Global Memory Tech

Weekly theme:HBM de-spec,early capital returns,spot rally,SIMO/Phison funding

Industry Overview

HBM content growth on track;no despec

We do not expect"despec"of HBM content in new GPUs including NVIDIA's Rubin Ultra. Three reasons:1)upcoming HBM4e/HBM5(2027-30)is already set for 500-1,000GB based on 12-hi or 16-hi;2)TSV capacity for 8-hi(for 192GB)is no longer meaningful (already converted to 12-hi)as of 2H26;and 3)Rubin Ultra's memory performance declines sharply at 288-500GB,making 1,000GB of memory a must-have,particularly for physical AI.Of course,some low-end GPU/TPU/ASIC can use 192-288GB HBM.However, these will likely be legacy applications like DDR4 (vs DDR5)or just for inferencing.We also disagree with SK Hynix's HBM price-cut view;in fact,we already see 10-20%price hikes for 2H HBM4 deliveries,incl.pull-in demand from 1H27.Net-net, HBM growth theme will be more effective with content and ASP hikes through 2H26&2027.

Early 2026 shareholder returns from Samsung and Hynix

Samsung Electronics should announce the payment date for its special dividend and the share-buyback period as soon as possible,given the CFO noted in 2Q earnings call(30 July)that details will be shared"very soon".SK Hynix has also been guiding 50%payout ratio (out of FCF).Both companies have 3-4mn+retail shareholders,who appear to be expecting earlier year-end dividend payments(50%+/-of total in 2H26 vs the rest in 1H27)to have tax benefits(e.g.,year-end dividend income split into two years).Our view on shareholder-return mix ratio (based on 50%of 2026 FCF;FCF total:Samsung ~W280tn/Hynix~W170tn according to our analysis)remains unchanged(Samsung: 60%+cash dividend vs 40%or less for buyback;Hynix:40:60 likely-buyback should be more important vs dividends to issue new ADR or only~20%stake owned by SK Square).

Spot-price rally continues;better than expected

DRAM spot prices continued to rise this week(+2%for both 16Gb DDR4 and DDR5;a rising trend for 18 consecutive weeks).Surprisingly,the NAND spot rally was more notable (e.g.,1Tb up 10%WoW)vs consensus(flat or gradual decline).Our channel check also indicates stronger spot demand (among OEMs and module makers)amid tight chip supply.That said,we see slightly muted Korea's semis exports for the first 10 days of Aug(-11%MoM),although YoY growth remained robust(+155%YoY).

Phison/SIMO reported strong results but issued CB

Phison(8299 TT)issued US$0.8bn CB(3%dilution)in May,despite record-high 2Q sales (NT$68bn +279%YoY)and GM (65%vs long-term historical average of 30%range). Silicon Motion(SIMO US)also raised US$1.0bn by issuing CB(but minimal dilution given new share issue amount can be close to stock-performance-linked conversion gains). The cash proceeds will be used for NAND chip inventory build ups,more specifically strongly growing enterprise solutions.Our 2026-28 EPS estimates for Phison are mostly unchanged,given upbeat sales/GM are mostly offset by high R&D expenses.

>>Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures"for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

BofA Securities does and seeks to do business with issuers covered in its research reports.As a result,investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report.Investors should consider this report as only a single factor in making their investment decision.
Refer to important disclosures on page 14 to 16.Analyst Certification on page 12.Price Objective Basis/Risk on page 11.

14 August 2026

Equty
Global
Technology

Simon Woo,CFA>>
Research Analyst
Merrill Lynch (Seoul)
+82237070554
simon.woo@bofa.com

Dai Shen >>
Research Analyst
MerrillLynch (Hong Kong)
dai.shen@bofa.com

Vivek Arya
Research Analyst
BofAS
vivek.arya@bofa.com

Mikio Hirakawa >>
Research Analyst
BofAS Japan
mikio.hirakawa@bofa.com

Matt Shin>>
Research Analyst
Merill Lynch (Seoul)
matt.shin2@bofa.com

Exhibit 1:NAND price rebound much stronger than DRAM price hike
Spot-market prices among DRAM and NAND

US$	Current	WoW	QoQ	YoY
DRAM spot				
16Gb DDR5	52.7	2%	28%	752%
16Gb DDR4	87.7	2%	51%	898%
8Gb DDR4	42.6	0%	33%	768%
4Gb DDR4	14.2	1%	81%	472%
NAND spot				
1Tb wafer	30.9	10%	23%	506%
512Gb wafer	21.1	5%	3%	652%
256Gb wafer	14.7	17%	41%	848%

Source:DRAMeXchange

BofA GLOBAL RESEARCH

ADR: American depositary receipt
ASP: Average selling price
ASIC: Application-specific integrated circuit
CB:Convertible bond
CFO: Chief Financial Officer
DDR4/5: 4h/5thgen double-data rate DRAM
GM: Gross margin
DRAM: Dynamic random-access memory
HBM: High bandwidth memory
HBM4/4e/5:6t/7/8thgen of HBM
Gb/GB/Tb: Gigabit/Gigabyte/Terabt
GPU: Graphics processing unit
NAND: Not-AND memory
OEM: Original equipment manufacturer
TPU: Tensor processing unit
TSV: Through-silicon via

Rubin Ultra despec,Korea exports and China imports

Exhibit 2:We do not expect"despec"of HBM content in new GPUs including NVIDIA's Rubin Ultra.Three reasons:1)upcoming HBM4e/HBM5 (2027-30)is already set for 500-1,000GB based on 12-hi or 16-hi;2)TSV capacity for 8-hi(for 192GB)isno longer meaningful (already converted to 12-hi)as of 2H26;and 3)Rubin Ultra's memory performance declines sharply at 288-500GB,making 1,000GB of memory a must-have, particularly for physical AI.

Rubin Ultra's new spec shows 192GB/288GB vs original roadmap of 1TB

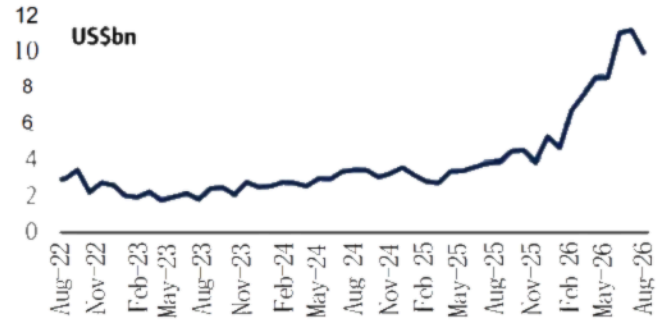
Stage	HBM type	#of HBM units	Stack height	DRAM die density	HBM capacity	Remarks	Source
Original roadmap (2025)	HBM4e	6	16-Hi	`32Gb	`1TB	Initial Rubin Ultra concept targeting maximum memory capacity and performance.	NVIDIA GTC 2025keynote
Baseline design (1H26)	HBM4e	8	12-Hi	`24Gb	`288GB	NVIDIA's primary Rubin Ultra design through 1H26	TrendForce(Aug 2026)
Current leading alternative	HBM4e	8	8-Hi	`24Gb	`192GB	Lower-memory option being evaluated due to HBM supply constraints and HBM4e qualification risks	SemiAnalysis;corroborated by TrendForce
Alternative under evaluation	HBM4	8	12-Hi	`24Gb	`288GB	Maintains capacity by using HBM4 rather than HBM4e	TrendForce(Aug 2026)
Alternative under evaluation	HBM4	8	8-Hi	`24Gb	`192GB	Lowest-memory option currently under consideration	TrendForce(Aug 2026)
Current Vera Rubin	HBM4	8	12-Hi	`24Gb	288GB	Current-generation reference platform.	NVIDIA GTC2025roadmap

Source: Media reports,BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 3:Dropped 11%MoM in Aug(US$9.95bn),but still near record-high level

Korea semis exports-First 10 days of month US$bn

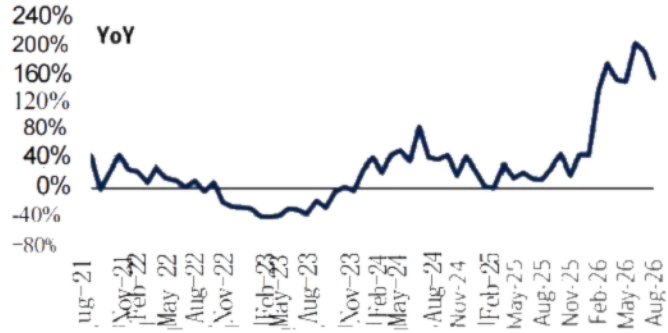


Source: MoTIR

BofA GLOBAL RESEARCH

Exhibit 4:Still strongly up in Aug(+155%YoY);already seven consecutive months of positive growth

