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Greater China Semiconductors | Asia Pacific

Old Memory: Better to buy more

Unexpected persistent tightness in legacy memory supply is driving panicked purchasing by multiple enterprise customers. We reiterate our bullish view and raise PTs across our coverage.

Key Takeaways

- DDR4 buyers may build even larger demand buffers amid prolonged supply tightness.
- MLC NAND shortages are forcing enterprise HDDs to use SLC NAND, indicating stronger demand.
- NOR supply is increasingly concentrated among Taiwan vendors, given reduced output from the US.

DDR4 stronger orders from enterprise customers: We upgraded both Nanya Tech and Winbond back to OW on May 28 ([link](#)), given the ongoing tightness in DDR4.

We now see enterprise customers securing supply as early as possible amid fears of shortages. Channel inventory remains low at under two weeks. This points to further DDR4 price increases into 4Q, following the double-digit monthly uptrend.

SLC NAND likely to see stronger demand from HDD: We noted that high-density SLC NAND can support datacenter eSSD ([link](#)). In addition, given the MLC NAND shortfall, enterprise HDDs are likely shifting to high-density SLC NAND. Enterprise HDDs previously used MLC NAND for firmware, hot data, and defect mapping. This shift reinforces continued pricing momentum into 4Q, following the 50–60% increase in 3Q.

NOR flash pricing increase led by Macronix, with potential supply–demand widening: We continue to see strong pricing increases from Macronix, driven by a shift toward NAND from NOR. We also see Micron reducing NOR supply into 2H, likely reallocating capacity to DRAM and NAND. At the same time, Vera Rubin rack ramp-up in 2H will require 50%+ higher NOR content versus Grace Blackwell racks. We therefore expect NOR pricing to rise 30–40% in 3Q and continue into 4Q.

Stock implications – we raise our earnings and PTs across the board: Winbond: PT raised to NT\$288; 2026/27/28 EPS raised by 4%/17%/24%. **Nanya Tech:** PT raised to NT\$550; 2026/27/28 EPS raised by 7%/15%/14%. **Macronix:** PT raised to NT\$220; 2026/27/28 EPS raised by 34%/20%/21%. **GigaDevice:** PT raised to Rmb888; 2026/27/28 EPS raised by 30%/46%/53%. **PSMC:** PT raised to NT\$111; 2026/27/28 EPS raised by 4%/48%/62%.

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Asia Pacific

Industry View

Attractive

WHAT'S CHANGED

GigaDevice Semiconductor

Beijing Inc (603986.SS)

Price Target

From

Rmb585.00

To

Rmb888.00

Winbond Electronics Corp

(2344.TW)

Price Target

From

NT\$222.00

To

NT\$288.00

Nanya Technology Corp.

(2408.TW)

Price Target

From

NT\$380.00

To

NT\$550.00

Macronix International Co Ltd

(2337.TW)

Price Target

From

NT\$202.00

To

NT\$220.00

Powerchip Semiconductor

Manufacturing Co (6770.TW)

Price Target

From

NT\$88.00

To

NT\$111.00

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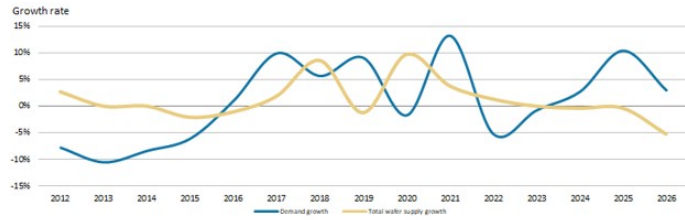
Key Charts and Exhibits

Exhibit 1: Order of preference: GC memory

	Macronix 2337.TW	Winbond 2344.TW	AP Memory 6531.TW	PSMC 6770.TW	GigaDevice 603986.SS	Nanya Tech 2408.TW
Rating	Overweight	Overweight	Overweight	Overweight	Overweight	Overweight
Trading Currency	TWD	TWD	TWD	TWD	CNY	TWD
Price Target	220.0	288.0	1,555.0	111.0	888.0	550.0
Current Price (as of 2026/6/24)	172.0	205.0	1,115.0	85.7	705.1	443.5
Upside/(Downside) (%)	28%	40%	39%	30%	26%	24%
Market Cap (in USD mm)	9,780.7	26,999.2	5,685.1	11,308.3	69,101.7	43,068.6
Avg Daily Traded Vol (in USD mm)	264.9	478.6	79.2	256.3	1,346.6	647.1
Street View: Ratings						
Buy/Overweight	90%	100%	75%	67%	94%	86%
Hold/Equal-weight	0%	0%	25%	33%	6%	14%
Sell/Underweight	10%	0%	0%	0%	0%	0%
Bull Case Value	355.0	342.0	1,830.0	177.0	1,542.0	1,160.0
Upside (%)	106%	67%	64%	107%	119%	162%
Bear Case Value	130.0	118.0	620.0	55.0	648.0	305.0
Downside (%)	-24%	-42%	-44%	-36%	-8%	-31%
Risk/Reward Skew	4.4	1.6	1.4	3.0	14.7	5.2
Morgan Stanley Estimates						
FY26e	TWD	TWD	TWD	TWD	CNY	TWD
Sales	77,854	269,908	9,601	75,820	28,399	349,737
EBITDA	30,271	134,605	3,037	13,926	13,300	270,152
EBIT	22,733	118,994	2,976	6,362	13,050	257,966
EPS	9.84	21.27	17.65	4.80	16.68	65.56
FY27e						
Sales	143,216	432,740	17,829	102,954	46,298	524,965
EBITDA	64,657	234,811	6,491	38,229	23,846	391,551
EBIT	58,187	214,635	6,429	30,764	23,396	368,367
EPS	25.02	38.29	34.34	5.61	30.27	93.08
FY26 MSe vs. Consensus Mean						
Sales	-2.5%	9.2%	-3.0%	10.7%	56.8%	16.4%
EBITDA	-4.5%	-2.1%	-0.9%	-52.9%	77.7%	18.4%
EBIT	-20.7%	7.4%	3.8%	-74.4%	82.1%	19.8%
EPS	-26.0%	-0.1%	1.1%	-10.3%	88.0%	24.1%
FY27 MSe vs. Consensus Mean						
Sales	21.4%	25.7%	19.6%	20.7%	95.4%	26.7%
EBITDA	-4.5%	8.8%	26.0%	16.2%	148.3%	26.7%
EBIT	4.2%	34.2%	33.0%	30.6%	147.0%	25.8%
EPS	-9.7%	20.3%	27.0%	23.0%	167.2%	32.0%
Valuation Multiples at Last Close						
FY26e						
P/E	17.5x	9.6x	63.2x	17.8x	42.3x	6.8x
EV/EBIT	19.6x	10.3x	80.6x	44.1x	44.0x	7.4x
EV/EBITDA	11.9x	6.5x	53.5x	16.1x	34.0x	5.8x
EV/Sales	4.6x	3.2x	16.9x	3.0x	15.9x	4.5x
FCF Yield	-11.9%	2.9%	1.2%	28.6%	2.0%	-18.1%
FY27e						
P/E	6.9x	5.4x	32.5x	15.3x	23.3x	4.8x
EV/EBIT	5.3x	3.3x	24.9x	5.6x	18.7x	3.6x
EV/EBITDA	4.8x	3.0x	24.7x	4.5x	18.5x	3.3x
EV/Sales	2.2x	1.6x	9.0x	1.7x	9.5x	2.5x
FCF Yield	17.5%	18.9%	2.2%	16.2%	3.9%	19.3%
Implied Multiples on MS Price Target						
FY26e						
P/E	22.4x	13.5x	88.1x	23.1x	53.2x	8.4x
EV/EBIT	19.6x	10.3x	80.6x	44.1x	44.0x	7.4x
EV/EBITDA	14.8x	9.1x	79.0x	20.1x	43.2x	7.0x
EV/Sales	5.7x	4.5x	25.0x	3.7x	20.2x	5.4x
FY27e						
P/E	8.8x	7.5x	45.3x	19.8x	29.3x	5.9x
EV/EBIT	7.0x	5.7x	40.0x	15.5x	28.3x	4.7x
EV/EBITDA	6.3x	5.2x	39.7x	12.5x	28.0x	4.4x
EV/Sales	2.8x	2.8x	14.4x	4.6x	14.3x	3.3x

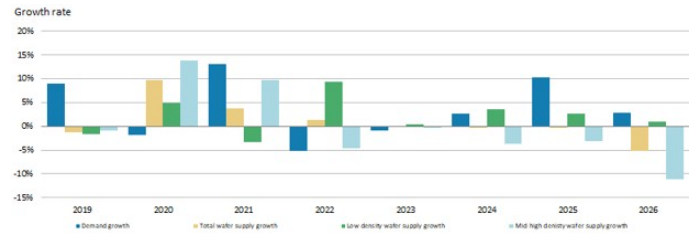
Source: FactSet (consensus mean), Morgan Stanley Research (e) estimates.

