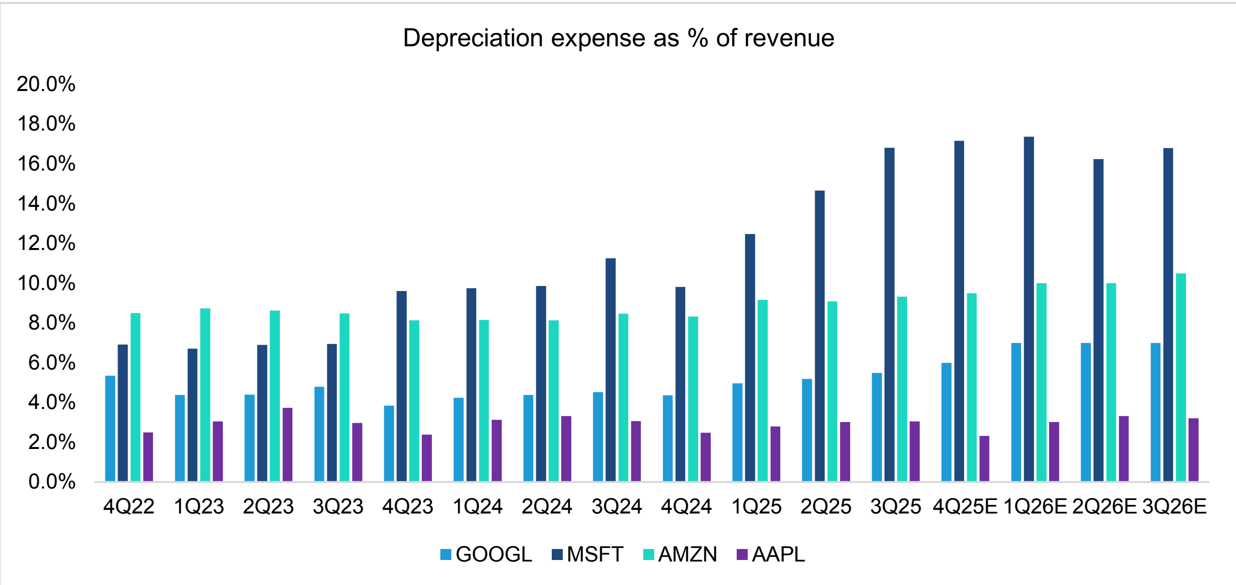
EXHIBIT 22: **Capex spending - AAPL vs. Big Tech**




In calendar quarters

Source: Company reports, Bernstein estimates and analysis (MSFT is covered by Mark Moerdler, GOOG/AMZN is covered by Mark Shmulik)

EXHIBIT 23: **Depreciation as % of revenue - AAPL vs. Big Tech**




In calendar quarters
Source: Company reports, Bernstein estimates and analysis (MSFT is covered by Mark Moerdler, GOOG/AMZN is covered by Mark Shmulik)

**Looking ahead, we see an asymmetric risk/reward skewed to the upside for Apple. The negatives related to AI are well-telegraphed and largely forgiven, whereas the upside is substantial once Apple's AI capabilities are fully**

**realized. We see Apple as the only player to bring on-device AI to the masses.**

**Apple's AI developments should structurally accelerate the device replacement cycle, while also creating opportunities for subscription-based add-ons that could enhance services revenue.** Currently, Apple's Intelligence features are only compatible on iPhone 15 Pro models and iPhone 16 models or later (Exhibit 24). This means that to access these AI features, users must have at least an iPhone 15 Pro, which was released 2.5 years ago in 2023. Looking ahead, we anticipate that new feature releases are likely to be compatible only with devices meeting specific hardware requirements, encouraging more frequent device upgrades, hence structurally shortening the iPhone replacement cycle. We also believe there is a possibility that Apple Intelligence could introduce a freemium model within Apple's subscription offerings. **If Apple's AI vision materializes, the incremental earnings from both hardware and services amount to 30% above our current FY28 EPS.**