Korea semis exports-YoY change in first 10 days of month

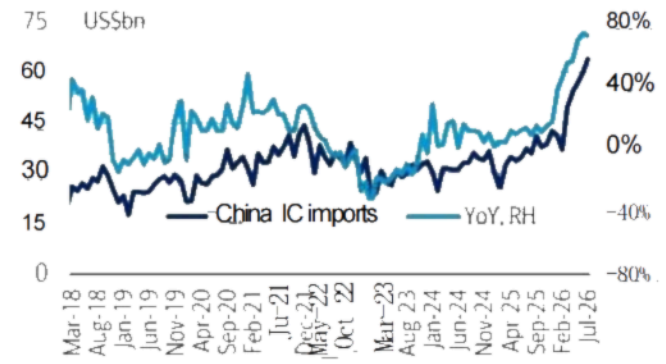


Source: MoTIR

BofA GLOBAL RESEARCH

Exhibit 5:China monthly integrated circuit(IC)imports and YoY

IC imports reached new high at US$63.8bn in July,+71%YoY

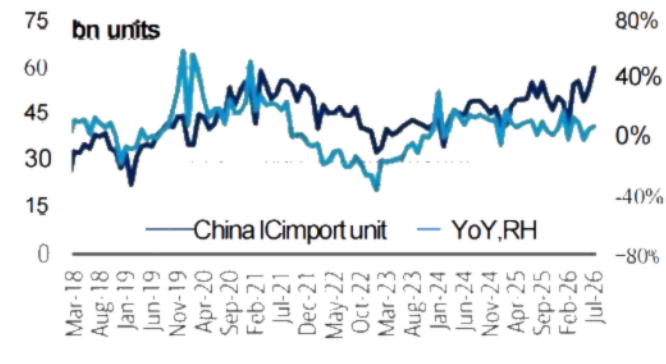


Source: China General Customs

BofA GLOBAL RESEARCH

Exhibit 6:China monthly integrated circuit(IC)imports volume and YoY

China ICimports reached 60.0bn units in July,+9%YoY

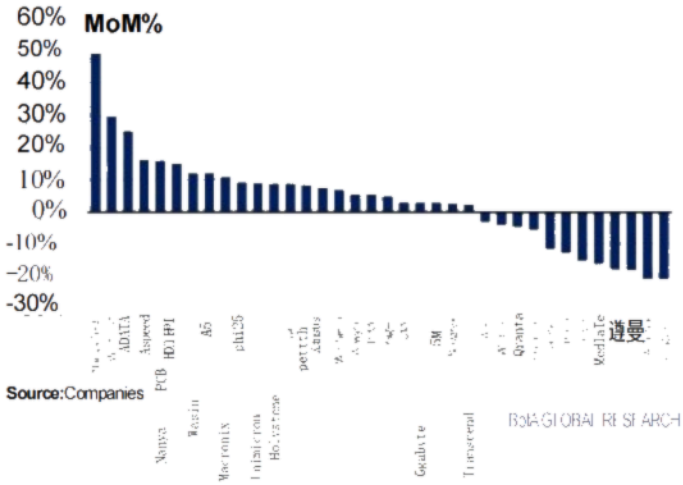


Source: China General Customs

BofA GLOBAL RESEARCH

Taiwan monthly sales and Phison's 2Q26 results

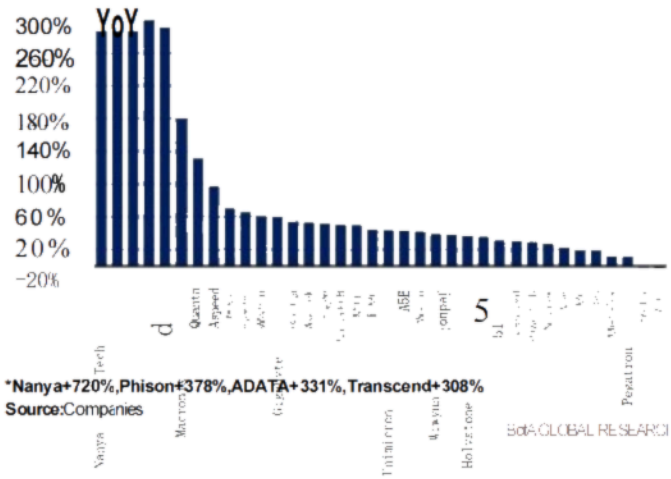
Exhibit 7:Exceptionally strong MoM growth seen for Nanya(+49%), Winbond(+30%),Nanya PCB(+16%),Hon Hai(+15%),
Taiwan tech companies'monthly sales MoM in Jul-26



Source: Companies

BofA GLOBAL RESEARCH

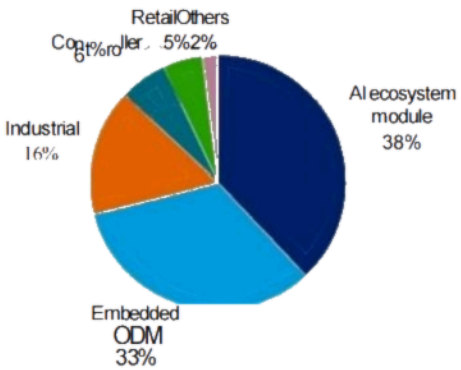
Exhibit 8:Robust YoY rebound in July led by memory names including Nanya,Phison,ADATA,Transcend,Winbond;TSMC also solid at 45%
Taiwan tech companies'monthly sales YoY in Jul-26



*Nanya+720%,Phison+378%,ADATA+331%,Transcend+308%
Source: Companies

BofA GLOBAL RESEARCH

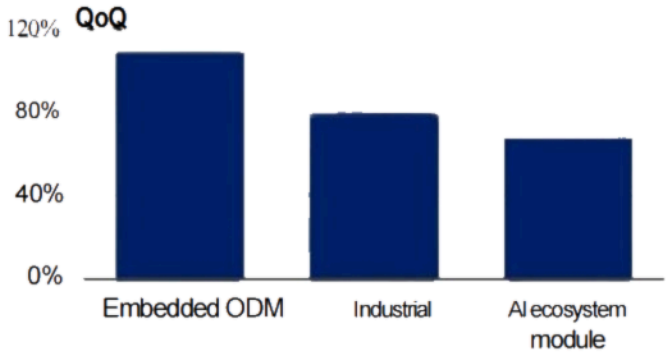
Exhibit 9:AI ecosystem module(eSSD,aiDAPTIV,boot drive,etc) accounted for 38%of tota sales,followed by embedded ODM(33%), industrial (16%),controller(6%),etc
Phison-Sales mix by application (2Q26)



Source: Company

BofA GLOBAL RESEARCH

Exhibit 10:Robust QoQ growth seen from embedded ODM(+109%), industrial(+78%),AI ecosystem module(+68%)
Phison-Sales QoQ growth by application (2Q26)



Source: Company

BofA GLOBAL RESEARCH

Exhibit 11:Our PO NTS4,000 is derived from 24x 2027-28E P/E
Phison-Valuation multiples at current price and PO

(x)	2024	2025	2026E	2027E	2028E	2027-28E Avg
Current shr price based						
P/E	63.9	57.4	6.3	10.8	16.8	13.8
P/B	9.6	7.8	4.0	3.4	3.1	3.2
EV/EBITDA	95.4	47.3	4.3	6.3	9.8	8.1
EV/sales	7.7	6.3	1.6	1.5	1.7	1.6
PO based multiples						
P/E	112.0	100.8	11.1	18.9	29.5	24.2
P/B	16.8	13.8	7.1	5.9	5.4	5.6
EV/EBITDA	169.8	84.2	7.7	11.3	17.5	14.4
EV/sales	13.8	11.2	2.9	2.6	3.0	2.8

Source: Company,BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 12:2Q26 sales(NT568bn;up 66%/279%QoQ/YoY)exceeded consensus/our estimate(NTS61/60bn),but OP(NT$26.4bn;OPM 38.8%)came below our estimate(NTS33bn;OPM 54.8%)due to significant increase in R&D(NTS15bn;up nearly 7xYoY,but still 22%of total sales);our 2026-28 EPS estimates are mostly unchanged given upbeat sales/GM mostly offset by high R&D expenses
Phison-Earnings revisions(2026-28E)