Exhibit 2: NOR flash demand and supply growth rates



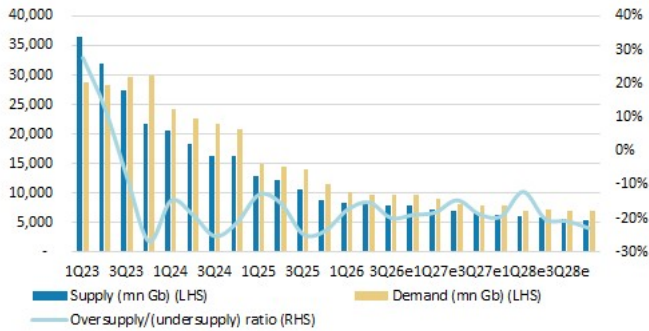
Source: Company data, Morgan Stanley Research

Exhibit 3: NOR flash demand growth and supply growth by density



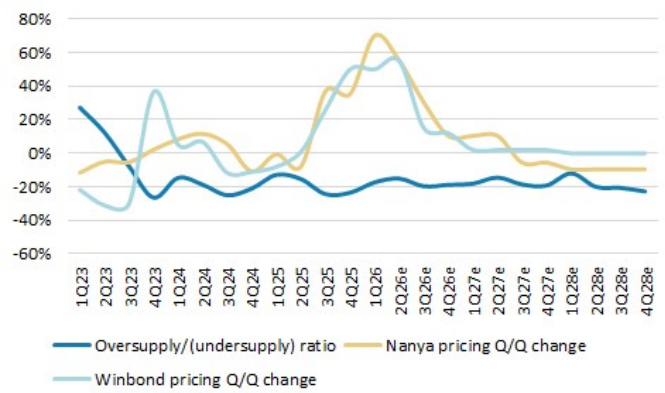
Source: Company data, Morgan Stanley Research

Exhibit 4: DDR4 quarterly supply and demand summary



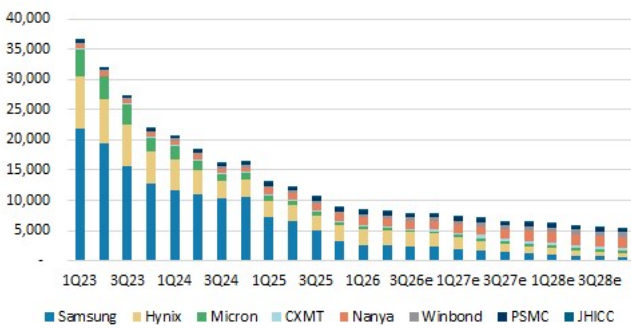
Source: Company data, IDC, Morgan Stanley Research (e) estimates

Exhibit 5: Quarterly oversupply/undersupply ratio vs. Nanya and Winbond pricing Q/Q change



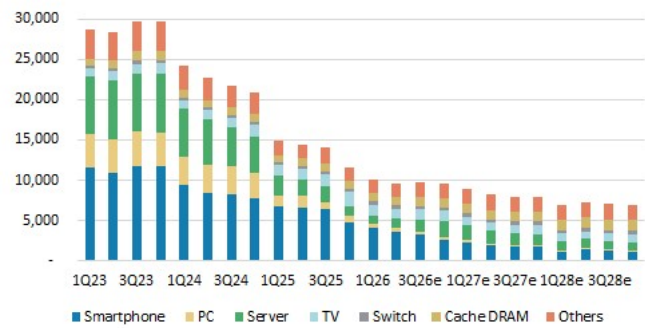
Source: Company data, IDC, Morgan Stanley Research (e) estimates

Exhibit 6: Quarterly supply breakdown (mn Gb)



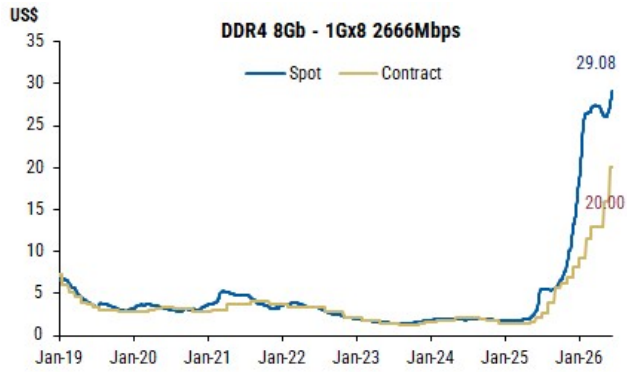
Source: Company data, Morgan Stanley Research (e) estimates

Exhibit 7: Quarterly demand breakdown by product (mn Gb)



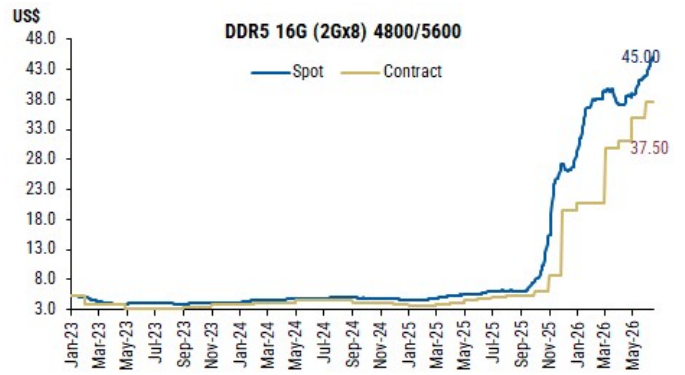
Source: IDC, Morgan Stanley Research (e) estimates

Exhibit 8: DDR4 8Gb (1Gx8) pricing chart



Source: DRAMeXchange, Morgan Stanley Research. Data as of Jun 2026.

Exhibit 9: DDR5 16Gb (2Gx8) pricing chart



Source: DRAMeXchange, Morgan Stanley Research. Data as of Jun 2026.

Winbond: Estimate Revisions and Quarterly Financials

We raise our 2026/27/28 EPS estimates by 4%/17%/24% respectively. This reflects stronger than previously expected memory pricing strength across DDR4, NOR flash, and SLC NAND. We now expect DDR4 pricing to rise further into 4Q, post the double digit monthly pricing uptrend. SLC NAND pricing uptrend is highly likely to continue into 4Q, post 50-60% hike in 3Q. NOR pricing could be hiked by 30-40% in 3Q and even into 4Q.

Exhibit 10: Winbond: Estimate revisions

NT\$ mn	New '26E	Old '26E	Diff.	New '27E	Old '27E	Diff.	New '28E	Old '28E	Diff.
Net sales	269,908	258,581	4%	432,740	377,335	15%	493,598	410,515	20%
COGS	(117,684)	(111,702)		(182,017)	(158,768)		(211,407)	(178,012)	
Gross profit	152,224	146,879	4%	250,723	218,567	15%	282,192	232,503	21%
Operating expenses	(33,230)	(33,028)		(36,088)	(35,211)		(37,465)	(36,149)	
Operating profit	118,994	113,852	5%	214,635	183,356	17%	244,727	196,354	25%
Non-op. income (exp)	715	715		776	776		756	756	
Pretax Income	119,709	114,567	4%	215,411	184,133	17%	245,483	197,111	25%
Taxes	(23,975)	(22,946)		(43,082)	(36,827)		(50,284)	(40,609)	
Net income	95,721	91,607	4%	172,315	147,293	17%	195,186	156,488	25%
Reported EPS	21.27	20.36	4%	38.29	32.73	17%	44.69	36.09	24%
Margins									
Gross margin	56.4%	56.8%	-0.4 ppt	57.9%	57.9%	0.0 ppt	57.2%	56.6%	0.5 ppt
Operating margin	44.1%	44.0%	0.1 ppt	49.6%	48.6%	1.0 ppt	49.6%	47.8%	1.7 ppt
Pretax margin	44.4%	44.3%	0.0 ppt	49.8%	48.8%	1.0 ppt	49.7%	48.0%	1.7 ppt
Net margin	35.5%	35.4%	0.0 ppt	39.8%	39.0%	0.8 ppt	39.5%	38.1%	1.4 ppt
Opex %	12.3%	12.8%	-0.5 ppt	8.3%	9.3%	-1.0 ppt	7.6%	8.8%	-1.2 ppt

NT\$	New '26E	Old '26E	Diff.	New '27E	Old '27E	Diff.	New '28E	Old '28E	Diff.
BVPS	46.68	40.54	15%	85.02	73.32	16%	129.77	82.20	58%

