

SECTOR UPDATE

Aug 2026

Tech Team

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Samsung Securities



Tech (OVERWEIGHT)

A longer earnings cycle

PART
01

Memory sector's valuation

SEC: KRW400,000 target price; SK Hynix: KRW3m target

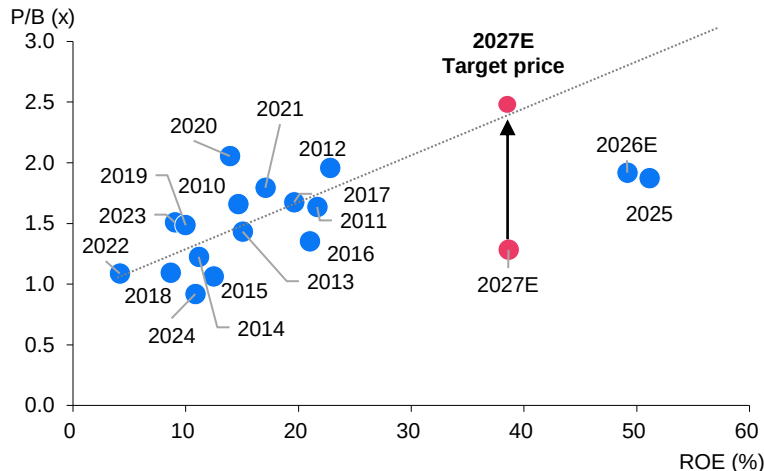
▶ Samsung Electronics: A P/B of 2.5x was applied to its 2027 BVPS of KRW161,376 to calculate our target price

- The firm is currently trading at a P/E of 4.06x and a P/B of 1.64x. Applying our target P/B (2.5x) to SEC's: 1) 2026 BVPS gives us KRW270,000; 2) 2027 BVPS gives us KRW400,000; and 3) 2028 BVPS gives us KRW435,000.
- At our target price (KRW400,000), SEC would be trading at a 2026 P/B of 3.7x, a 2026 P/E of 9x, and a 2028 P/E of 6x.

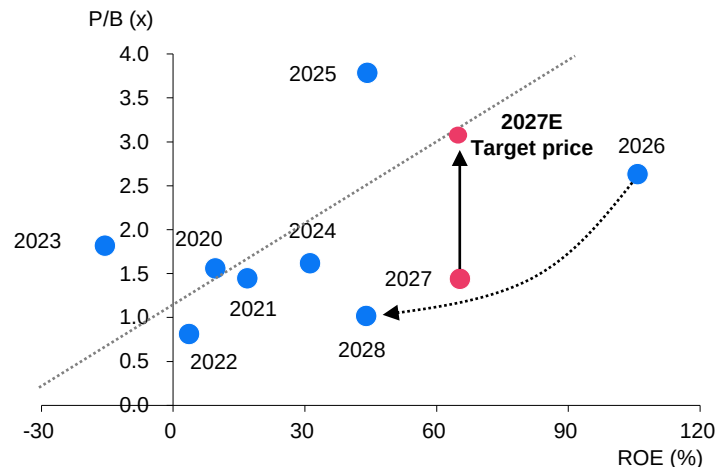
▶ SK Hynix: A P/B of 3x was applied to its 2027 BVPS of KRW1,016,149 to calculate our target price

- The company is currently trading at a P/E of 4.07x and a P/B of 2.09x. Applying our target P/B (3x) to its: 1) 2026 BVPS gives us KRW1.59m; 2) 2027 BVPS gives us KRW3m; and 3) 2028 BVPS gives us KRW4.13m.
- At our target price (KRW3m), SK Hynix would be trading at a 2026 P/B of 5.6x, a 2026 P/E of 8.1x, and a 2028 P/E of 5.8x.

Samsung Electronics: 12m fwd P/B vs ROE



SK Hynix: 12m fwd P/B vs ROE



Note: P/B (1-year lagging)
Source: Samsung Securities estimates

Source: Samsung Securities estimates

DRAM: Pace of price growth to slow in 2H, but uptrend to persist

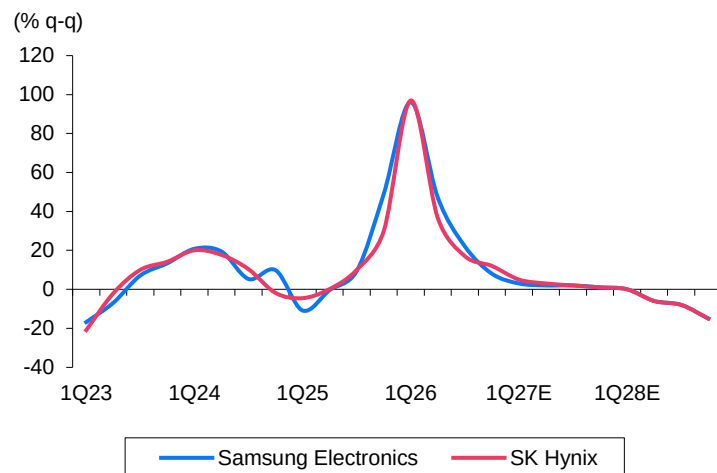
► We estimate that DRAM ASPs will climb 17% y-y in 3Q26 and 12% y-y in 4Q26

- The pace of price increase is expected to normalize (at a lower level) after logging sharp gains in 1H26.
- Server customers remain willing to sign LTAs despite elevated prices. Firms continue to prioritize supply over short-term pricing.

► HBM and SOCAMM continue to consume bit supply in the industry, while conventional server DRAM inventories remain tight. As a result, we expect DRAM prices to remain on an upwards trajectory through 4Q26.

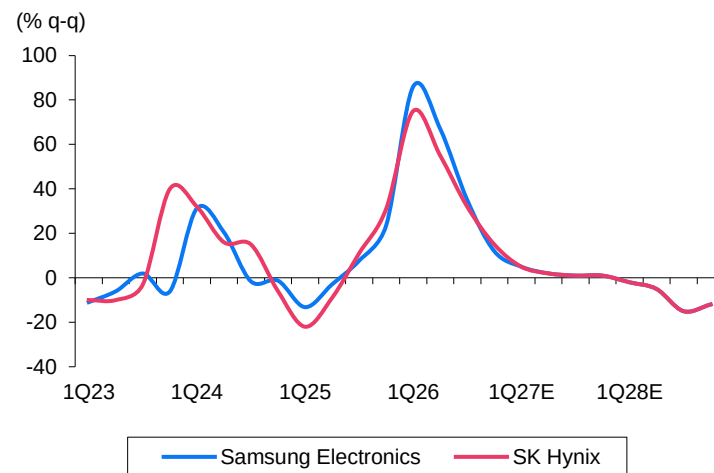
► While DRAM price growth is expected to slow after 3Q26, earnings forecasts may be lifted further.

Samsung Electronics and SK Hynix: DRAM ASP changes (% q-q)



Source: Samsung Securities estimates

Samsung Electronics and SK Hynix: NAND ASP changes (% q-q)



Source: Samsung Securities estimates

Shares to move sideways after capacity expansions; demand to wane

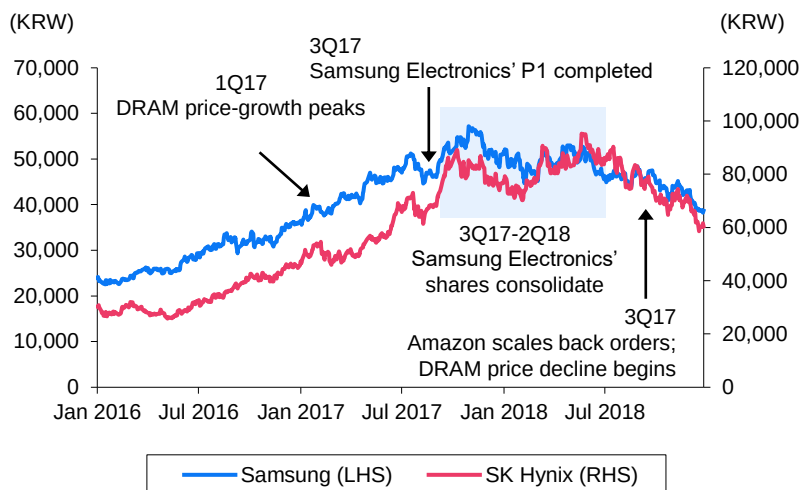
► DRAM cycle patterns

- 1) The pace at which shares in chipmakers rise typically slows after DRAM price-growth peaks.
- 2) Stocks start moving sideways after new fabs have been completed.
- 3) The cycle peaks when demand starts to wane (eg, Amazon scaled back orders in 2018, global PC demand fell in 2022).

► Current cycle: Basic structure holds, but with key shifts

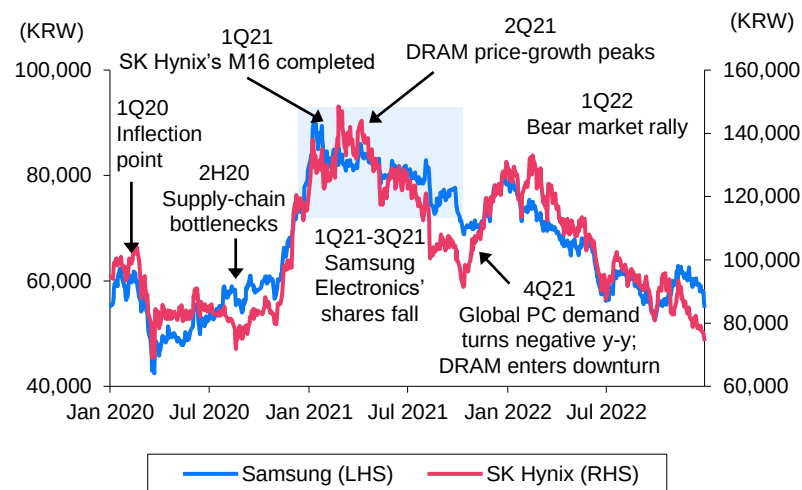
- 1) Both demand and supply react inelastically to price, leading to sharp spikes and drops in DRAM prices.
- 2) In this cycle, chipmakers' earnings should stay stronger for longer and fab ROIC should rise thanks to 2023 fab cancellations.
- 3) HBM has emerged as a key product and chipmakers have begun rolling out solution businesses.

Analysis of the 2016-2018 cycle



Source: Quantiwise, Samsung Securities

Analysis of the 2020-2022 cycle

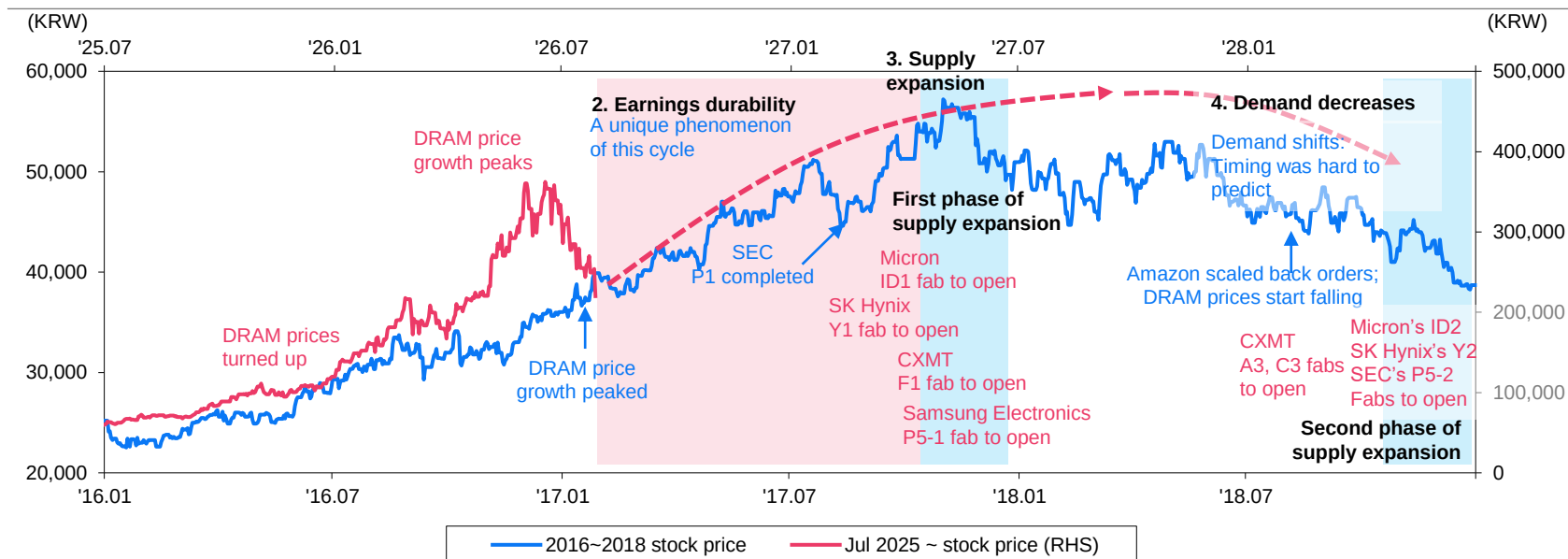


Source: Quantiwise, Samsung Securities

DRAM cycle to peak in 2Q27

- 2Q26 price growth slows: A buying opportunity has emerged thanks to the correction. This is not the end of the cycle in our view.
- 2026-2027: Operating profit to stay strong. Cycle to prove longer and deeper than past cycles. Chipmakers to receive greater valuations.
- 2Q27 new-fab supply: Pace of price hikes may slow, but the memory supply should remain insufficient.
- Post-2029 fab expansions: Capacity expansions to level-up (Samsung P5 [Phase 1 and Phase 2], SK Hynix Y2, Micron ID2/Hiroshima/Singapore)