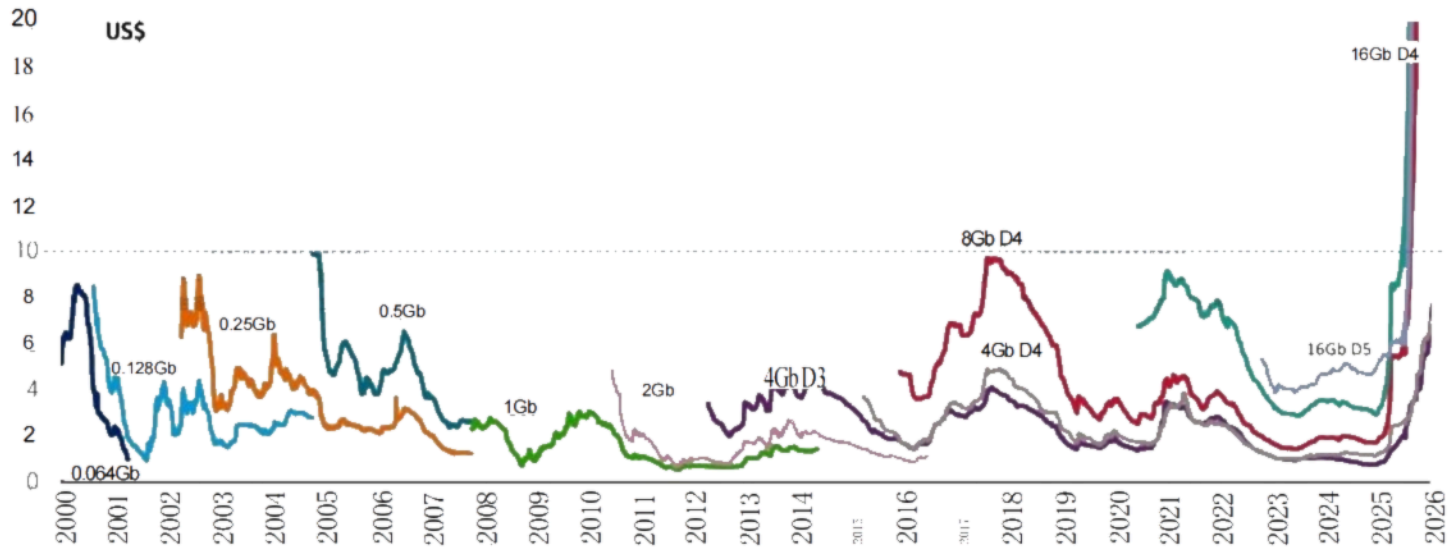
NTSmn	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2021	2022	2023	2024	2025	2026E	2027E	2028E
EPS (NTS, FD)																
New	68.96	102.28	103.20	83.43	73.34	59.45	44.77	34.27	40.09	26.23	17.63	35.71	39.69	360.88	211.84	135.72
Old	68.96	115.90	102.52	72.49	52.07	66.73	54.37	37.93	40.09	26.23	17.63	35.71	39.69	359.86	211.09	135.55
Diff	nm	-12%	1%	15%	41%	-11%	-18%	-10%	nm	nm	nm	nm	nm	0%	0%	0%
DPS																
New	60.0	0.0	71.0	0.0	50.0	0.0	65.2	0.0	23.00	14.45	13.34	25.00	23.50	131.02	115.24	81.21
Old	90.0	0.0	100.0	0.0	40.0	0.0	74.0	0.0	23.00	14.45	13.34	25.00	23.50	190.00	114.00	72.00
Diff	nm	nm	-29%	nm	25%	nm	-12%	nm	nm	nm	nm	nm	nm	-31%	1%	13%
Sales																
New	40,967	67,888	86,218	87,080	78,372	80,723	76,687	75,920	62,557	60,256	48,222	58,936	72,664	282,154	311,703	273,056
Old	40,967	60,221	69,255	70,640	70,640	68,379	64,960	61,647	62,557	60,256	48,222	58,936	72,664	241,083	265,627	223,717
Diff	nm	13%	24%	23%	11%	18%	18%	23%	nm	nm	nm	nm	nm	17%	17%	22%
GP																
New	25,118	44,335	57,766	52,248	45,456	40,362	34,509	30,368	19,100	17,350	16,114	19,108	24,858	179,467	150,695	103,823
Old	25,118	37,337	34,627	28,256	26,137	23,933	21,437	19,111	19,100	17,350	16,114	19,108	24,858	125,338	90,617	71,572
Diff	nm	19%	67%	85%	74%	69%	61%	59%	nm	nm	nm	nm	nm	43%	66%	45%
Gross margin																
New	61.3%	65.3%	67.0%	60.0%	58.0%	50.0%	45.0%	40.0%	30.5%	28.8%	33.4%	32.4%	34.2%	63.6%	48.3%	38.0%
Old	61.3%	62.0%	50.0%	40.0%	37.0%	35.0%	33.0%	31.0%	30.5%	28.8%	33.4%	32.4%	34.2%	52.0%	34.1%	32.0%
Diff	nm	3%	17%	20.0%	21%	15%	12%	9.0%	nm	nm	nm	nm	nm	11.6%	14.2%	6.0%
OP																
New	14,841	26,370	34,466	27,948	24,356	19,862	14,909	11,368	9,084	6,844	3,622	3,542	8,266	103,625	70,495	44,823
Old	14,841	33,017	29,344	20,799	14,696	19,130	15,551	10,793	9,084	6,844	3,622	3,542	8,266	98,000	60,171	38,297
Diff	nm	-20%	17%	34%	66%	4%	-4%	5%	nm	nm	nm	nm	nm	6%	17%	17%
OP margin																
New	36.2%	38.8%	40.0%	32.1%	31.1%	24.6%	19.4%	15.0%	14.5%	11.4%	7.5%	6.0%	11.4%	36.7%	22.6%	16.4%
Old	36.2%	54.8%	42.4%	29.4%	20.8%	28.0%	23.9%	17.3%	14.5%	11.4%	7.5%	6.0%	11.4%	40.7%	22.7%	17.1%
Diff	nm	-16%	-2%	2.7%	10%	-3%	-4%	-2.5%	nm	nm	nm	nm	nm	-3.9%	0.0%	-0.7%
Net non-opex																
New	3057	4704	340	190	380	190	190	190	653	-547	478	6216	1939	8292	950	950
Old	3057	540	340	190	380	190	190	190	653	547	478	6216	1939	4127	950	950
Diff	nm	771%	0%	0%	0%	0%	0%	0%	nm	nm	nm	nm	nm	101%	0%	0%
Tax rate(effective)																
New	15.2%	15.6%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	16.3%	14.2%	11.6%	18.4%	14.4%	20.3%	24.0%	24.0%
Old	15.2%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	16.3%	14.2%	11.6%	18.4%	14.4%	22.5%	24.0%	24.0%
Diff	nm	-8%	0%	0.0%	0%	0%	0%	0.0%	nm	nm	nm	nm	nm	-2.2%	0.0%	0.0%
NP																
New	15,175	26,219	26,453	21,385	18,799	15,239	11,475	8,784	8,147	5,401	3,624	7,963	8,741	89,232	54,298	34,787
Old	15,175	25,504	22,559	15,952	11,457	14,681	11,963	8,347	8,147	5,401	3,624	7,963	8,741	79,190	46,452	29,828
Diff	nm	3%	17%	34%	64%	4%	-4%	5%	nm	nm	nm	nm	nm	13%	17%	17%
EBITDA																
New	15,177	26,736	34,832	28,315	24,723	20,230	15,278	11,738	9,827	7,890	4,827	4,775	9,628	105,060	71,970	46,309
Old	15,177	33,354	29,681	21,137	15,035	19,470	15,892	11,135	9,827	7,890	4,827	4,775	9,628	99,350	61,531	39,669
Diff	nm	-20%	17%	34%	64%	4%	-4%	5%	nm	nm	nm	nm	nm	6%	17%	17%
Capex																
New	426	905	700	469	450	450	450	450	2,341	1,528	391	965	1,397	2,500	1,800	1,800
Old	426	450	450	474	450	450	450	450	2,341	1,528	391	965	1,397	1,800	1,800	1,800
Diff	nm	101%	56%	-1%	0%	0%	0%	0%	nm	nm	nm	nm	nm	39%	0%	0%
Adj BVPS																
New	359	433	474	565	595	660	643	680	189	198	213	238	291	565	680	747
Old	359	482	491	568	584	655	639	679	189	198	213	238	291	568	679	752
Diff	nm	-10%	-3%	-1%	2%	1%	1%	0%	nm	nm	nm	nm	nm	-1%	0%	-1%