Source: Morgan Stanley Research (E) estimates

Exhibit 11: Winbond: Quarterly financials

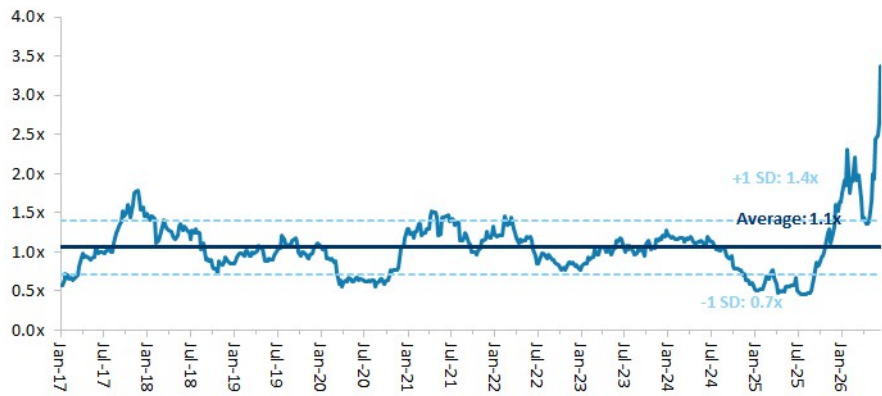
NT\$ in million	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2025	2026E	2027E	2028E	
Total Revenues	19,993	21,018	21,771	26,625	38,253	57,075	77,583	96,997	*****	*****	*****	*****	*****	*****	*****	*****	85,406	269,908	432,740	493,598	
Sequential Change	7.0%	5.1%	3.6%	22.3%	43.7%	49.2%	35.9%	25.0%	4.1%	4.2%	4.7%	5.6%	3.0%	2.4%	1.1%	1.5%					
Change vs Year-Ago	-0.6%	-2.2%	2.1%	42.4%	91.3%	171.6%	256.4%	264.3%	164.0%	84.3%	42.0%	20.0%	18.7%	16.7%	11.1%	8.6%	9.6%	201.9%	60.3%	14.1%	
Cost of Sales	(14,871)	(16,255)	(11,605)	(15,479)	(17,638)	(25,385)	(33,251)	(41,211)	(42,310)	(44,062)	(46,471)	(49,174)	(49,360)	(50,707)	(52,100)	(53,297)	(58,210)	(117,684)	(182,017)	(211,407)	
Percent of Revenues	74.4%	77.3%	53.3%	58.1%	46.6%	44.5%	42.9%	42.5%	41.9%	41.9%	42.2%	42.3%	41.2%	41.3%	41.8%	42.2%	68.1%	43.6%	42.1%	42.8%	
Gross Margin	5.122	4.763	10.166	11.146	20.615	31.690	44.332	55.787	58.085	61.532	63.694	67.212	70.620	72.611	72.454	73.142	31.196	152,224	250,723	282,192	
Percent of Revenues	25.6%	22.7%	46.7%	41.9%	53.4%	55.9%	57.1%	57.5%	58.1%	58.1%	57.8%	57.7%	58.8%	58.7%	58.2%	57.8%	34.6%	56.4%	57.9%	57.2%	
Total Opex	(6,087)	(6,058)	(6,463)	(7,054)	(7,865)	(7,967)	(8,493)	(8,905)	(8,718)	(8,870)	(9,149)	(9,351)	(9,369)	(9,375)	(9,385)	(9,358)	(25,662)	(33,230)	(36,088)	(37,465)	
Percent of Revenues	30.4%	28.8%	29.7%	26.5%	20.6%	14.0%	10.9%	9.2%	8.6%	8.4%	8.3%	8.0%	7.8%	7.6%	7.5%	7.4%	28.7%	12.3%	8.3%	7.6%	
Operating Income	(865)	(1,265)	3,763	4,892	12,550	23,723	35,040	48,081	49,987	52,282	54,545	57,861	61,151	62,836	63,089	63,787	5,534	118,994	214,635	244,727	
Percent of Revenues	-4.8%	-6.2%	17.0%	15.4%	32.8%	41.6%	46.2%	48.3%	49.5%	49.7%	49.5%	49.7%	51.0%	51.0%	50.6%	50.4%	6.2%	44.1%	49.6%	49.6%	
Total Non-operating Income(Loss)	(180)	(524)	(145)	(75)	138	199	189	189	199	199	189	189	189	189	189	189	(524)	715	776	756	
Profit Before Taxes	(1,146)	(1,819)	3,558	4,917	12,688	23,922	36,029	47,071	50,186	52,461	54,734	58,050	61,340	62,826	63,278	63,976	4,610	119,709	215,411	245,483	
Percent of Revenues	-5.7%	-8.7%	16.3%	15.1%	33.2%	41.9%	46.4%	48.5%	49.7%	49.5%	49.7%	49.9%	51.2%	51.2%	50.8%	50.6%	5.2%	44.4%	49.8%	49.7%	
Taxes	159	188	(857)	(922)	(2,571)	(4,784)	(7,206)	(9,414)	(10,033)	(10,462)	(10,947)	(11,610)	(12,388)	(12,565)	(12,656)	(12,795)	(1,433)	(23,975)	(43,082)	(50,284)	
Tax Rate	13.9%	10.3%	24.1%	23.0%	20.3%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	31.1%	20.0%	20.0%	20.0%	
Reported Income (TW GAAP)	(1,091)	(1,312)	2,943	3,422	10,114	19,134	28,820	37,653	40,129	41,966	43,784	46,436	49,669	50,267	50,619	51,177	3,962	95,721	172,315	195,186	
Percent of Revenues	-5.5%	-6.2%	13.5%	12.9%	26.4%	33.9%	37.1%	38.8%	39.7%	39.6%	39.7%	39.9%	40.9%	41.0%	40.6%	40.5%	4.4%	35.5%	38.8%	39.5%	
Change vs Year-Ago	135.0%	N.A.	N.A.	N.A.	N.A.	0.0%	N.A.	N.A.	296.8%	119.3%	51.9%	23.3%	22.3%	19.8%	15.6%	10.2%	559.2%	2316.0%	80.0%	13.3%	
Reported EPS (NT\$, TW GAAP)	(0.24)	(0.29)	0.65	0.76	2.25	4.25	6.40	8.37	8.92	9.33	9.73	10.32	10.90	11.17	11.25	11.37	0.88	21.27	38.29	44.69	
Sequential Change	87%	20%	-324%	16%	196%	89%	51%	31%	7%	3%	4%	6%	6%	2%	1%	1%	493.9%	2316.0%	80.0%	16.7%	
Change vs Year-Ago	118%	N.A.	N.A.	N.A.	0%	879%	1000%	297%	119%	52%	23%	22%	20%	16%	10%						

Source: Company data, Morgan Stanley Research (E) estimates

Winbond: Valuation Methodology

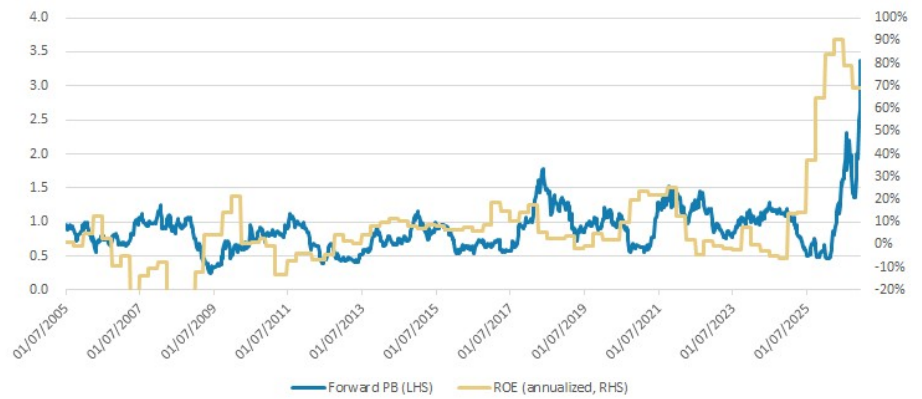
We raise our PT to NT\$288 from NT\$222: We continue to apply P/B multiple methodology to derive our price target, in line with our approach for Greater China memory IDM peers and in view of the industry's high earnings volatility. Our new price target (base case scenario value) implies 6.2x 2026e BVPS and 3.4x 2027e BVPS vs. our prior target multiple of 5.5x 2026e BVPS, as we think DDR4 pricing strength and SLC NAND/SiCap opportunities could drive re-rating. We raise our bull case value to NT\$342 (7.3x our 2026e BVPS) and our bear case value to NT\$118 (2.5x our 2026e BVPS).

Exhibit 12: Winbond: Historical forward P/B



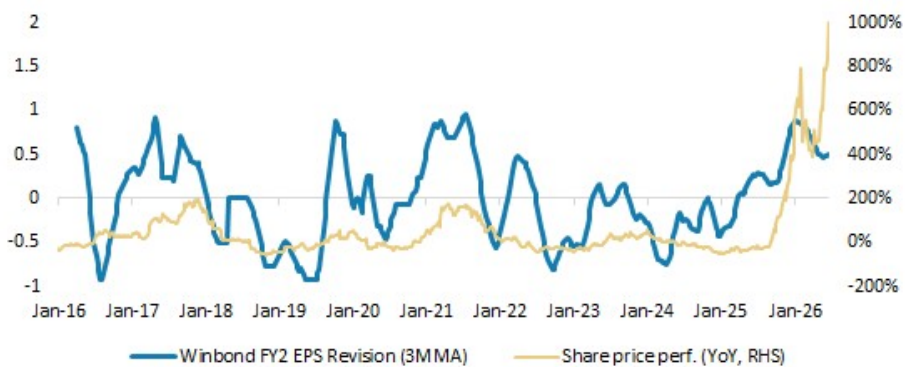
Source: Company data, Morgan Stanley Research estimates

Exhibit 13: Winbond: Historical forward P/B vs ROE



Source: Company data, Morgan Stanley Research estimates

Exhibit 14: Winbond: Earnings estimate revision breadth



Source: Company data, Morgan Stanley Research estimates

Risk Reward – Winbond Electronics Corp (2344.TW)

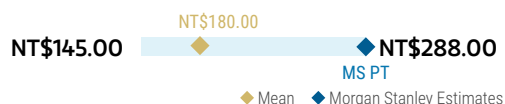
DDR, NOR and SLC NAND pricing upside; long-term opportunities in CUBE

PRICE TARGET NT\$288.00

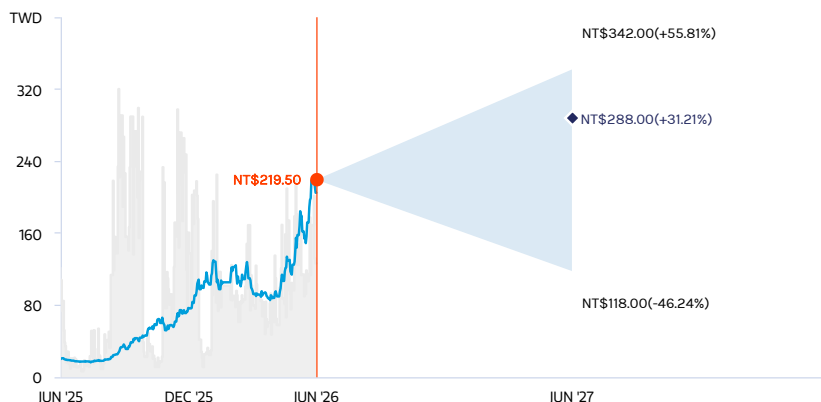
Base case, 6.2x 2026e P/B. This method is in line with the approach we adopt for Greater China memory IDM peers, in view of the industry's high volatility. We believe the stock merits a multiple beyond the high end of its historical band of 0.5-1.5x since 2017, as we are seeing DRAM pricing upside, a sustainable NOR price hike, and opportunities in SLC NAND and SiCap foundry business.

Consensus Price Target Distribution

Source: Refinitiv, Morgan Stanley Research



RISK REWARD CHART



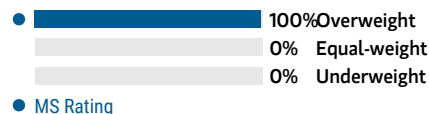
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- We expect DDR3 and DDR4 price increases to continue in 2026. The supply/demand gap should widen into 2H26.
- We see NOR price hikes continuing throughout 2026.
- High density SLC NAND pricing is catching up, and we now expect a larger TAM from data center applications.
- We share management's view that CUBE could be meaningful in 2026, given engagement with multiple foundry partners and customers.
- We see potential for several headwinds ahead for the logic business.
- Our PT implies 3.4x 2027e P/B.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power: *Positive*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE

NT\$342.00

7.3x 2026e BVPS

NOR Flash pricing and DRAM prices rebound more in the next 12 months: NOR Flash rises dramatically. DRAM prices continue to rise drastically within the next 12 months, with 25nm accounting for >80% of sales.

BASE CASE

NT\$288.00

6.2x 2026e BVPS

Margin expansion benefiting from the memory up-cycle: 1) NOR Flash pricing rises significantly in the next 12 months; and 2) DRAM prices rise significantly in the next 12 months.

BEAR CASE

NT\$118.00

2.5x 2026e BVPS

NOR Flash prices face pressure in the next 12 months; DRAM market back to oversupply, with slower technology migration: 1) NOR Flash shows price declines; and 2) DRAM prices drop in the next 12 months.