Cycle analysis

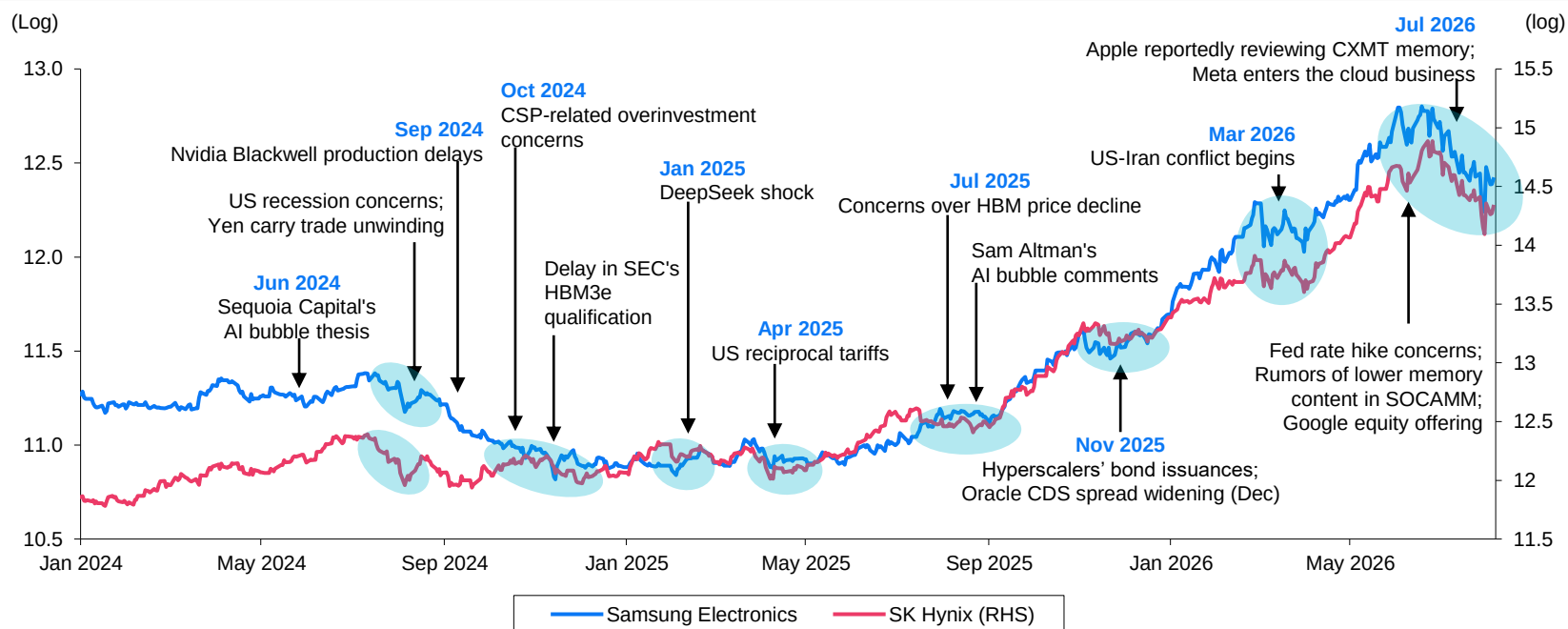


Source: Samsung Securities estimates

Buying the dip: Doubts exist every cycle

- The common thread for share-price falls during uptrends is that every dip causes investors to question the sustainability of clients' capex.
- In Jul 2025, HBM prices declined. However, HBM shortages persisted, and other demand drivers continued to propel the memory market.
- The difference that time (vs previous corrections) is that both share prices and operating margins had risen significantly. Memory companies are set to begin implementing shareholder-return programs.

Samsung Electronics and SK Hynix: Share performance

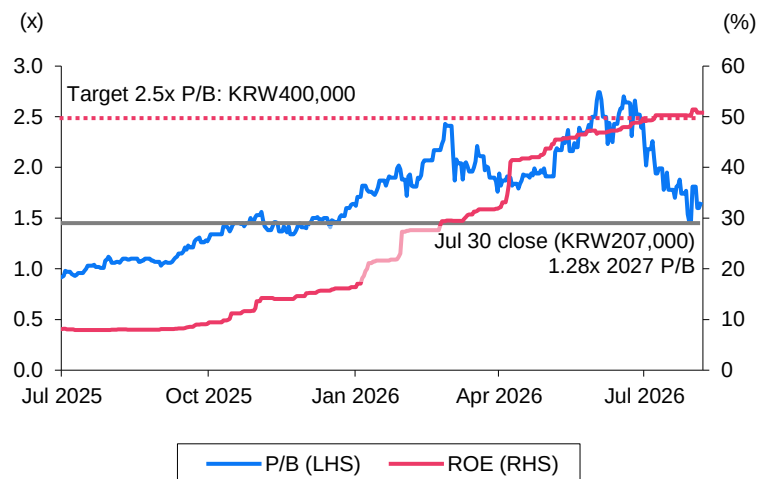


Source: Quantiwise, Samsung Securities

Samsung Electronics and SK Hynix: P/B trends

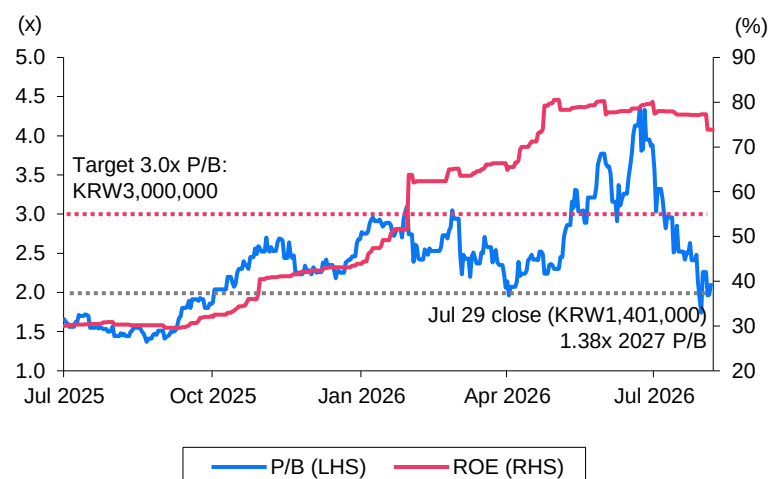
- ▶ Samsung Electronics and SK Hynix have entered a short-term correction, with their 12-month forward P/B figures standing at 1.5x and 2x, respectively.
- ▶ Shares in tier-1 memory makers have declined 38% on average from their peak.
- ▶ Two factors are needed for the share-price corrections to end: 1) stock concentrations should normalize; and 2) a rebound trigger ought to emerge (eg, strong earnings at cloud companies; a shift in demand on agent AI performance improvements).

Samsung Electronics: 12m fwd P/B vs ROE



Source: Quantiwise, Samsung Securities

SK Hynix: 12m fwd P/B vs ROE

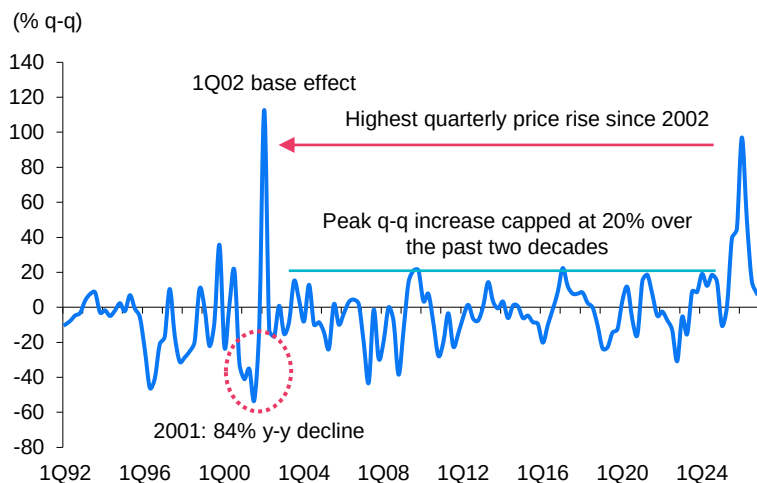


Source: Quantiwise, Samsung Securities

Unprecedented DRAM price surge on low demand price elasticity

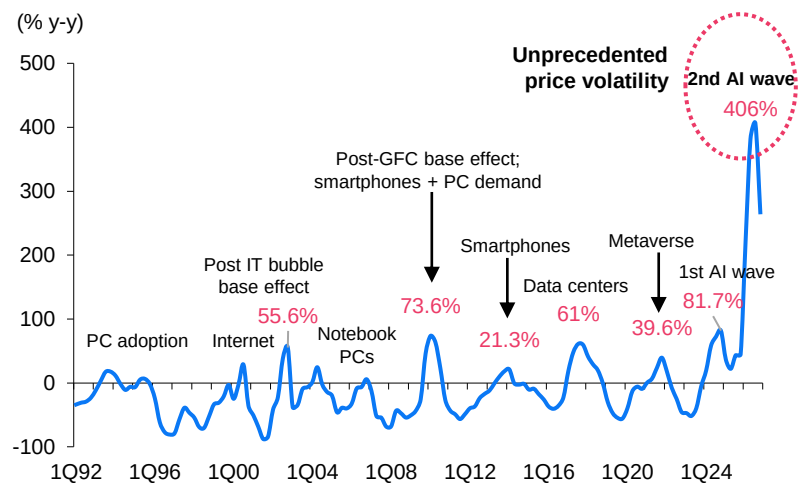
- ▶ The low price elasticity of demand has triggered an unprecedented surge in DRAM prices.
- ▶ The pace of price growth (q-q basis) has reached its highest level since 1Q02 (in 2002, prices rebounded rapidly on a low base – there was a crash in 2001, with DRAM prices plunging 84% from peak to trough).
- ▶ With DRAM prices set to grow 406% y-y in 3Q26, chipmakers should experience an unprecedented earnings surge, with the pace of DRAM price changes likely to prove far stronger than anything seen in the past.

DRAM price change (q-q)



Source: WSTS, Samsung Securities

DRAM price change (y-y)



Source: WSTS, Samsung Securities

Samsung Electronics: Earnings forecasts

Samsung Electronics: Shareholder return forecasts

(KRWb)	2024	2025	2026E	2027E	2028E
EBIT	32,726	43,601	384,274	573,109	617,306
Tax on EBIT	2,684	3,767	96,068	143,277	154,327
Incr. (Decr.) in Working Capital	1,922	-2,811	116,331	44,987	20,621
Depreciation	39,650	43,606	53,047	61,225	73,553
Amortization	2,981	3,321	3,119	2,947	2,802
Capex	51,406	47,522	79,800	88,175	106,826
FCF	19,344	42,050	148,240	360,843	411,888
Shareholder return fund	9,672	21,025	74,120	180,421	205,944
Cash dividend	9,769	11,060	72,376	130,444	142,896
Share buyback and cancellation	1,812	8,189	1,744	49,977	63,048
Total shareholder returns	11,581	19,249	74,120	180,421	205,944
Net Income Attri. to Parent Shareholders	33,621	44,261	289,505	434,813	476,321
Payout ratio	29	25	25	30	30
Dividend yield	0.6	0.7	4.8	8.6	9.4
Shareholder return ratio	34.4	43.5	25.6	41.5	43.2
DPS (Common.)	1,446	1,668	11,018	19,858	21,754
DPS (Preferred.)	1,447	1,669	11,019	19,859	21,755

Source: Company data, Samsung Securities estimates

SK Hynix: Earnings forecasts

SK Hynix: Shareholder return forecasts

(KRWb)	2024	2025	2026E	2027E	2028E
EBIT	23,467	47,206	273,176	450,656	466,256
Tax on EBIT	4,017	7,032	60,099	99,144	102,576
Incr. (Decr.) in Working Capital	-1,748	-274	69,548	70,537	16,412
Depreciation	11,985	13,099	19,972	30,634	39,218
Amortization	596	831	763	608	484
Capex	15,946	27,519	48,340	74,650	74,650
FCF	17,835	26,859	115,924	237,567	312,319
Shareholder return fund	8,917	13,430	57,962	118,783	156,160
Cash dividend	1,519	2,105	45,722	71,368	74,972
Share buyback and cancellation	0	0	12,240	47,415	81,187
Total shareholder returns	1,519	2,105	57,962	118,783	156,160
Net Income Att. to Parent Shareholders	19,789	42,919	268,165	356,841	374,861
Payout ratio	8	5	17	20	20
Dividend yield	0.1	0.2	4.2	6.6	6.9
Shareholder return ratio	7.7	4.9	21.6	33.3	41.7
DPS (Common.)	2,204	3,000	62,970	98,290	103,253

Source: Company data, Samsung Securities estimates

PART
02

Nvidia's memory strategy

Clients' strategic options when supply falls short

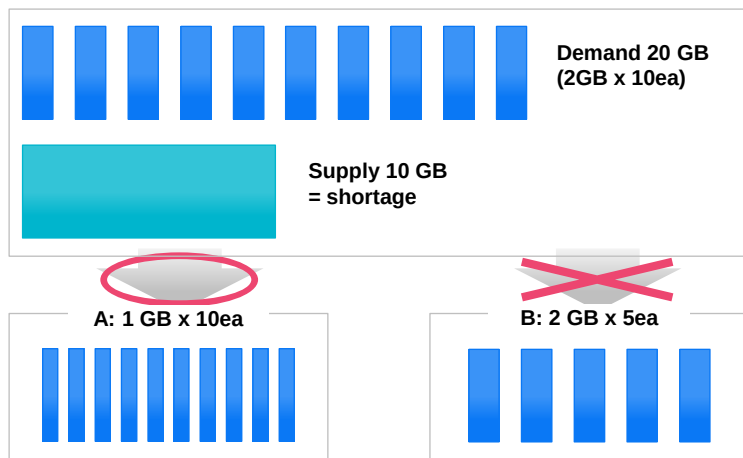
► Client response to supply shortage: Choice between content reduction vs. device count reduction.

- In 1H, PC and mobile sectors opted to reduce the number of devices, as device production was loss-making.
- Nvidia: reduced contents in servers; capacity shortages can be bypassed through parallelization and tiering (CMX SSD).

► Is spec-down a leading signal of a price peak?

- Spec-down indicates BOM constraints and is evaluated as Nvidia's effort to reduce BOM. The pace of price hikes is likely to moderate.
- However, Strong demand implied by shipment growth. TAM is likely to be maintained, and prices will likely persist for a long time.
- Recent AI, such as Kimi K3, continues to evolve in a direction that consumes more memory. There is a high possibility that DRAM content will expand again once DRAM supply becomes available.

HBM: Price per content



Source: Samsung Securities estimates

HBM: Price per bandwidth

HBM4	36GB	24GB
SOCAMM2	192GB	96/64GB
CMX SSD	16TB	8TB

Source: Samsung Securities estimates

Maintaining total BOM and lifting memory TAM despite content cuts

VR200 NVL 72 BOM cost as of Aug 26 (2027)

	Component	Units	Unit cost (USD'000)	Cost (USD'000)	GPM	Price (USD'000)	Remark
Compute	CPU	36	6,500	234	85%	1,560	Olympus core
	GPU	72	4,400	317	85%	2,112	N3P die USD700 x2ea + CoWoS-L USD3,000
Memory	SOCAMM (Gb)	221,184	2.25	498	12%	566	96 GB x 8ea
	HBM (Gb)	110,592	2.9	321	12%	364	192 GB/package x 72 (USD2.8~3.1 range)
Storage	NAND (GB)	566,231	0.35	198	12%	225	7.68 TB x 72 drive
Network	NVLink+NIC			215	70%	717	NVSwitch6 (N3)+Bluefield added
	Other networking			276	12%	314	2x lane
Power and other				1,064	12%	1,210	+60% to GB 300 NVL72
Rack margin to ODM						372	5% GPM in ODM
Total price				3,123	58%	7,439	USD8m x 42% COGS
Nvidia's P/L				1,584	70%	5,318	Compute+Memory+NVLink+NIC

NVL72 BOM cost changes forecast

(USD'000)	GB300	VR200 old	VR200 new	Old VR chg (%p)	New VR chg (%p)
Compute	16.0%	14.1%	17.6%	-1.9%	1.6%
Memory	30.1%	40.5%	32.5%	10.4%	2.5%
Network	15.0%	14.3%	15.7%	-0.6%	0.7%
Power & Other	38.9%	31.1%	34.1%	-7.9%	-4.8%
Compute	274	482	551		
Memory	514	1,388	1,016		
Network	256	491	491		
Power & Other	665	1,064	1,064		
Total	1,709	3,426	3,123		

Source: Samsung Securities estimate

► Nvidia's reduction in memory content was driven by BOM considerations.