Source: Company,BofA Global Research estimates

BofA GLOBAL RESEARCH

Memory spot/contract price trend

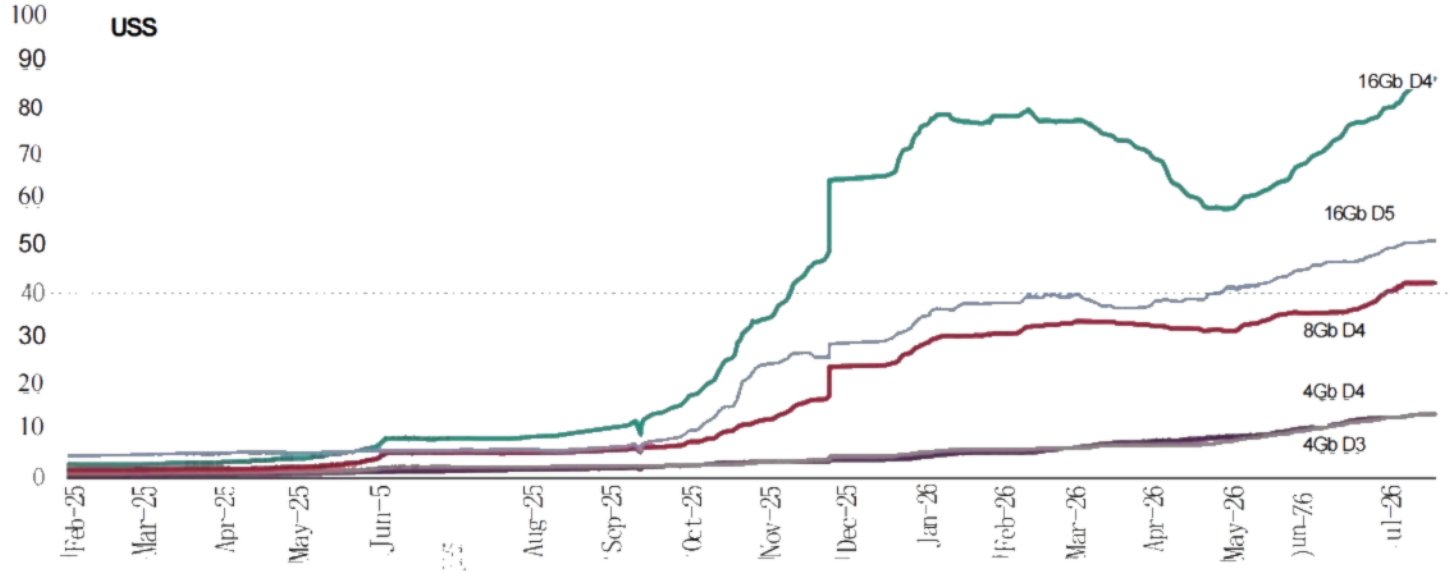
Exhibit 13:DRAM spot prices rebounded through June after softening through April-May,following a strong rally from September 2025 to January 2026. Prices have reached multi-decade highs,with 16Gb DDR5 at~551 and DDR4 at~$87,driven by supply reallocation toward HBM and server DRAM-well above the prior~$10 peak in October 2017.
DRAM spot price-long-term trend (2000-2026)



Source:DRAMeXchange

BofA GLOBAL RESEARCH

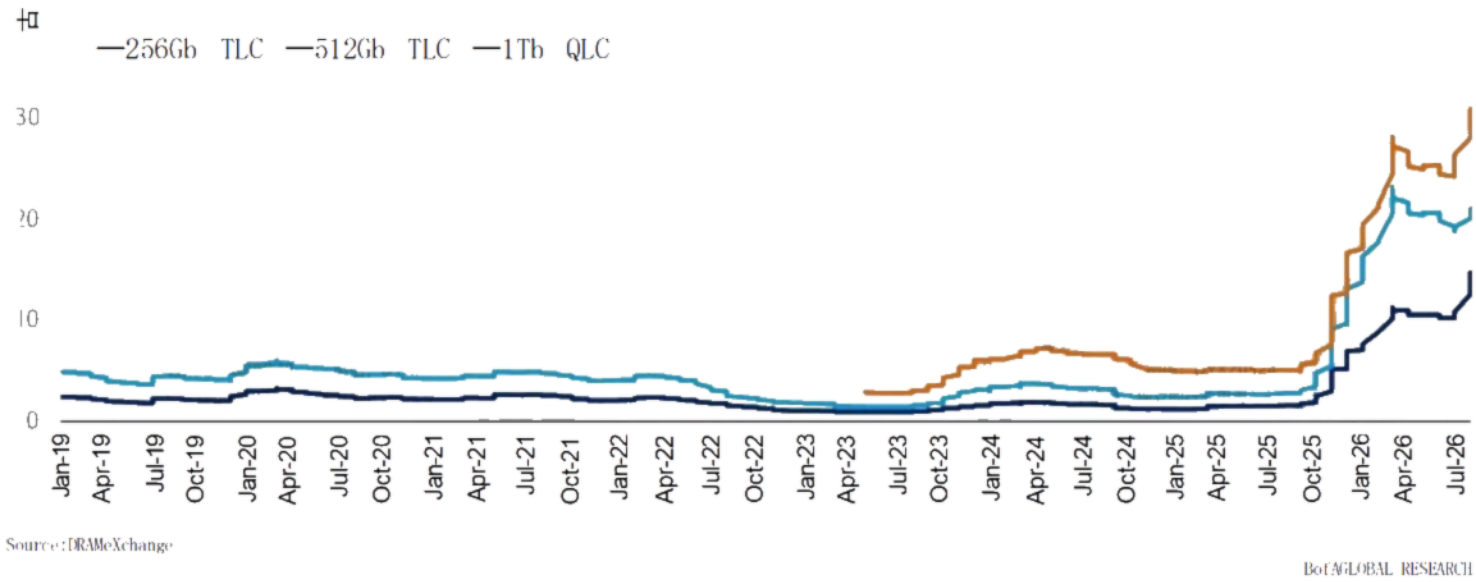
Exhibit 14:After a prolonged period of stability,DRAM spot prices rallied significantl from Oct-25 and have largely maintained those gains despite a mid-2026 pullback
DRAM spot price-short-term trend (2025-2026)



Source:DRAMeXchange

BofA GLOBALRESEARCH

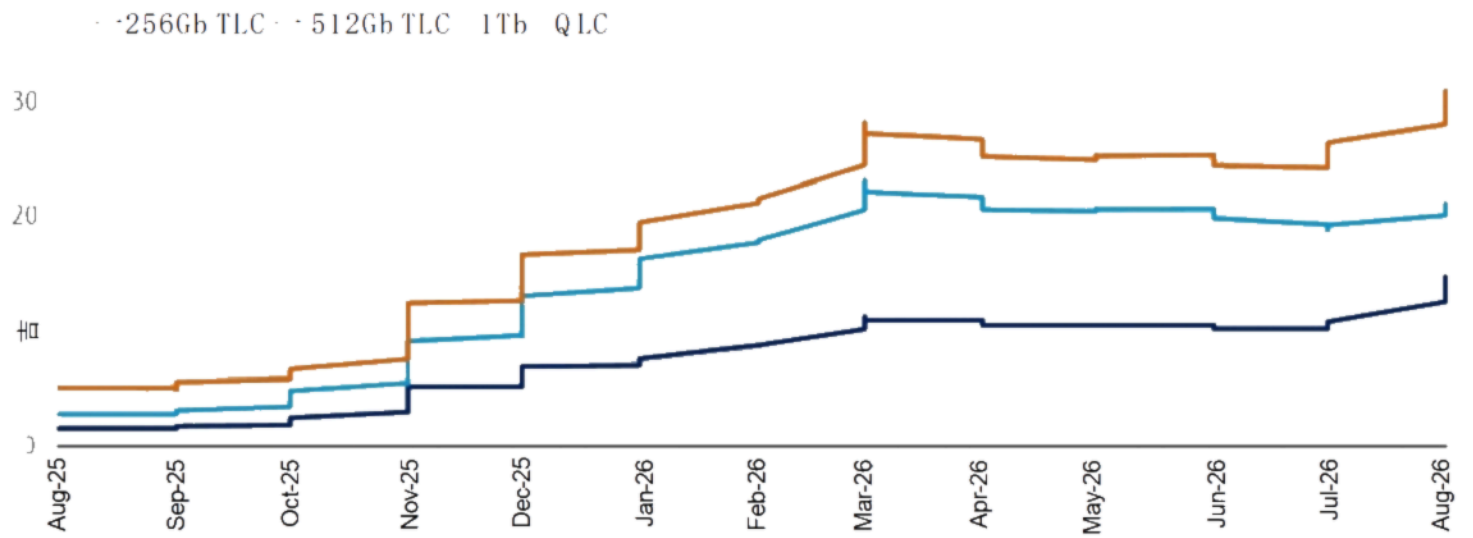
Exhibit 15:NAND wafer prices remained broadly stable through 2023-25 before entering a sharp upcyclefrom late-2025/llH-2026, with prices across densities risito multi-year highs
NAND wafer spot pice-long-term trend(2019-2026)