**On the hardware side, accelerating the iPhone replacement cycle from our current estimate of 3.7 years to 3.0 years would contribute a 12.4% increase to our projected 2028 EPS.** Our analysis here focuses exclusively on the iPhone, while recognizing that similar device upgrade requirements exist for the iPad and Mac. We assume that within the current installed base of ~1.3 billion iPhones, 70% are owned by first-time buyers. We only consider these first-hand buyers in our calculation, as their purchasing decisions are more likely to be driven by Apple's AI hardware requirements compared to buyers of refurbished devices. Holding all other factors constant, such as iPhone average selling price, incremental margin, tax rate, and share count - to isolate the effect of increased unit sales, we estimate that accelerating the replacement cycle from 3.7 to 3.0 years would represent a $1.33 accretion to our FY28 EPS estimate (Exhibit 25). That is roughly a 12.4% increase over Bernstein's 2028 EPS forecast and 13.3% above consensus estimates for the same year.

**On the services side, if Apple Intelligence adopts a freemium model priced at $20/month with a moderate 20% user penetration, it could increase our 2028 estimated EPS by 17.4%.** We assume the freemium subscription is priced around $20 per month, similar to Apple One and ChatGPT Plus. If it reaches 20% penetration among the estimated 0.9 billion unique App Store users, this would result in a 17.4% EPS accretion in 2028 (Exhibit 26). This estimate assumes Apple pays a take-rate to model providers and retains a 70% margin.

EXHIBIT 24: **Apple Intelligence device requirement**

## Device requirements

- iPhone 15 Pro models, and iPhone 16 models or later
- iPad mini (A17 Pro), and iPad models with M1 and later
- Mac with M1 or later
- Apple Vision Pro
- Apple Watch Series 6 and later, all Apple Watch Ultra models, and Apple Watch SE 2 and later when paired with an Apple Intelligence-enabled iPhone nearby

https://support.apple.com/en-us/121115
Source: Company website

EXHIBIT 25: **Impact on AAPL FY28 EPS from accelerated replacement cycle**

| | |
|---|---|
| iPhone installed base (mn) | 1,301 |
| % of first-hand buyers | 70% |
| First-hand iPhone buyers (mn) | 911 |
| Estimated units sold per year (mn) | 244 |
| **Replacement cycle (year)** | **3.7** |

| **Replacement cycle (year)** | **3.5** | **3.2** | **3.0** | **2.7** | **2.5** |
|---|---|---|---|---|---|
| **Incremental units sold per year (mn)** | 17 | 37 | 60 | 88 | 120 |
| ASP | $859 | $859 | $859 | $859 | $859 |
| Incremental Margin | 42% | 42% | 42% | 42% | 42% |
| Tax Rate | 16% | 16% | 16% | 16% | 16% |
| Share count (mn) | 13,657 | 13,657 | 13,657 | 13,657 | 13,657 |
| EPS | $5.77 | $6.21 | $6.72 | $7.32 | $8.04 |
| ***Incremental EPS (vs. FY28 Bern.)*** | ***$0.38*** | ***$0.82*** | ***$1.33*** | ***$1.93*** | ***$2.65*** |
| ***Incremental EPS % (vs. FY28 Bern.)*** | ***3.6%*** | ***7.7%*** | ***12.4%*** | ***18.1%*** | ***24.8%*** |

Incremental margin assumed at iPhone gross margin, tax rate and sharecount all using Bernstein assumptions for 2028 EPS calculation.
Source: Counterpoint, Bernstein analysis and estimates