- It likely aimed to maintain the BOM of VR200 at around USD3.2m (USD8m x 40%). Nvidia reduced memory content to adhere to the total BOM; nevertheless, the memory BOM share increased by 2.5%pts compared to the previous generation.

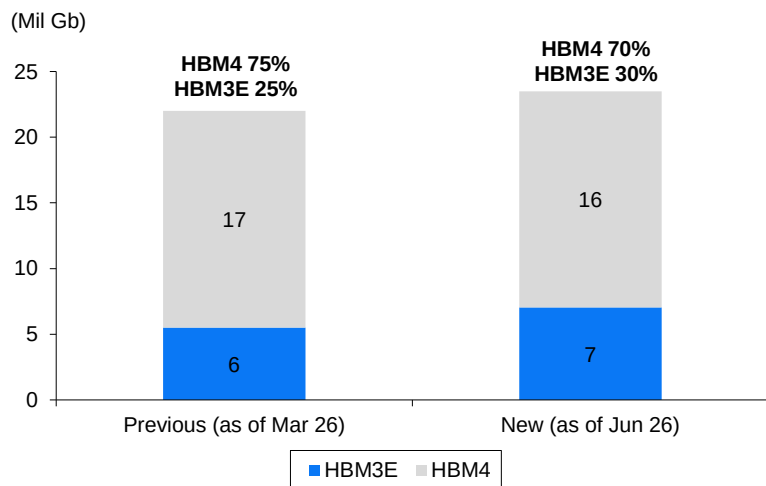
► Going forward, memory is likely to move from the perspective of TAM rather than content.

HBM pricing: Prices to rise 70-100% in 2027

► Nvidia trend: While HBM prices will rise in 2027, the increase will be limited compared to expectations.

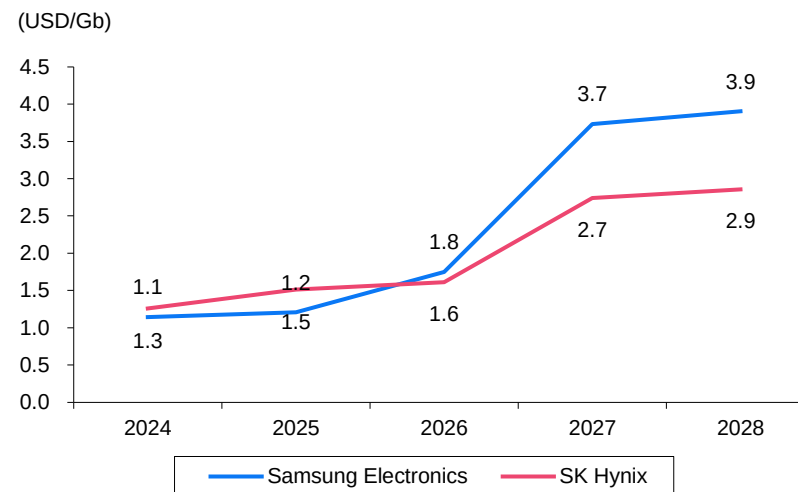
- SEC: HBM3e (USD420, USD1.4/Gb) → HBM4 (2026: USD610, USD2.1/Gb → 2027: USD1,100, USD3.8/Gb).
- SK Hynix: HBM3e (USD506, USD1.75/Gb) to decline to USD420; HBM4 (USD530, USD2.75/Gb, +57%).
- SEC's HBM4 for Nvidia features a mix of 12-layer (30%) and 8-layer (70%) with 11.7Gbps I/O speed, whereas SK Hynix and Micron offer a single 8-layer SKU (10.6Gbps).

SK Hynix: Changes in 2027 production mix (our estimates)



Source: Samsung Securities estimates

HBM: Blended ASP trend



Source: Samsung Securities estimates

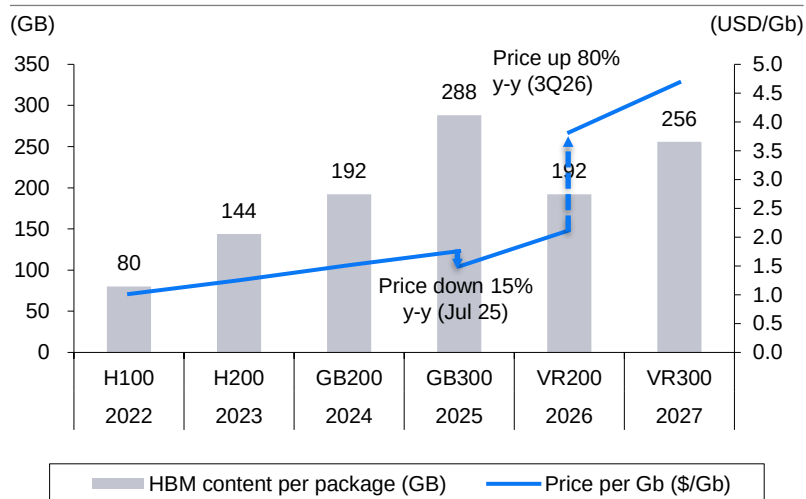
HBM: Rising price per Gb; price per bandwidth to hold firm

► HBM price per capacity is forecast to rise in 2026 and further increase in 2027.

- In July 2025, the 2025 contract between SK Hynix and Nvidia reflected commodity market prices in HBM, with a 15% price cut for 2025 and an 80% price hike for 2026.
- Samsung Electronics' HBM4 price is projected at USD3.8, and HBM4E at USD4.5.

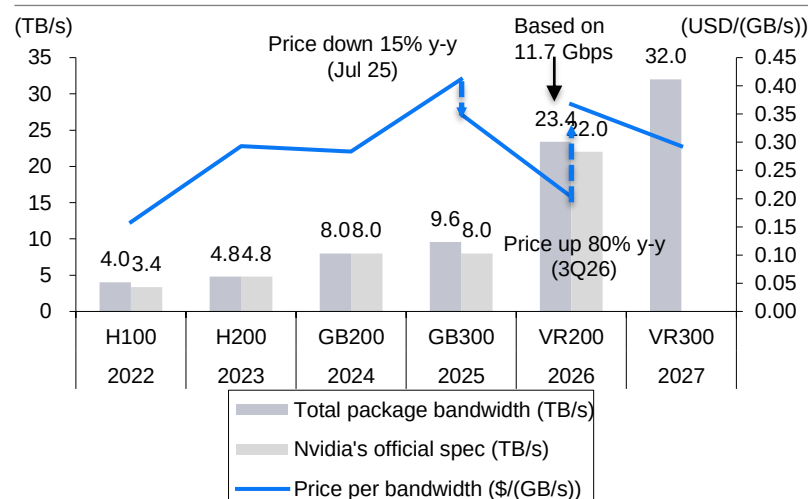
► The price per bandwidth of HBM tends to be maintained at around USD0.3 per 1GB/s.

HBM: Price per content



Source: Samsung Securities estimates

HBM: Price per bandwidth



Source: Samsung Securities estimates

SOCAMM2: DRAM TAM maintained despite 39% cut in content

► SOCAMM supply only meets two-thirds of the demand.

- LPDDR has a lower priority in memory companies' production allocation, as it offers lower profitability compared to server DRAM.
- From Nvidia's perspective, SOCAMM serves as a means of KV-cache offloading. In the absence of HBM, SOCAMM performs this function, and if SOCAMM is unavailable, CMX takes over.
- It is necessary to observe whether content increases again as SOCAMM supply expands.

► Maintaining TAM is key. SOCAMM content still signifies a performance advantage.

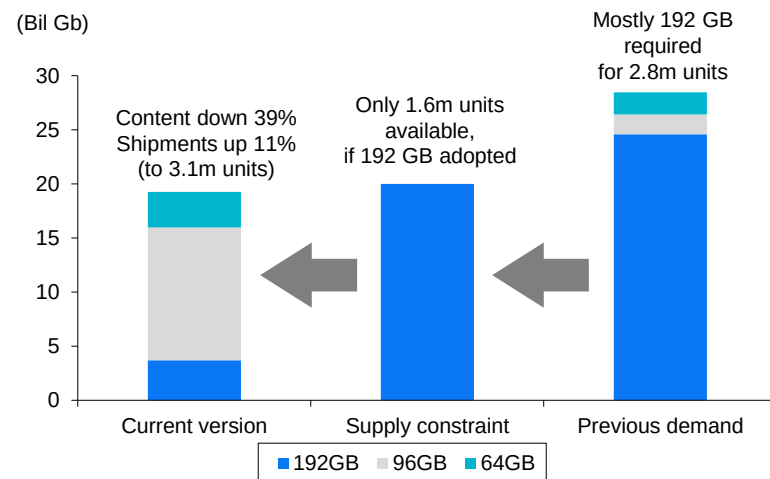
- Since the design change is not driven by shifts in AI models, content is likely to increase again once SOCAMM supply grows.
- However, if the shortage becomes chronic, the likelihood of developing alternative technologies will increase.

DRAM shortage: Volume vs content

Total Supply	Unit	Vera			N1X	Thor
		192 GB	96 GB	64 GB	128 GB	
Shipment	'000 units	300	2,000	800	500	50
Content per slot	GB	192	96	64	128	128
Total slots in vera	Slots	8	8	8	1	1
Total content per board	GB	1,536	768	512	128	128
SOCAMM Demand	Bil Gb	3.7	12.3	3.3	0.5	0.1
Total demand	Bil Gb	19.8				

Source: Samsung Securities estimates

Nvidia: Securing volume by reducing content



Source: Samsung Securities estimates

RDIMM pricing: Pace of price increases to ease, but prices to continue trending higher without any signs of declining

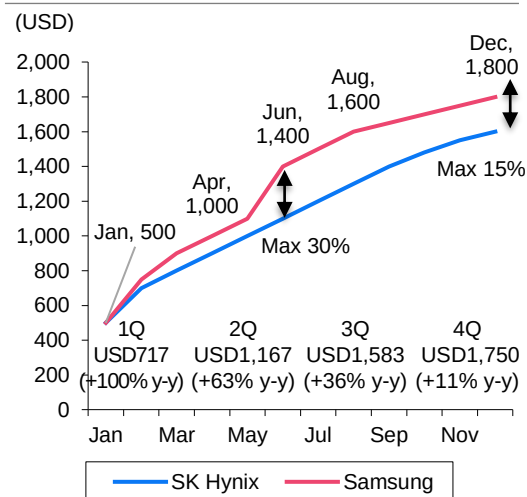
► Server DRAM price rally started easing after 3Q.

- Samsung Electronics shifted to conservative pricing since June, yet 3Q and 4Q hikes are still expected at 36% and 11%, respectively.
- The pricing gap between Samsung and SK Hynix, which peaked in June, will gradually narrow in 2H.

► Mobile NAND softened after 3Q, while eSSD price growth held steady at 25%.

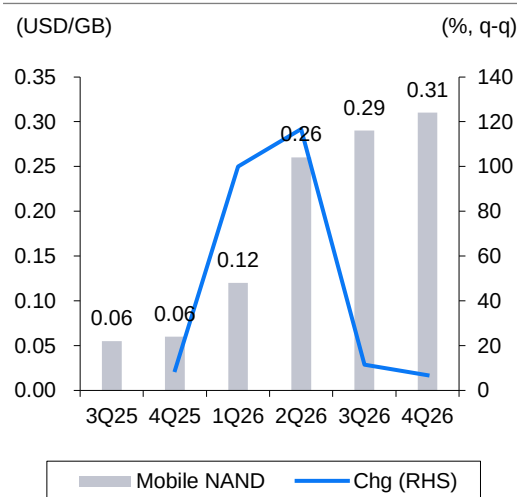
- High-end UFS NAND saw a 2x+ price surge in 2Q26.
- eSSD price growth is forecast at 25% for 3Q, with robust demand expected following the 2H CMX launch.