Source:DRAMeXchange

BofAGLOBAL RESEARCH

Exhibit 16: NAND wafer prices rebounded sharply in early August, having stayed broadly flat to slightly lowerthrough 2026-a pause that followed the excptionally stron rally seen across 4Q25 and 1Q26
NAND wafer spot pice-short-term trend(2025-2026)

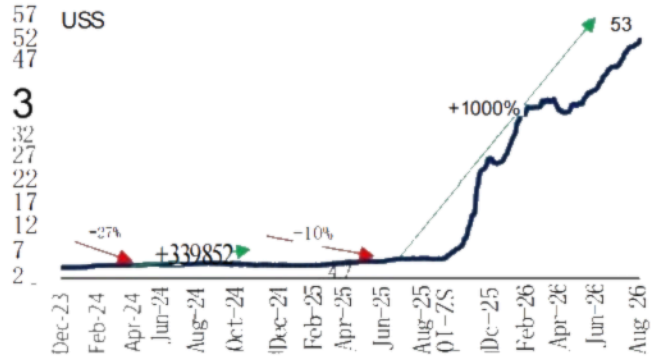


Source:DRAMexchange

BofAGLOBAL RESEARCH

Exhibit 17:Prices rebounded through May/June/Jul/1H-Aug, reaching an all-time high (553).Uptrend was driven by strong gains in Oct(+70%),Nov(+60%),Jan(+25%),before moderating into a more subdued trend during Feb-Apr

16Gb DDR5 spot price-daily,Dec'23-Aug'26

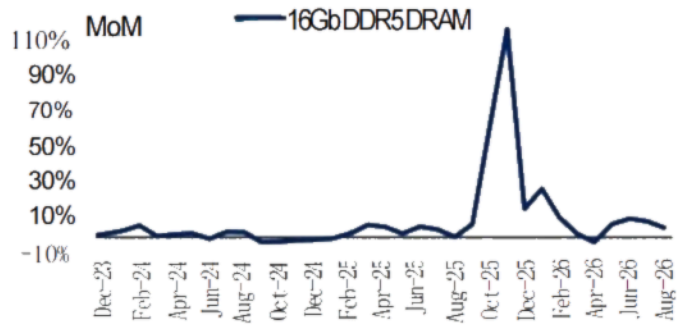


Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 18:Modest uptick observed in May/Jun/Jul/Aug(+7-10%), following a sequential slowdown from Feb(+10%)to flat momentum in Mar and a minor decline in Apr,after the strong Jan (+25%)surge and the sharp Oct-Nov-25 rally(+60-120%)

16Gb DDR5 spot month-average price-MoM change,Dec'23-Aug'26

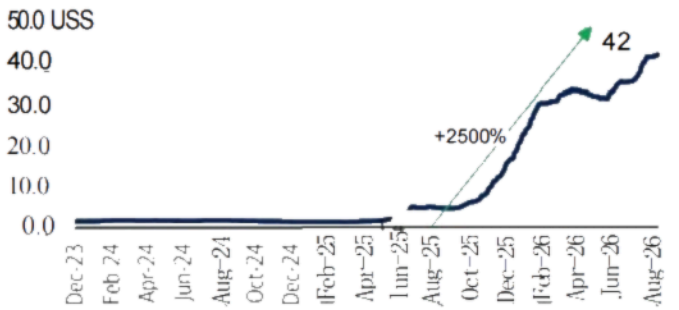


Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 19:8Gb DDR4 spot prices reached a record high of~542 in July and remained flat in Aug,stillwell above the prior~$10 peak in October 2017,driven by ongoing supply cuts from major vendors

8Gb DDR4 spot price trend,Dec'23-Aug 26

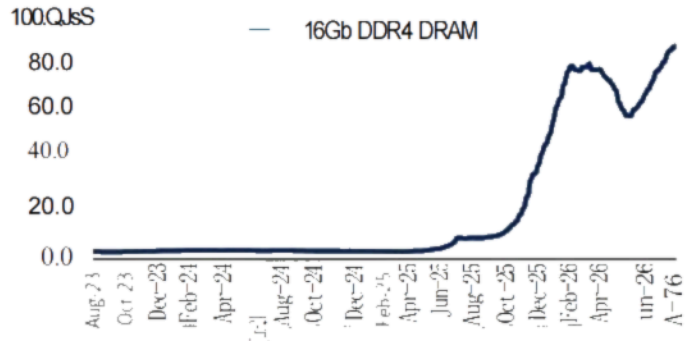


Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 20:Prices rebounded to record highs in late May-July and 1H-Aug after a~25%April-mid-May correction,remaining ~2000%above the October 2025 low(~$3)

16Gb DDR4 spot price trend,Aug'23-Aug'26

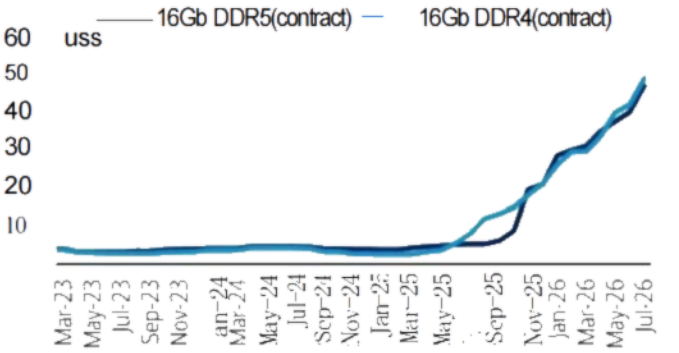


Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 21:DDR4 and DDR5(16Gb)contract prices are similar at US$35-40 levels- DDR5 price premium no longer exists due to DDR4 shortage

16Gb DDR5vs 16Gb DDR4 contract price trend,Mar'23-Jul'26

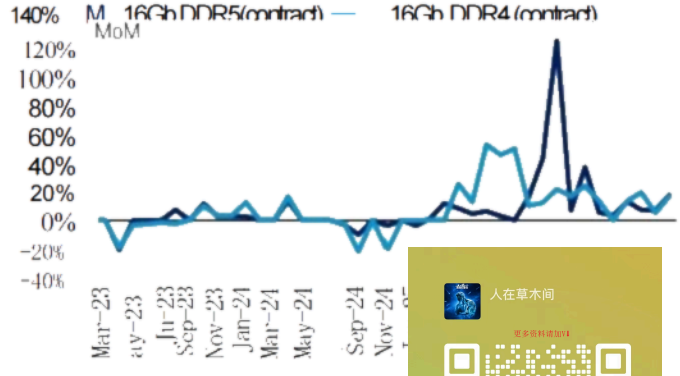


Source: TrendForce

BofA GLOBAL RESEARCH

Exhibit 22:DDR5 and DDR4 contract prices up+10-15%MoM in July;price strong through 2H25 and 1H 2026

16Gb DDR5vs 16Gb DDR4 contract price change-MoM,Mar'23-Jul'26

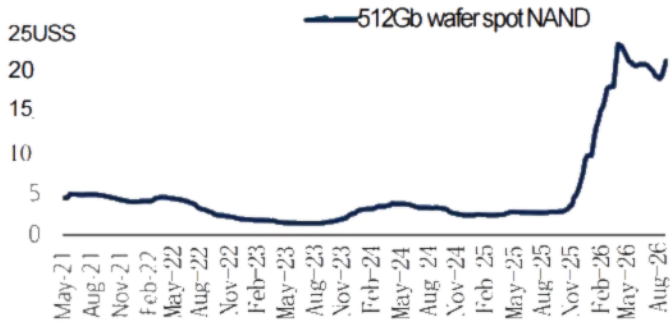


Source: TrendForce

人在草木间

Exhibit 23:NAND spot prices rebounded sharply in 1H-Aug after remaining largely flat to slightly weaker throughout 2Q26 and most of July,prices are still up more than 50%YTD and nearly 8x above the Feb-2025 trough