EXHIBIT 26: **Impact on AAPL FY28 EPS from AI as a subscription offering**

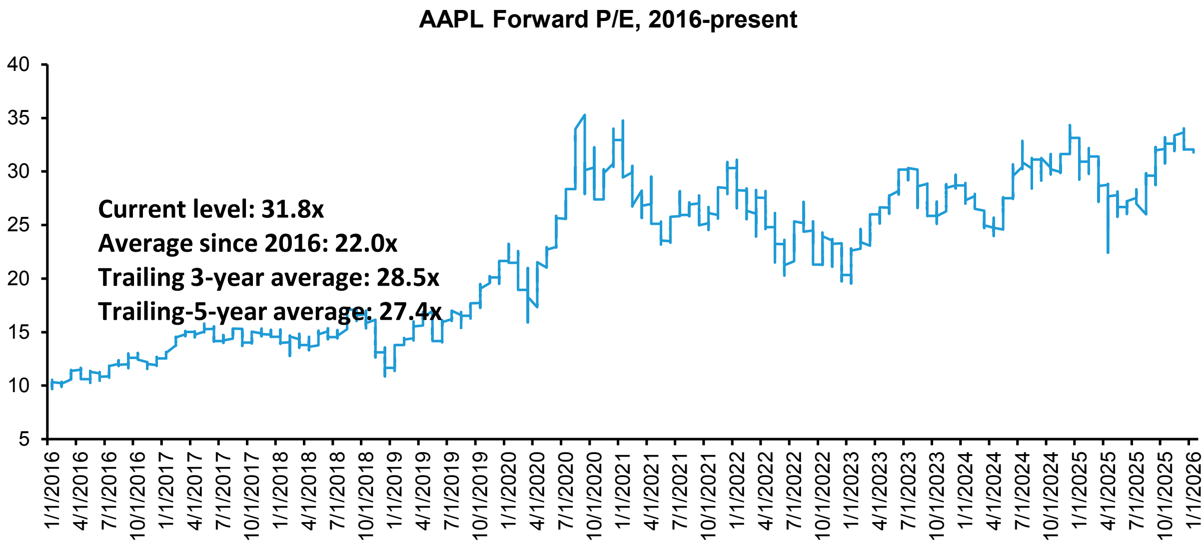
**Assume Apple pays a take rate for AI models and has 70% OMs:**
**Incremental EPS as % of overall FY28E EPS**

| | | **Average Monthly Subscription Price** | | | | |
|---|---|---|---|---|---|---|
| | | **$5** | **$10** | **$20** | **$30** | **$40** |
| **Adoption rate of paid Apple AI services among unique user base** | **10%** | 2.2% | 4.3% | 8.7% | 13.0% | 17.4% |
| | **20%** | 4.3% | 8.7% | ***17.4%*** | 26.1% | 34.8% |
| | **30%** | 6.5% | 13.0% | 26.1% | 39.1% | 52.2% |
| | **40%** | 8.7% | 17.4% | 34.8% | 52.2% | 69.6% |
| | **50%** | 10.9% | 21.7% | 43.5% | 65.2% | 86.9% |

Source: Bernstein analysis and estimates

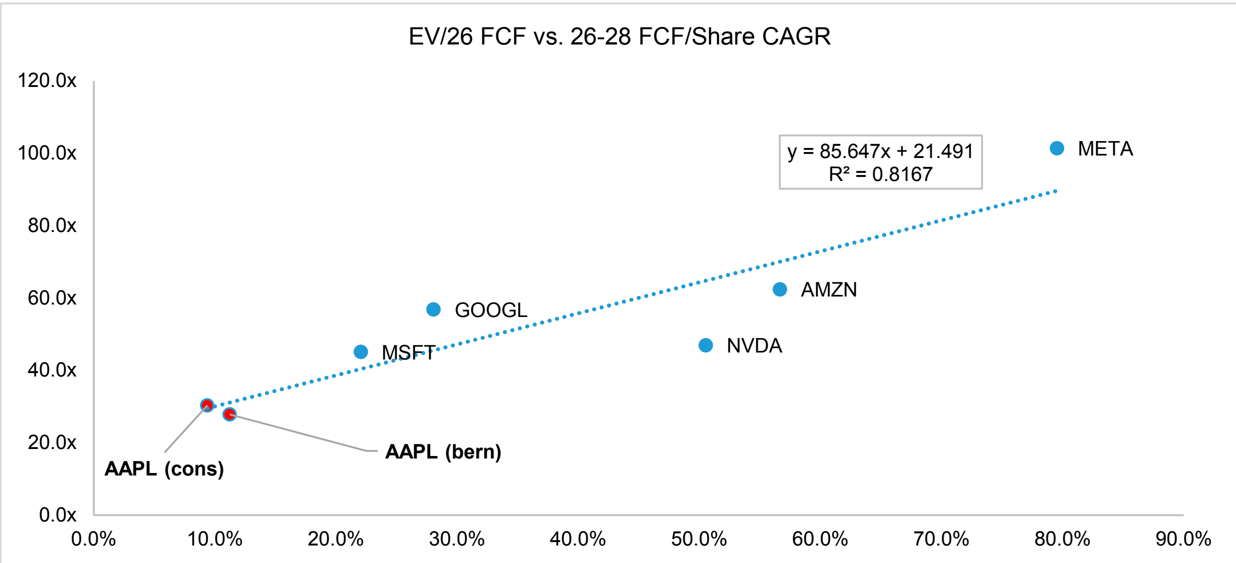
**We acknowledge that Apple's absolute valuation looks elevated compared to its historical levels (Exhibit 27), but see its FCF-based valuation relative to the Mag 7 peers (excluding Tesla) as well-justified** (Exhibit 28), largely due to its prudent AI-related capital expenditures discussed earlier. From a relative valuation perspective (Exhibit 29), historical data indicates that **when Apple's relative P/E ratio reaches approximately 1.14 times that of the S&P 500, these points have traditionally represented attractive entry opportunities.**