Risk Reward – Winbond Electronics Corp (2344.TW)

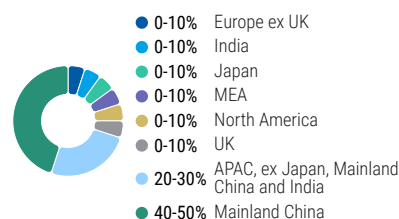
KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
NOR ASP (%)	8	113	34	0
DRAM ASP (%)	(2)	258	34	10
Mobile RAM sales (NT\$, mn)	5,302	21,486	36,103	40,921
DRAM sales (NT\$, mn)	27,808	166,338	293,379	346,905
Flash sales (NT\$, mn)	31,106	72,390	107,769	107,769

INVESTMENT DRIVERS

- DRAM pricing
- NOR pricing
- Technology migration

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies [here](#)

MS ALPHA MODELS

1/5
MOST

3 Month
Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- NOR Flash pricing increase, driven by stronger-than-expected demand
- Stronger-than-expected DRAM pricing given ongoing supply shortage
- Faster-than-expected SLC NAND development

RISKS TO DOWNSIDE

- NOR Flash downcycle, driven by weaker demand
- Lower-than-expected DRAM pricing given ongoing oversupply
- Slower-than-expected SLC NAND development

OWNERSHIP POSITIONING

Inst. Owners, % Active 58.8%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e

Sales / Revenue (NT\$, mn) 192,705 ◆ 269,908 ◆ 274,712
◆ 247,119

EBITDA (NT\$, mn) 91,401 ◆ 134,605 ◆ 156,063
◆ 137,487

Net income (NT\$, mn) 57,690 ◆ 95,722 ◆ 114,946
◆ 95,890

EPS (NT\$) 12.82 ◆ 21.27 ◆ 25.54
◆ 21.30

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

GigaDevice: Estimate Revisions and Quarterly Financials

We raise our EPS estimates for 2026/27/28 by 30%/46%/53%. This reflects stronger-than-expected memory pricing across DDR4, NOR flash, and SLC NAND. We now expect DDR4 pricing to rise further into 4Q, following the double-digit monthly uptrend. SLC NAND pricing is likely to continue rising into 4Q, after the 50–60% increase in 3Q. NOR pricing could increase by 30–40% in 3Q and extend into 4Q.

Exhibit 16: GigaDevice: Estimate revisions

Rmb mn	Current	Previous	Diff.	Current	Previous	Diff.	Current	Previous	Diff.
	2026E	2026E		2027E	2027E		2028E	2028E	
Net sales	28,399	22,018	29%	46,298	32,133	44%	57,916	37,996	52%
COGS	12,196	9,437		19,366	13,736		26,712	17,583	
Gross profit	16,203	12,581	29%	26,932	18,397	46%	31,204	20,413	53%
Operating expenses	3,153	2,949		3,535	3,083		3,991	3,354	
Operating profit	13,050	9,632	35%	23,396	15,314	53%	27,214	17,059	60%
Non-op. income (exp.)	(125)	(125)		20	20		20	20	
Pretax income	12,925	9,507	36%	23,416	15,334	53%	27,234	17,079	59%
Taxes	1,187	873		2,150	1,408		2,501	1,568	
Net income	11,693	8,589	36%	21,221	13,881	53%	24,688	15,465	60%
Reported EPS (Rmb)	16.68	12.81	30%	30.27	20.71	46%	35.21	23.07	53%
Margins									
Gross margin	57.1%	57.1%	-0.1%	58.2%	57.3%	0.9%	53.9%	53.7%	0.2%
Operating margin	46.0%	43.7%	2.2%	50.5%	47.7%	2.9%	47.0%	44.9%	2.1%
Pretax margin	45.5%	43.2%	2.3%	50.6%	47.7%	2.9%	47.0%	44.9%	2.1%
Net margin	41.2%	39.0%	2.2%	45.8%	43.2%	2.6%	42.6%	40.7%	1.9%

Source: Morgan Stanley Research (E) estimates

Exhibit 17: GigaDevice: Quarterly financials

Rmb mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2025	2026E	2027E	2028E	
Total Revenues	1,909	2,241	2,681	2,372	4,188	6,063	8,022	10,126	10,534	11,184	11,883	12,697	13,205	13,979	14,874	15,858	9,203	28,399	46,298	57,916	
Sequential Change	11.9%	17.4%	19.6%	-11.5%	76.6%	44.8%	32.3%	26.2%	4.0%	6.2%	6.3%	6.6%	4.0%	5.9%	6.4%	6.6%					
Change vs Year Ago	17.3%	19.1%	21.4%	39.0%	119.4%	170.5%	199.2%	208.9%	151.5%	84.5%	48.1%	25.4%	22.4%	23.0%	22.2%	24.9%	25.1%	208.6%	63.0%	25.1%	
Cost of Sales	1,194	1,412	1,589	1,307	1,790	2,375	3,478	4,147	4,309	4,620	4,998	5,439	5,815	6,363	6,984	7,550	5,502	12,196	19,366	26,712	
Percent of Revenues	63%	63%	59%	55%	43%	46%	43%	41%	41%	42%	43%	44%	46%	46%	47%	48%	60%	43%	42%	46%	
Gross Profit	715	830	1,092	1,065	2,398	3,288	4,544	5,979	6,225	6,564	6,885	7,258	7,390	7,616	7,890	8,308	3,701	16,203	26,932	31,204	
Percent of Revenues	37.4%	37.0%	40.7%	44.9%	57.1%	54.2%	56.7%	59.0%	59.1%	58.7%	57.9%	57.2%	56.0%	54.5%	53.0%	52.4%	40.2%	57.1%	58.2%	53.9%	
Incremental Margin	73%	35%	60%	NM	73%	46%	64%	68%	60%	52%	46%	46%	26%	29%	31%	42%	49%	65%	60%	37%	
Total Opex	540	545	574	518	666	741	824	921	822	858	900	956	928	968	1,017	1,078	2,178	3,153	3,535	3,991	
Percent of Revenues	28.3%	24.3%	21.4%	21.8%	15.9%	12.2%	10.3%	9.1%	7.8%	7.7%	7.6%	7.5%	7.0%	6.9%	6.8%	6.8%	23.6%	11.1%	7.6%	6.9%	
R&D	282	276	282	257	350	360	353	403	290	300	315	335	290	300	315	335	1,117	1,513	1,240	1,240	
Percent of Revenues	15.3%	12.3%	10.5%	10.8%	8.6%	6.1%	4.8%	4.0%	2.8%	2.7%	2.7%	2.6%	2.2%	2.1%	2.1%	2.1%	12.1%	5.3%	2.7%	2.1%	
General & administrative	136	158	161	160	174	179	184	194	195	200	205	215	216	221	226	236	612	732	816	900	
Percent of Revenues	7.1%	6.9%	6.0%	6.7%	4.2%	3.0%	2.3%	1.9%	1.8%	1.7%	1.7%	1.6%	1.6%	1.5%	1.5%	1.5%	6.7%	2.6%	1.8%	1.6%	
Selling & marketing	112	113	121	101	134	194	256	324	337	357	380	406	422	447	475	507	446	900	1,480	1,851	
Percent of Revenues	5.9%	5.0%	4.5%	4.3%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	4.8%	3.0%	3.2%	3.2%	
Operating Income	175	285	518	547	1,724	2,546	3,722	5,058	5,493	5,707	5,985	6,302	6,462	6,684	6,874	7,200	1,526	13,050	23,396	27,214	
Percent of Revenues	9.2%	12.7%	19.3%	23.1%	41.2%	42.0%	46.4%	49.9%	51.3%	51.0%	50.4%	49.6%	48.9%	47.6%	46.2%	45.6%	16.6%	46.0%	50.5%	47.0%	
Change vs Year Ago	12.7%	19.4%	36.9%	1331.9%	883.7%	793.2%	618.6%	624.2%	213.4%	124.1%	60.8%	24.6%	19.6%	16.5%	14.9%	14.7%	88%	755%	79%	16%	
Total Non-operating Income(Loss)	60	75	10	35	(103)	(7)	(7)	(7)	5	5	5	5	5	5	5	5	181	(125)	20	20	
Profit Before Taxes	236	360	528	583	1,621	2,539	3,715	5,060	5,498	5,712	5,990	6,307	6,467	6,683	6,879	7,235	1,706	12,925	23,416	27,234	
Percent of Revenues	12%	16%	20%	25%	39%	42%	46%	50%	51%	51%	50%	49%	48%	46%	46%	46%	19%	46%	51%	47%	
Taxes	(4)	12	11	10	149	233	341	464	497	524	550	579	594	611	632	664	29	1,187	2,150	2,501	
Tax Rate	-1.7%	3.4%	2.1%	1.7%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	1.7%	9.2%	9.2%	9.2%	
Net Income, Cont Opns	240	348	517	573	1,473	2,306	3,374	4,587	4,911	5,187	5,440	5,728	5,873	6,042	6,247	6,571	1,677	11,738	21,266	24,733	
Percent of Revenues	13%	16%	19%	24%	35%	38%	42%	45%	47%	46%	45%	44%	43%	42%	41%	41%	18%	41%	46%	43%	
Reported Income	235	341	508	565	1,461	2,294	3,352	4,575	4,900	5,176	5,429	5,717	5,862	6,031	6,236	6,559	1,680	11,693	21,221	24,688	
Percent of Revenues	12%	15%	19%	24%	35%	38%	42%	45%	47%	46%	45%	44%	43%	42%	41%	41%	18%	41%	46%	43%	
Change vs Year Ago	15%	9%	61%	109%	523%	573%	562%	710%	235%	126%	61%	25%	20%	17%	15%	15%	49%	650%	81%	6%	
Reported EPS (Rmb)	0.35	0.51	0.76	0.85	2.88	3.27	4.80	6.53	6.99	7.38	7.74	8.15	8.36	8.60	8.89	9.36	2.48	16.68	30.27	35.21	
Change vs Year Ago	15%	10%	61%	108%	490%	530%	529%	672%	235%	126%	61%	25%	20%	17%	15%	15%	50%	574%	81%	16%	

