BERNSTEIN
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Global Memory

MEMORY TRACKER (Jun): Further price rise in June, but with the pace of the rise moderating into 3QCY26


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*This monthly tracker (download dataset **here**) summarizes contract/spot price data released by TrendForce/DRAMeXchange & compares that with our model & investor expectation.*

DRAM: June contract price rose further MoM & indicated 74% QoQ increase for conventional DRAM contract price in 2QCY26.

Spot price: DRAM spot price further increased in June following the recovery in May. PC DRAM spot price rebounded by 5.6-11.5% MoM while server DRAM was up 6.1-26.4% MoM. Notably, spot price of Server DDR5 was particularly strong in the past month, but we expect the volume is too small to move the needle.

Contract price: DRAM contract prices in June rose further vs. May & indicated 2QCY26 price to be 74% higher than 1QCY26, with 49% for PC, 67% for Server, ~80% for Mobile & ~85% for Consumer. Notably, price increase is still expected to decelerate into 3QCY26. On LTA, suppliers have mostly concluded the negotiations with US CSPs. TrendForce observed that the price ceiling of LTA may be higher for other suppliers, but for Micron may be near its 2QCY26 level, as Micron prefers longer contract durations. Discussion with Chinese CSPs will continue into 3QCY26.

NAND: Wafer contract price was only slightly higher MoM, but the overall 2QCY26 NAND price increase will be supported by SSD and mobile NAND.

Spot price: Unlike DRAM spot price, NAND wafer spot price further dropped by 3-4% in June after a stable May though wafer is a small portion of the NAND market.

Contract price: Wafer contract price was up only 0.3-3.7% MoM, but the overall 2QCY26 NAND contract price is still expected to rise by ~60% vs. 1QCY26, thanks to c. 70-80% price increase in Mobile NAND & SSD, & c. 24-29% increase for wafer. Similar to DRAM price, NAND price is also expected to continue rising but at a narrower pace into 3QCY26.

In summary, both DRAM & NAND contract prices rose mildly MoM and still indicated a major price increase for 2QCY26. Server demand continued to absorb incremental supply allocated by suppliers, while demand destruction in consumer segment has been more limited than feared due to pulled-forward purchases. Spot price also appeared to be stabilizing. Nevertheless, we still believe demand destruction in consumer segment will eventually happen & the pace of the price increase should narrow notably into 3QCY26. LTAs can reduce the impact of a correction, and we expect more clarity on these LTAs as more are signed. We model memory prices to gradually peak & begin to normalize from 2HCY27 and into CY28. See **Global Memory: Memory becoming a burden of AI too?** and **Memory: What do New Memory LTAs mean for sustainability of earnings and multiples? Raising SNDK TP to $3000** for details.

See the Disclosure Appendix of this report for required disclosures, analyst certifications and other important information. Alternatively, visit our Global Research Disclosure Website.

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BERNSTEIN TICKER TABLE

			7 Jul 2026		TTM	Reported EPS				Reported P/E (x)	
Ticker	Rating	Cur	Closing Price	Price Target	Rel. Perf.	Cur	2025A	2026E	2027E	2025A	2026E	2027E
005930.KS (SEC- Samsung)	O	KRW	291,000	440,000	338.6%	KRW	6,611.53	48,393	77,273	44.0	6.0	3.8
005935.KS (SEC-Pref - Samsung)	O	KRW	199,300	374,000	251.7%	KRW	6,611.53	48,393	77,273	30.1	4.1	2.6
SMSN.LI (Samsung)	O	USD	4,714.00	7,350.00	286.4%	USD	116.15	812.39	1,290.80	40.6	5.8	3.7
000660.KS (SK hynix)	O	KRW	2,167,000	3,300,000	633.1%	KRW	60,341	395,677	568,862	35.9	5.5	3.8
MU (Micron)	O	USD	938.38	1,300.00	662.1%	USD	8.29	67.39	158.99	113.2	13.9	5.9
285A.JP (KIOXIA)	U	JPY	72,400	40,000	2699.5%	JPY	1,014.00	10,013	9,656.84	71.4	7.2	7.5
SNDK (SanDisk)	O	USD	1,617.70	3,000.00	3457.0%	USD	2.99	65.43	243.73	541.0	24.7	6.6
ASIAX			1,945.70									
EM			1,806.44									
SPX			7,503.85									

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

MU, SNDK estimate is Adjusted EPS; MU, SNDK valuation is Adjusted P/E (x);

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

Samsung Electronics: We rate Samsung Electronics Outperform with price target of KRW 440,000.

SK hynix : We rate SK hynix Outperform with price target of KRW 3,300,000.

Micron: We rate Micron Outperform with price target of US$1,300.00.

KIOXIA: We rate KIOXIA Underperform with price target of JPY 40,000.

SanDisk: We rate SNDK Outperform with a price target of $3,000.00

DETAILS

*TrendForce (who publishes research on memory market & also maintains DRAMeXchange for memory spot market) has released the Jun 2026 contract prices for DRAM & NAND covering different applications (dataset can be downloaded at **Memory Price Tracker**). We select mainstream products from each segment, apply different weights on them to derive an industry average price change. SSD & HBM are not in the samples but will be additionally considered so that we can compare the overall ASP with our projection. Spot price is noisy but we also summarize some spot price data as it can be a leading indicator of contract price. Please feel free to find our **most recent market review** and download our industry and company models from the links below.*

- ***CoWoS/HBM Model***
- ***DRAM Industry Model***
- ***NAND Industry Model***
- ***Samsung Electronics Model***
- ***SK hynix Model***
- ***Micron Model***
- ***KIOXIA Model***
- ***SanDisk Model***

June contract price rose further from May and suggested in 2QCY26 conventional DRAM ASP will be 74% above 1QCY26.

- **Spot price:**
  - **PC DRAM**: PC DRAM chip spot price further increased in June, up by 5.6% and 11.5% MoM for DDR4 and DDR5, respectively (Exhibit 1, Exhibit 3, Exhibit 4, Exhibit 5, Exhibit 6). Distributors had sold some inventory earlier, and that caused spot price to correct somehow. However, it appeared that the supply released from this has been digested, and spot price hence stabilized & further rose in June.
  - **Server DRAM**: Server DRAM module spot price was up by 6.1-26.4% MoM, in which DDR5 was particularly strong (Exhibit 1, Exhibit 11, Exhibit 12). Similar to PC DRAM chip spot pride, server DRAM module spot prices had seen some drop previously, but they have stabilized and further increased during the past two months. Overall spot prices remained considerably above contract prices, especially for DDR5 modules, and thus still indicated shortage in the market. With AI demand staying robust, we don't think spot prices will fall off a cliff any time soon.

- **Contract price**:
  - **Average**: Overall, taking a weighted average of multiple samples, we find contracts set in June indicated conventional DRAM prices to rise by 74% QoQ in 2QCY26, c. 10 pts higher than what the May contracts indicated (Exhibit 1). This is also above our current model, though the actual company reported ASP may differ due to changing mix among PC, Mobile, server, etc., and also the balance from steadier HBM price that is largely set by annual contracts. Thus, the weighted average contract price increase here may not match the increase reported in company earnings releases but does serve as an important indication for where the market is heading.
  - **PC DRAM**: Contract price in June was slightly up MoM, and indicated 2QCY26 contract price to be 51% higher QoQ (Exhibit 1, Exhibit 3, Exhibit 7). Most PC OEMs had finished price negotiation for 2QCY26 in Apr hence June's overall DRAM module prices only increased marginally over May. Demand stayed more resilient than expected, and good demand for MacBook Neo & promotion of Microsoft were two of the reasons. DRAM chip contract prices also rose MoM, though

module houses were shifting production to server DRAM modules. Looking ahead to 3QCY26, TrendForce raises price expectation to 15-20% QoQ increase. That is more than the 8-13% increase forecast previously, but still represents a notable deceleration from the hike of 45-50% in 2QCY26.

  - **PC DDR4:** PC DDR4 chip contract price moderately rose by 5% MoM, on par with DDR5 chips, though DDR4 module was flattish (Exhibit 5,Exhibit 8,Exhibit 9,Exhibit 10). DDR4 price increase has been primarily driven by Nanya (2408 TT, not covered), which is becoming the main supplier of DDR4. Demand is still resilient driven by low-end PCs and consumer applications. Hence price is likely to stay robust and possibly stronger than DDR5.

- **Server DRAM:** June server DRAM contract price went up MoM by 0-9.1%, and indicated 2QCY26 price to be 60% higher than 1QCY26 (Exhibit 1, Exhibit 11, Exhibit 13). While SK hynix and Micron had largely concluded price negotiations in Apr, Samsung continued to push for higher prices, and likely will be ahead of other suppliers in 2QCY26 price. Vendors continued supplying more server DRAM, through allocating capacity from other segments to server DRAM, and also from wafer capacity released from the delayed HBM4 ramp. Any increased supply was however quickly absorbed by demand especially low capacity (<64GB) RDIMM for CPU servers. US CSPs continued to be the key customers and enjoy priority supply. Micron's LTA price ceiling is near its are contract price level, while Samsung & SK hynix's LTA price ceiling may be higher, according to TrendForce. Chinese CSPs were still in discussion for LTA but likely won't get as much fulfillment or as favorable terms as US CSPs. At the same time, Chinese CSPs will seek supply from domestic suppliers in addition. Looking ahead to 3QCY26, TrendForce expects price to rise by 13-18% QoQ.

  - **Server DDR4:** Server DDR4 contract price was unchanged MoM, vs +9% from DDR5 (Exhibit 12,Exhibit 14). And hence DDR5's premium over DDR4 expanded slightly to 22% (Exhibit 15). DDR4 likely will remain in shortage with supply EOL from large suppliers. However, DDR5 was likely already over 90% of the market into 2QCY26 and hence should be the focus.

- **Mobile DRAM:** TrendForce updates Mobile DRAM contract price data only in the first month of a quarter. 2QCY26 contract price should have been finalized by the end of May. So far Samsung and Micron have asked for 80%+ increase over 1QCY26, while SK hynix's initial provisional ask was more lenient at 55-60%. With that, TrendForce expects 2QCY26 Mobile DRAM contract price to eventually arrive at close to 80% QoQ increase, with LPDDR5 rising more than LPDDR4 (Exhibit 1, Exhibit 16, Exhibit 17, Exhibit 18). After two quarters of unprecedented price surge, smartphone OEMs are adjusting their production plan and also memory usage. Now TrendForce expects smartphone unit to drop by 16% this year with 2QCY26 dropped by more than 10% YoY. The shortage is relatively more benign for LPDDR4, as CXMT and SK hynix are still providing supply, & low to mid-end smartphones, which mainly use LPDDR4, are cut more than high-end ones that use LPDDR5.