EXHIBIT 27: **AAPL P/FE, 2016 - Present**



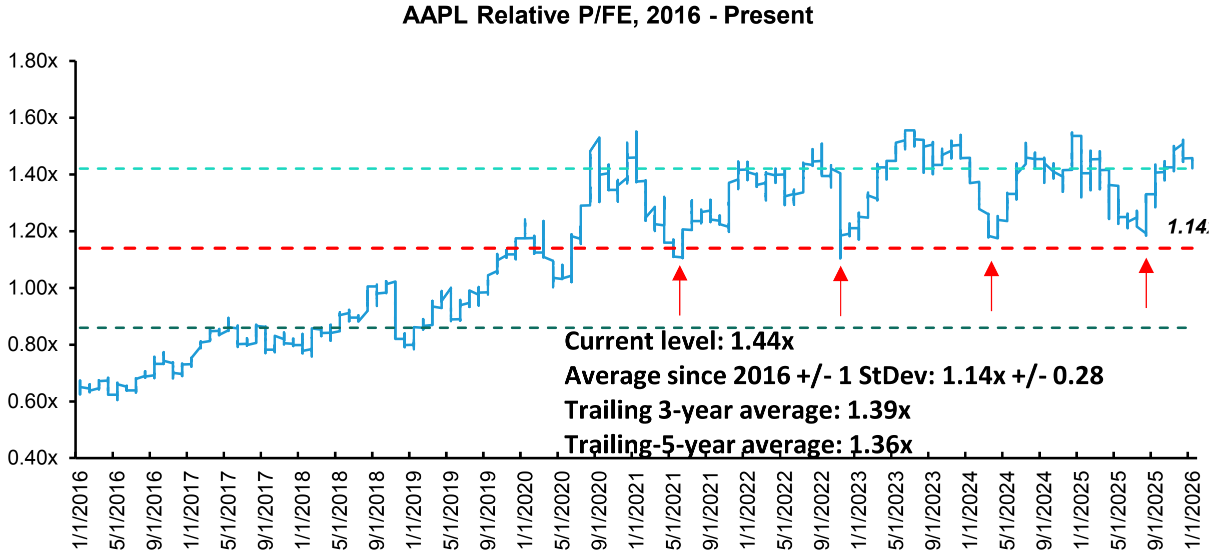

Updated as of 1/5/2026
Source: Bloomberg, Bernstein Analysis

EXHIBIT 28: **EV26 FCF vs. 26-28 FCFShare CAGR (AAPL vs. Mag 7 ex. TSLA)**




Updated as of 1/5/2026
Source: Bloomberg, Bernstein analysis and estimates

EXHIBIT 29: **AAPL Relative P/FE multiple, 2016 - Present**




Updated as of 1/5/2026
Source: Bloomberg, Bernstein analysis

## PART IV: COUNTDOWN TO QUANTUM SUPREMACY

Quantum Computing remains a misunderstood area with the ability to upend today's computing paradigms, cryptography, finance, material science and drug discovery. Could this be the year where we see real quantum supremacy, i.e. real applications where quantum computing is better / faster / cheaper than conventional computing? The industry has now finally moved beyond the scientific proof of concept phase, now it is more about engineering. Future challenges still remain but already some niche use cases are showing Quantum advantage, but we are still far from widespread quantum supremacy.