512Gb NAND wafer spot price-weekly,May'21-Aug'26

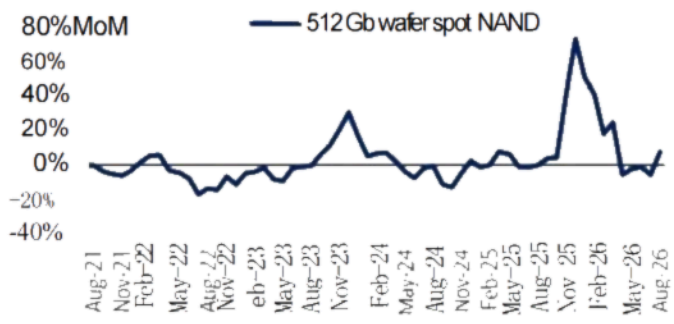


Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 24:Slight rebound observed in Aug after prices remained largely flat in June and softened in July following the Apr-May correction,compared with stronger gains of 15-20%in Feb-Mar 26 and sharp 40-70%MoM increases during Oct 25-Jan26

512Gb NAND wafer spot average-MoM change,Aug'21-Aug'26

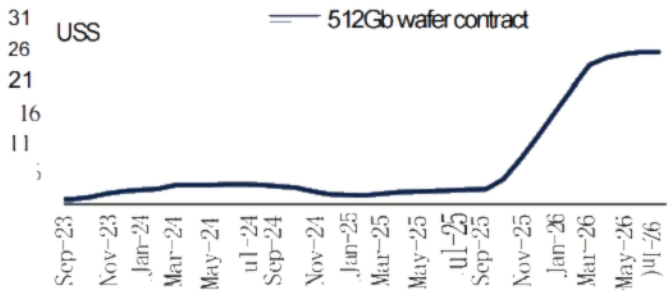


Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 25:Current contract price at~$26,around 10x vs Feb-25 bottom of $2.5;prices significantly up in 4Q25/1Q26 and remained broadly stable thereafter

NAND wafer contract price trend,Sep'23-Jul '26

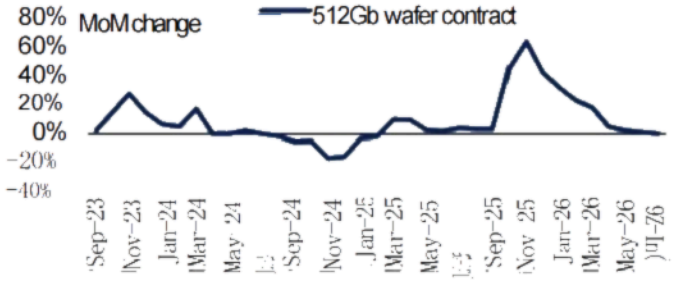


Source: TrendForce,DRAMeXchange,BofA Globa Research

BofA GLOBAL RESEARCH

Exhibit 26:Apr/May/Jun/Jul price only up+1-5%MoM each following Jan/Feb/Mar-26 rally(up 20-30%MoM)and Oct/Nov/Dec upturn(up 40-60%MoM)

MoM change of NAND contract price(512Gb wafer Sep'23-Jul '26

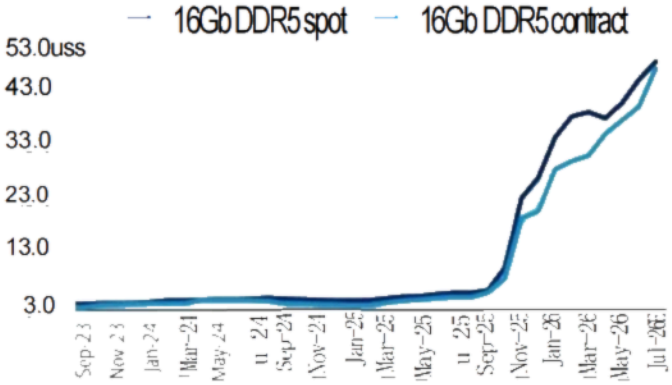


Source:DRAMeXchange,TrendForce,BofA Globa Research

BofA GLOBAL RESEARCH

Exhibit 27:16Gb DDR5 spot and contract prices are in the range of US$35-40vs historical range of US$3-5

16Gb DDR5 spot vs contract price trend(US$),Sep'23-Jul '26

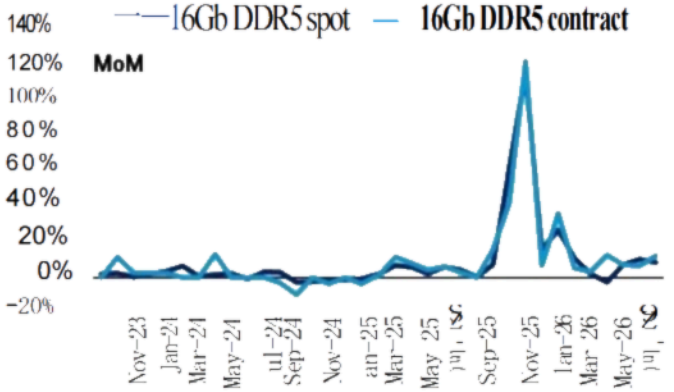


Source:DRAMeXchange,TrendForce

BofA GLOBAL RESEARCH

Exhibit 28:Jun/Jul-26 spot and contract prices turned positive again after Feb-Mar moderation;prices had witnessed a sharp Oct-Dec'25 rally

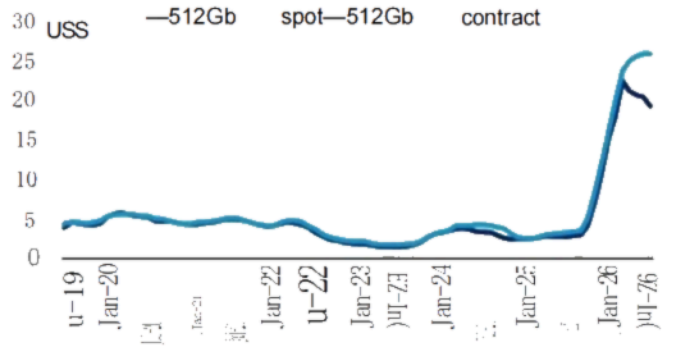
16Gb DDR5 spot vs contract price trend-MoM change,Sep'23-Jul 26



Source:DRAMeXchange,TrendForce

BofA GLOBAL RESEARCH

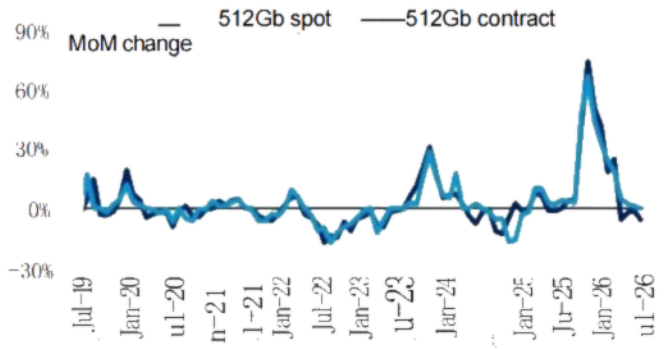
Exhibit 29:Current NAND spot and contract prices are a few times higher than 2025 summer level
512Gb NAND wafer spot vs contract price trend (US$),Jul'19-Jul 26



Source:DRAMeXchange,TrendForce

BofA GLOBAL RESEARCH

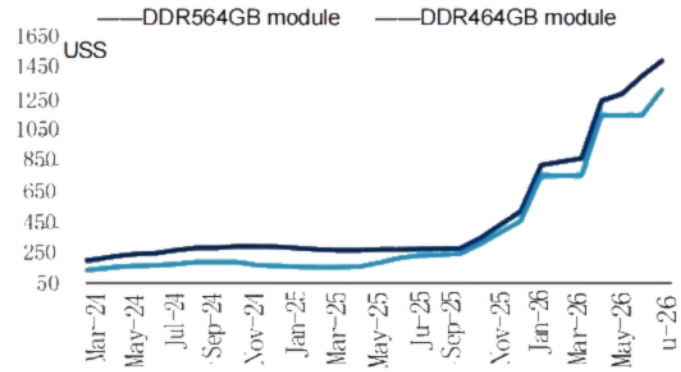
Exhibit 30:NAND spot and contract prices normalized in *Apr/May/Jun/Jul after strong rally during Oct-25-Dec-25(up 40-50%* per month)and Jan-Mar-26(20-30%per month)
512Gb NAND spot vs contract price trend-MoM change,Jul'19-Ju 26