Source: Company data, Morgan Stanley Research (E) estimates

GigaDevice: Valuation methodology

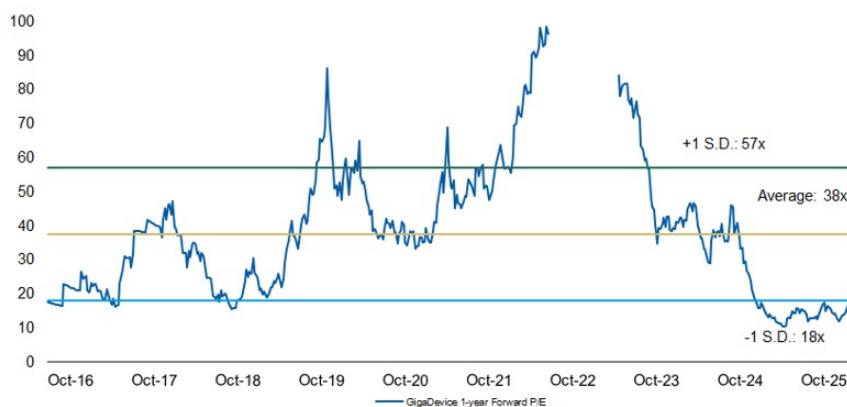
We raise our price target (base case) to Rmb888: We continue to derive our price target from a residual income model, which we believe best captures the stock's long-term value. Our key assumptions include a cost of equity of 8.9% (beta 1.1, risk-free rate 2%, and risk premium 6%), a payout ratio of 40%, a medium-term growth rate of 16.4%, and a terminal growth rate of 3.0% (all unchanged). Our new price target implies a 2026e P/E of 53x, above the historical average of 40x since 2016. Our bull case value rises to Rmb1,542 from Rmb1,016, and our bear case value increases to Rmb648 from Rmb427.

Exhibit 18: GigaDevice: Residual Income model

Rmb mn	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E	2037E
Total Equity	30,422	48,135	66,457	84,789	106,118	130,934	159,808	193,403	232,491	277,969	330,883	392,449
Net Profit	11,693	21,221	24,688	28,724	33,421	38,885	45,243	52,640	61,247	71,261	82,912	96,468
ROAE	47.1%	54.0%	43.1%	38.0%	35.0%	32.8%	31.1%	29.8%	28.8%	27.9%	27.2%	26.7%
Residual Income	7,347	13,733	16,463	19,337	22,152	25,384	29,114	33,431	38,438	44,251	51,003	58,852
Spread	38.2%	45.1%	34.2%	29.1%	26.1%	23.9%	22.2%	20.9%	19.9%	19.0%	18.3%	17.8%
Ending Equity Capital	30,422											
PV of Forecast Period	152,862											
PV of Continuing Value	439,497											
Equity Value	622,781											
No. of Shares	701											
Projected Price (Rmb)	888											

Source: Morgan Stanley Research (E) estimates

Exhibit 19: GigaDevice: Historical forward P/E



Source: Company data, Morgan Stanley Research estimates

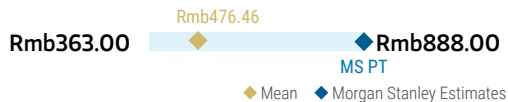
Risk Reward – GigaDevice Semiconductor Beijing Inc (603986.SS)

Multiple drivers ahead

PRICE TARGET Rmb888.00

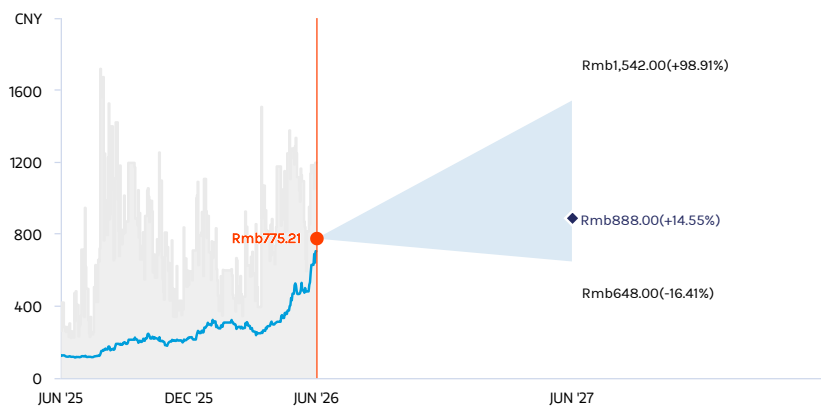
Our price target is our base case value, derived from our residual income model. Key assumptions: cost of equity of 8.9% (beta 1.1, risk-free rate 2% and risk premium 6%), a payout ratio of 40%, medium-term growth rate of 16.4%, and a terminal growth rate of 3.0%.

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART



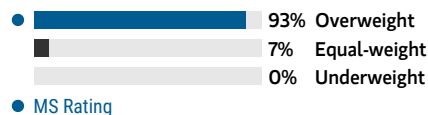
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- We expect GigaDevice to continue to gain share in China's MCU market. Auto MCUs offer bigger opportunities as local self-sufficiency is low.
- We see further NOR Flash pricing upside, and expect GigaDevice NOR quality to catch up in the auto segment.
- Specialty DRAM pricing started to rebound in late 1Q25, and there are opportunities such as wafer-on-wafer specialty memory.
- We believe GigaDevice will ramp up 16G LPDDR4 and 32G DDR4 at CXMT's Gen 4 platform in 2027.
- Our price target implies 2026e P/E of 53x, above the historical average of 38x since 2016 but within +1 S.D. of 57x.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power: *Positive*
 Secular Growth: *Positive*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE Rmb1,542.00

92x 2026e EPS

NOR/SLC NAND prices rise more sharply into 2H26, and the company increases production of mid-/high-density NOR; MCU growth accelerates; DRAM business shows significant contribution: 1) Flash sales grow 300%+ Y/Y in 2026 via price hikes and meaningful growth in demand; 2) MCU sales growth significantly exceeds 40% in 2026; 3) contribution from WoW tops expectations in 2026-28e; 4) DDR4 price hike stronger than expected; 5) gross margin above 60% in 2026.

BASE CASE Rmb888.00

53x 2026e EPS

NOR/SLC NAND and DRAM pricing upside in 2026; moderate WoW contribution: 1) Flash sales rise 213% Y/Y in 2026; 2) MCU grows 28% in 2026; 3) meaningful contribution from WoW in 2026-28e; 4) significant DDR4 price hike in 2026; 5) gross margin at ~57% in 2026.

BEAR CASE Rmb648.00

39x 2026e EPS

NOR/SLC NAND price falls sharply into 2H26; MCU faces stronger competition from foreign and local vendors; pause in DRAM business development: 1) Flash sales grow less than expected in 2026, as ASP starts to drop towards the end of the year; 2) MCU sales decrease >10% Y/Y in 2026; 3) contribution from WoW falls below expectations in 2026-28e; 4) DDR4 price starts to decline towards the end of 2026; 5) gross margin below 35% in 2026.

Risk Reward – GigaDevice Semiconductor Beijing Inc (603986.SS)

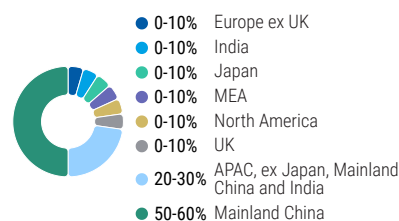
KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
NOR Flash ASP growth (%)	4	149	42	0
MCU ASP growth (%)	(8)	0	0	0
Gross margin (%)	40	56	58	54

INVESTMENT DRIVERS

- Beneficiary of MCU localization
- Decreasing opex burden
- Development of AI glasses market

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies [here](#)

MS ALPHA MODELS

4/5
MOST

3 Month
Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- NOR up-cycle driven by stronger demand
- Superior chip design, leading to increasing exposure to low-density NOR
- Faster-than-expected DRAM development

RISKS TO DOWNSIDE

- NOR down-cycle driven by weaker demand
- Inferior chip design, leading to increasing exposure to mid-/high-density NOR
- Slower-than-expected DRAM development

OWNERSHIP POSITIONING

Inst. Owners, % Active **86.1%**

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e

Sales / Revenue (Rmb, mn)
13,902.0 **18,110.5** **28,399.1**

EBITDA (Rmb, mn)
3,698.0 **7,486.2** **13,300**

Net income (Rmb, mn)
3,396.0 **6,131.2** **11,693**

EPS (Rmb)
5.1 **8.9** **16.7**

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

GigaDevice: Financial Summary

Exhibit 20: Financial Summary

Income Statement				
Rmb mn (Years End Dec)	2025	2026E	2027E	2028E
Net sales	9,203	28,399	46,298	57,916
COGS	(5,502)	(12,196)	(19,366)	(26,712)
Gross profit	3,701	16,203	26,932	31,204
Operating expenses	(2,176)	(3,153)	(3,535)	(3,991)
Operating income	1,526	13,050	23,396	27,214
Non-operating income	181	(125)	20	20
Pre-tax income	1,706	12,925	23,416	27,234
Income tax	29	1,187	2,150	2,501
Minority interests	(29)	(45)	(45)	(45)
Reported net income	1,648	11,693	21,221	24,688
Adj. wtd. avg. shrs(m)	666	701	701	701
MW EPS (Rmb)	2.48	16.68	30.27	35.21
Reported EPS (Rmb)	2.48	16.68	30.27	35.21

Cash Flow Statement				
Rmb mn (Years End Dec)	2025	2026E	2027E	2028E
Cashflow from Operations	2,032	9,555	18,596	22,156
Net profits	1,648	11,693	21,221	24,688
Depreciation	250	250	250	250
Working Capital Change	(440)	(2,389)	(2,875)	(2,782)
Other adjustments	574	0	0	0
Cashflow from investing	(1,391)	(250)	(250)	(250)
Capex	(1,049)	(250)	(250)	(250)
Change of LT Investment	(1,886)	0	0	0
Change of ST Investment	0	0	0	0
Other adjustments	1,544	0	0	0
Cashflow from financing	(517)	(494)	(3,508)	(6,366)
Increase in L/T debt	0	0	0	0
Increase in S/T debt	(698)	0	0	0
Cash Dividend Paid	(243)	(494)	(3,508)	(6,366)
Dir& Emp Bonus Paid	0	0	0	0
Issuance of stock	516	0	0	0
Other adjustments	(92)	0	0	0
Exchange rate adjustment	21	0	0	0
Net change in cash	146	8,810	14,838	15,540