**We think 2026 will bring increasing excitement about Quantum, which will drive excitement and volatility for the pure plays — IonQ, Rigetti, D-Wave, and Quantum Computing Inc (all not rated) — as well as potential upside for IBM (Market-perform). We estimate potentially 23% upside for IBM from Quantum though much of this may already be in the stock** (see Exhibit 34).

### WHY IS QUANTUM SUCH A BIG DEAL?

At the most simple level, Quantum computing can massively speed up complex calculations by taking advantage of the superposition states of bits allowing a practically infinite set of possibilities between 0 and 1, vs conventional computing which is built on combinations of 0s and 1s. Below we explain in a bit more detail what makes Quantum so unique.

**Superposition:** Quantum computing differs fundamentally from classical computing because its basic unit, the qubit, can exist in superposition, representing multiple states simultaneously, rather than a single binary 0 or 1 like in classical computing. This allows quantum computing to have a much larger computational space and explore many possible solutions at the same time, whereas classical computing evaluates them sequentially.

**Entanglement** links qubits, so their states are defined jointly rather than independently, allowing quantum algorithms to encode relationships and constraints between variables that guide interference toward valid solutions, which classical computers must track explicitly and often less efficiently for certain problems.

**Interference** allows quantum algorithms to amplify correct solutions and suppress incorrect ones by controlling how probability amplitudes combine. Through carefully designed sequences of operations, amplitudes associated with valid outcomes reinforce each other, while those linked to invalid outcomes cancel out. This reshaping of the probability distribution ensures that, upon measurement, the correct or optimal solution is observed with higher likelihood than under classical computing for certain problems.

**Measurement** is the final step in quantum computation, where the quantum state is observed and collapses into a classical output that can be read by conventional computers. Because quantum information is inherently probabilistic, a single measurement yields the most likely outcome drawn from the probability distribution. By repeating the computation multiple times, the optimal solution emerges statistically.

**Key potential use cases for quantum computing include:**

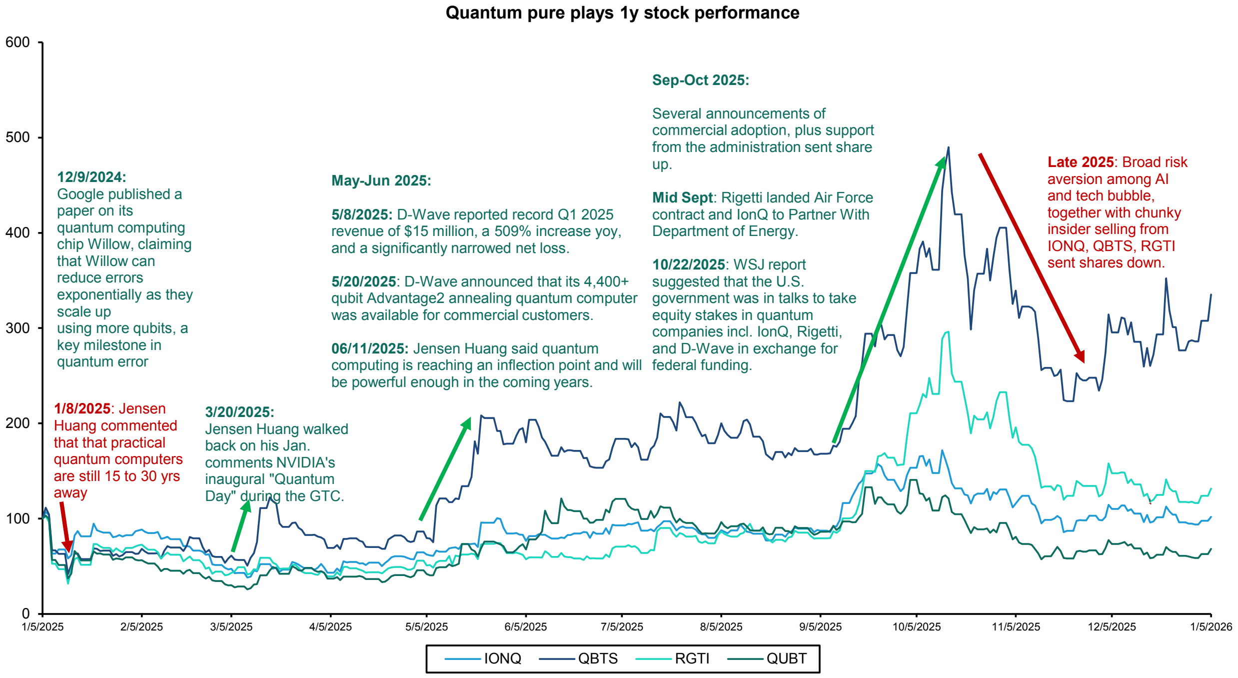
- **Material science and chemistry:** simulating molecules and reactions for drug discovery, catalysts, and new materials
- **Optimization problems:** logistics, scheduling, portfolio optimization, and supply chain routing
- **Cryptography and security:** breaking or strengthening encryption schemes
- **Machine learning and AI:** accelerating specific linear algebra and sampling tasks
- **Financial modeling:** risk analysis and Monte-Carlo simulations where the set of possibilities explode exponentially.