- **Specialty DRAM:** Specialty DRAM contract price moved up meaningfully, by 8.3-13.6% MoM, in June, and June contracts indicated 2QCY26 to be 105-108% higher vs. 1QCY26 (Exhibit 1, Exhibit 19). Supply for legacy products was increasingly coming from Taiwanese suppliers and remained significantly below demand. TrendForce did observe some de-spec-ing among consumer OEMs, who were degrading to lower densities or earlier generations (DDR3) to reduce cost. It is however offset by more demand from AI related applications like network switch & Server SSD and Auto applications which are also equipped with legacy DRAM. TrendForce now expects the contract price for DDR3/DDR4 to rise 35-40%/28-33% QoQ in 3QCY26, respectively.

- **In summary, contract price further rose MoM in June and hence still indicated a strong contract price increase in 2QCY26 for conventional DRAM. However into 3QCY26, price increase is expected to decelerate significantly to 13-18% QoQ, as PC, mobile & consumer segment demand shrink. LTAs likely have been signed with some US CSPs and likely still in discussion for China CSPs and some consumer customers. And the ceiling price, if agreed in LTAs, may imply further ASP increase will be increasingly more from transactions not covered of the ceiling. Overall the shortage remains and price likely can remain strong into CY27, but we believe it should start to dip from 2HCY27 and into CY28, as more LTAs become effective Y& more capacity is brought online. See Global Memory: Memory becoming a burden of AI too? for details**.

NAND wafer contract price rose moderately MoM in June, but with prices of mobile NAND and SSD still strong, the blended NAND contract price in 2QCY26 should increase ~60% QoQ in 2QCY26. The pace of the price hike is also expected to narrow notably in 3QCY26.

- **Spot price**:

  - **NAND Wafer:** June NAND wafer spot price dropped by 3.3% MoM following almost flattish May (Exhibit 2, Exhibit 20, Exhibit 21). At the end of June spot price was close to 20-25% below contract price, but we are mindful that wafer is a small part of the overall NAND market and spot wafer even smaller.

- **Contract price:**

  - **Average**: Taking the average of multiple samples of NAND wafer and eMMC/UFS, we find contracts set in June indicated 42% QoQ NAND price increase from 1QCY26 to 2QCY26 (Exhibit 2). However, our samples don't include client and enterprise SSDs and over-considers NAND wafer. We understand the price hike of SSDs in 2QCY26 may be as much as 70%, similar to that of mobile NAND. Considering that, we think c. 60% should be a more accurate estimate for the blended contract price QoQ increase for 2QCY26, and it is slightly ahead of our forecast too. Still actual company reported 2QCY26 ASP may differ as product mix changes can have a significant impact on blended ASP.

  - **NAND Wafer:** NAND wafer contract price increase continued but only moderately at 0.3-3.7% MoM in June. Compared to 1QCY26, June contract price was higher by 24-29% (Exhibit 20, Exhibit 21, Exhibit 22, Exhibit 23). The moderating pace was mainly because module houses were getting cautious about buying wafers at such elevated prices. While prices still had strong support from limited supply of wafers, further price hikes will be increasingly difficult as TrendForce also observed continued reduction in purchase volume in wafers by module makers.

  - **eMMC/UFS**: 2QCY26 Mobile NAND contract price will rise by ~75-80% QoQ per TrendForce (Exhibit 24,Exhibit 25). The increase will be primarily driven by supply shortage as eSSD demand consumed more of supply. Smartphone OEMs were turning more cautious in their demand & expect consumer demand to weaken as they pass memory cost downwards. Going forward, though eSSD demand is expected to keep supply tight, further attempts of price hike will likely be met with more smartphone demand destruction in 2HCY26. As a result price increase is expected to decelerate significantly to grow 5-10% QoQ in 3QCY26.

- **In summary, wafer price rose at a slowing pace, but the increase in UFS and SSD was strong enough to make the overall NAND blended price likely to rise c. 60% QoQ in 2QCY26. However, similar to DRAM price, NAND price increase is also expected to continue but at a notably decelerating pace in 3QCY26. Broadly we expect shortage to sustain into CY27 and NAND price to gradually normalize starting from 2HCY27 and into CY28, when more LTAs become effective & more capacity will be brought online. Structurally we remain more cautious on NAND, due to more competition from China (details in our deep dive on YMTC).**

Our industry average is derived from an average of multiple memory products used in different applications, weighted by their contributions to the overall market, and with the weights on DDR5 & LPDDR5 regularly adjusted to reflect its penetration. HBM & SSD are not in our samples & are considered separately.

- Our average DRAM contract price change mentioned above is a weighted average of multiple applications, with Mobile, Server, PC and Specialty DRAM accounting for 34%, 34%, 9% and 15%, respectively. And within PC DRAM, we include both DRAM chips and DRAM module prices in our samples, assuming 10%/90% weight for chips/modules (Exhibit 26). Additionally, the weights assigned to DDR5 & LPDDR5 will be adjusted according to their adoptions. For NAND, the average is based on a weighted average of eMMC/UFC (40%) and NAND wafer (60%) (Exhibit 27). We then additionally discuss the influence of HBM & SSD as they're not in our samples.

EXHIBIT 1: **June DRAM contract price grew mildly MoM indicated another 74% QoQ increase for 2QCY26 conventional DRAM price.**

		Price at End of Month						Quarterly Avg		
					MoM					
DRAM		Apr-26	May-26	Jun-26	Apr-26	May-26	Jun-26	1QCY26	2QCY26	QoQ
Spot Price (US$/GB)										
PC DRAM	DDR4 8Gb Chip	32.5	34.1	36.0	-4.4%	5.0%	5.6%	31.2	33.3	6.7%
	DDR5 16Gb Chip	19.5	21.0	23.4	4.2%	7.4%	11.5%	18.6	20.0	8.0%
Server DRAM	DDR4 64GB RDIMM*	22.4	23.1	24.5	10.4%	3.1%	6.1%	15.4	23.1	50.1%
	DDR5 64GB RDIMM*	35.0	35.5	44.9	-6.7%	1.6%	26.4%	30.4	38.1	25.1%

		Prior Price			Price for 2QCY26			2QCY26 Over 1QCY26		
DRAM		4QCY25	1QCY26	QoQ	Apr-26	May-26	Jun-26	Apr-26	May-26	Jun-26
Contract Price (US$/GB, except the price of uMCP & eMCP is module price)										
PC DRAM	DDR4 8Gb Chip	8.1	12.5	53.7%	16.0	20.0	21.0	28.0%	60.0%	68.0%
	DDR5 16Gb Chip	8.2	14.9	82.7%	17.5	18.8	20.0	17.3%	25.7%	34.1%
	DDR5 16GB UDIMM*	4.1	8.7	111.7%	12.6	12.8	13.1	45.0%	47.8%	50.7%
	DDR4 16GB UDIMM*	4.6	10.3	124.5%	14.2	14.2	14.2	37.6%	37.6%	37.6%
	DDR4 8GB UDIMM*	4.9	10.6	117.9%	14.9	14.9	14.9	40.0%	40.0%	40.0%
Server DRAM	DDR5 96GB RDIMM*	6.9	13.9	100.0%	20.4	21.0	22.9	47.5%	51.9%	65.4%
	DDR5 64GB RDIMM*	6.6	13.0	95.1%	19.1	19.8	21.6	47.5%	52.6%	66.5%
	DDR5 48GB RDIMM*	7.1	13.8	95.1%	20.4	21.1	23.0	47.5%	52.6%	66.5%
	DDR4 64GB RDIMM*	5.8	11.5	97.3%	17.6	17.6	17.6	52.7%	52.7%	52.7%
Mobile DRAM	LPDDR5 16GB Discrete	4.0	6.3	58.3%		11.4			80.6%	
	LPDDR5 12GB Discrete	4.0	6.3	58.6%		11.4			80.2%	
	LPDDR4X 8GB Discrete	3.9	6.2	57.1%		10.6			71.7%	
	LPDDR4X 4GB Discrete	3.9	6.2	56.9%		10.6			71.8%	
	uMCP (LPDDR4X 64Gb+NAND 128GB)**	40.9	65.7	60.7%		116.6			77.6%	
	eMCP (LPDDR4X 32Gb+NAND 64GB)**	20.9	34.8	66.7%		76.7			120.2%	
Specialty DRAM	DDR4 4Gb	7.0	12.7	81.0%	20.0	24.0	26.0	57.9%	89.5%	105.3%
	DDR3 4Gb	5.9	12.0	102.2%	20.0	22.0	25.0	66.7%	83.3%	108.3%
Weighted Average		**5.4**	**10.1**	**85.7%**	**15.8**	**16.6**	**17.6**	**56.5%**	**63.6%**	**73.9%**
Bernstein Estimate (Blended ASP, inc HBM)****										
Samsung		4.9	9.5	92.6%		14.9			56.7%	
SK hynix		5.1	8.3	63.5%		12.5			50.7%	
Micron***		4.3	7.1	65.0%		10.7			50.4%	
Weighted Average		**4.8**	**8.5**	**75.4%**		**13.0**			**53.2%**	

*: DIMM = Dual In-line Memory Module; UDIMM (Unbuffered DIMM) is the DIMM mostly for desktop PC; RDIMM (Registered DIMM) is mostly for server
**: eMCP (Embedded Multi-Chip Package) is mostly used in mobile applications & is a package standard that extends the eMMC standard (which consists of NAND & controller) to include DRAM too in the package. uMCP (UFS + MCP) is similar to eMCP but replace eMMC with UFS. Their prices include the DRAM, NAND & controller in the package but are classified as part of DRAM statistics as DRAM contributes more value.
***: Micron's quarter ends a month earlier.
****: Our models were last updated in Jun 2026.