64 GB RDIMM (server DRAM) prices



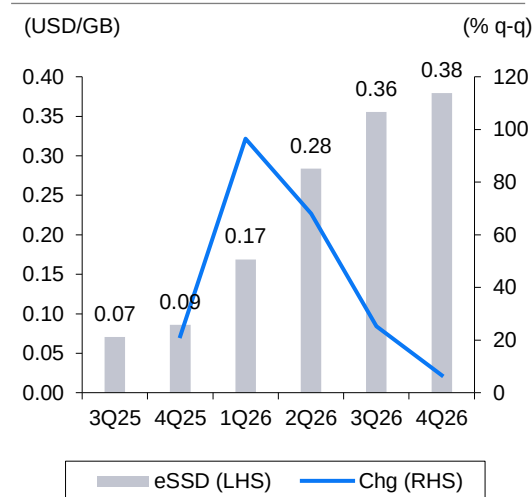
Source: Samsung Securities

Mobile NAND prices



Source: Omdia, Samsung Securities

eSSD prices



Source: Omdia, Samsung Securities

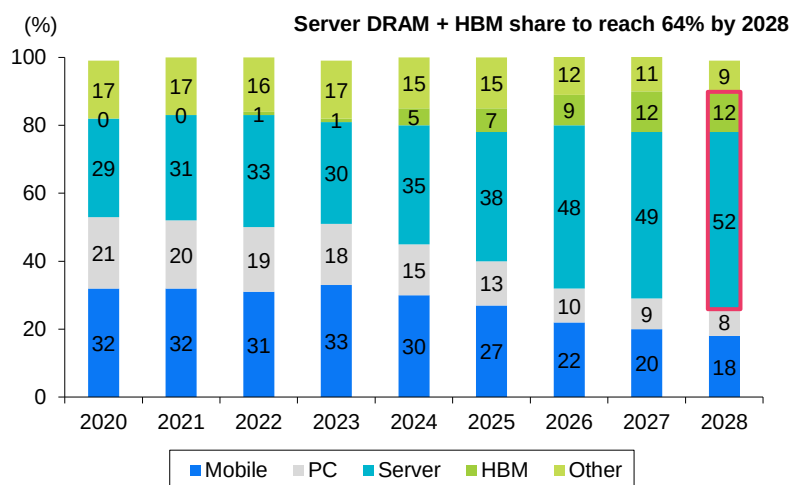
PART
03

Demand to stay strong for longer: To catalyze massive capex

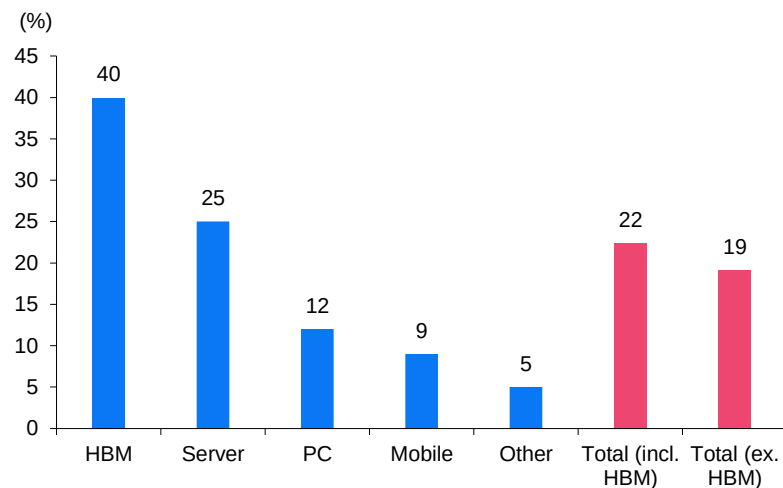
Long-term DRAM demand averages 22% bit growth *pa*

- ▶ Combined share of server DRAM and HBM is projected to rise from 45% in 2025 to 64% by 2028
- ▶ Long-term DRAM demand is likely to converge on 22%
 - HBM 40% (content growth rate), server DRAM 25% (based on LTA volume), PC and mobile combined 10% (assuming flat shipments)
- ▶ The supply-demand balance will shift when supply bit growth exceeds 22%

DRAM bit share, by application



Long-term DRAM demand outlook, by application



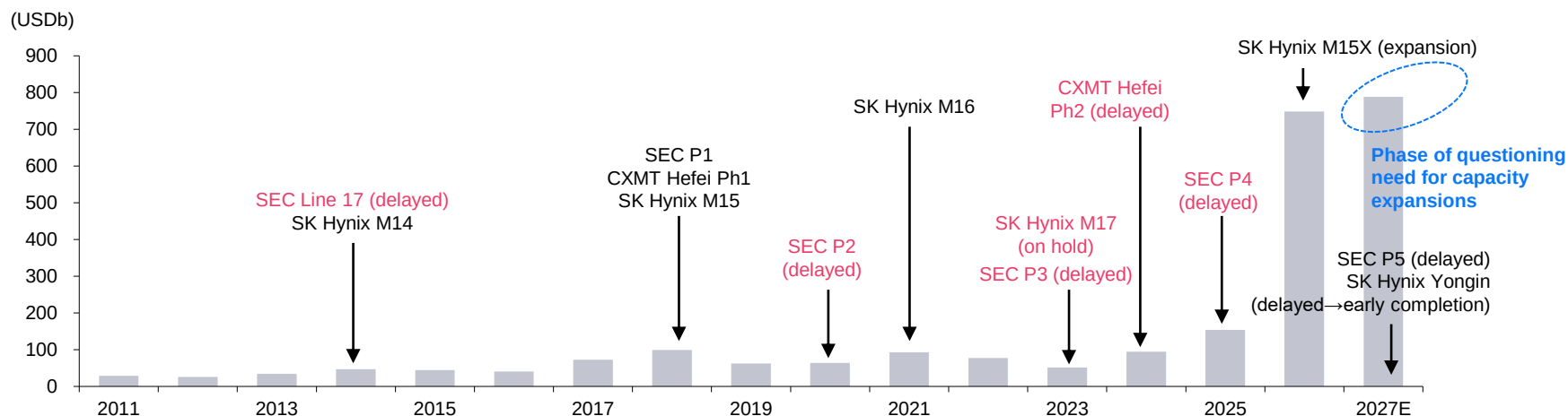
Source: Counterpoint, Samsung Securities estimates

Source: Samsung Securities estimates

Fab constructions suggest capacity expansions are accelerating

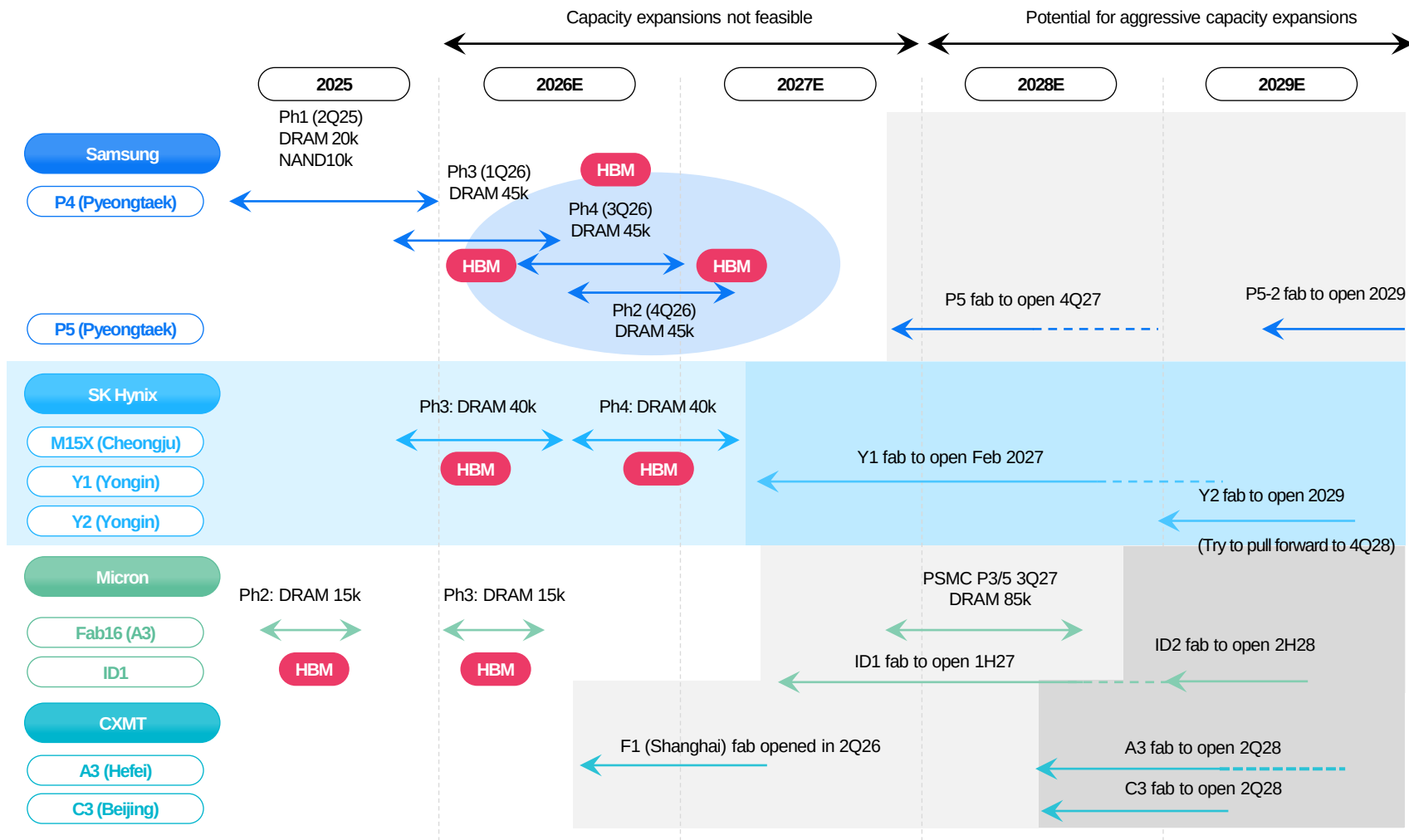
- **Fab Completion:** Signal of sufficient supply → Cycle direction shift
- **Shortage Resolution:** 2015 (Hwaseong 17, SK M14), 2017 (P1, CXMT), 2021 (M16)
- **Supply Tightening:** 2020 (P2 delay), 2022 (P3 delay, SK M17 cancel), 2026 (Y1, P5 delay)
- **Post-2025 Shortage Drivers:** Samsung P4/P5 delays, Y1 slippage, Micron US Fab
- **Post-2027 Outlook:** Effects of early construction (Samsung P5, SK Y1, Micron ID1) to materialize

DRAM sales vs fab constructions



Source: WSTS, Samsung Securities estimates

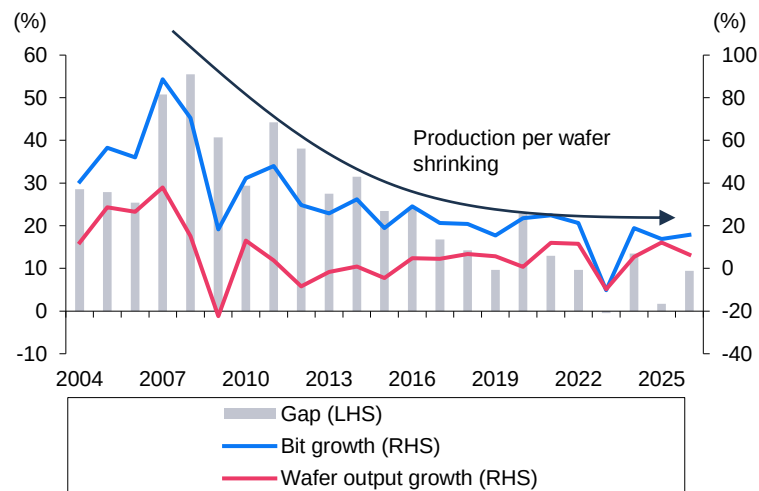
DRAM capacity roadmap: Phase 1 through 2027, Phase 2 through 2029



Capex productivity declines due to technical limits, rising equipment prices, and HBM's cannibalization

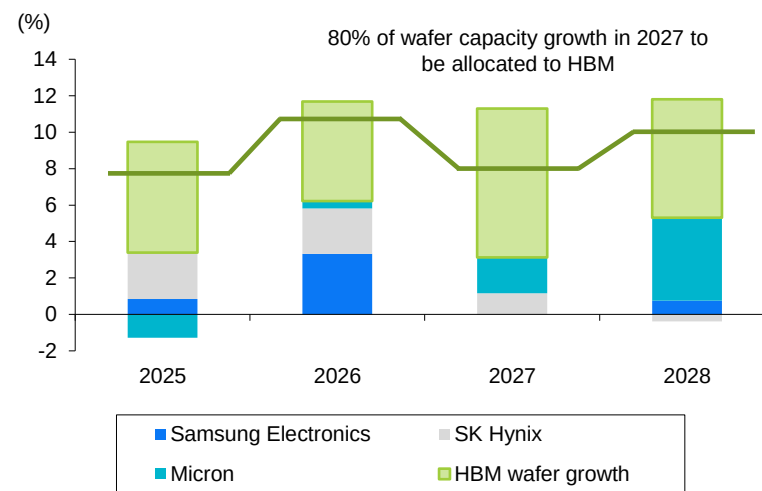
- ▶ The convergence of DRAM technical limitations and rising equipment costs has led to a shrinking bit growth per KRW1 increase in Capex.
- ▶ Wafer productivity gain has decelerated to the 6-7% range, a significant drop from previous double-digit growth.
- ▶ New DRAM capacity additions are heavily skewed toward HBM due to the cannibalization of commodity DRAM capacity.
- ▶ For 2027, HBM is expected to account for 72% of all new investment allocations.

Wafer output growth and bit growth slowing



Source: Omdia, Samsung Securities estimates

HBM vs commodity DRAM: Wafer growth



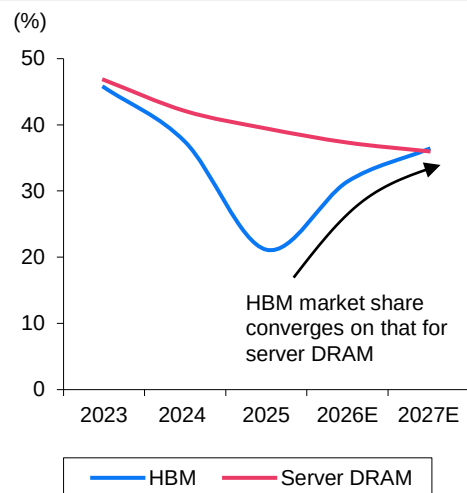
Source: Samsung Securities estimates

Convergence of commodity DRAM and HBM market shares

► HBM holds significance beyond mere profitability, even if margins are weak.

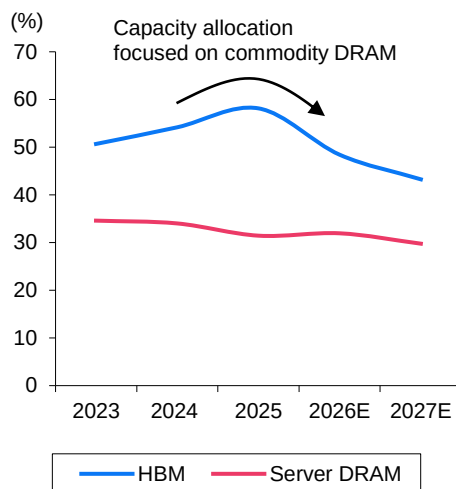
- Securing customer engagement in HBM is essential to keep pace with evolving AI architectures, next-generation GPU roadmaps, changing memory specifications, and shifting system design directions.
- To simultaneously capture technological leadership, the potential of future markets, and server DRAM profitability, the most rational strategy is to balance market shares between server DRAM and HBM.
- Price increase plans to improve HBM price efficiency (e.g., HBM3e USD1.7 → USD2.8, HBM4 USD2.2 → USD4).