**Quantum computing is currently being pursued through several hardware approaches, each based on a different physical system for creating and controlling qubits, and each with its own strength, limitation, and maturity curve.** The leading modalities today include:

- **Superconducting**, which has fast gate speed, scalability, and dominates near-term commercial roadmaps;
- **Trapped-ion**, known for exceptional stability but slower speed;
- **Photonic**, an early-stage technology using optical components;
- **Neutral-atom** arrays, demonstrating high qubit counts but difficult to achieve high fidelity gates; and
- **Topological** qubits, a high-risk, high-reward path targeting inherently stable quantum information.

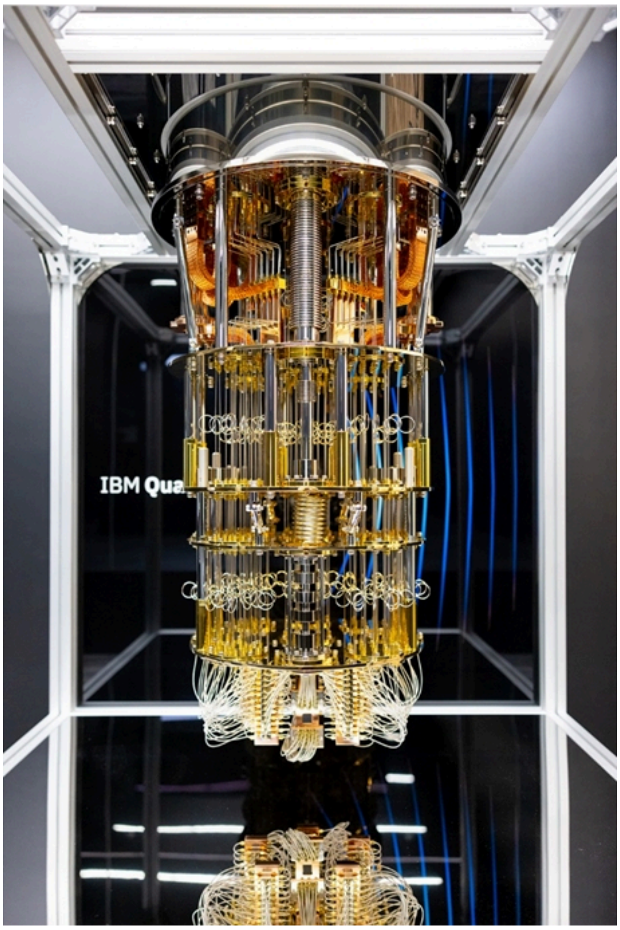
Together, these five approaches capture the core technological landscape shaping the quantum computing industry.