Source: DRAMeXchange, Bernstein estimates and analysis

EXHIBIT 2: **Our sample for NAND only includes wafer and eMMC/UFS, which together rose by 41.5% QoQ in June. However we understand SSD contract price likely also went up ~70% QoQ, and with that included overall NAND contract price likely increased by ~60% vs 1QCY26.**

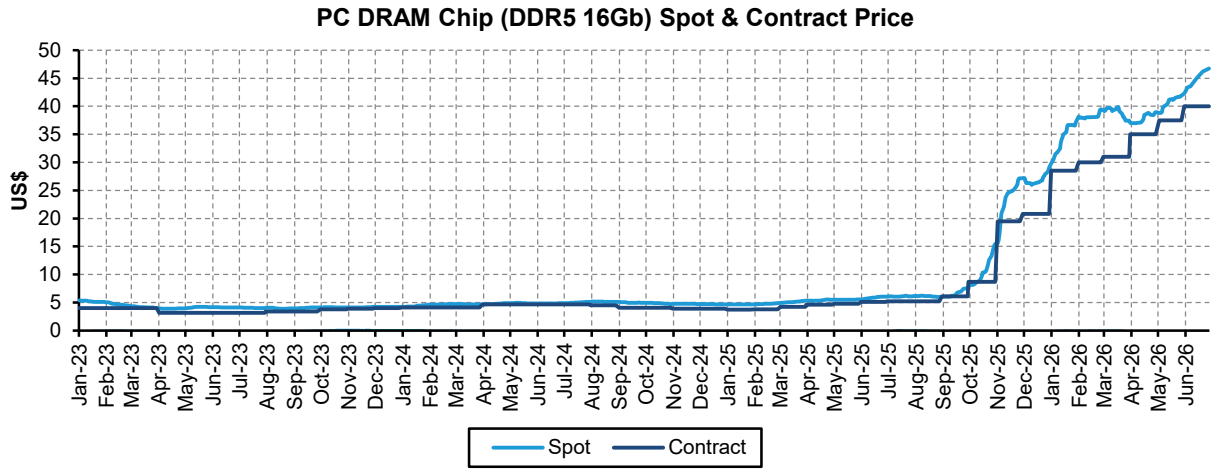
		Price at End of Month						Quarterly Avg		
					MoM					
NAND		Apr-26	May-26	Jun-26	Apr-26	May-26	Jun-26	1QCY26	2QCY26	QoQ
Spot Price (US$/GB)										
NAND Wafer	1Tb 3D TLC/QLC	0.197	0.197	0.190	-7.4%	0.2%	-3.3%	0.177	0.197	11.0%
	512Gb 3D TLC	0.322	0.323	0.310	-7.1%	0.2%	-3.8%	0.294	0.322	9.6%

		Prior Price			Price for 2QCY26			2QCY26 Over 1QCY26		
NAND		4QCY25	1QCY26	QoQ	Apr-26	May-26	Jun-26	Apr-26	May-26	Jun-26
Contract Price (US$/GB)										
NAND Wafer	1Tb 3D QLC	0.091	0.191	109.2%	0.232	0.236	0.237	21.6%	23.7%	24.1%
	1Tb 3D TLC	0.099	0.197	98.6%	0.240	0.244	0.253	21.5%	23.7%	28.4%
	512Gb 3D TLC	0.134	0.312	132.2%	0.389	0.398	0.403	24.7%	27.7%	29.2%
eMMC/UFS*	512GB UFS	0.067	0.132	97.2%		0.238			80.0%	
	256GB UFS	0.068	0.131	91.9%		0.236			80.0%	
	128GB TLC eMMC	0.067	0.131	97.3%		0.231			75.4%	
Weighted Average		**0.092**	**0.193**	**109.6%**	**0.266**	**0.270**	**0.273**	**38.1%**	**40.0%**	**41.5%**
Bernstein Estimate (Blended ASP, inc eSSD)****										
Samsung		0.083	0.156	88.5%		0.259			66.0%	
SK hynix		0.104	0.168	62.5%		0.279			66.0%	
Micron**		0.079	0.141	78.0%		0.232			65.0%	
KIOXIA		0.051	0.107	110.9%		0.178			66.0%	
SanDisk		0.101	0.242	139.9%		0.290			20.0%	
Weighted Average		**0.081**	**0.155**	**91.6%**		**0.245**			**57.5%**	

*: eMMC (Embedded Multi Media Card) is a standard that packages NAND dies & controller together. UFS (Universal Flash Storage) is an enhancement over eMMC.
**: Micron's quarter ends a month earlier.
****: Our models were last updated in Jun 2026.

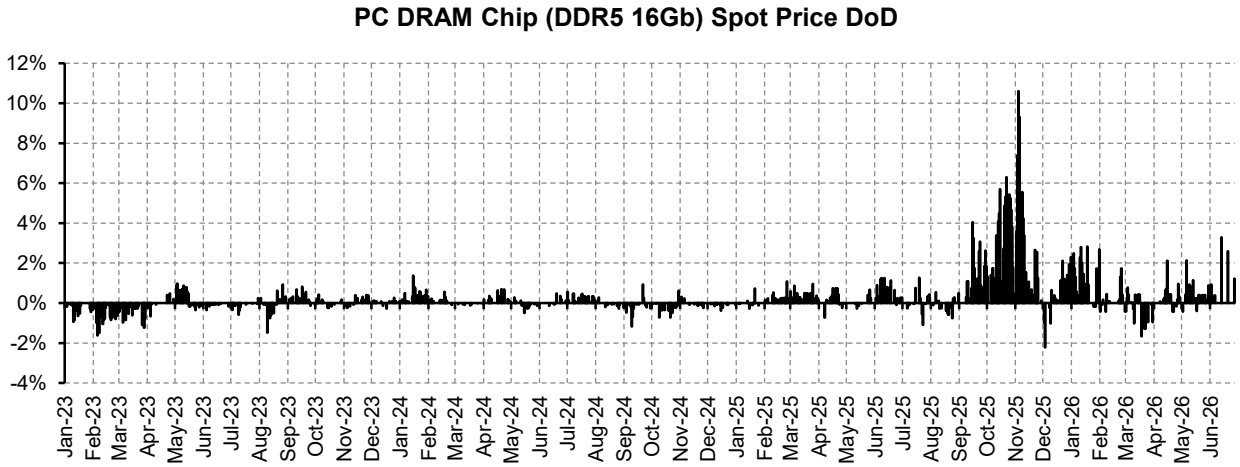
Source: DRAMeXchange, Bloomberg, Bernstein estimates and analysis

EXHIBIT 3: **PC DDR5 DRAM chip spot price recovered further in June and has reached new peak.**



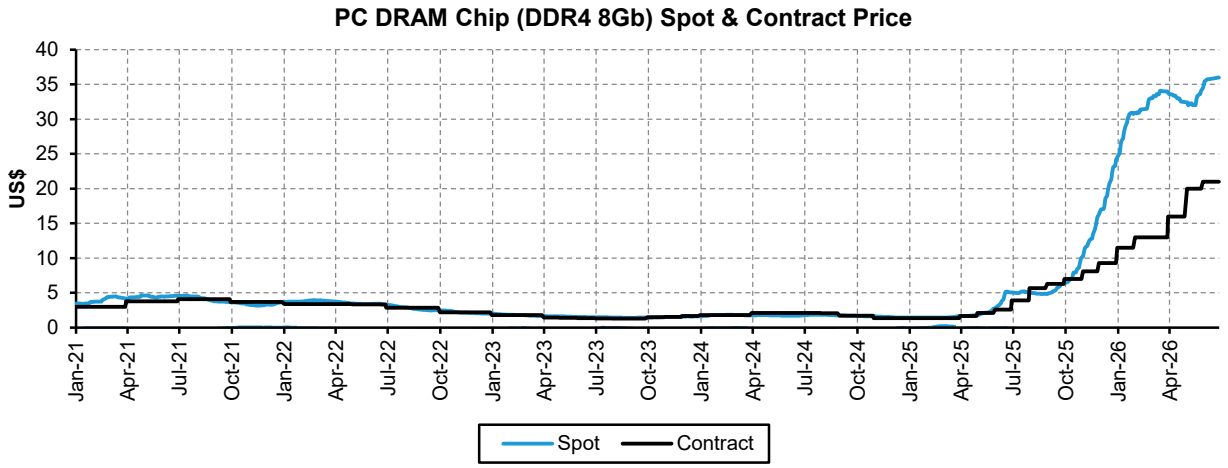
Source: DRAMeXchange and Bernstein analysis

EXHIBIT 4: **PC DDR5 chip spot price saw some correction in late Mar, likely as some distributors took profit by releasing some inventory, but it has since returned to growth as those inventory were quickly digested by module houses.**



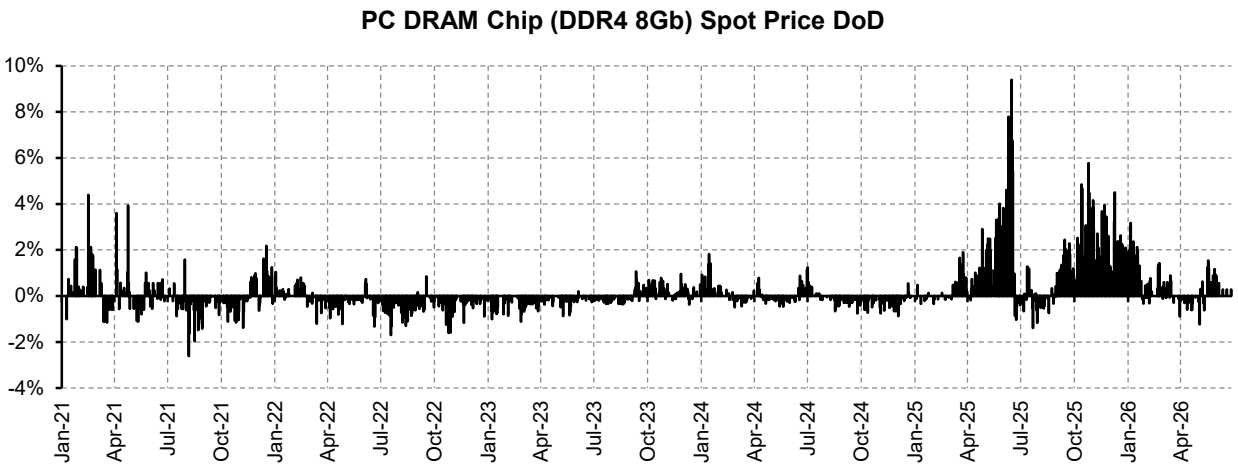
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 5: **PC DDR4 chip spot price dipped moderately in Apr but also recovered in May, and reached a new peak as well in June.**



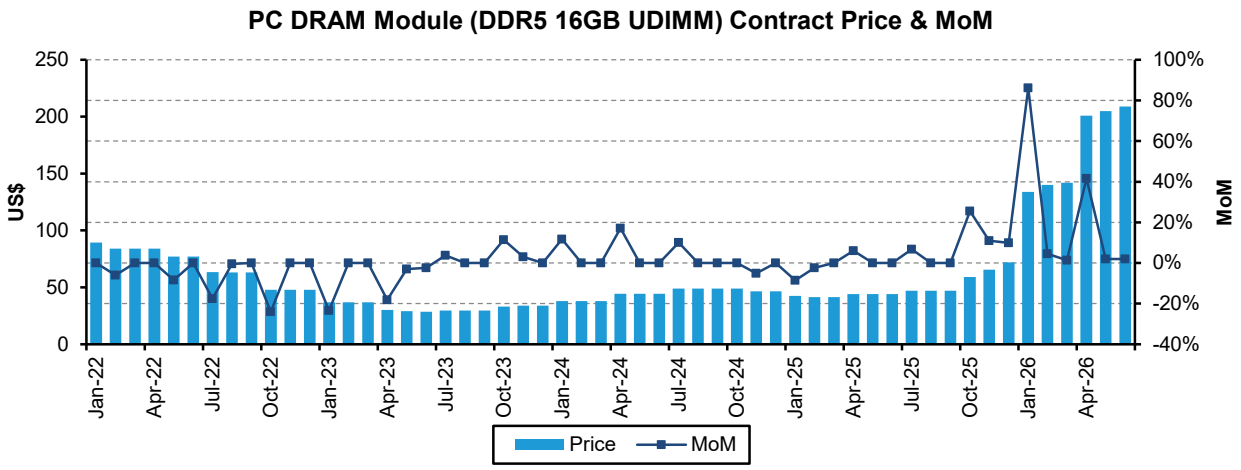
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 6: **PC DDR4 spot price saw growth return in June though at a more moderate pace vs. May.**