Balance Sheet				
Rmb mn (Years End Dec)	2025	2026E	2027E	2028E
Cash	9,186	17,997	32,835	48,375
Mkt Securities	102	102	102	102
AR/NR	199	693	1,130	1,414
Inventory	3,066	5,799	9,209	12,702
Other	873	873	873	873
Current Assets	13,425	25,463	44,148	63,464
Long-term investments	4,085	4,085	4,085	4,085
Fixed assets	1,325	1,325	1,325	1,325
Deferred assets	432	432	432	432
Other assets	2,129	2,129	2,129	2,129
Total Assets	21,397	33,435	52,119	71,435
S/T borrowings	200	200	200	200
AP/NP	813	1,652	2,623	3,618
Other ST liabilities	934	934	934	934
LT debt	0	0	0	0
Other LT liabilities	226	226	226	226
Total Liabilities	2,174	3,013	3,984	4,979
Common shares	668	668	668	668
Additional capital	9,201	9,201	9,201	9,201
Retained earning	8,407	19,606	37,319	55,641
Other shareholders' equity	946	946	946	946
Total Equity	19,223	30,422	48,135	66,457
Total Liab. & Shrhldr's Equity	21,397	33,435	52,119	71,435

Financial Ratios				
	2025	2026E	2027E	2028E
Growth(%)				
Turnover	25.1	208.6	63.0	25.1
Operating profits	88.1	755.4	79.3	16.3
EPS	49.6	573.6	81.5	16.3
Margins (%)				
Gross Margin	40.2	57.1	58.2	53.9
Operating Margin	16.6	46.0	50.5	47.0
Pretax Margin	18.5	45.5	50.6	47.0
Net Margin	17.9	41.2	45.8	42.6
Return (%)				
ROAE	9.2	47.1	54.0	43.1
ROAA	8.1	42.7	49.6	40.0
Gearing (%)				
Net Debt/Equity	(46.7)	(58.5)	(67.8)	(72.5)
Liabilities/Equity	11.3	9.9	8.3	7.5
Ratios (X)				
Current ratio	6.9	9.1	11.7	13.4
Quick ratio	4.8	6.7	9.0	10.5
Others				
AR/NR Turnover (days)	9	9	9	9
Inventory Turnover (days)	174	174	174	174
AP Turnover (days)	49	49	49	49
Cash Conversion (days)	133	133	133	133

E = Morgan Stanley Research Estimates
Source: Morgan Stanley Research, Company Data

Nanya Tech: Estimate Revisions and Quarterly Financials

We raise our EPS estimates by 7% for 2026, 15% for 2027, and 14% for 2028. We now expect the 3Q DDR4 price increase to exceed prior expectations, with at least a 30% Q/Q rise versus the previous 20% assumption. DDR4 pricing is likely to remain elevated into 1H27, as the supply-demand gap will be difficult to close by then.

Exhibit 21: Nanya Tech: Estimate revisions

NT\$ mn	New '26E	Old '26E	Diff.	New '27E	Old '27E	Diff.	New '28E	Old '28E	Diff.
Net sales	349,737	332,719	5%	524,965	471,750	11%	369,398	341,113	8%
Gross profit	275,271	258,553	6%	411,790	359,775	14%	231,930	205,545	13%
Operating profit	257,966	241,654	7%	368,367	319,538	15%	198,868	174,123	14%
Pretax Income	262,646	246,334	7%	372,644	323,815	15%	203,156	178,412	14%
Net income	211,423	198,340	7%	300,154	260,940	15%	164,103	144,097	14%
EPS (NT\$)	65.56	61.50	7%	93.08	80.92	15%	50.89	44.68	14%
Margins									
Gross margin	78.7%	77.7%		78.4%	76.3%		62.8%	60.3%	
Operating margin	73.8%	72.6%		70.2%	67.7%		53.8%	51.0%	
Pretax margin	75.1%	74.0%		71.0%	68.6%		55.0%	52.3%	
Net margin	60.5%	59.6%		57.2%	55.3%		44.4%	42.2%	
NT\$									
BVPS (NT\$)	122.12	117.90	4%	218.99	202.11	8%	271.95	248.61	9%

Source: Morgan Stanley Research (E) estimates

Exhibit 22: Nanya Tech: Quarterly financials

NT\$ in million	1Q26	2Q26E	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2024	2025	2026e	2027e	2028e
Total Revenues	49,087	79,416	105,308	115,925	127,613	140,478	132,148	124,726	34,132	66,587	349,737	524,965	369,398
Sequential Change	63.1%	61.8%	32.6%	10.1%	10.1%	10.1%	-5.9%	-5.6%					
Change vs Year Ago	582.9%	654.5%	460.8%	285.2%	160.0%	76.9%	25.5%	7.6%	14.2%	95.1%	425.2%	50.1%	-29.6%
Cost of Sales	(15,771)	(17,635)	(19,800)	(21,460)	(22,822)	(24,277)	(25,732)	(40,344)	(32,292)	(50,841)	(74,466)	(113,175)	(137,468)
Percent of Revenues	32.1%	22.2%	18.6%	18.5%	17.9%	17.3%	19.5%	32.3%	94.6%	76.4%	21.3%	21.6%	37.2%
Variable costs as a % of revenue	26.2%	18.4%	15.7%	15.7%	15.6%	15.2%	17.3%	20.6%	53.9%	56.0%	17.8%	17.1%	30.6%
Dep. & Amort. expense as a % of COGS	(2,897)	(2,986)	(3,046)	(3,257)	(2,864)	(2,864)	(2,864)	(14,593)	(13,883)	(13,520)	(12,186)	(23,184)	(24,404)
as a % of revenue	18.4%	16.9%	15.5%	15.2%	12.5%	11.8%	11.1%	36.2%	43.0%	26.6%	16.4%	20.5%	17.8%
as a % of revenue	5.9%	3.8%	2.9%	2.8%	2.2%	2.0%	2.2%	11.7%	40.7%	20.3%	3.5%	4.4%	6.6%
Gross Margin	33,316	61,781	85,708	94,465	104,791	116,201	106,416	84,382	1,840	15,745	275,271	411,790	231,930
Percent of Revenues	67.9%	77.8%	81.4%	81.5%	82.1%	82.7%	80.5%	67.7%	5.4%	23.6%	78.7%	78.4%	62.8%
Total Opex	(3,205)	(3,987)	(4,781)	(5,331)	(10,329)	(11,228)	(11,016)	(10,850)	(10,134)	(9,741)	(17,305)	(43,423)	(33,062)
Percent of Revenues	6.5%	5.0%	4.5%	4.6%	8.1%	8.0%	8.3%	8.7%	29.7%	14.6%	4.9%	8.3%	9.0%
R&D	(2,109)	(2,214)	(2,325)	(2,511)	(2,800)	(2,940)	(3,087)	(3,241)	(7,685)	(7,041)	(9,160)	(12,068)	(11,637)
Percent of Revenues	4.3%	2.8%	2.2%	2.2%	2.2%	2.1%	2.3%	2.6%	22.5%	10.6%	2.6%	2.3%	3.2%
Sales and Marketing	(347)	(562)	(745)	(820)	(2,042)	(2,248)	(2,114)	(1,996)	(665)	(832)	(2,475)	(8,399)	(5,910)
Percent of Revenues	0.7%	0.7%	0.7%	0.7%	1.6%	1.6%	1.6%	1.6%	1.9%	1.2%	0.7%	1.6%	1.6%
General and Admin	(748)	(1,211)	(1,711)	(2,000)	(5,487)	(6,041)	(5,814)	(5,613)	(1,784)	(1,868)	(5,670)	(22,955)	(15,515)
Percent of Revenues	1.5%	1.5%	1.6%	1.7%	4.3%	4.3%	4.4%	4.5%	5.2%	2.8%	1.6%	4.4%	4.2%
Operating Income	30,111	57,794	80,927	89,134	94,462	104,973	95,400	73,533	(8,294)	6,004	257,966	368,367	198,868
Percent of Revenues	61.3%	72.8%	76.8%	76.9%	74.0%	74.7%	72.2%	59.0%	-24.3%	9.0%	73.8%	70.2%	53.8%
EBITDA	33,008	60,779	83,973	92,391	97,325	107,837	98,263	88,126	5,589	19,524	270,152	391,551	223,272
EBITDA margin	67%	77%	80%	80%	76%	77%	74%	71%	16%	29%	77%	75%	60%
Non-operating Income(Loss)	1,607	1,020	1,020	1,034	1,070	1,070	1,070	1,067	3,998	2,639	4,680	4,277	4,288
Profit Before Taxes	31,718	58,813	81,947	90,168	95,531	106,043	96,470	74,600	(4,297)	8,643	262,646	372,644	203,156
Percent of Revenues	64.6%	74.1%	77.8%	77.8%	74.9%	75.5%	73.0%	59.8%	-12.6%	13.0%	75.1%	71.0%	55.0%
Taxes	(5,860)	(11,512)	(18,618)	(15,434)	(17,047)	(20,756)	(21,917)	(12,769)	1,474	(1,269)	(51,224)	(72,490)	(39,053)
Tax Rate	17.8%	19.6%	22.7%	17.1%	17.8%	19.6%	22.7%	17.1%	34.3%	14.7%	19.5%	19.5%	19.2%
Reported Income (TW GAAP)	26,058	47,302	63,329	74,734	78,484	85,287	74,552	61,830	(2,823)	7,373	211,423	300,154	164,103
Percent of Revenues	53.1%	59.6%	60.1%	64.5%	61.5%	60.7%	56.4%	49.6%	-8.3%	11.1%	60.5%	57.2%	44.4%
Change vs Year Ago	-1443%	-1253%	3951%	574%	201%	80%	18%	-17%	-59%	-361%	2767%	42%	-45%
Reported EPS (NT\$, TW GAAP)	8.08	14.67	19.64	23.17	24.34	26.45	23.12	19.17	(0.91)	2.36	65.56	93.08	50.89
Sequential Change	129%	82%	34%	18%	9%	9%	-13%	-17%	-59%	-359%	2677%	42%	-45%
Book value per share									53.3	54.6	117.3	210.4	261.3