SEC: HBM vs server DRAM M/S



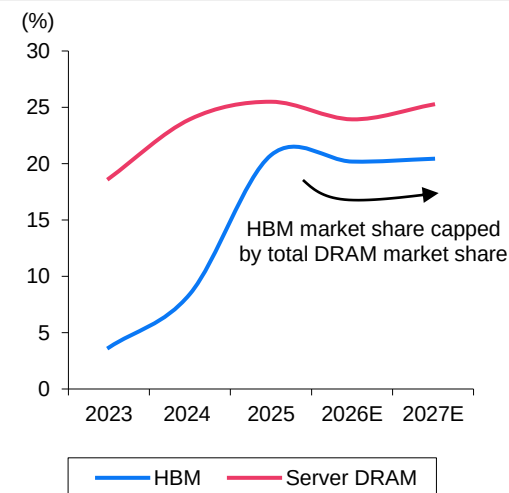
Source: Samsung Securities estimates

SK Hynix: HBM vs server DRAM M/S



Source: Samsung Securities estimates

Micron: HBM vs server DRAM M/S

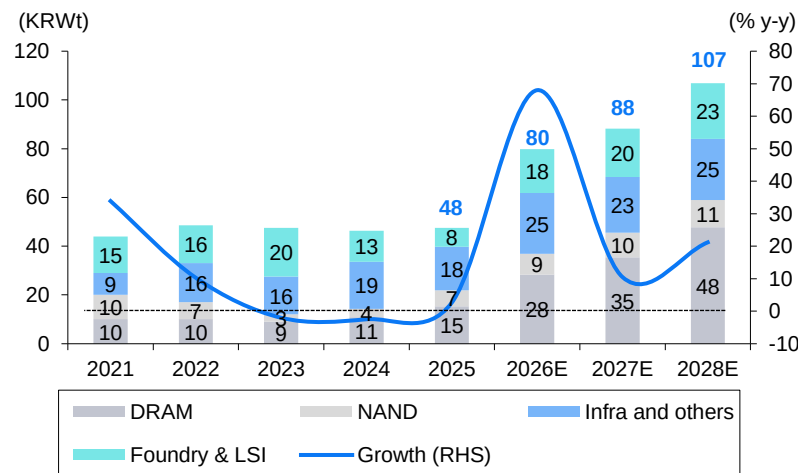


Source: Samsung Securities estimates

SEC and SK Hynix to raise capex in 2026; impact on bit growth to be felt from 2028

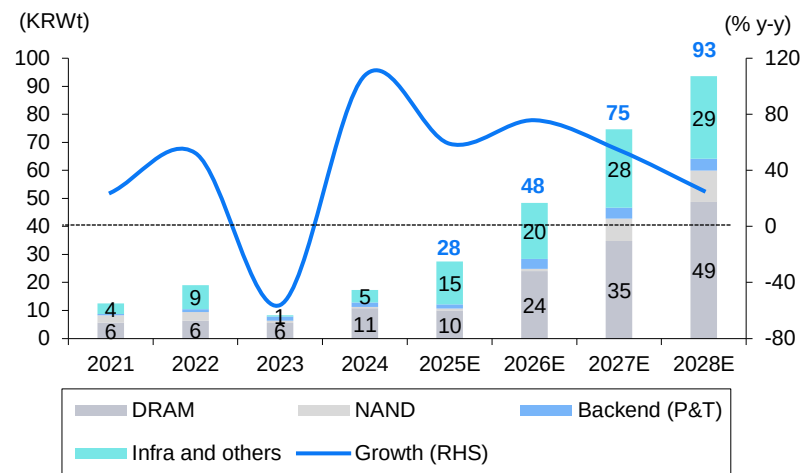
- ▶ **Aggressive shift in capex: Samsung estimated at KRW80t (+56% y-y), SK Hynix estimated at KRW48t (+76% y-y)**
- ▶ **Expansion is primarily for HBM production. New capacity expansions solely for commodity DRAM are limited**
 - **Samsung Electronics:** After 45k expansion at P4 ph1, D1c for commodity DRAM will be addressed through conversion capex at P4 (20k end-24 → 50k end-25 → 200k end-26)
 - **SK Hynix:** 80k expansion at M15X ph3~4. Bit growth to be addressed through D1c conversion capex (20k end-24 → 30k end-25 → 120k end-26)
- ▶ **Limited new NAND capacity expansions:** Most will be addressed through conversion capex

SEC: Capex



Source: Samsung Securities estimates

SK Hynix: Capex



Source: Samsung Securities estimates

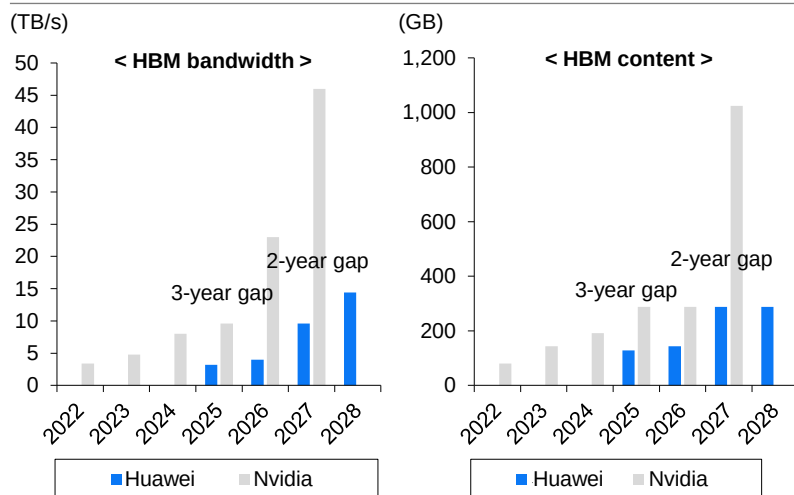
PART
04

China's strategy for memory semiconductor industry

To secure DRAM competitiveness by end-2028

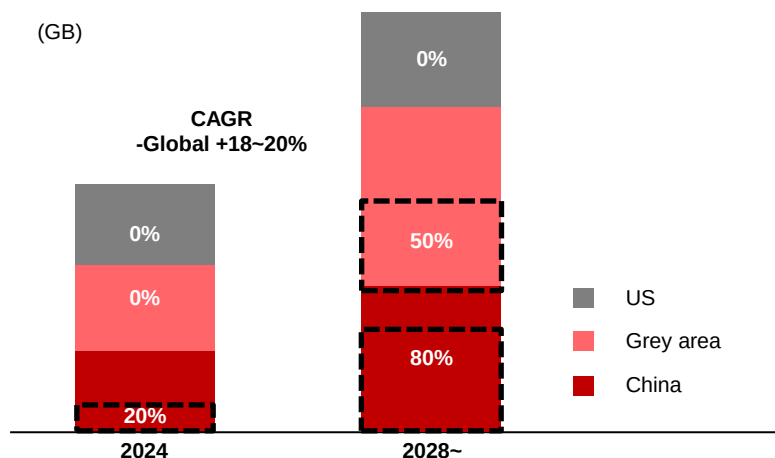
- ▶ **HBM localization:** At Huawei Connect 2025 (Sep 2025), specifications for standard HBM integrated into AI chips were presented along with the AI chip product lineup to be released by 2027. The goal is to narrow the gap with Nvidia's specifications from three years in 2025 and 2026 to two years starting in 2027.
- ▶ **DRAM market share expansion: Efforts for Chinese DRAM self-sufficiency:** While the likelihood of entering the US market is low, there is a plan to expand global market share by achieving 80% of domestic self-sufficiency demand by 2028. Through this, the target is to achieve a market share of over 50% by 2028.

Huawei: HBM roadmap (as of Sep 2025)



Source: Huawei, Samsung Securities

China's target for DRAM self-sufficiency

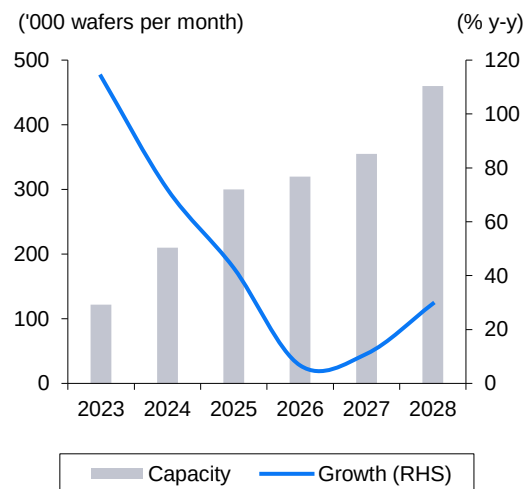


Source: Counterpoint

CXMT: New Shanghai fab expansion in 2027; 2026 market share projected at 8%

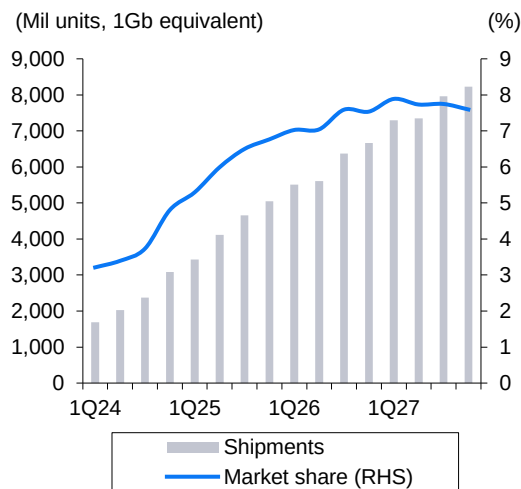
- ▶ Hefei and Beijing fabs are fully utilized amid surging domestic demand. Targeting 260k and 300k wafers/month by end-2025 and 2026, respectively.
- ▶ 2026 product mix: DDR4 25%, DDR5 25%, LPDDR5X 50%.
Currently delivering LPDDR5X 6400MHz (50k capacity); 8000MHz and 10667MHz developed as of Nov 2025.
- ▶ LPDDR5 yield is ~80% in Gen 4 (1z); Gen 5 (1a) under development.
- ▶ Shipments to HP (3Q) and Dell (4Q) commenced. Apple supply remains unlikely.

CXMT: Capacity



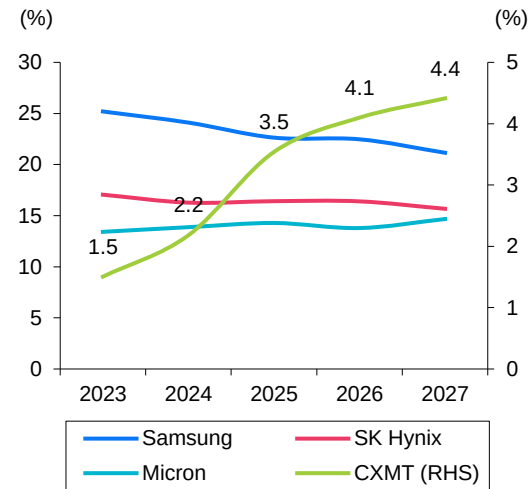
Source: Samsung Securities estimates

CXMT: Quarterly shipments vs M/S



Source: Samsung Securities estimates

Commodity DRAM M/S, by supplier



Source: Samsung Securities estimates

CXMT: IPO completed, Shanghai expansion planned for 2027

- ▶ **Rapidly expanding capacity at the Shanghai fab. (400-600k wpm, which is 2-3 times that of the Hefei plant.)**
 - Equipment is scheduled to arrive in 2H26, with mass production planned to start in 2027.
- ▶ **Currently constructing an HBM assembly line in Shanghai, targeting a capacity of 30k wpm by end-26.**
- ▶ **Recently reviewing the construction of a second memory semiconductor plant in Beijing.**
- ▶ **Official listing on the Shanghai STAR Market on July 27, 2026.**
 - Current market cap is CNY3.48t. When annualizing 1H26 net profit, the current P/E is around 32.5x, trading at a higher valuation compared to peers.

CXMT: Shanghai fab



Source: CXMT

CXMT: Proposed use of IPO proceeds

Use of proceeds	Total investment	Planned IPO proceeds allocation
Tech migration	CNY7.5b	CNY7.5b
DRAM node R&D	CNY18b	CNY13b
HBM R&D	CNY9b	CNY9b
Total	CNY34.5b	CNY29.5b

Source: CXMT

CXMT: DRAM capacity, by fab

CXMT: DRAM capacity by fab

('000 wafers/month)	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2025	2026E	2027E	2028E
CXMT	300	300	320	320	320	335	365	400	410	435	490	550	300	320	400	550
A1 (Hefei, China)	100	100	110	110	110	115	120	125	125	125	125	125	100	110	125	125
A2 (Hefei, China)	100	100	110	110	110	115	120	125	125	125	125	125	100	110	125	125
A3 (Hefei, China)	0	0	0	0	0	0	0	0	0	5	25	50	0	0	0	50
C1 (Beijing, China)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
C2 (Beijing, China)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
C3 (Beijing, China)	0	0	0	0	0	0	0	0	0	5	25	50	0	0	0	50
F1 (Shanghai, China)	0	0	0	0	0	5	25	50	60	75	90	100	0	0	0	100

Source: Omdia, Samsung Securities estimates

PART
05

Sustainability of hyperscalers' capex

CSPs' upwards capex revisions to continue through 2026

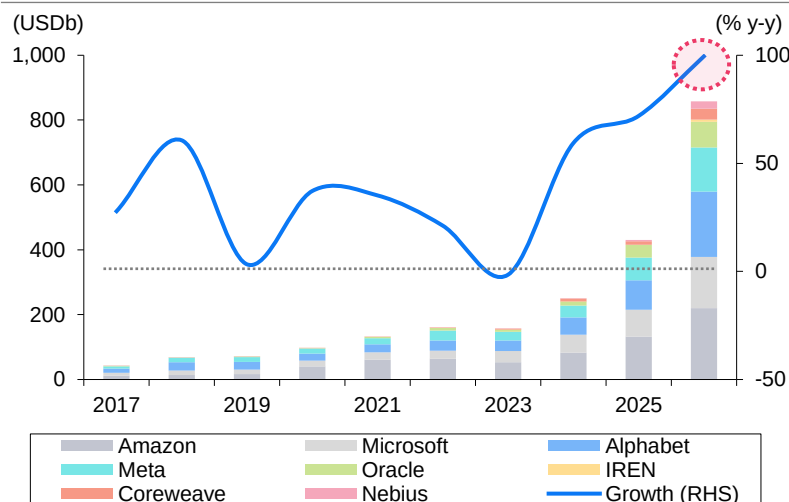
► 2015-2025 CAGR: 32.2% for major cloud companies

- Investment trend: Fell only in 2023 → +58% (2024) → +73% (2025)
- Capital intensity: Expanding trend driven by cloud sales growth and AI trend

► 2026 Capex growth: Guidance raised to 98% → Growth outlook revised up

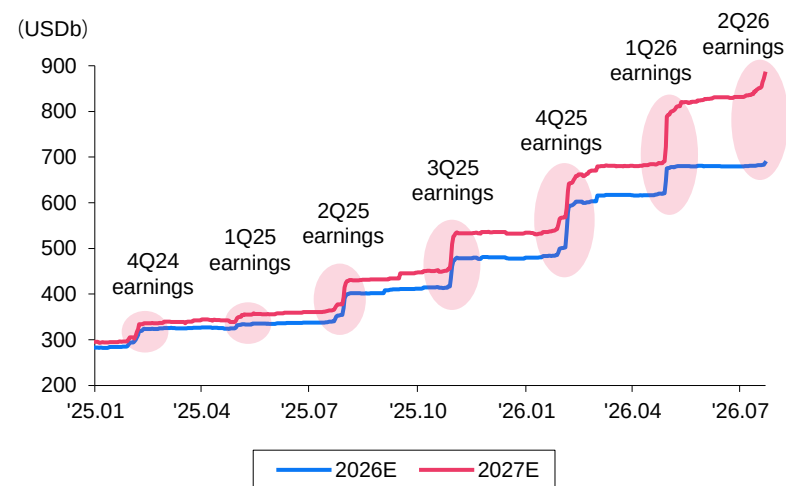
- Growth Trajectory: 8% (Early 2025) → 40% (Early 2026) → 98% (Current), exceeding 2025 growth