Source:DRAMeXchange,TrendForce

BofA GLOBAL RESEARCH

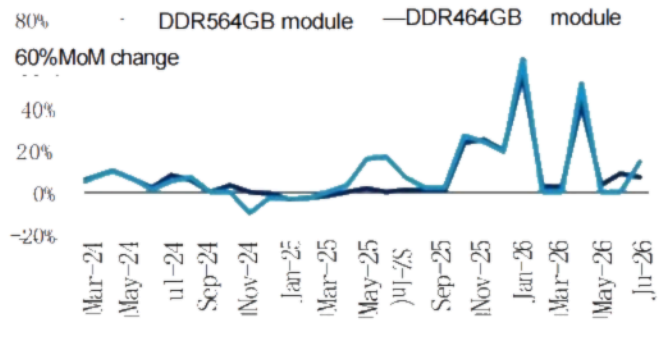
Exhibit 31:Current price of 64GB DDR4/DDR5 modules hit all-time high of more than $1,000 level (DDR5:US$1,480,DDR4:US$1,300)
Server DRAM contract price trend-DDR5 vs DDR4 modules,Feb'24-Jun'26



Source:TrendForce

BofA GLOBAL RESEARCH

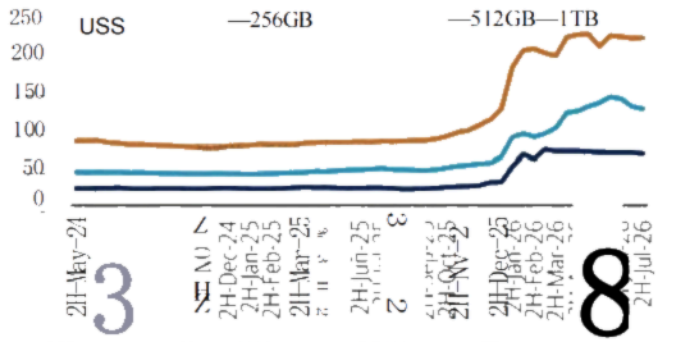
Exhibit 32:DDR5/DDR4 server contract prices recovered+7-15%MoM in July,following a stable May/Jun-26
MoM change of server DRAM contract prices,Feb'24-Jun''26



Source:TrendForce

BofA GLOBAL RESEARCH

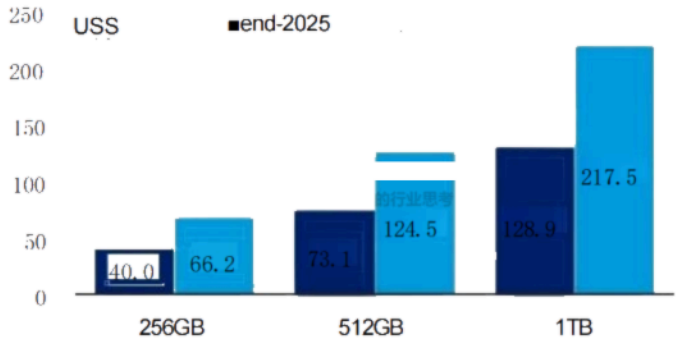
Exhibit 33:Jul SSD prices broadly flat;prices witnessed a sharp surge in 1Q26 and Apr/May(DRAMeXchange),following a gradual upward trend throughout 2025
Client SSD price trend-mostly for PC(not server),Apr'24-Jun '26



Note:SSD prices are as of 31 Jun 2026,reported by DRAMeXchange.TB=terabyte.
Source:DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 34:Jul prices have doubled compared to end-2025 levels, while the 2025 increase was more modest at around 35-40%
Client SSD(for PC)price comparison-current vs.end-2025



Note:SSD prices are as of31 Jun 2026,reported by DRAMeXchange
Source:DRAMeXchange

BofA GLOBAL RESEARCH

Valuation and stock performance

Exhibit 35:Memory stocks have been extremely volatile recently due to earnings miss concern vs solid fundamentals (high margin)and low P/E multiples,but stocks well recovered this week

Valuation comparison among memory and semiconductor supply chain stocks

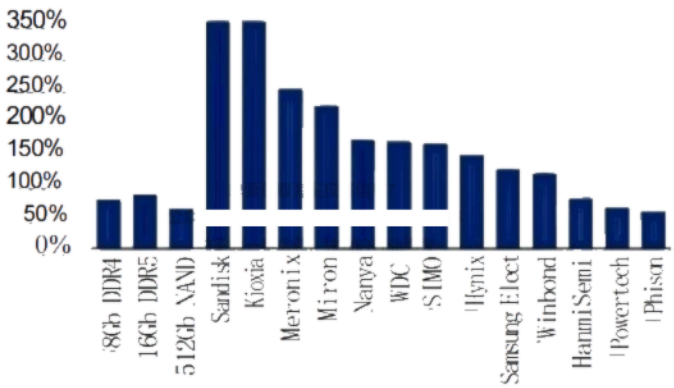
	Ticker	Rating	Price (Local)	Mcap (Sbn)	P/E FY25	P/E FY26E	P/E FY27E	P/Book FY25	P/Book FY26E	P/Book FY27E	EV/EBITDA FY26E	EV/EBITDA FY27E	EV/Sales FY26E	EV/Sales FY27E	ROE FY25	ROE FY26E	ROE FY27E	Div.yied FY26E	Div.yied FY27E
Memory/DRAM																			
SKHynix	HXSCF	C-1-7	1,521,000	817.1	4.4	4.1	4.1	2.9	1.8	1.4	2.5	2.5	2.1	2.0	100.1%	55.7%	38.3%	4.7%	5.9%
Samsung	SSNLF	C-1-7	258,000	1,098.	5.7	4.3	4.5	2.5	1.7	1.3	2.6	2.7	1.6	1.6	53.4%	46.2%	32.0%	4.2%	4.3%
Micron	MU	C-1-7	911.29	1,0292	12.5	6.5	6.3	7.5	3.9	2.8	5.2	5.2	4.3	4.	87.8%	81.0%	54.8%	0.1%	0.1%
Nanya	NNYAF	B-1-7	514.00	55.0	8.2	6.1	7.5	3.9	2.6	2.1	3.8	4.6	2.8	2.9	67.9%	52.0%	31.5%	4.9%	4.9%
Memor/NAND																			
Kioxia	XTYUF	C-1-9	51,800	178.3	5.3	4.1	3.3	4.2	2.1	1.3	2.4	2.0	2.0	1.7	130.5%	67.6%	47.9%	0.0%	0.0%
Sandisk	SNDK	C-1-9	1,344.29	200.3	n/a	5.7	5.1	12.7	3.6	2.1	3.8	3.6	3.2	3.0	88.0%	103.2%	52.1%	0.0%	0.0%
Western Digital	WDC	C-1-7	454.10	166.2	n/a	23.7	14.3	18.7	10.9	6.3	15.9	10.5	8.9	6.0	54.9%	61.3%	58.5%	0.1%	0.1%
SIMO	SIMO	C-1-7	241.31	8.2	20.7	22.7	18.3	6.6	5.4	4.4	15.8	12.9	3.8	3.3	39.1%	27.2%	27.4%	1.2%	1.3%
Phison	PTSNF	C-1-8	2,280.00	15.6	6.3	10.8	16.8	4.2	3.5	3.2	7.6	11.8	1.8	2.	89.2%	36.0%	20.2%	5.0%	0.0%
US/Taiwan semis																			
NVIDIA	NVDA	C-1-7	224.095,423.0		24.7	16.9	12.4	18.4	11.5	7.8	14.3	10.9	9.8	7.5	95.9%	80.3%	69.3%	0.5%	0.6%
AMD	AMD	C-1-9	482.93	788.4	63.4	30.4	20.2	10.6	7.8	5.5	23.8	15.8	8.8	6.1	18.3%	30.3%	34.1%	0.0%	0.0%
Broadcom	AVGO	C-1-7	416.05	1,979.4	35.9	23.2	17.7	18.8	12.1	8.0	18.1	13.9	12.4	9.5	61.3%	65.5%	56.5%	0.7%	0.8%
Intel	INTC	C-1-9	100.95	533.5	68.7	50.2	34.6	4.1	3.8	3.4	17.6	13.8	7.0	6.0	5.9%	7.9%	10.6%	0.0%	0.0%
Arm	ARM	C-2-9	271.87	290.4	122.5	92.5	69.9	26.7	19.8	14.5	70.0	52.2	34.7	26.9	25.1%	25.0%	24.5%	0.0%	0.0%
Qualcomm	QCOM	C-3-7	163.07	171.2	15.5	15.4	13.2	5.9	5.6	4.8	12.5	10.9	4.1	3.6	44.4%	36.9%	38.0%	2.2%	2.2%
TSMC	TSMWF	B-1-7	2,435	1,959.5	22.1	15.9	13.4	8.0	5.6	4.	10.6	9.1	7.9	6.7	43.0%	41.4%	35.3%	1.0%	1.0%
MediaTek	MDTKF	C-1-7	4,225	210.3	61.6	30.7	12.2	15.5	11.1	6.4	24.0	9.9	5.8	2.9	26.1%	41.9%	65.9%	2.6%	6.6%
Equipment																			
ASML	ASMLF	B-1-7	1,567.00	702.0	37.8	26.9	20.8	22.1	16.8	12.5	21.5	16.9	102	8.3	68.0%	70.3%	68.3%	1.0%	1.2%
AMAT	AMAT	B-1-7	548.15	435.2	45.1	33.8	28.1	14.9	10.4	7.7	28.8	24.3	10.5	92	39.0%	36.0%	31.0%	0.4%	0.5%
Lam	LRCX	C-1-7	326.11	408.1	56.0	35.4	27.7	32.7	17.9	13.0	28.7	23.8	11.9	9.7	65.7%	65.5%	54.0%	0.4%	0.4%
TEL	TOELF	C-1-7	59,470	174.8	38.1	25.2	20.6	11.0	8.7	7.1	17.7	14.7	6.4	5.4	31.5%	38.7%	37.9%	2.0%	2.4%
Hanmi Semi	HNSIF	C-1-7	220,500	15.2	65.1	36.4	20.7	22.4	14.9	9.5	27.0	15.2	14.8	8.9	39.4%	48.9%	55.7%	0.9%	1.4%
BESI	BESVF	B-1-7	231.80	21.7	49.9	31.6	21.0	23.5	18.3	13.9	25.0	16.7	12.7	9.1	61.7%	65.6%	75.9%	3.0%	4.2%
ASMPT	ASMVF	C-1-7	169.50	9.1	40.0	25.6	18.0	4.0	3.6	3.2	15.7	11.6	2.5	1.8	10.1%	14.7%	18.7%	1.6%	1.9%