Source: Company data, Morgan Stanley Research (E) estimates

Nanya Tech: Valuation Methodology

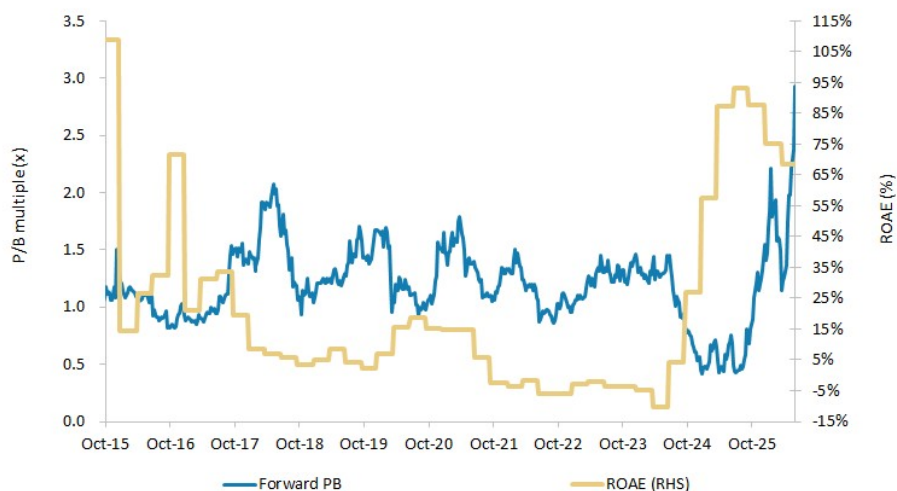
We raise our price target (base case scenario value) from NT\$380 to NT\$550. Our price target reflects BVPS multiples of 4.50x for 2026 and 2.51x for 2027, versus ROE of 77% for 2026 and 57% for 2027. We expect DDR4 pricing strength and LTAs to drive a re-rating. We raise our bull and bear case values from NT\$805 and NT\$210 to NT\$1,160 and NT\$305, respectively, implying 9.50x and 2.50x 2026e BVPS.

Exhibit 23: Nanya Tech – Historical P/B band



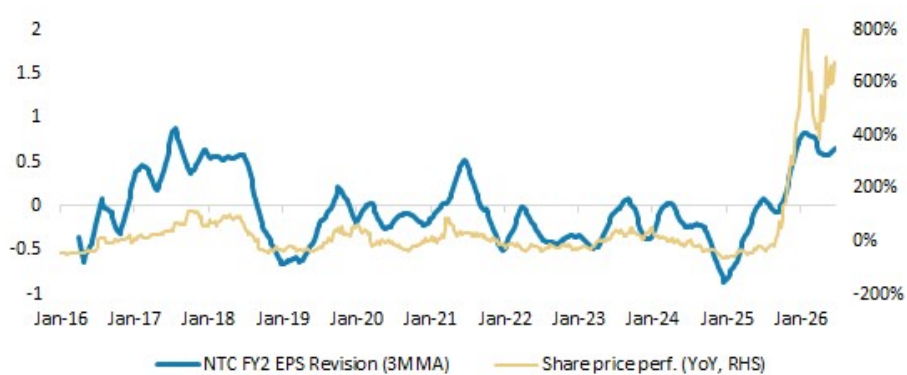
Source: Company data, Morgan Stanley Research estimates

Exhibit 24: Nanya Tech: Historical forward P/B vs ROE



Source: Company data, Morgan Stanley Research estimates

Exhibit 25: Nanya Tech: Earnings estimate revision breadth



Source: Company data, Morgan Stanley Research estimates

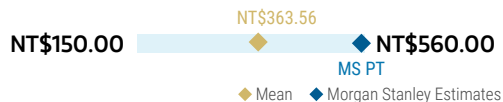
Risk Reward – Nanya Technology Corp. (2408.TW)

DDR4 S/D becoming more favorable; OW

PRICE TARGET NT\$550.00

Base case, P/B. We expect the stock to trade at 4.50x 2026, 2.51x 2027, and 2.02x 2028 BVPS, above its average since 2015. We think NTC will benefit from a supply-driven up-cycle as major memory players are exiting the DDR4 market. That should help NTC more than offset the competitive impact from CXMT in the near term.

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART



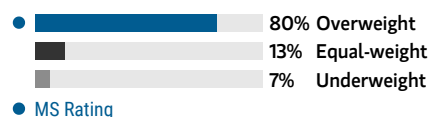
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- Major memory suppliers are gradually exiting the DDR4 market, benefiting existing Taiwanese players, including Nanya Tech.
- We expect DDR4 shortage into 2H26 to help NTC more than offset the competitive impact from CXMT in 2026. The supply shortage appears set to widen into 2H26.
- Our price target reflects BVPS of 4.50x for 2026, 2.51x for 2027, and 2.02x for 2028.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power: *Positive*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE

NT\$1,160.00

9.50x 2026e BVPS

DRAM prices strong; faster-than-expected 1a/1b nm ramp; competition from Korea and China is a non-factor: DRAM pricing becomes very strong in 2026 thanks to production cuts and relief of inventory pressure. NTC's utilization rate returns to the 100% level. Korean and Chinese competitors all exit the consumer DRAM market.

BASE CASE

NT\$550.00

4.50x 2026e BVPS

Strong DRAM cycle: Major DRAM players now plan to exit the DDR4 market, which positions Taiwanese players to benefit. We expect price-hike momentum to continue through 2026, with widened supply shortage into 2H26.

BEAR CASE

NT\$305.00

2.50x 2026e BVPS

Specialty DRAM demand becomes weak in 2026 with intensifying Chinese competition: Nanya Tech could face more pressure from pricing and technological competition amid a weak cycle. Inventory remains at historical peak levels. SK hynix and Chinese DRAM competitors take all the market share in China. Nanya Tech's utilization rate falls to the 40% level.

Risk Reward – Nanya Technology Corp. (2408.TW)

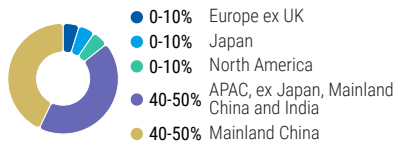
KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
12" Wafers Out per quarter (000s)	825.0	830.0	855.0	900.0
Average Wafer Yield (%)	81.8	108.1	106.5	95.0
Total Die shipments - 2 gb equivalent (mn)	2,368.0	3,178.8	3,244.9	3,090.4

INVESTMENT DRIVERS

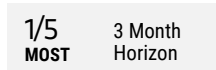
- Specialty DRAM pricing
- Monthly sales momentum
- Industry outlook reported by industry peers

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies [here](#)

MS ALPHA MODELS



Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Sustained DRAM prices from more disciplined supply and stronger demand
- Stronger pricing environment, enabling revenue guidance to be beaten
- Faster-than-expected 1a/1b nm ramp-up progress

RISKS TO DOWNSIDE

- Slower-than-expected 1a/1b nm ramp-up
- Less demand for specialty DRAM from 4K2K TVs and smart set-top boxes

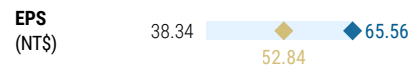
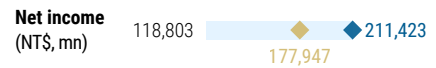
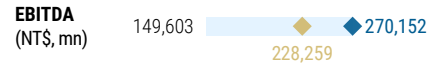
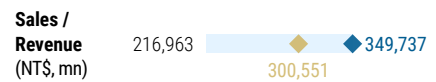
OWNERSHIP POSITIONING



Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

Nanya Tech: Financial Summary

Income Statement					Cash Flow Statement				
NT\$m (Years End Dec)	2025	2026E	2027E	2028E	NT\$m (Years	2025	2026E	2027E	2028E
Net sales	66,587	349,737	524,965	369,398	Cashflow from	18,568	(197,872)	293,865	394,638
COGS	(50,841)	(74,466)	(113,175)	(137,468)	Net profits	7,373	211,423	300,154	164,103
Depreciation Expense	(13,520)	(12,186)	(23,184)	(24,404)	Depreciation	14,034	12,186	23,184	24,404
Variable Cost	(37,321)	(62,281)	(89,991)	(113,063)	Working Capital	5,697	(415,858)	(27,513)	201,138
Gross profit	15,745	275,271	411,790	231,930	Other adjustments	(8,536)	(5,622)	(1,960)	4,993
Operating expenses	(9,741)	(17,305)	(43,423)	(33,062)	Cashflow from	(14,110)	(50,005)	(30,000)	(30,000)
Operating income	6,004	257,966	368,367	198,868	Capex	(13,441)	(50,000)	(30,000)	(30,000)
Non-operating income	2,639	4,680	4,277	4,288	Change of LT In	(612)	0	0	0
Pre-tax income	8,643	262,646	372,644	203,156	Change of ST In	0	0	0	0
Income tax	(1,269)	(51,224)	(72,490)	(39,053)	Other adjustments	(57)	(5)	0	0
Reported net income	7,373	211,423	300,154	164,103	Cashflow from	(6,317)	238,453	5,000	(20,000)
Adj. wtd. avg. shrs (m)	3,123	3,225	3,225	3,225	Increase in L/T	(6,750)	3,600	0	0
Reported EPS (NT\$)	2.36	65.56	93.08	50.89	Increase in S/T	(9,477)	234,941	5,000	(20,000)
EPS for consensus (NT\$)	2.36	65.56	93.08	50.89	Cash Dividend P	0	0	0	0
					Dir & Emp Bonus	(7,000)	0	0	0
					Proceed from New	0	0	0	0
					Other adjustments	16,909	(87)	0	0
					Exchange rate	(1,970)	1,019	0	0
					Net change in	-3,829	-8,405	268,865	344,638
Balance Sheet					Financial Ratios				
NT\$m (Years End Dec)	2025	2026E	2027E	2028E		2025	2026E	2027E	2028E
Cash	58,074	49,669	318,534	663,173	Growth (%)				
Mkt Securities	0	0	0	0	Turnover	95.1	425.2	50.1	-29.6
AR/INR	16,558	59,175	63,667	37,706	Margins (%)				
Inventory	27,288	402,624	433,191	256,554	Gross Margin	23.6	78.7	78.4	62.8
Other	6,621	18,025	19,056	13,103	Operating Marg	9.0	73.8	70.2	53.8
Current Assets	108,541	529,494	834,448	970,535	EBITA Margin	-11.3	70.3	65.8	47.2
Long-term investments	5,904	7,583	8,538	9,492	Pretax Margin	13.0	75.1	71.0	55.0
Fixed assets	85,031	125,252	132,068	137,663	Net Profit	11.1	60.5	57.2	44.4
Other assets	8,977	5,145	5,145	5,145	Return (%)				
Total Assets	208,453	667,473	980,198	1,122,836	ROAE	4.4	77.0	56.8	21.6
S/T borrowings	5,060	240,000	245,000	225,000	ROAA	3.6	48.3	36.4	15.6
AP/INP	6,481	8,576	16,122	14,662	Gearing (%)				
Other ST liabilities	7,480	17,772	17,797	17,792	Net Debt/Equity	(22.7)	55.0	(8.2)	(49.9)
LT debt	14,196	17,796	17,796	17,796	Liabilities/Equity	22.2	76.4	44.5	33.2
Other LT liabilities	4,698	4,927	4,927	4,927	Ratios (X)				
Total Liabilities	37,914	289,072	301,643	280,177	Current ratio	5.7	2.0	3.0	3.8
Common stocks	30,986	30,986	30,986	30,986	Quick ratio	3.9	0.4	1.4	2.7
Preferred stocks	0	0	0	0	Others				
Capital Reserve	33,081	33,168	33,168	33,168	AR/INR Turnove	50	57	40	43
Retained earnings	106,333	314,111	614,265	778,368	Inventory Turno	337	172	224	291
Other shareholders' equity	0	0	0	0	AP Turnover (d	59	47	42	52
Total Equity	170,538	378,402	678,556	842,659	Cash Conversio	328	182	222	281
Total Liab. & Shrhldr's Equity	208,453	667,473	980,198	1,122,836					
BVPS	54.61	117.34	210.42	261.31					