CSPs: Capex trends



Source: Bloomberg, Samsung Securities

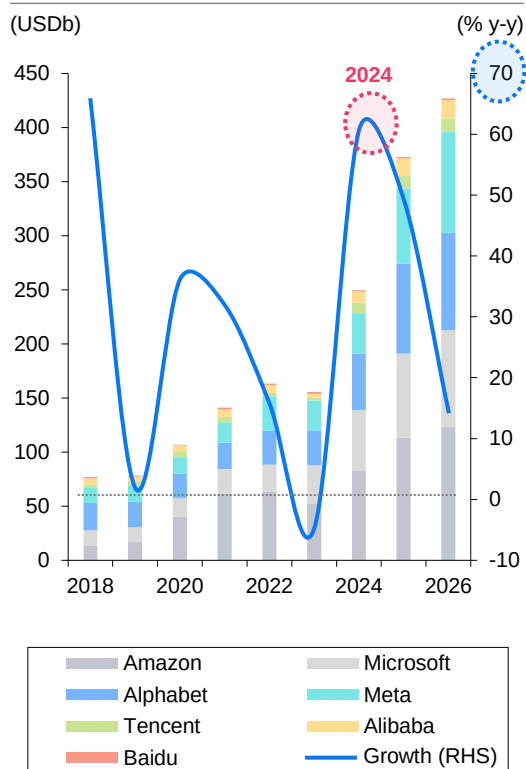
CSP: Capex growth accelerating since July



Source: Bloomberg, Samsung Securities

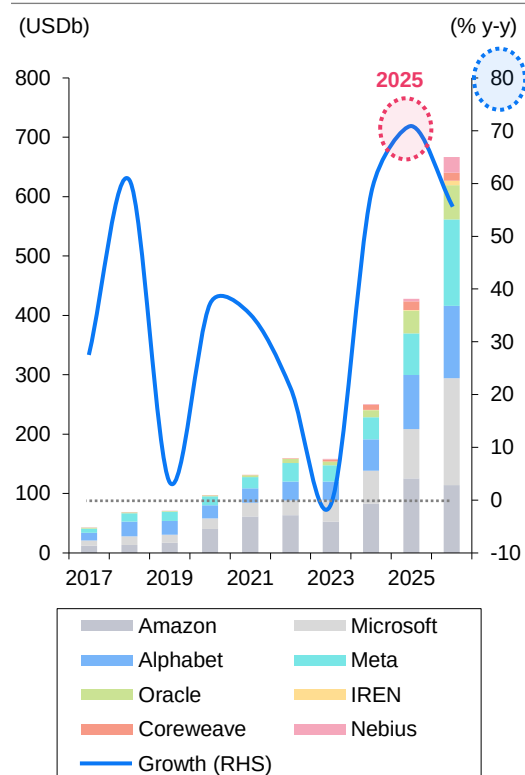
CSPs: Shift in capex outlook after Oct 2025

Oct 2025



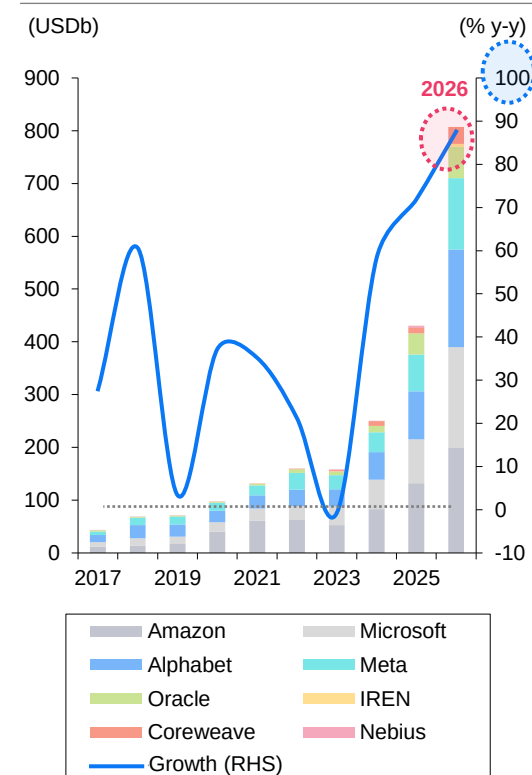
Source: Bloomberg, Samsung Securities

Jan 2026



Source: Bloomberg, Samsung Securities

Apr 2026



Source: Bloomberg, Samsung Securities

AI agent era: Sustained capex trend

Alphabet 2Q26 earnings call: Capex Q&As

► Q) 2027 Capex?

- Confident in maintaining Capex through 2027; healthier market structure vs. 1Y ago

► Q) Rationale for expanding Capex budget?

- Continuous investment tied to ROIC confirmation
- Infrastructure build-out based on multi-year demand
- Demand growth still outpaces 3-year capacity expansion

► Q) Source of ROIC?

- Limited generative AI adoption across most firms
- Low AI-native transition rate (similar to early cloud era)

► Q) Google's competitiveness in enterprise coding?

- Focused investment on improving agentic coding capabilities

► Q) Performance of AntiGravity?

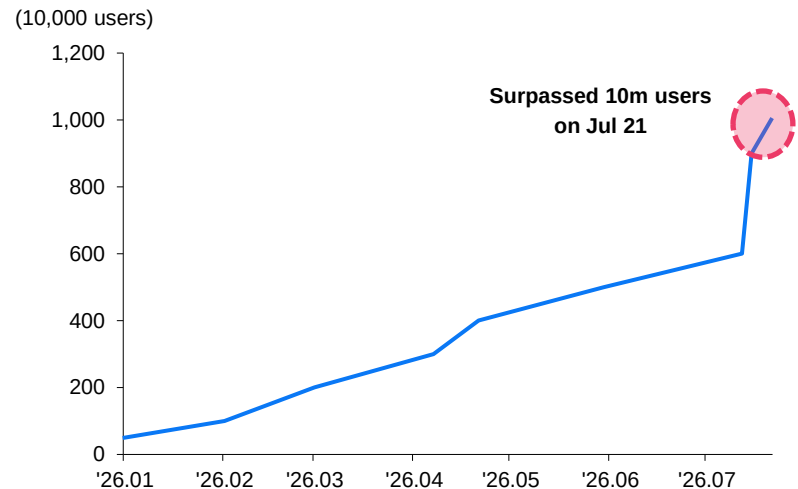
- AntiGravity, an agentic development platform, has surpassed 2.4m Weekly Active Users (WAU)

Enterprise AI as source of memory demand



Source: Samsung Securities

WAU trend: OpenAI Codex + ChatGPT Work



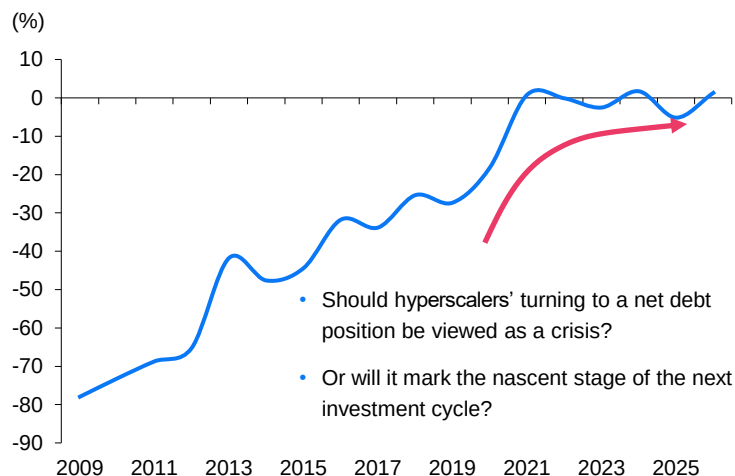
Source: OpenAI, Samsung Securities

Source: Alphabet, Samsung Securities

Spending competition still early, assuming continued intensification

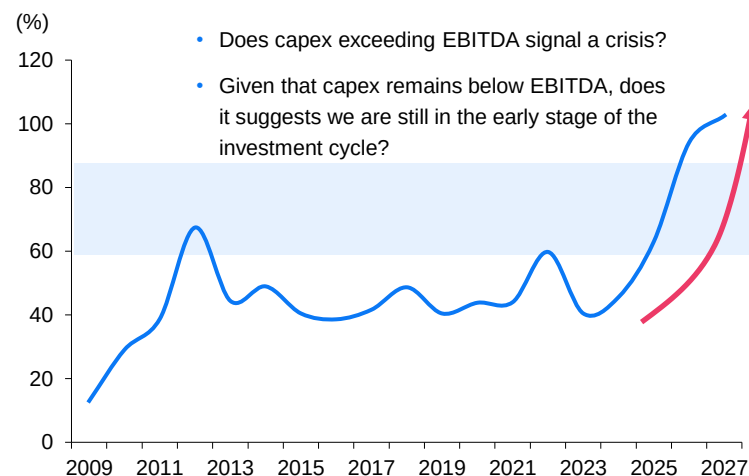
- ▶ Net debt ratios of hyperscalers have shrunk to around 0%
- ▶ Conversely, the average Capex-to-EBITDA ratio is expanding rapidly: 45.6% in 2024 → 63.0% in 2025 → 94.1% in 2026 → 102.5% in 2027
- ▶ 2026 Capex-to-EBITDA ratios of 2nd tier hyperscalers (Neocloud): Oracle 188.8%, Coreweave 463.3%, Nebius 1,711.0%

Hyperscalers: Net debt ratio trends (Net debt to expand)



Note: Amazon, Meta, Microsoft, Google
Source: Bloomberg, Samsung Securities

Hyperscalers: Capex-to-EBITDA to exceed 100%

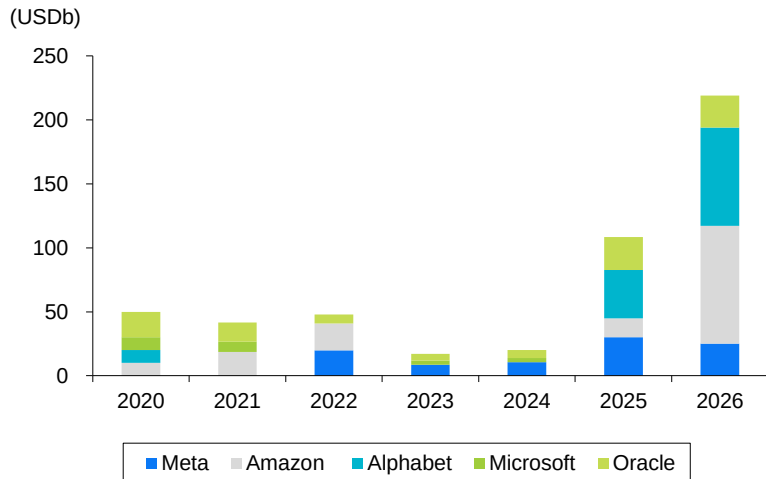


Note: Amazon, Meta, Microsoft, Google
Source: Bloomberg, Samsung Securities

AI investment funding: Bond issuances and equity offerings

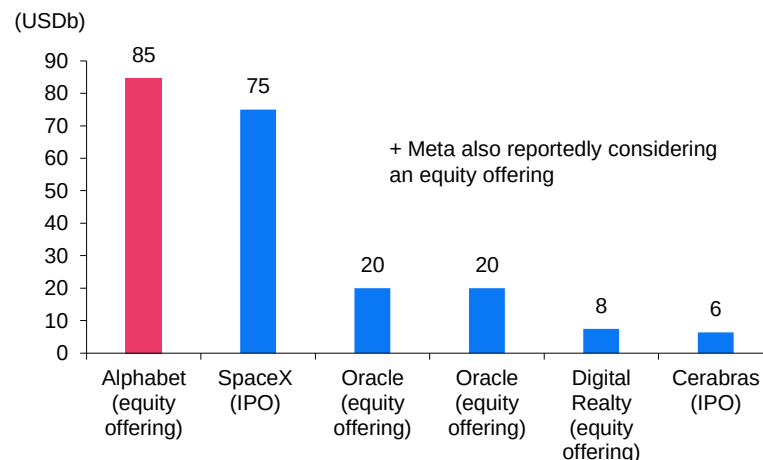
- ▶ 26/6/1: Google, USD85b equity offering (AI infra); incl. USD10b for Berkshire Hathaway
- ▶ 26/6/6: Meta, equity offering under review
- ▶ 26/6/11: Oracle, USD20b rights offering
- ▶ 26/7/8: Amazon, USD25b bond issuance
- ▶ 26/8/7: Google, USD25b bond issuance

Hyperscalers: Bond issuances



Source: Bloomberg, Samsung Securities

Equity financing by major companies in 2026

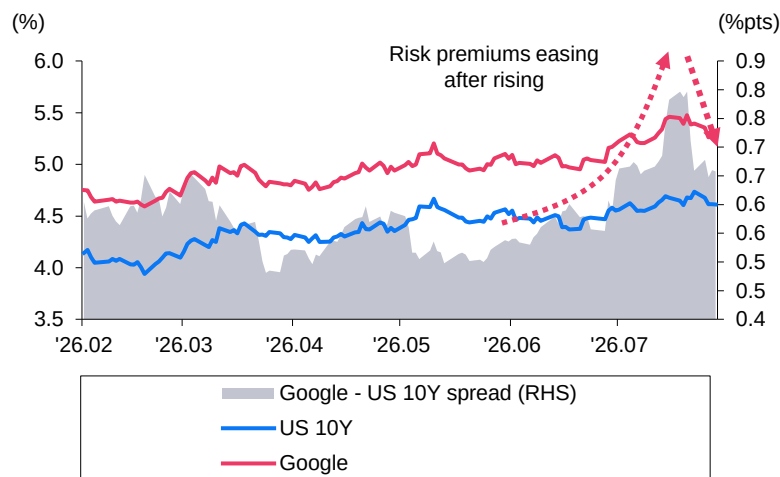


Source: Bloomberg, Samsung Securities

The key variable of the AI cycle: Capital funding costs for Big Tech

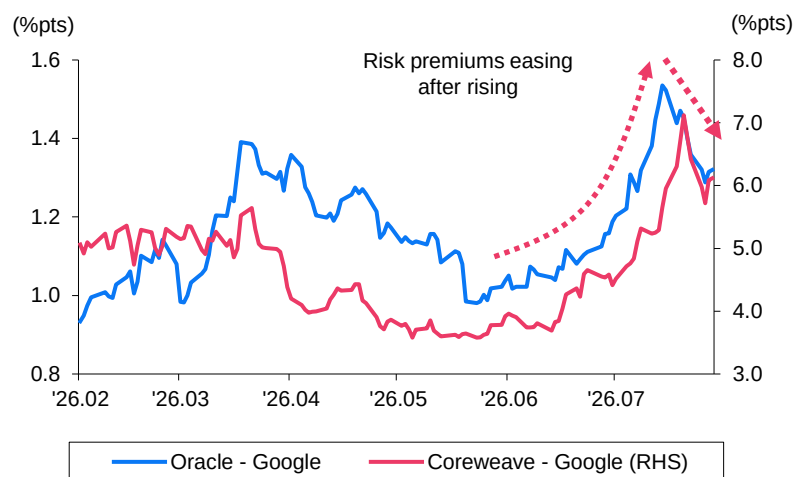
- ▶ AI investment is shifting toward capital-intensive investment accompanied by large-scale borrowing.
- ▶ Rising corporate bond yields → increased capital funding costs → lower IRR → deceleration in Capex.
- ▶ Whether Big Tech's bond spreads widen is a key variable in determining the sustainability of the AI investment cycle.
- ▶ The yield gap between Oracle-Google and Coreweave-Google corporate bonds had been steadily rising, reflecting a high risk premium, though this premium has recently narrowed.