Source:Company reports,BofA Globl Reserch estimates;Mcap=market apialization,ROE=return on equity,Div=dvidend,STR=Restricted,Piceas of latest close.

BofA GLOBAL RESEARCH

Exhibit 36:Memory stocks rebounded this week after a sharp correction through July and early August,which had followed a strong 1H26 rally;prices remain elevated year-to-date-led by NAND and HDD,with sustained strength in DRAM-underpinned by robust AI-driven demand

Memory companies-2026YTD stock performance comparison



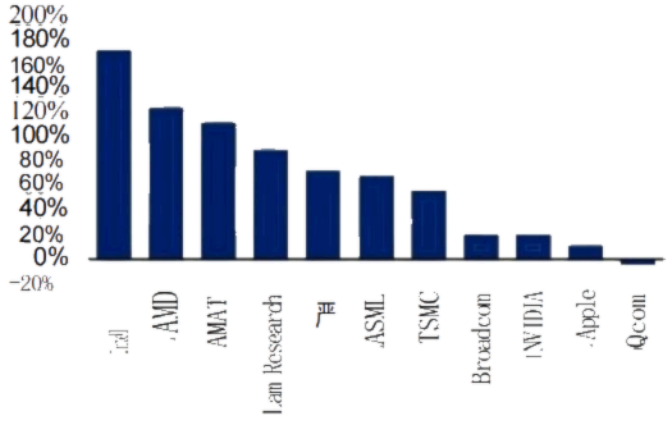
SanDisk shows above 400%YTD return

Source: Bloomberg,DRAMeXchange

BofA GLOBAL RESEARCH

Exhibit 37:CPU names such as Intel and AMD clearly outperforming other US big tech names such as NVIDIA/Apple/QCOM

Global major tech companies-2026YTD stock performance comparison



Source: Bloomberg

BofA GLOBAL RESEARCH

Price objective basis &risk

Phison Electronics(PISNF)
Our PO of NT$4,000 is derived from 24x2027-28E P/E.This is 30-50%higher than historical year-average P/E of mid to high teens.However,Phison's 2026-27 earnings are expected to be 100%+higher than long-term historical average or even compared to the 2025 peak (e.g.,ROE:50%+in 2026vs 10-30%in 2020-25).Key contributors should be memory product price strength,well-secured NAND chip sourcing and growth opportunities in AI ecosystem module solutions(eSSD,aiDAPTIV solutions,boot drive, etc and already accounts for 38%of 1Q26 total sales vs sub-10%in 1Q-4Q25).Upside risk is mostly related to stronger NAND demand/price/margin.Unexpected NAND price correction or downturn should be a downside risk.

Samsung Electronics(SSNLF/SSNHZ)
Our PO of W550,000 is based on 9x2027-28E P/E.This fair P/E of 9x is derived from upper band of previous peak cycle(7-10x,long-term historical average:low-teens)and bottom of proven foundry peer's 2009-2025 P/E band(10-20x),to be conservative (SEC's low EPS growth after 2026 upturn).Our GDR PO of US$9,000 is automatically calculated at an FX rate of near-W1.5k/USD.

Downside risks are mostly related to US Big Tech'unexpected capex cut,excess supply of global memory following 2026-27 capex increase,potential competition with China chipmakers,and market-share loss to Asia/US peers.

Upside risks could come from stronger AI chip demand (from US Big Tech),market-share gains at the expense of Asia/US and even China competitors,more LTAs(long-term agreements)with OEMs/hyperscalers even for 2030,and significantly increasing shareholder returns using record-high FCF generation

Samsung Electronics Preferred(SSNNF)
Samsung Electronics (SEC)has two types of shares,common and preferred.Our PO of W375,000 for the preferred shares is based on a 32%fair discount to the common shares,given no voting rights.However,the dividend amount is almost the same for both types.This offers a higher yield for the preferred shares vs the common.The discount ratio(preferred share price vs common)was c.10%in 2021-22,but it rose to near-20%in 2024-25(undervalued vs the common)and 30%+in 1H26.Having SEC's preferred shares also suggests a direct exposure to memory super-cycle given SEC's global leadership in DRAM,HBM and NAND.

Common share PO of W550,000 is based on 9x 2027-28E P/E.This fair P/E of 10x is derived from upper band of previous peak cycle(7-10x,long-term historical average: low-teens)and bottom of proven foundry peer's 2009-2025 P/E band(10-20x),to be conservative (SEC's low EPS growth after 2026 upturn).

Downside risks are mostly related to US Big Tech'unexpected capex cut,excess supply of global memory following 2026-27 capex increase,potential competition with China chipmakers,and market-share loss to Asia/US peers.

Upside risks could come from stronger AI chip demand(from US Big Tech),market-share gains at the expense of Asia/US and even China competitors,more LTAs(long-term agreements)with OEMs/hyperscalers even for 2030,and significantly increasing shareholder returns using record-high FCF generation.

Silicon Motion(SIMO)

Our PO of US$450 is derived from 38x 2027-28E P/E,which is higher than the historical average (20x),but it is close to the 2023-25 highs(30-50x based on each year-high or 37x on average)In fact,2026-28E sales/OP/ROE is 50%+above the 2023-25 average.

Upside risks:stronger orders of enterprise solutions(boot drive,MontiTan solutions, etc.)from US Big Tech including NVIDIA,M&A deal break-up fee(paid by MaxLinear) which will likely be used for special dividend payments,and a stronger memory super-cycle with more optimistic 2030 TAM.

Downside risks:unexpected memory industry downturn coupled with AI capex cut (among US hyperscalers),competition with Phison Electronics or even NAND chipmakers (Samsung,etc.),geopolitical risks(US tariffs,China exports),and high exposure to commodity NAND products(PC and smartphone storage).

SK Hynix(HXSCF/SKHY)
Our PO of W3,000,000 is derived from 8x2027-28E EPS.Our 8x target P/E is based on the midpoint between the previous peak cycle (4-5x in 2017-18 during the cloud boom) and the long-term historical average (low teens).This is slightly below our fair multiples for global DRAM peers(9-11x)given elevated share-price volatility in 1H26 and July. Investors may be concerned about a potential downturn(2027 or 2028),given the strong 2025-26 earnings results.This is the rationale for using the 2027-28 valuation period and excluding 2026.We believe the company's proven earnings strength in 2026 and estimated record-high earnings in 2027-28,along with its global leadership position and high-margin profile, **will lead to a re-**rating to above 8x fair P/E.Upside risk is stronger-than-expected AI chip demand from US Big Tech,while downside risk also relates primarily to weaker chip demand.

Analyst Certification

We,Simon Woo,CFA and Matt Shin,hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers.We also certify that no part of our respective compensation was,is,or will be,directly or indirectly,related to the specific recommendations or view expressed in this research report.