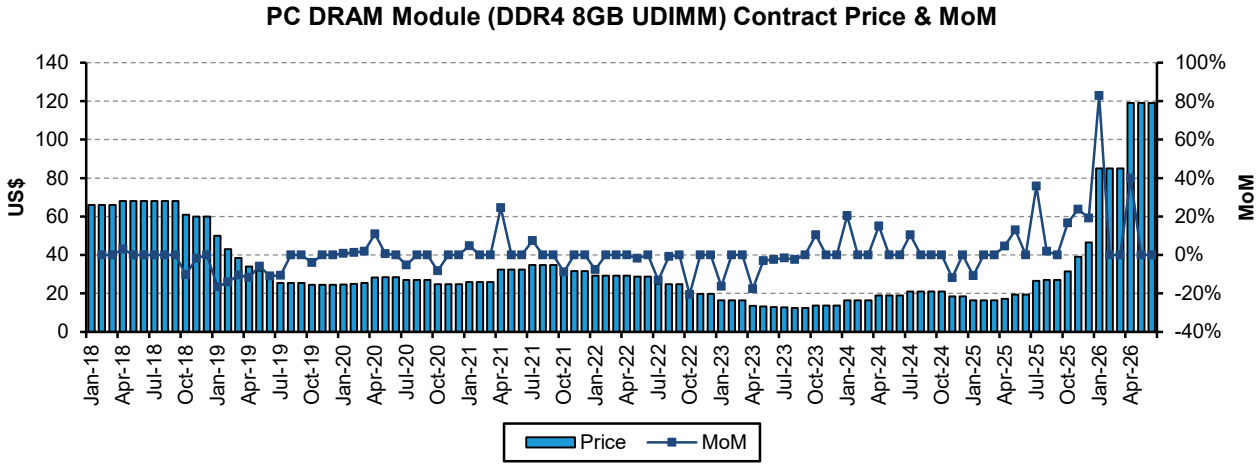
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 7: **PC DDR5 module contract price increased by 2% MoM in June as most of contract negotiations had been done in Apr.**



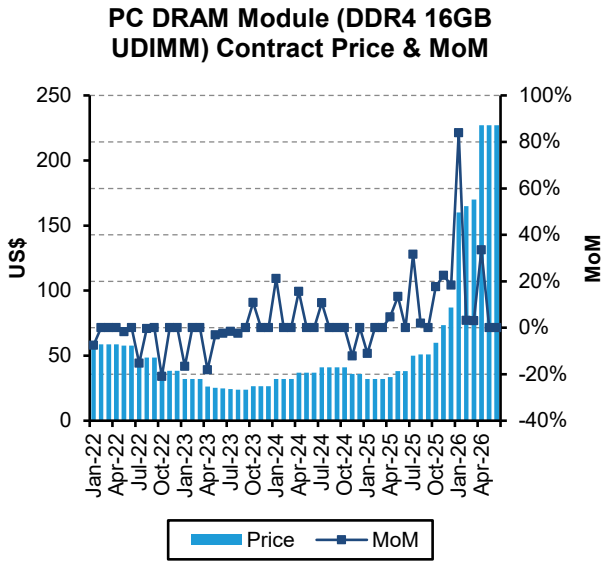
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 8: **PC DDR4 module contract price was unchanged in June.**



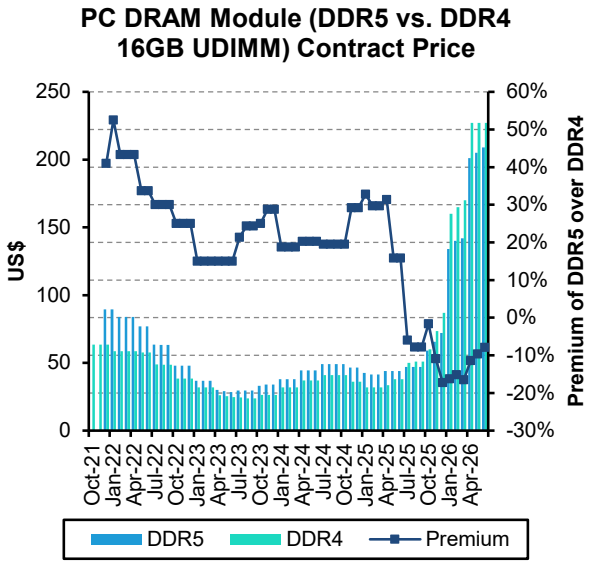
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 9: **16GB DDR4 modules contract price was also flat MoM.**



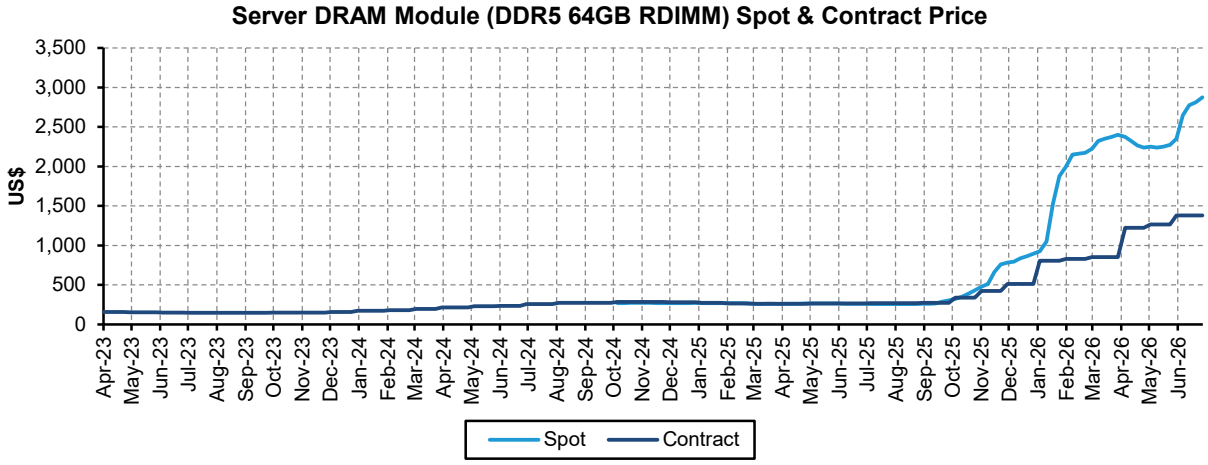
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 10: **PC DDR5 price discount vs. DDR4 narrowed slightly to 8%.**



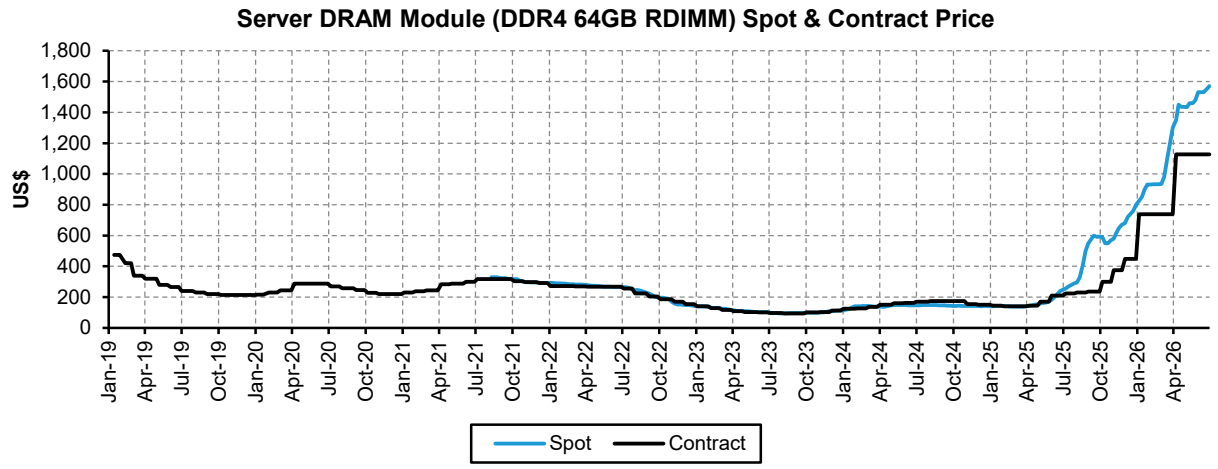
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 11: **Server DDR5 module spot price further grew in June and remained far above contract price.**



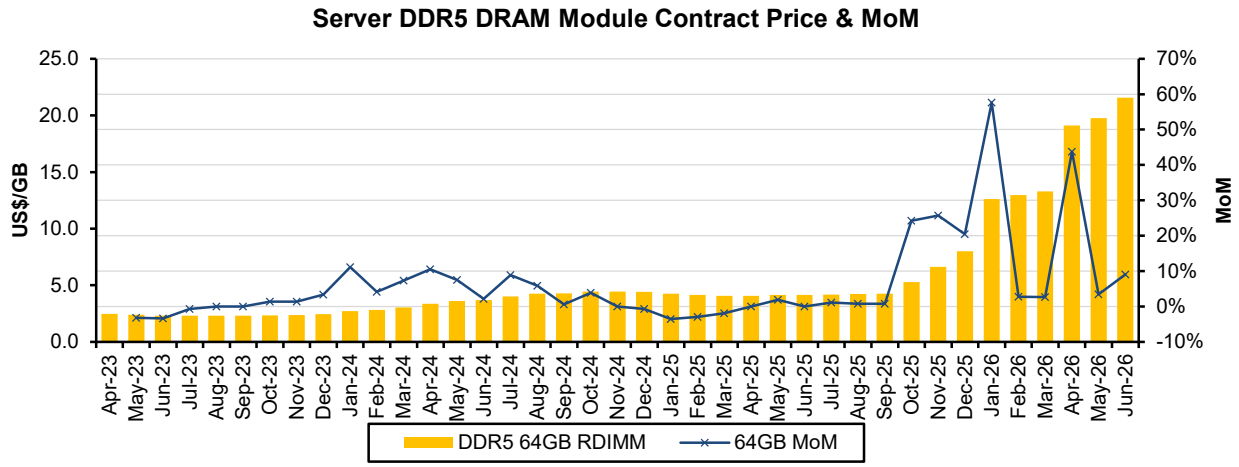
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 12: **Server DDR4 module spot price generally remained very robust.**