10-year UST yield vs Google 10-year corporate bond yield



Source: Bloomberg, Samsung Securities

Google, Oracle, and Coreweave: Corporate bond yield gap

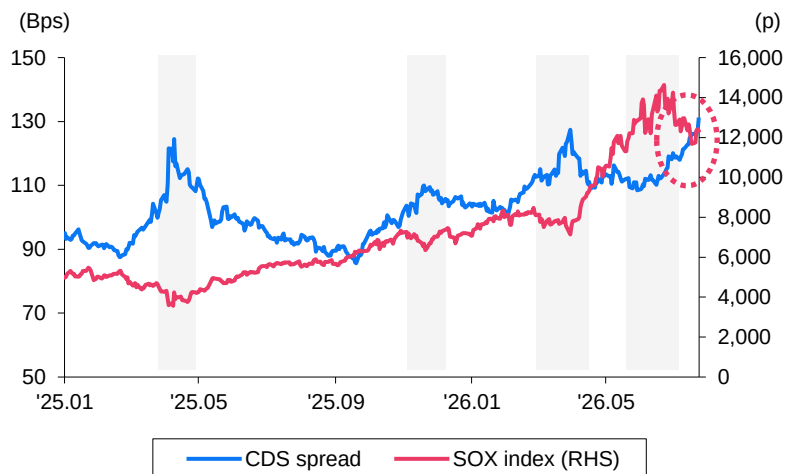


Note: Based on 10-year maturity for Google and Oracle, and 5-year maturity for CoreWeave
Source: Bloomberg, Samsung Securities

Oracle: The canary of the AI cycle

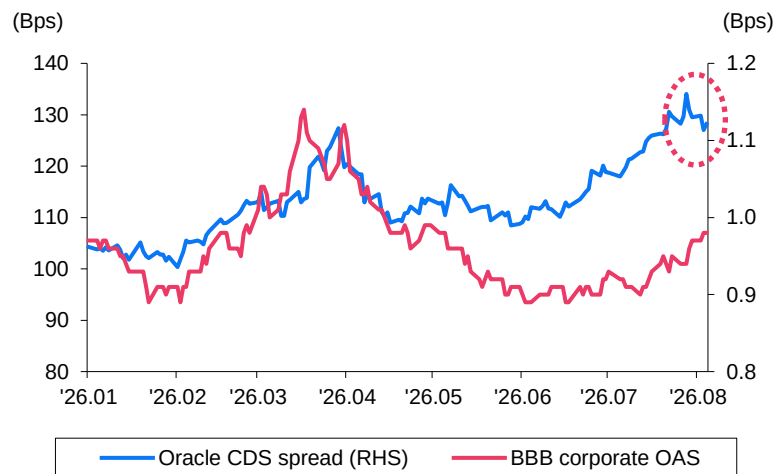
- ▶ Limited cash flow vs. Big Tech 4 → High dependence on external funding & sensitivity to financing costs
- ▶ Inverse relation: Oracle CDS spreads vs. SOX index → SOX corrections repeated during CDS widening since 2025
- ▶ Oracle CDS spreads outperforming US BBB corporate bond OAS; market demanding higher risk premium vs. peers

Oracle CDS spread (10 year) vs SOX index



Source: Bloomberg, Samsung Securities

Oracle CDS spread (10 year) vs US BBB corporate bond OAS



Source: Bloomberg, Samsung Securities

PART 06

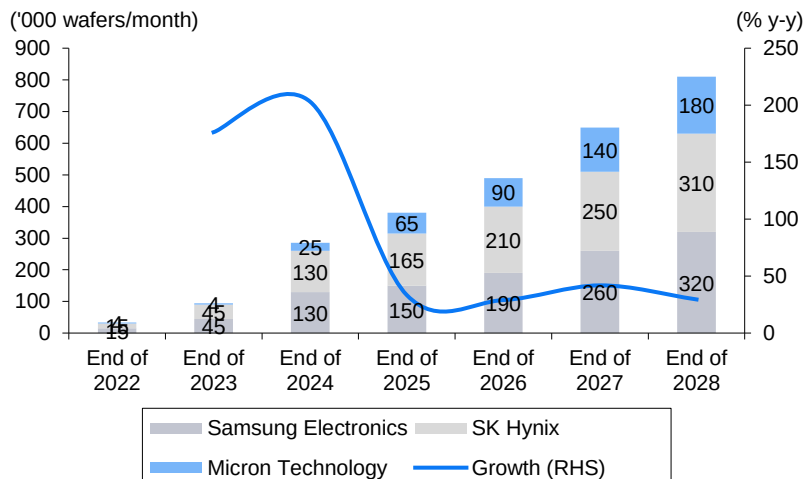
Appendix

HBM supply: SK Hynix's capacity to expand slower than industry's growth (post-2026)

► HBM capacity is forecasted to reach 190k and 210k wafers/month for SEC and SK Hynix, respectively, by end-2026.

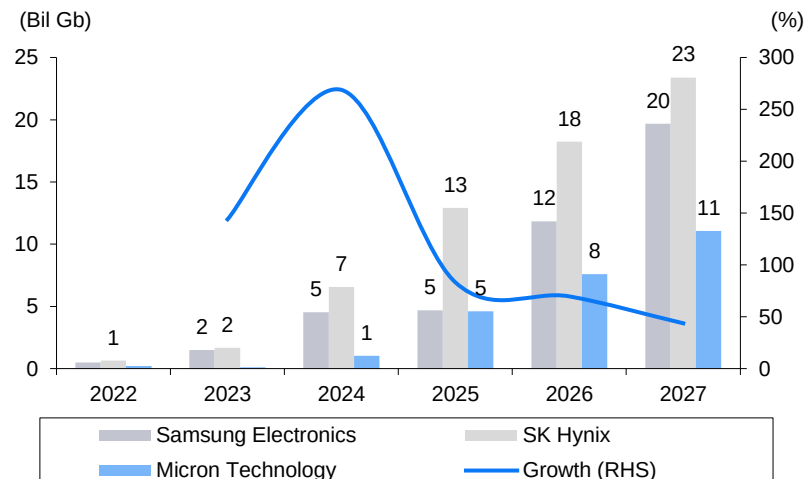
- SEC: Expand to 210k by end-2026 (20k for mobile); 40k+ aggressive expansion in 2027
- SK Hynix: 210k by 2026 via M15X (+45k); additional 45k in 2027
- Micron: 25k by 2024 → 65k by 2025 → 90k by 2026; widening gap vs. Korean suppliers

HBM capacity, by supplier



Source: Samsung Securities estimates

HBM shipments, by supplier

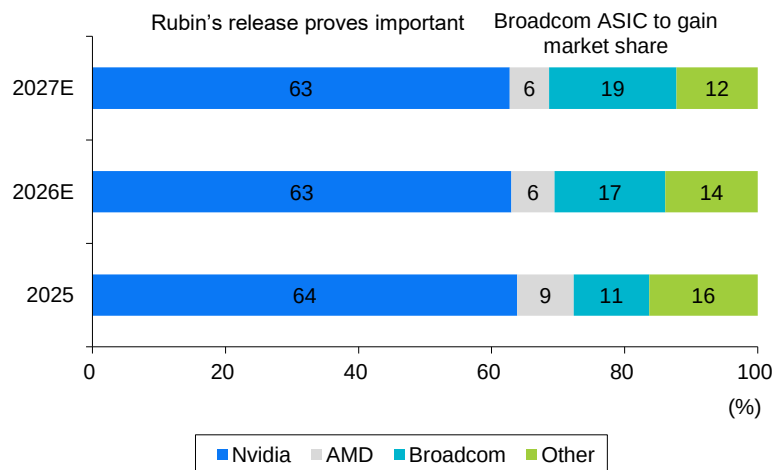


Source: Samsung Securities estimates

Pace at which HBM technology improves to slow

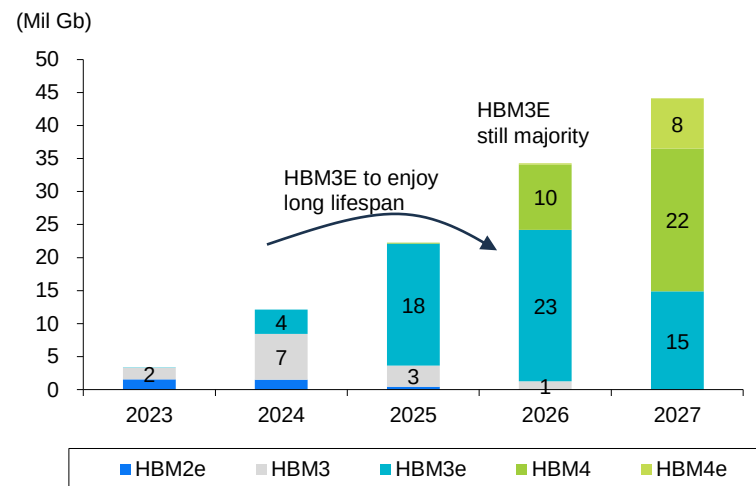
- ▶ HBM production-yield improvement slows due to increased complexity of stacking and through-silicon vias (TSV) processes.
- ▶ Cost cutting per bit also slows—another ASP-hike factor.
- ▶ Next-generation HBM technologies—eg, 16 layers (set for 2H26) and hybrid bonding (set for 2H27)—involve bigger costs.
- ▶ Demand for cost-effective memory chips rises amid hike in demand for ASIC chips.

CoWoS market share, by customer



Source: Samsung Securities estimates

HBM shipments, by technology level

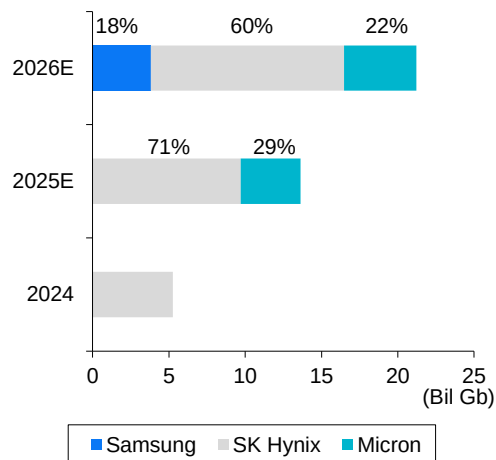


Source: Samsung Securities estimates

SEC's advantageous HBM market-share position

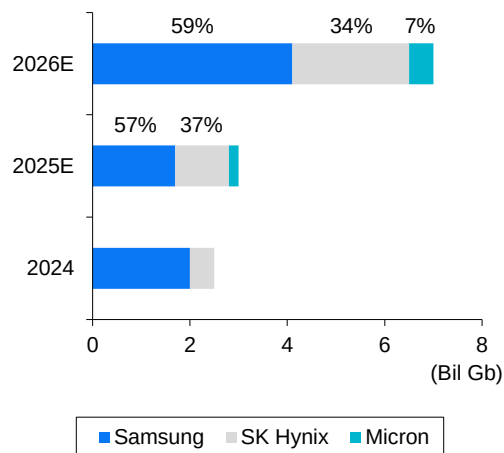
- ▶ SEC suffered cost burdens through 2025 due to preemptive HBM capacity expansion, but 2026 will be the period when such investments transition into operating leverage.
- ▶ Demand for HBM3e remains high structurally, and rising ASIC adoption should bode well for SEC.
- ▶ Considering clients' potential demand—e.g., Nvidia (5b Gb+), AMD (3b Gb+), and Google (6b Gb+), SEC should be able to achieve its shipment target of 10b Gb (provided quality benchmarks are met).