EXHIBIT 30: **Stock performance of public quantum pure-plays**



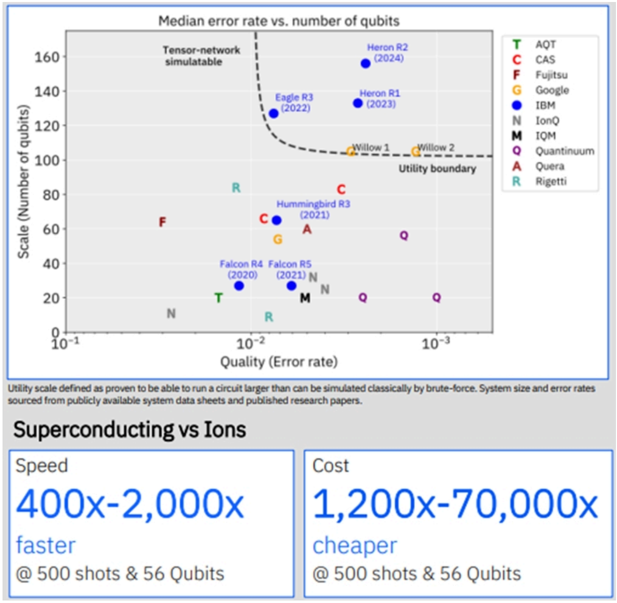

Updated as of 1/5/2026, stock prices all indexed to 100 at 1/5/2025
Source: Bloomberg, Bernstein analysis

EXHIBIT 31: **IBM Quantum System Two**




Source: Company website

EXHIBIT 32: **IBM Investor Day 2025 Slide on Median Error Rate vs. Number of Qubits for various Quantum industry players**




Source: Company reports

EXHIBIT 33: **Estimated value creation for end users and for providers from Quantum in a Bull and Bear scenario**

| | NISQ Era | | | | Broad Quantum Advantage | | | | | Terminal |
|---|---|---|---|---|---|---|---|---|---|---|
| Annual value creation for end users (operating income, $B) | 2025 | 2027 | 2029 | 2030 | 2032 | 2034 | 2036 | 2038 | 2040 | Terminal |
| Bull case | 5.0 | 17.8 | 30.6 | 37.0 | 55.8 | 74.6 | 93.4 | 112.2 | 131.0 | 850.0 |
| Bear case | 2.0 | 7.6 | 13.2 | 16.0 | 21.8 | 27.6 | 33.4 | 39.2 | 45.0 | 450.0 |

Source: McKinsey 2024 Quantum Technology Monitor, Bernstein estimates and analysis

EXHIBIT 34: **Quantum DCF Bull Case for IBM**

If you believe in Quantum:
If you're more skeptical:

| | | | | | |
|---|---|---|---|---|---|
| | | | Bull | | Bear |
| Industry Margin Assumption | | **60%** | | 60% | 20% |
| **Discounted Profit Pool** | | **173** | | 173 | 58 |
| | Value | | % | | |
| Hardware | | **61** | | 35% | |
| Software | | **87** | | 50% | |
| Services | | **26** | | 15% | |
| **IBM Market Share Assumptions** | IBM Wins | | Competitive Market | | IBM Loses |
| Quantum Hardware | | **80%** | | **40%** | **10%** |
| **Quantum Hardware Profit** | | 49 | | 24 | 6 |
| Quantum Software | | **60%** | | **30%** | **20%** |
| **Quantum Software Profit** | | 52 | | 26 | 17 |
| Quantum Services | | **80%** | | **40%** | **0%** |
| **Quantum Services Profit** | | 21 | | 10 | 0 |
| *Total* | | **121** | | **61** | **23** |
| **Market End-State Probability** | | **25%** | | **50%** | **25%** |
| **Probability-of-Success-weighted Value** | | **66.50** | | | |
| **Upside to stock** | | **23%** | | | |

^assuming no Quantum priced into IBM stock yet

Source: McKinsey 2024 Quantum Technology Monitor, BCG, Bloomberg (updated as of Jan 13, 2026), Bernstein estimates and analysis