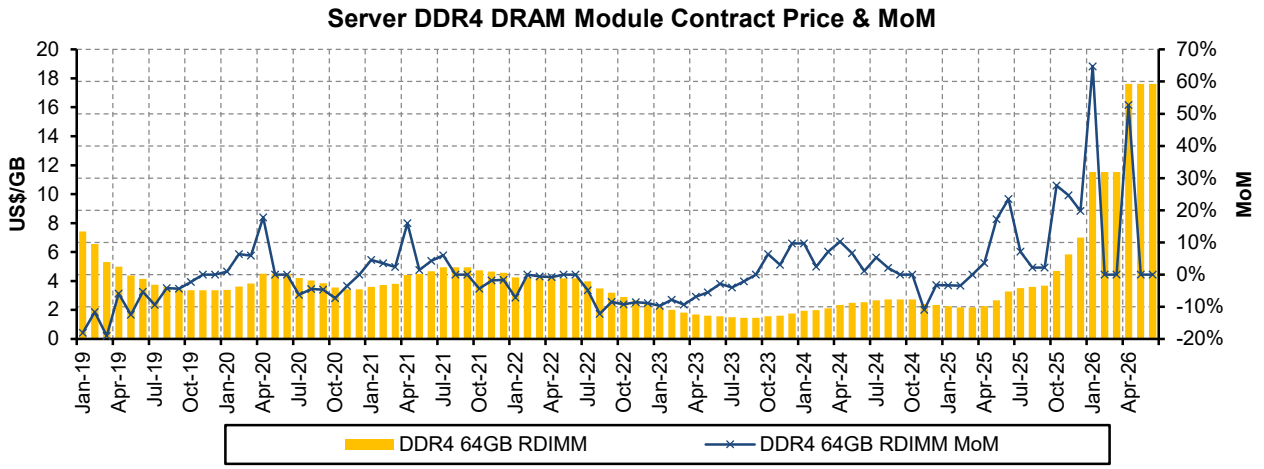
DRAMeXchange started to track server spot price in Aug 2021 as its trading volume became meaningful.
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 13: **June server DDR5 module contract price rose by 9.1% MoM, as most contract prices had been settled in the Apr.**



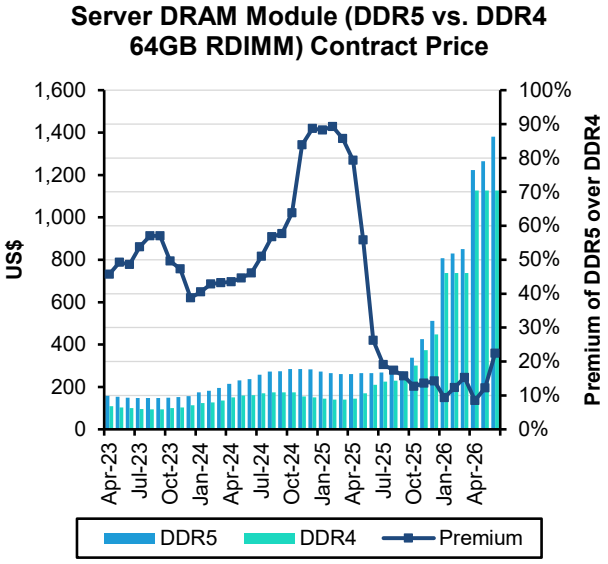
Source: DRAMeXchange and Bernstein analysis

EXHIBIT 14: **Server DDR4 module contract price was also unchanged MoM.**



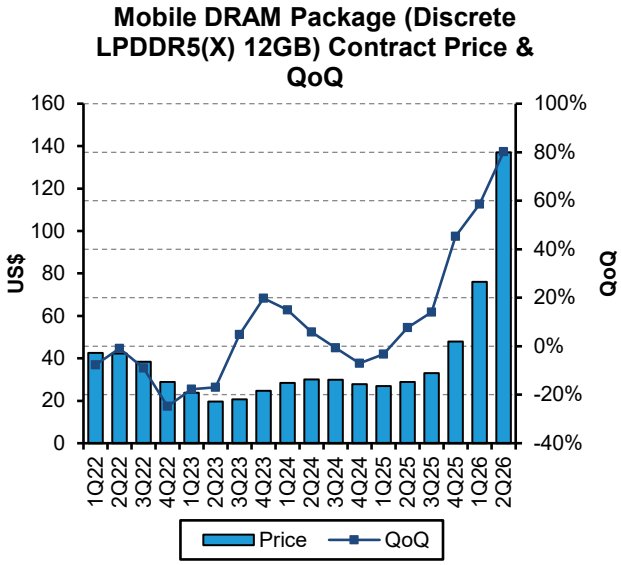
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 15: **Server DDR5 premium over DDR4 increased to 22% in June.**



Source: DRAMeXchange and Bernstein analysis

EXHIBIT 16: **LPDDR5 contract price was estimated to surge by 80% QoQ in 2QCY26.**



Source: DRAMeXchange and Bernstein analysis

EXHIBIT 17: **LPDDR4 price should also rise by 72% QoQ.**

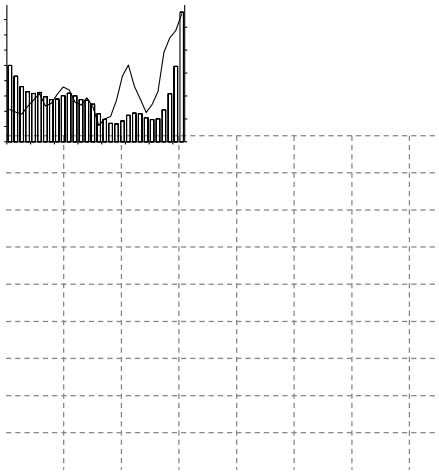
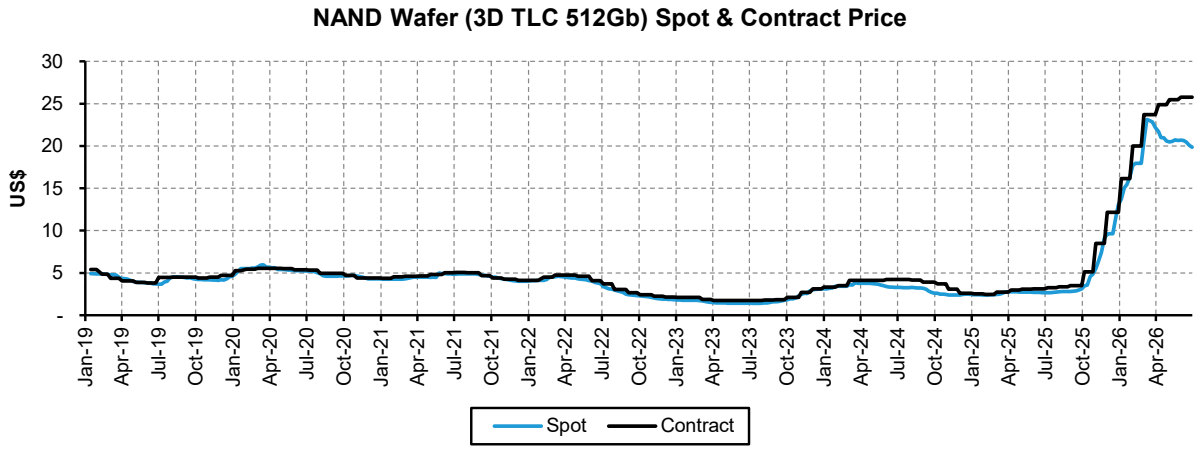
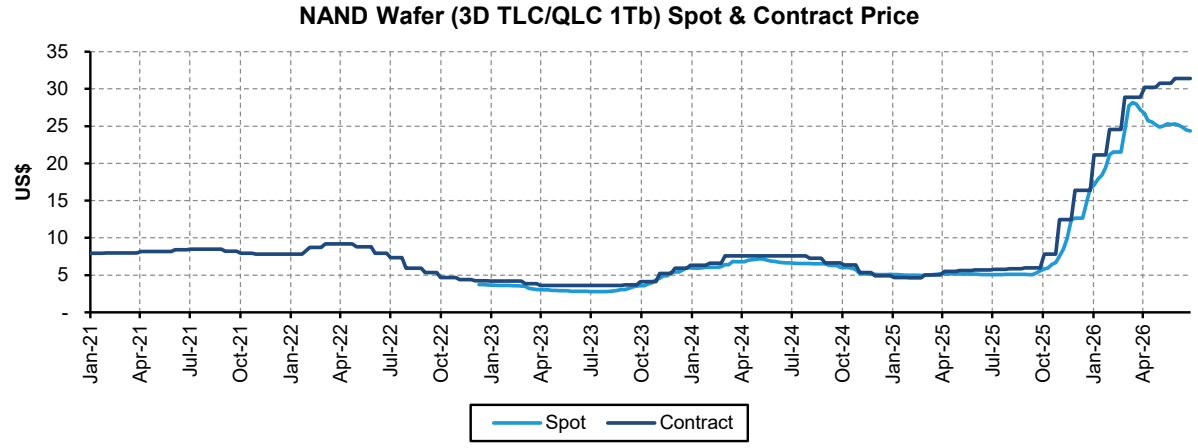


EXHIBIT 20: **NAND 512Gb spot price further decreased in June.**



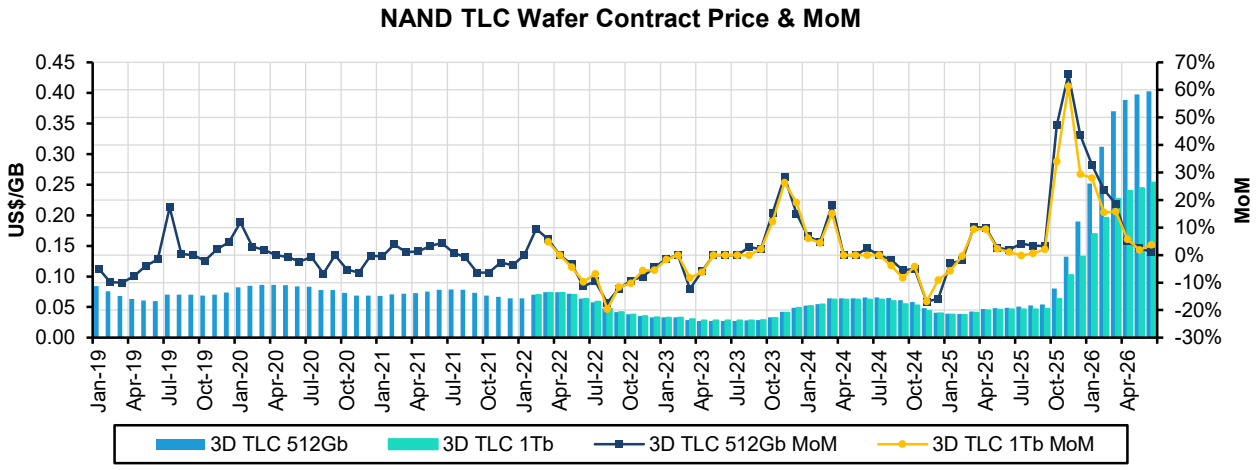
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 21: **1Tb wafer spot price also decreased.**