Nvidia's HBM demand met by supplier



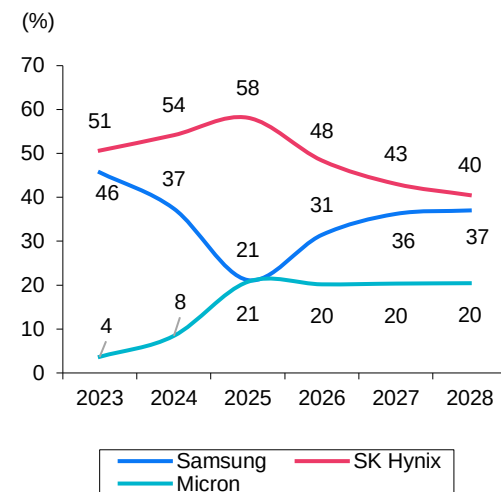
Source: Samsung Securities estimates

Google's HBM demand met by supplier



Source: Samsung Securities estimates

HBM market share



Source: Samsung Securities estimates

DRAM capacity, by fab

DRAM capacity, by fab

('000 wafers/month)	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2025	2026E	2027E	2028E
Samsung Electronics	700	725	760	780	795	820	835	850	865	880	895	920	700	780	850	920
Line 15 (Hwaseong) (2006~)	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Line 17 (Hwaseong) (1Q15~)	100	100	100	100	100	105	105	105	100	100	95	90	100	100	105	90
Pyeongtaek 1 (2Q18~)	120	120	125	125	120	115	110	105	105	105	100	100	120	125	105	100
Pyeongtaek 2 (3Q20~)	140	140	140	140	145	150	150	150	150	150	150	150	140	140	150	150
Pyeongtaek 3 (1Q23~)	95	105	110	110	110	110	115	115	115	115	110	110	110	110	115	110
Pyeongtaek 4 (3Q25~)	25	40	65	85	110	130	145	160	160	160	160	160	10	85	160	160
Pyeongtaek 5 (4Q25~)	0	0	0	0	0	0	0	5	25	40	70	100	0	0	5	100
SK Hynix	570	585	595	620	635	620	640	675	690	700	715	730	545	620	675	730
M14 (Icheon, 2014~)	165	165	165	165	165	165	165	165	160	155	150	150	170	165	165	150
M16 (Icheon)	200	200	200	205	210	210	210	210	210	210	210	210	185	205	210	210
M15x (Cheongju, 2025~)	15	35	50	70	80	60	70	80	80	80	80	80	0	70	80	80
Wuxi (C2, 2006~)	190	185	180	180	180	180	175	170	170	170	170	170	190	180	170	170
Y1 (Yong-in, 2027~)	0	0	0	0	0	5	20	50	70	85	105	120	0	0	0	120
Micron Technology	340	345	355	370	375	375	390	445	465	480	520	545	340	370	445	545
Dominion Fab 2 (Manassas, Virginia, US)	20	20	20	20	20	20	15	15	15	15	15	15	20	20	15	15
Fab 15 (MMJ) (Hiroshima, Japan)	100	100	105	110	110	110	105	105	105	105	100	100	100	110	105	100
OMT (Taichung, Taiwan)	220	225	230	240	245	245	240	240	235	235	230	230	220	240	240	230
ID 1 (Idaho, US)	0	0	0	0	0	0	5	15	20	25	40	50	0	0	15	50
P3 (PSMC, Taiwan)	0	0	0	0	0	0	15	30	35	35	40	40	0	0	30	40
P5 (PSMC, Taiwan)	0	0	0	0	0	0	5	20	30	30	40	45	0	0	20	45

Source: Omdia, Samsung Securities estimates

NAND capacity, by fab

NAND capacity by fab

('000 wafers/month)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2025	2026E	2027E
Samsung Electronics	410	410	410	395	395	395	400	400	400	400	405	410	395	400	410
Fab 12	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Xian	180	180	180	175	175	175	175	175	175	175	175	175	175	175	175
Pyeongtaek	150	150	150	140	140	140	145	145	145	145	150	155	140	145	155
SK Hynix	238	235	235	235	230	230	235	235	235	235	240	245	235	235	245
M-11	38	35	35	35	35	35	35	35	35	35	35	35	35	35	35
M-12	50	50	50	50	45	45	45	45	45	45	45	45	50	45	45
M-14	20	20	20	20	15	15	15	10	10	10	10	10	20	10	10
Cheongju M-15	50	50	50	50	55	55	55	60	60	60	60	60	50	60	60
Solidigm	80	80	80	80	80	80	85	85	85	85	90	95	80	85	95
Micron Technology	130	130	130	135	133	135	137	137	145	145	145	145	135	137	145
Manassas (Fab 6)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Singapore (Fab 7/10)	100	100	100	105	103	105	107	107	115	115	115	115	105	107	115

Source: Omdia, Samsung Securities estimates

PART
07

Coverage update

Samsung Electronics: Results and forecasts

Samsung Electronics: Results and forecasts

(KRWt)	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2026E	2027E	2028E
Sales	134.3	181.4	225.6	246.5	261.3	283.0	297.1	306.4	311.5	318.0	311.1	297.7	787.7	1,147.8	1,238.2
Chg (% y-y)	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	10.9	10.9	10.9
Semiconductor	81.7	127.8	167.5	190.4	205.5	224.2	239.6	251.1	257.6	260.0	254.8	242.7	566.5	920.4	1,015.0
DRAM	54.9	86.9	110.4	124.3	138.6	152.0	159.6	164.5	172.5	176.7	177.6	168.6	376.4	614.7	695.5
NAND	19.9	33.7	49.6	58.0	59.7	65.1	72.4	77.5	77.4	76.1	69.3	64.0	161.3	274.7	286.8
Foundry&LSI	6.9	7.1	7.5	8.2	7.2	7.1	7.7	9.1	7.6	7.1	7.9	10.1	29.6	31.1	32.7
Display	6.7	7.5	7.8	8.5	6.4	8.4	8.2	9.0	6.0	9.5	8.7	9.5	30.5	32.0	33.6
Telecom&Handset	38.1	33.0	37.2	33.6	36.1	36.2	35.1	30.9	33.3	33.3	32.3	28.5	141.9	138.4	127.5
CE and Hardman	18.1	19.1	19.1	20.0	19.3	20.1	20.1	21.4	20.6	21.2	21.3	23.0	76.3	81.0	86.1
Operating profit	57.2	89.5	112.6	124.9	131.9	142.0	146.1	153.1	156.3	158.7	153.4	148.9	384.3	573.1	617.3
Semiconductor	53.7	89.2	114.7	127.7	135.6	145.2	151.0	155.0	159.0	160.7	157.1	149.5	385.3	586.8	626.2
DRAM	42.0	65.9	80.8	87.4	95.0	102.2	105.8	108.3	112.3	114.5	114.1	109.2	276.0	411.3	450.1
NAND	12.4	24.0	34.2	40.0	40.2	42.3	44.5	46.0	46.0	45.4	41.9	39.3	110.5	173.0	172.6
Foundry&LSI	-0.8	-0.6	-0.2	0.4	0.5	0.6	0.8	0.6	0.7	0.8	1.0	1.0	-1.2	2.5	3.5
Display	0.4	0.7	1.0	1.4	0.3	0.8	0.8	1.3	0.2	1.0	0.6	1.1	3.5	3.2	3.0
Telecom&Handset	2.8	-0.7	-3.1	-4.0	-3.8	-4.0	-5.8	-3.1	-2.8	-3.1	-4.7	-2.0	-5.1	-16.8	-12.6
CE and Hardman	0.5	0.4	0.0	-0.2	-0.2	0.0	0.1	-0.1	-0.1	0.1	0.5	0.3	0.6	-0.2	0.7
OPM (%)	42.6	49.4	49.9	50.7	50.5	50.2	49.2	50.0	50.2	49.9	49.3	50.0	48.8	49.9	49.9
Semiconductor	65.7	69.8	68.5	67.1	66.0	64.7	63.0	61.7	61.7	61.8	61.6	61.6	68.0	63.8	61.7
DRAM	76.5	75.8	73.2	70.3	68.6	67.3	66.3	65.9	65.1	64.8	64.3	64.8	73.3	66.9	64.7
NAND	62.4	71.0	68.8	68.9	67.3	65.0	61.5	59.4	59.4	59.6	60.5	61.4	68.5	63.0	60.2
Foundry&LSI	-11.1	-9.1	-2.6	4.4	6.6	8.1	10.1	7.1	9.3	10.8	12.8	9.8	-4.2	8.0	10.6
Display	5.4	8.9	12.7	17.0	4.4	9.9	9.7	14.5	3.4	10.9	6.7	12.0	11.4	10.1	8.8
Telecom&Handset	7.2	-2.2	-8.4	-11.9	-10.5	-11.2	-16.6	-10.0	-8.5	-9.2	-14.5	-6.9	-3.6	-12.1	-9.9
CE and Hardman	2.5	2.0	-0.1	-1.2	-1.0	0.1	0.5	-0.5	-0.6	0.6	2.2	1.2	0.7	-0.2	0.8
Assumptions for bit growth and ASPs (% q-q)															
DRAM bit growth	1.0	9.7	4.6	5.6	2.5	3.7	1.8	1.3	5.1	6.6	7.7	8.2	25.6	16.1	20.5
DRAM ASP change	90.8	43.2	20.3	7.3	8.8	5.8	3.1	1.7	-0.3	-3.9	-6.7	-12.2	287.9	40.7	-6.1
NAND bit growth	9.2	0.5	8.0	5.0	-2.0	7.0	10.0	6.0	2.0	3.5	7.0	5.0	17.3	18.7	21.9
NAND ASP change	86.0	67.0	35.0	12.0	5.0	2.0	1.0	1.0	-2.0	-5.0	-15.0	-12.0	321.0	43.5	-14.3

Source: Company data, Samsung Securities estimates

SK Hynix: Results and forecasts

SK Hynix: Results and forecasts

(KRWb)	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2026	2027	2028
Sales	52,576	79,319	102,778	122,932	135,633	148,011	155,689	166,935	170,649	171,719	168,630	161,271	357,605	606,269	672,269
<i>Chg (% y-y)</i>	198.1	256.8	320.4	274.5	158.0	86.6	51.5	35.8	25.8	16.0	8.3	-3.4	108.3	259.5	316.9
DRAM	40,634	58,131	74,009	87,786	99,052	109,586	115,335	123,335	127,066	128,658	129,453	124,030	260,559	447,308	509,207
NAND and others	11,942	21,188	28,769	35,146	36,581	38,425	40,355	43,600	43,583	43,061	39,177	37,241	97,046	158,961	163,061
Operating profit	37,610	60,543	79,181	95,151	104,228	112,054	115,274	120,510	121,260	120,840	118,397	110,259	272,485	452,065	470,756
DRAM	30,972	47,883	61,399	73,065	80,905	88,699	94,361	100,953	102,145	103,242	105,124	100,242	213,319	364,918	410,753
NAND and others	6,639	12,660	17,782	22,086	23,323	23,354	20,912	19,557	19,115	17,598	13,273	10,017	59,166	87,147	60,004
Operating margin (%)	71.5	76.3	77.0	77.4	76.8	75.7	74.0	72.2	71.1	70.4	70.2	68.4	76.2	74.6	70.0
DRAM	76.2	82.4	83.0	83.2	81.7	80.9	81.8	81.9	80.4	80.2	81.2	80.8	81.9	81.6	80.7
NAND and others	55.6	59.7	61.8	62.8	63.8	60.8	51.8	44.9	43.9	40.9	33.9	26.9	61.0	54.8	36.8
Assumptions for bit growth and ASPs (% q-q)															
DRAM bit growth	0.0	7.1	10.4	8.4	-1.1	1.4	1.9	5.7	2.5	5.1	6.3	6.4	23.7	15.7	17.7
DRAM ASP change	62.8	30.2	14.8	10.1	14.0	9.2	3.3	1.2	0.5	-3.6	-5.3	-10.0	167.2	48.2	-3.3
NAND bit growth	-15.0	18.0	2.5	7.0	-1.0	3.0	4.0	7.0	-2.0	4.0	7.0	8.0	15.1	16.2	15.2
NAND ASP change	75.0	55.0	32.0	15.0	5.0	2.0	1.0	1.0	2.0	-5.0	-15.0	-12.0	285.5	41.8	-10.9

Source: Company data, Samsung Securities estimates

LG Electronics, SEMCO, LG Innotek: Results and forecasts

LG Electronics: Results and forecasts

(KRWb)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2025	2026E	2027E
Sales	22,740	20,740	21,874	23,852	23,733	23,827	24,791	26,100	26,106	23,748	25,694	26,699	89,201	98,445	102,247
HS	6,697	6,594	6,580	6,254	6,943	7,076	7,214	6,525	7,173	7,276	7,373	6,634	26,126	27,757	28,457
MS	4,950	4,393	4,653	5,430	5,169	5,115	5,322	5,770	5,411	5,155	5,370	5,946	19,426	21,376	21,882
VS	2,843	2,849	2,647	2,796	3,064	3,026	3,200	3,126	3,262	3,382	3,325	3,318	11,136	12,416	13,288
ES	3,054	2,644	2,167	1,457	2,822	2,726	2,273	1,535	3,196	2,949	2,421	1,629	9,323	9,357	10,196
Others	365	458	586	431	304	465	557	474	334	512	612	521	1,840	1,800	1,980
LG Innotek	4,983	3,856	5,369	7,610	5,535	5,527	6,351	8,796	6,852	4,587	6,717	8,778	21,818	26,209	26,934
Operating profit	1,259	639	689	-109	1,674	1,579	1,063	145	1,695	1,131	1,188	213	2,478	4,460	4,227
HS	645	440	366	-171	570	686	348	-195	605	355	380	-196	1,279	1,409	1,144
MS	5	-192	-303	-262	372	219	32	-231	200	57	43	-220	-751	392	79
VS	125	126	150	158	212	191	263	231	239	244	290	263	559	897	1,036
ES	407	251	133	-143	249	236	140	-36	283	285	151	-38	647	588	681
Others	-47	-1	132	-26	-26	-5	-20	-40	-10	-5	-18	-36	58	-91	-69
LG Innotek	125	11	204	325	295	246	293	410	372	189	336	434	665	1,244	1,332
Operating margin (%)	5.5	3.1	3.1	-0.5	7.1	6.6	4.3	0.6	6.5	4.8	4.6	0.8	2.8	4.5	4.1

SEMCO: Results and forecasts

(KRWb)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2025	2026E	2027E
Sales	2,739	2,785	2,889	2,902	3,209	3,457	3,812	3,894	4,499	4,652	5,200	4,962	11,314	14,372	19,313
Module	1,023	939	915	937	1,076	1,036	936	850	1,172	976	950	852	3,814	3,897	3,951
Component	1,216	1,281	1,381	1,320	1,409	1,649	1,942	2,057	2,308	2,523	2,894	2,738	5,198	7,057	10,462
Substrate	499	565	593	645	725	772	934	987	1,019	1,153	1,356	1,372	2,302	3,418	4,900
Operating profit	201	213	260	239	281	440	612	672	783	889	1,076	1,003	913	2,005	3,751
Module	44	24	33	34	46	47	28	27	47	38	27	25	135	148	138
Component	130	164	188	149	164	280	395	439	518	582	716	646	629	1,278	2,462
Substrate	27	25	40	57	70	113	190	206	217	268	334	332	149	579	1,152
Operating margin (%)	7.3	7.6	9.0	8.3	8.7	12.7	16.1	17.2	17.4	19.1	20.7	20.2	8.1	13.9	19.4

LG Innotek: Results and forecasts

(KRWb)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2025	2026E	2027E
Sales	4,983	3,935	5,369	7,610	5,535	5,518	6,351	8,796	6,852	4,587	6,717	8,778	21,897	26,200	26,934
Module	4,138	3,053	4,481	6,646	4,611	4,518	5,330	7,776	5,813	3,508	5,587	7,597	18,319	22,235	22,505
Substrate	377	416	438	489	437	498	513	523	551	578	622	685	1,720	1,972	2,436
Component	467	466	451	474	487	502	508	497	489	501	507	496	1,858	1,994	1,993
Operating profit	125	11	204	325	296	246	293	410	372	189	336	434	665	1,244	1,332
Operating margin (%)	2.5	0.3	3.8	4.3	5.3	4.5	4.6	4.7	5.4	4.1	5.0	4.9	3.0	4.7	4.9

Source: Company data, Samsung Securities estimates

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