## APPENDIX - FINANCIAL FORECASTS

EXHIBIT 35: **SNDK Financial Model**

| | 1Q26 | 2Q26E | 3Q26E | 4Q26E | 1Q27E | 2Q27E | 3Q27E | 4Q27E | 2025 | 2026E | 2027E | 2028E | 2029E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Consolidated Income Statement** | | | | | | | | | | | | | |
| **Revenues** | **2,308** | **2,697** | **3,076** | **3,679** | **4,172** | **4,894** | **4,463** | **4,370** | **7,355** | **11,761** | **17,899** | **18,479** | **19,078** |
| COGS | 1,621 | 1,529 | 1,372 | 1,370 | 1,420 | 1,547 | 1,418 | 1,410 | 5,120 | 5,892 | 5,795 | 6,050 | 6,317 |
| **Gross Profit** | **687** | **1,168** | **1,704** | **2,309** | **2,752** | **3,347** | **3,045** | **2,960** | **2,235** | **5,869** | **12,104** | **12,429** | **12,761** |
| SG&A | 179 | 189 | 197 | 210 | 234 | 269 | 245 | 240 | 445 | 774 | 989 | 1,021 | 1,054 |
| R&D | 316 | 337 | 385 | 423 | 476 | 553 | 500 | 485 | 1,104 | 1,461 | 2,014 | 2,079 | 2,146 |
| Restructuring/Impairment | 16 | - | - | - | - | - | - | - | 1,848 | 16 | - | - | - |
| **Operating Profit** | **176** | **642** | **1,123** | **1,677** | **2,043** | **2,525** | **2,300** | **2,234** | **(1,162)** | **3,618** | **9,102** | **9,329** | **9,562** |
| Non-operating Income | | | | | | | | | | | | | |
| Interest income (expense), net | (24) | (24) | (24) | (24) | (24) | (24) | (24) | (24) | (38) | (96) | (96) | (96) | (96) |
| Other income (expense), net | (28) | - | - | - | - | - | - | - | (61) | (28) | - | - | - |
| Non-recurring gain (loss), net | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Earnings Before Tax** | **124** | **618** | **1,099** | **1,653** | **2,019** | **2,501** | **2,276** | **2,210** | **(1,261)** | **3,494** | **9,006** | **9,233** | **9,466** |
| Income Tax (Benefit) | 12 | 93 | 165 | 248 | 262 | 325 | 296 | 287 | 162 | 517 | 1,171 | 1,200 | 1,231 |
| **Net Income** | **112** | **526** | **934** | **1,405** | **1,756** | **2,176** | **1,980** | **1,923** | **(1,423)** | **2,976** | **7,835** | **8,033** | **8,235** |
| Minority Interest Expense (Gain) | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - |
| **Net Income After Minority Interest - Basic** | **111** | **526** | **934** | **1,405** | **1,756** | **2,176** | **1,980** | **1,923** | **(1,423)** | **2,975** | **7,835** | **8,033** | **8,235** |
| Net effect of assumed conversion of debt | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - |
| **Net Income After Minority Interest - Diluted** | **112** | **526** | **934** | **1,405** | **1,756** | **2,176** | **1,980** | **1,923** | **(1,423)** | **2,976** | **7,835** | **8,033** | **8,235** |
| *Check:* | | | | | | | | | | | | | |
| **EPS (USD)** | | | | | | | | | | | | | |
| Basic | 0.74 | 3.51 | 6.20 | 9.28 | 11.53 | 14.18 | 12.82 | 12.38 | (9.81) | 19.73 | 50.91 | 52.20 | 53.51 |
| Diluted (GAAP) | 0.75 | 3.51 | 6.20 | 9.28 | 11.53 | 14.18 | 12.82 | 12.38 | (9.81) | 19.74 | 50.91 | 52.20 | 53.51 |
| Diluted non-GAAP | 1.22 | 3.79 | 6.52 | 9.64 | 11.94 | 14.66 | 13.26 | 12.80 | 2.32 | 21.16 | 52.66 | 53.66 | 55.02 |

Source: Company reports, Bernstein estimates and analysis

DISCLOSURE APPENDIX

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References to "Bernstein" or the "Firm" in these disclosures relate to the following entities: Bernstein Institutional Services LLC (April 1, 2024 onwards), Sanford C. Bernstein & Co., LLC (pre April 1, 2024), Bernstein Autonomous LLP, BSG France S.A. (April 1, 2024 onwards), Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司, Sanford C. Bernstein (Canada) Limited, Sanford C. Bernstein (India) Private Limited (SEBI registration no. INH000006378), Sanford C. Bernstein (Singapore) Private Limited and Sanford C. Bernstein Japan KK (サンフォード・C・バーンスタイン株式会社).

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