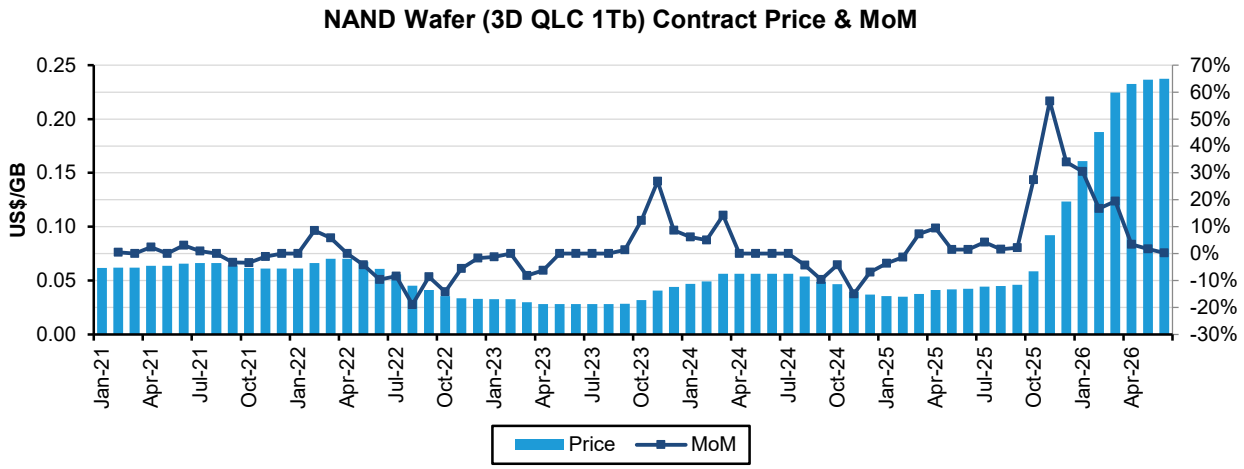
Source: DRAMeXchange and Bernstein analysis

EXHIBIT 22: **TLC NAND wafer contract price moderately grew by only ~3.7% MoM, as module makers continued to stay cautious in buying NAND at such elevated prices.**



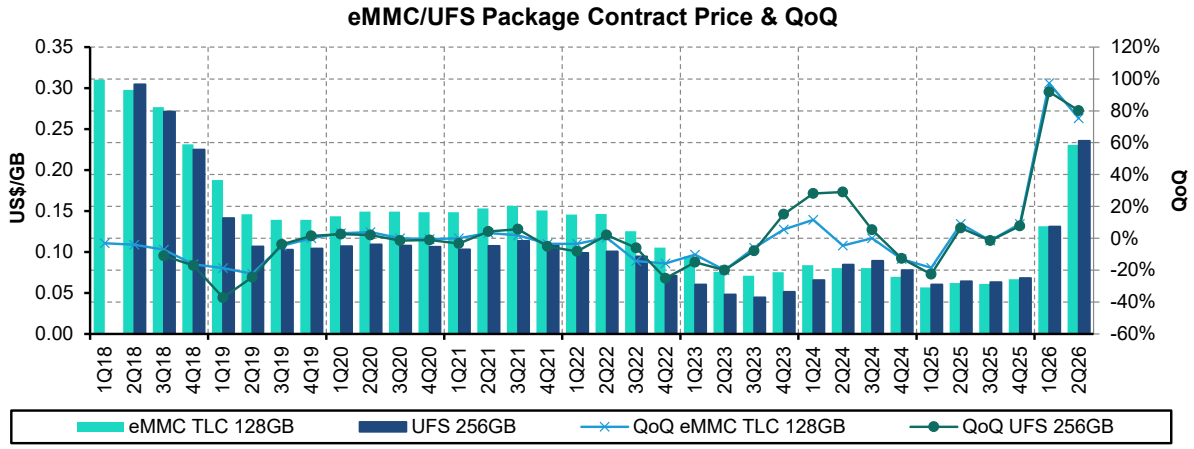
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 23: **Contract price increase for 1Tb QLC NAND wafer also further decelerated, growing 0.3% MoM in June**



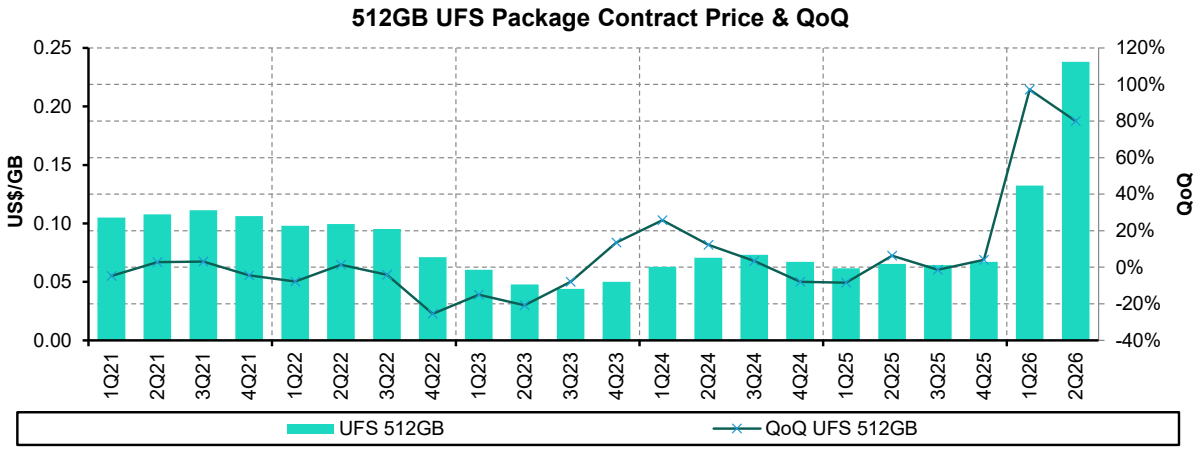
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 24: **Mobile NAND contract price for 2QCY26 is estimated to increase by 80% QoQ, principally driven by supply shortage.**



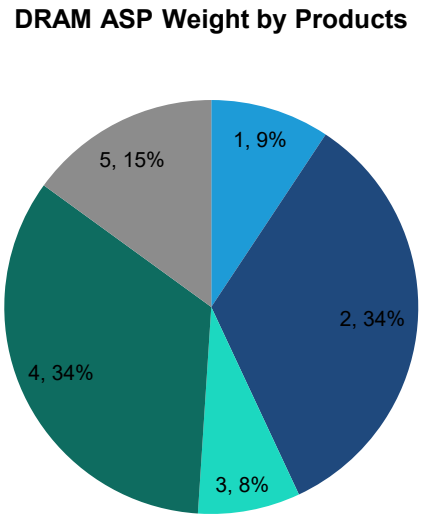
Source: DRAMeXchange & Bernstein analysis

EXHIBIT 25: **High-density 512GB UFS contract price is also expected to rise by ~80% in 2QCY26.**



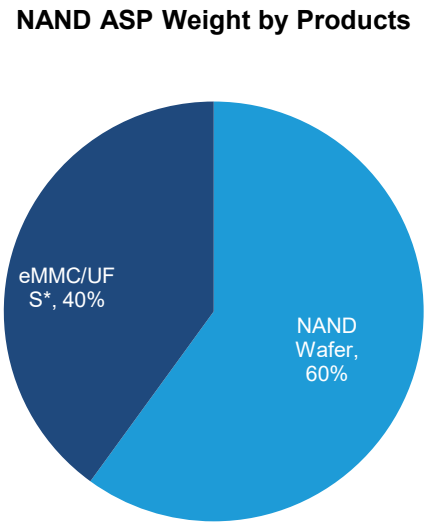
Source: DRAMeXchange and Bernstein analysis

EXHIBIT 26: **Our industry ASP is a weighted average of different products based on the size of their demand. We then further adjust it for HBM.**



Source: Bernstein analysis

EXHIBIT 27: **We allocate 40% & 60% to eMMC/UFS & wafer, respectively, to derive the industry NAND ASP. eSSD is then considered in addition.**



Source: Bernstein analysis

Further Reading Materials

- 30 June 2026 - **Memory: What do New Memory LTAs mean for sustainability of earnings and multiples? Raising SNDK TP to $3000**
- 22 June 2026 - **Global Memory: Memory becoming a burden of AI too?**
- 18 June 2026 - **Korea Memory Export Tracker (May): A record high month with early signs on HBM4 ramp**
- 15 June 2026 - **KIOXIA: All parties come to an end - Underperform**
- 2 June 2026 - **KIOXIA Investor Day: 22% bit CAGR good enough?**
- 19 May 2026 - **Korea Memory Export Tracker (Apr): Robust HBM momentum but no notable sign of HBM4 yet**
- 15 May 2026 - **KIOXIA 4QFY25: Solid price but no clarity on LTA**
- 1 May 2026 - **Sandisk FQ3'26: Nosebleed ASPs (now locked in); Raise estimates and TP to $1700, Reiterate Outperform (top ST pick)**
- 30 Apr 2026 - **Samsung 1Q26: HBM4 progress ahead of expectation**
- 23 Apr 2026 - **SK hynix 1Q26: Favorable price to persist**
- 22 Apr 2026 - **1Q26 AI Server Pulse: Chasing Scarcity**
- 13 Apr 2026 - **Asia Semiconductors & Global Memory: AI, war, memory price - 1Q26 earnings preview**
- 9 Apr 2026 - **Sandisk: How high can estimates and the stock go? Raising estimates and TP to $1,250, with blue-sky scenario at $3000**
- 19 Mar 2026 - **Micron 2QFY26: Higher capex on higher demand visibility**

- 18 Mar 2026 - **Global Memory: Price increase more than expected in 2QCY26**
- 17 Mar 2026 - **Asia Semiconductors & Hardware: Stronger & longer - 2026 Tech Tour takeaways**
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- 11 Dec 2025 - **Expert Insight: How much memory do AI Data Centers need?**
- 24 Nov 2025 - **Asian Semis & Global Memory: Two findings, one simulation & one model for AI**
- 27 Oct 2025 - **AI Value Chain: How much does a GW of data center capacity actually cost, and what goes into it?**
- 1 Sep 2025 - **Global Semicap and Memory - US revokes Samsung and SK hynix semicap license waivers for their China Fabs**
- 21 Aug 2025 - **KIOXIA: Decipher the complex JV with SanDisk**
- 29 Jul 2025 - **Samsung: Dimensioning the contribution of the Tesla project on Samsung & ASML**
- 13 Jun 2025 - **KIOXIA: The Last Samurai - initiating with Underperform**
- 6 Dec 2024 - **Global Memory: Decoupling in memory? A quantitative assessment**
- 21 Nov 2024 - **Global Memory: Will China/YMTC surprise us in NAND?**
- 16 Sep 2024 - **Global Memory: Is Samsung still the memory leader?**
- 8 Jul 2024 - **Global Semiconductors: AI semiconductor roadmap - 3 charts & 7 investment implications**
- 1 Jun 2023 - **10 FAQs on Investing in Semiconductors for Generative AI**
- 4 Mar 2022 - **Global Memory: Cornerstone of the Data Economy**
- 25 Oct 2021 **Global Memory: The cornerstone of the data economy but painful cyclicality - Initiating with Underperform**



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VALUATION METHODOLOGY

Samsung Electronics Co Ltd

We value Samsung Electronics with 6.2x of forward 5Q-8Q EPS of KRW71,172 and arrive at price target of KRW 440,000 for its common shares, KRW374,000 for preferred shares, and US$7,350 for GDR.

SK Hynix Inc

We value SK hynix with 6.2x of forward 5Q-8Q EPS of KRW536,158 and arrive at price target of KRW3,300,000.

Micron Technology Inc

We value Micron with 7.7x of forward 5Q-8Q EPS of US$169.8 and arrive at price target of US$1,300.

KIOXIA Holdings Corp

We value KIOXIA with 4.1x of 1-year forward EPS of ¥9,810 and arrive at price target of ¥40,000.

SanDisk Corp

We value SNDK at $3000 on 11x FY28 EPS, or 14x through cycle EPS (FY26-30 avg EPS).

RISKS

Samsung Electronics Co Ltd

The biggest downside risk to our target price is an earlier end of favorable pricing environment, which can be a result of weaker demand or higher supply. Investor sentiment and hence the valuation rewarded by investors is also a risk. China's progress in memory, especially in NAND, is a downside risk too.

SK Hynix Inc

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Micron Technology Inc

The biggest downside risk to our target price is an earlier end of favorable pricing environment, which can be a result of weaker demand or higher supply. Investor sentiment and hence the valuation rewarded by investors is also a risk. China's progress in memory, especially in NAND, is a downside risk too.

KIOXIA Holdings Corp

Upside risk to our target price include 1) stronger than expected NAND demand growth, which likely would lead to better NAND pricing and hence company earnings, 2) favorable policy support from Japanese government such as capex subsidies, and 3) better than expected cost reduction

SanDisk Corp

The biggest risks to the downside on Sandisk and to our price target are that: 1) Near-term numbers look high and face cyclical downside from NAND; 2) SNDK's disclosures and broader investor communications have been confusing, potentially dissuading more quality-focused investors; and 3) NAND weakness could extend beyond the current cycle and be more structural, in which case Sandisk's DCF value could be structurally lower and the impaired value of its assets may be materially below replacement cost.

RATINGS DEFINITIONS, BENCHMARKS AND DISTRIBUTION

EQUITY RATINGS DEFINITIONS

Bernstein brand

The Bernstein brand rates stocks based on forecasts of relative performance for the next 12 months versus the S&P 500 for stocks listed on the U.S. and Canadian exchanges, versus the Bloomberg Europe Developed Markets Large and Mid Cap Price Return Index EUR (EDME) for stocks listed on the European exchanges and emerging markets exchanges outside of the Asia Pacific region, versus the Bloomberg Japan Large and Mid Cap Price Return Index USD (JPL) for stocks listed on the Japanese exchanges, and versus the Bloomberg Asia ex-Japan Large and Mid Cap Price Return Index (ASIAX) for stocks listed on the Asian (ex-Japan) exchanges -unless otherwise specified.

The Bernstein brand has three categories of ratings:

- Outperform: Stock will outpace the market index by more than 15 pp
- Market-Perform: Stock will perform in line with the market index to within +/-15 pp
- Underperform: Stock will trail the performance of the market index by more than 15 pp

Coverage Suspended: Coverage of a company under the Bernstein research brand has been suspended. Ratings and price targets are suspended temporarily, are no longer current, and should therefore not be relied upon.

Not Rated: A rating assigned when the stock cannot be accurately valued, or the performance of the company accurately predicted, at the present time. The covering analyst may continue to publish research reports on the company to update investors on events and developments.

Not Covered (NC) denotes companies that are not under coverage.

Bernstein brand stock ratings are based on a 12-month time horizon.

Autonomous brand – common stocks

The Autonomous brand rates common stocks as indicated below. As our benchmarks we use the Bloomberg Europe 500 Banks And Financial Services Index (BEBANKS) and Bloomberg Europe Dev Mkt Financials Large and Mid Cap Price Ret Index EUR (EDMFI) index for developed European banks and Payments, the Bloomberg Europe 500 Insurance Index (BEINSUR) for European insurers, the S&P 500 and S&P Financials for US banks and Payments coverage, S5LIFE for US Insurance, the S&P Insurance Select Industry (SPSIINS) for US Non-Life Insurers coverage, and the Bloomberg Emerging Markets Financials Large, Mid and Small Cap Price Return Index (EMLSF) for emerging market banks and insurers and Payments. Ratings are stated relative to the sector (not the market).

The Autonomous brand has three categories of common stock ratings:

- Outperform (OP): Stock will outpace the relevant index by more than 10 pp
- Neutral (N): Stock will perform in line with the market index to within +/-10 pp

- Underperform (UP): Stock will trail the performance of the relevant index by more than 10 pp

Coverage Suspended: Coverage of a company under the Autonomous research brand has been suspended. Ratings and price targets are suspended temporarily, are no longer current, and should therefore not be relied upon.

Not Rated: A rating assigned when the stock cannot be accurately valued, or the performance of the company accurately predicted, at the present time. The covering analyst may continue to publish research reports on the company to update investors on events and developments.

Those denoted as 'Feature' (e.g., Feature Outperform FOP, Feature Under Outperform FUP) are our core ideas.

Not Covered (NC) denotes companies that are not under coverage.

Autonomous brand common stock ratings are based on a 12-month time horizon.

Autonomous brand – preferred stocks

The Autonomous brand has three categories of preferred stock ratings:

- Outperform (OP): The total return of the preferred instrument is expected to outperform preferred securities of other issuers operating in similar sectors or rating categories over the next six months.
- Neutral (N): The total return of the preferred instrument is expected to perform in line with preferred securities of other issuers operating in similar sectors or rating categories over the next six months.
- Underperform (UP): The total return of the preferred instrument is expected to underperform preferred securities of other issuers operating in similar sectors or rating categories over the next six months.

Autonomous preferred stock ratings are based on a 6-month time horizon.

AUTONOMOUS CREDIT RESEARCH

Where this report contains investment recommendations for credit instruments, as defined in article 3(1)(35) of the Market Abuse Regulation, the information below is presented to comply with its disclosure requirements.

The report may also include reference(s) to published opinions by other Autonomous or Bernstein analysts covering the equity securities of the issuer(s) referenced herein. Please note an investment recommendation for credit instruments published by the author(s) of this report may differ from the published view of the analyst covering equity securities for the issuer(s) contained in this report and vice versa.

CREDIT RATINGS DEFINITIONS

The Autonomous brand has three categories of credit ratings:

- Credit Outperform (C-OP): The total return of the Reference Credit Instrument is expected to outperform the credit spread of bonds of other issuers operating in similar sectors or rating categories over the next six months.
- Credit Neutral (C-N): The total return of the Reference Credit Instrument is expected to perform in line with the credit spread of bonds of other issuers operating in similar sectors or rating categories over the next six months.
- Credit Underperform (C-UP): The total return of the Reference Credit Instrument is expected to underperform the credit spread of bonds of other issuers operating in similar sectors or rating categories over the next six months.

Autonomous credit ratings are based on a 6-month time horizon.

A list of all investment recommendations produced by the author(s) of this report alongside credit ratings history are available upon request.

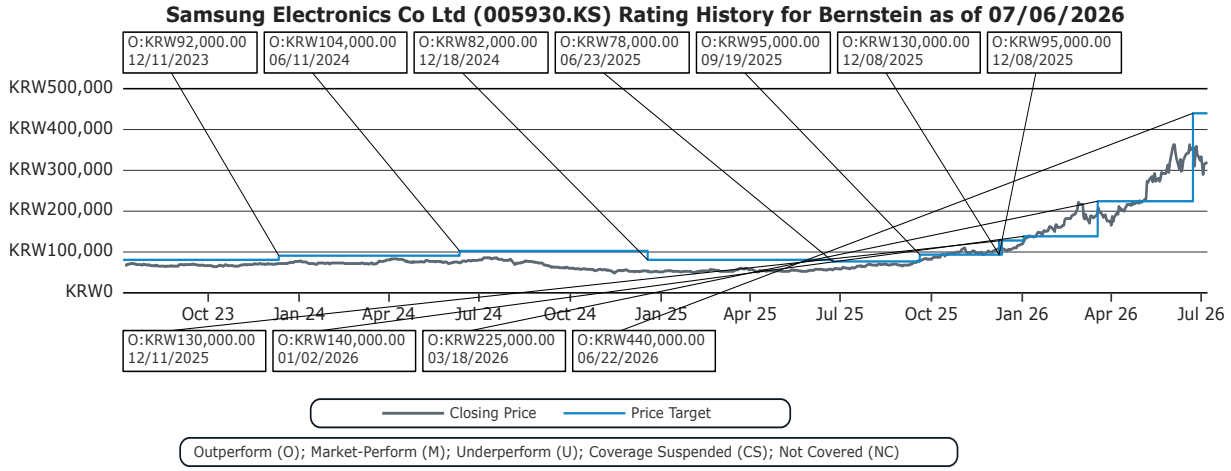
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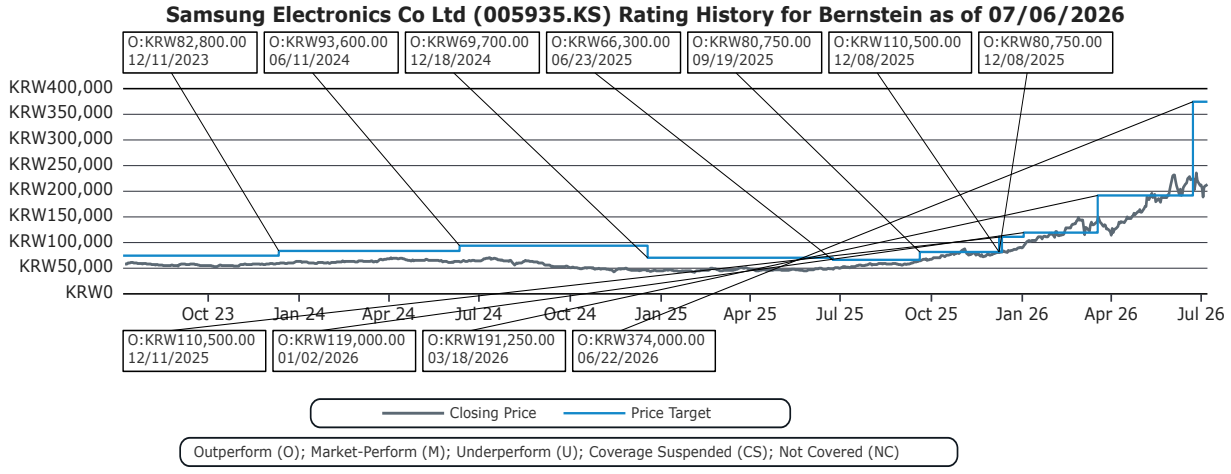
DISTRIBUTION OF EQUITY RATINGS/INVESTMENT BANKING SERVICES

Equity Rating	Market Abuse Regulation (MAR) and FINRA Rating Category	Global Rating Distribution	Investment Banking Relationships*
Outperform	BUY	51.2%	15.3%
Market-Perform (Bernstein Brand) Neutral (Autonomous Brand)	HOLD	35.8%	16.2%
Underperform	SELL	13.1%	13.6%

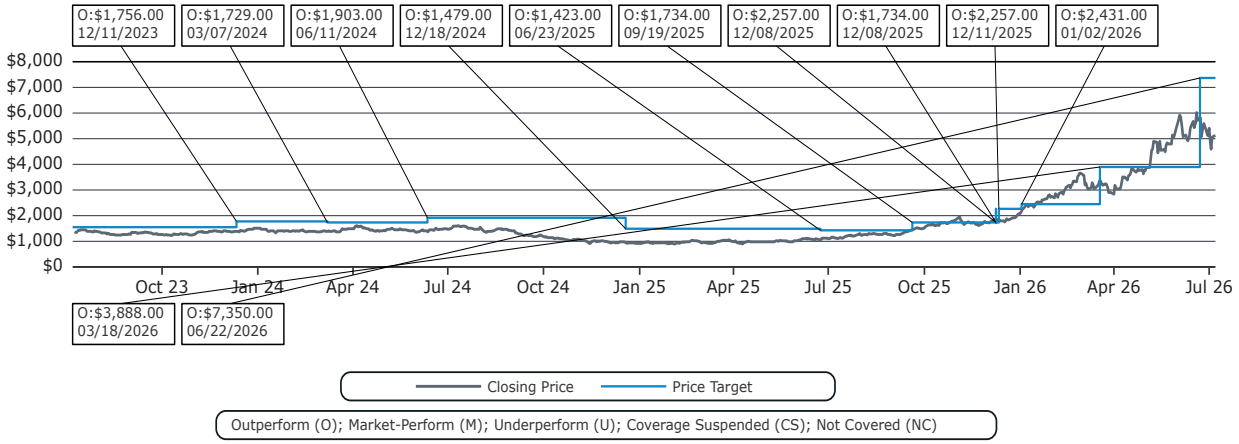
* These figures represent the percentage of companies within each equity rating category for which affiliates of Bernstein have provided investment banking services within the previous 12 months.
As of June 30, 2026. All figures are updated quarterly.

PRICE CHARTS / RATINGS AND PRICE TARGET HISTORY



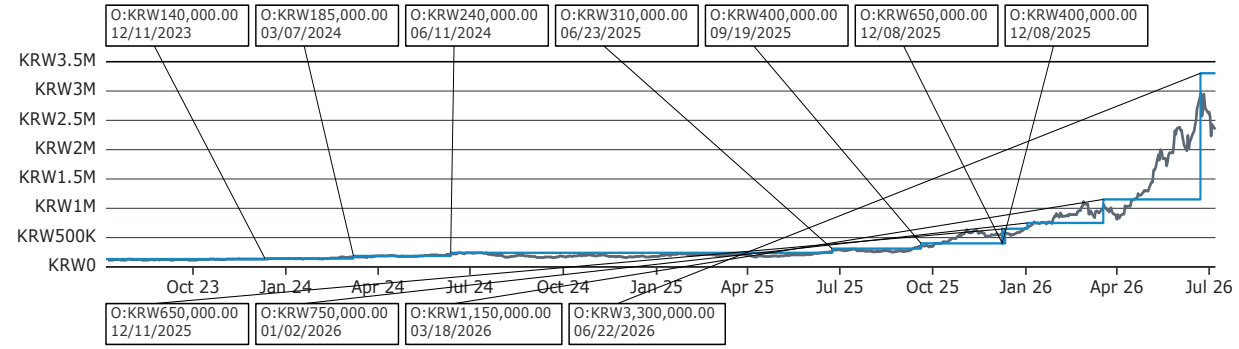


Samsung Electronics Co Ltd (SMSN.LI) Rating History for Bernstein as of 07/06/2026



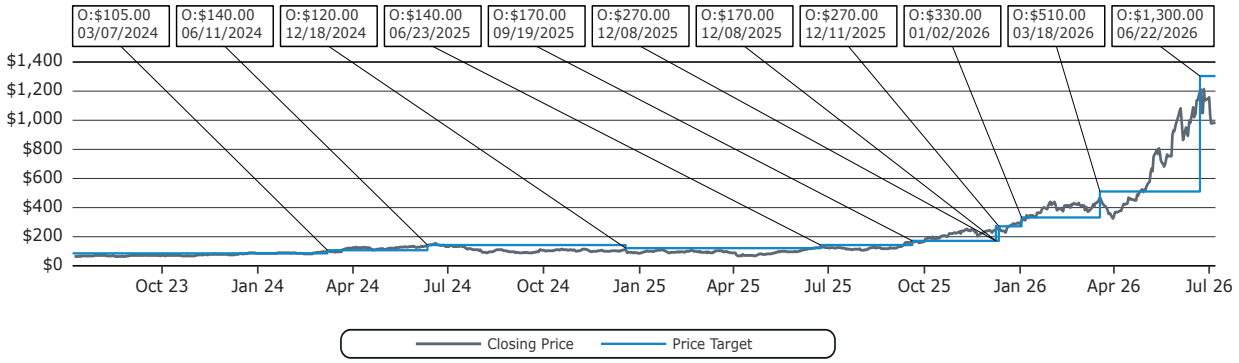
Outperform (O); Market-Perform (M); Underperform (U); Coverage Suspended (CS); Not Covered (NC)

SK Hynix Inc (000660.KS) Rating History for Bernstein as of 07/06/2026

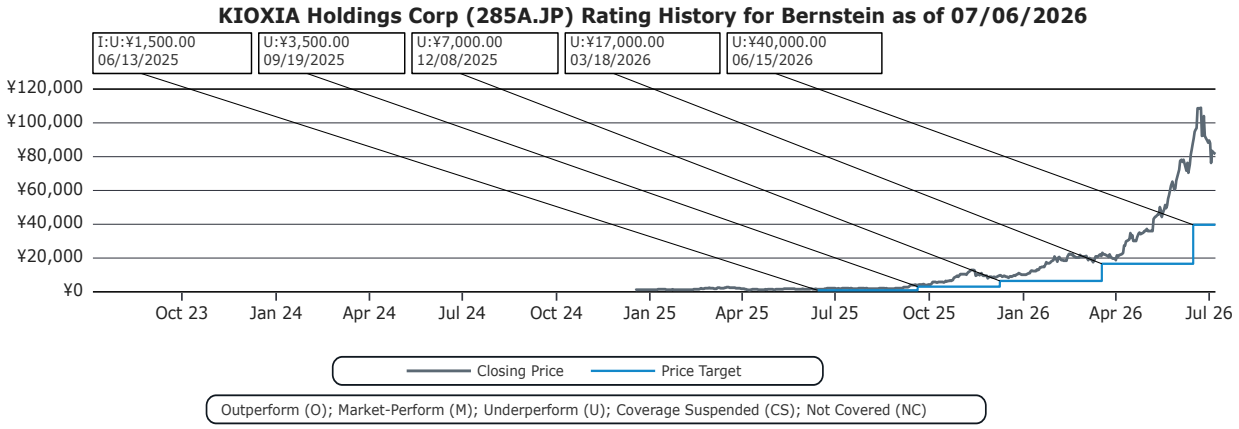


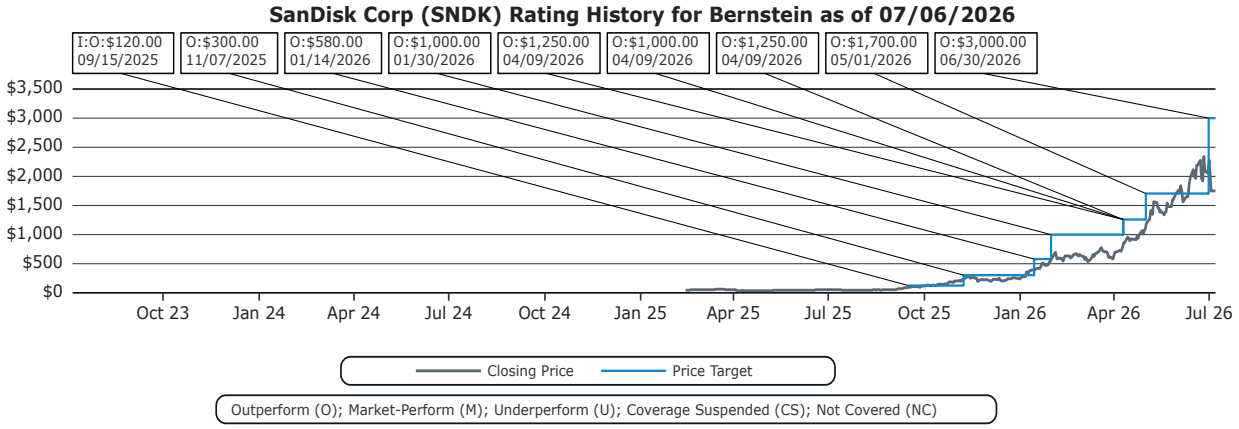
Outperform (O); Market-Perform (M); Underperform (U); Coverage Suspended (CS); Not Covered (NC)

Micron Technology Inc (MU) Rating History for Bernstein as of 07/06/2026



Outperform (O); Market-Perform (M); Underperform (U); Coverage Suspended (CS); Not Covered (NC)





All price target and closing price data in the chart(s) above are denominated in the currency noted in the Ticker Table of this report.

CONFLICTS OF INTEREST

SG and/or its affiliates beneficially own 0.5% or more of [the total issued share capital/any class of common equity securities] with a net [long/short] position of: KIOXIA Holdings Corp.

SG and/or its affiliates beneficially own 1% or more of a class of common equity securities of the following company: KIOXIA Holdings Corp.

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Bernstein and/or affiliates have received compensation for non-investment banking securities-related products or services in the previous twelve months from the following clients: Samsung Electronics Co Ltd, SK Hynix Inc and KIOXIA Holdings Corp.

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Certain affiliates of Bernstein act as market maker or liquidity provider in the equities securities of: Micron Technology Inc.

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