PSMC: Earnings Estimate Revisions

We raise our EPS forecasts for 2026/27/28 by 4%/48%/62%: This reflects stronger-than-expected DDR3/DDR4 memory pricing. We now expect DDR4 pricing to rise further into 4Q, following the double-digit monthly uptrend. We also incorporate a more meaningful revenue contribution from the 3D AI foundry business (including SiCap, wafer-on-wafer, and HBM PWF), accounting for 5%/10%/14% of total revenue in 2026/27/28.

Exhibit 26: PSMC: Earnings estimate revision summary

(NT\$ mn)	New 2026e	Old 2026e	Diff.%	New 2027e	Old 2027e	Diff.%	New 2028e	Old 2028e	Diff.%
Net sales	75,820	73,014	4%	102,954	89,835	15%	118,635	91,960	29%
Gross profit	16,783	15,836	6%	41,003	30,217	36%	50,792	34,579	47%
Operating profit	22,630	21,712	4%	31,964	21,309	50%	41,036	25,090	64%
Pretax income	23,249	22,332	4%	32,649	21,994	48%	41,721	25,775	62%
Net income	21,365	20,631	4%	26,119	17,595	48%	33,377	20,620	62%
EPS (NT\$)	4.80	4.64	4%	5.61	3.78	48%	7.16	4.43	62%

Margins									
Gross margin	22.1%	21.7%		39.8%	33.6%		42.8%	37.6%	
Operating margin	29.8%	29.7%		31.0%	23.7%		34.6%	27.3%	
Pretax margin	30.7%	30.6%		31.7%	24.5%		35.2%	28.0%	
Net margin	28.2%	28.3%		25.4%	19.6%		28.1%	22.4%	

(NT\$)	New 2026e	Old 2026e	Diff.%	New 2027e	Old 2027e	Diff.%	New 2028e	Old 2028e	Diff.%
BVPS	42.2	42.1	0.4%	52.8	50.8	3.8%	64.6	60.4	6.8%

Source: Company data, Morgan Stanley Research (E) estimates

Exhibit 27: PSMC: Quarterly financials

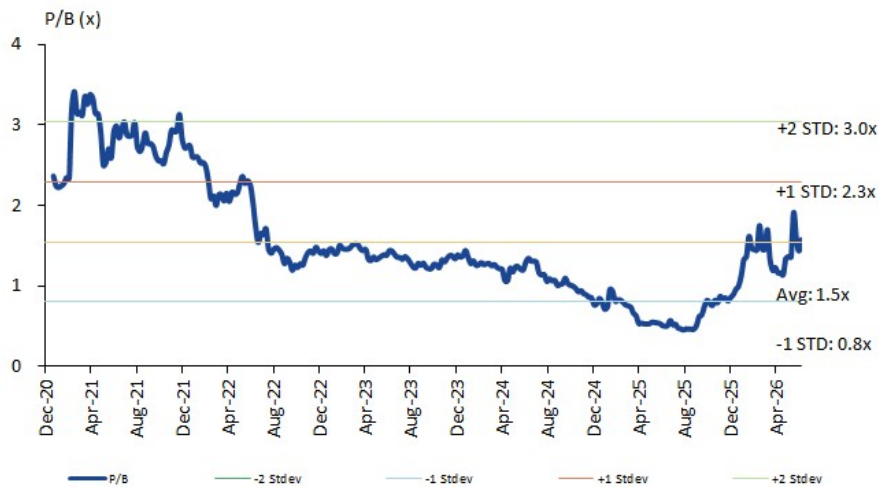
(NT\$ mil)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26	4Q26	1Q27e	2Q27e	3Q27e	4Q27e	1Q28e	2Q28e	3Q28e	4Q28e	2025	2026e	2027e	2028e
Total Revenues	11,116	11,278	11,840	12,495	13,672	17,915	21,068	23,264	24,193	25,347	26,277	27,136	28,082	29,266	30,213	31,075	46,730	75,820	102,954	118,635
Sequential Change	-0.1%	1.5%	5.0%	5.5%	8.6%	32.0%	17.6%	10.4%	4.0%	4.8%	3.3%	3.3%	3.1%	4.2%	3.2%	2.9%				
Change vs Year-Ago	2.7%	5.4%	1.6%	12.2%	22.1%	58.8%	77.9%	86.2%	78.3%	41.5%	24.7%	16.6%	16.1%	15.0%	14.5%	14.5%	4.5%	62.3%	35.8%	15.2%
Cost of Sales	(11,653)	(12,300)	(12,614)	(11,701)	(12,184)	(14,202)	(15,584)	(17,087)	(14,704)	(15,328)	(15,846)	(16,722)	(16,125)	(17,252)	(17,711)	(17,711)	(48,207)	(59,037)	(81,951)	(87,843)
Percent of Revenues	104.8%	109.1%	106.5%	93.6%	89.8%	79.3%	74.0%	73.4%	60.8%	65.5%	69.3%	59.2%	57.4%	57.2%	57.0%	57.0%	103.3%	77.9%	60.2%	57.2%
Gross Profit	(536)	(1,022)	(773)	794	1,388	3,712	5,485	6,188	9,489	10,019	10,431	11,064	11,957	12,013	13,364	13,364	(1,537)	16,783	41,003	50,792
Percent of Revenues	-4.8%	-9.1%	-6.5%	6.4%	10.2%	20.7%	26.0%	26.8%	39.2%	39.5%	40.8%	42.8%	42.8%	42.8%	43.0%	43.0%	NM	22.1%	39.6%	42.8%
Total Opex	(322)	(674)	(1,913)	(1,514)	(2,836)	(2,298)	(2,334)	(2,302)	(2,192)	(2,238)	(2,283)	(2,371)	(2,416)	(2,462)	(2,506)	(2,506)	(8,544)	5,847	(9,840)	(9,756)
Percent of Revenues	2.9%	6.0%	16.2%	12.1%	-24.6%	12.8%	11.1%	10.2%	9.1%	8.8%	8.7%	8.6%	8.4%	8.2%	8.1%	8.1%	17.2%	-7.7%	8.8%	8.2%
R&D	(1,354)	(1,260)	(1,297)	(1,346)	(1,615)	(1,635)	(1,655)	(1,675)	(1,300)	(1,320)	(1,340)	(1,360)	(1,380)	(1,400)	(1,420)	(1,440)	(5,257)	(6,581)	(5,320)	(5,640)
Percent of Revenues	12.2%	11.2%	11.0%	10.8%	11.9%	9.1%	7.9%	7.2%	5.4%	5.2%	5.1%	5.0%	4.9%	4.7%	4.6%	4.6%	11.3%	8.7%	5.2%	4.8%
Sales and Marketing	(116)	(111)	(113)	(122)	(170)	(198)	(219)	(242)	(242)	(253)	(263)	(271)	(281)	(293)	(302)	(311)	(603)	(817)	(1,030)	(1,180)
Percent of Revenues	1.0%	1.0%	1.0%	1.0%	1.2%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.1%	1.0%	1.0%
General and Admin	(822)	(563)	(569)	(560)	(744)	(744)	(759)	(774)	(950)	(985)	(980)	(995)	(1,010)	(1,040)	(1,055)	(1,055)	(2,334)	(3,023)	(3,890)	(4,130)
Percent of Revenues	5.6%	5.2%	4.8%	4.5%	5.5%	4.2%	3.6%	3.3%	3.9%	3.8%	3.7%	3.7%	3.6%	3.4%	3.4%	3.4%	5.0%	4.0%	3.8%	3.5%
Operating Income	(668)	(1,696)	(2,686)	(1,719)	14,206	1,447	3,555	3,886	7,297	7,811	8,148	8,728	9,586	10,096	10,497	10,858	(8,691)	22,630	31,964	41,036
Change vs Year-Ago	-7.7%	-15.0%	-22.7%	-5.8%	104.8%	8.1%	15.0%	16.4%	30.2%	30.7%	31.0%	32.2%	34.1%	34.9%	34.9%	34.9%	-20.5%	29.8%	31.0%	34.6%
Total Non-operating Income(Loss)	(74)	(1,529)	(41)	127	108	171	171	171	171	171	171	171	171	171	171	171	2,114	620	685	685
Profit Before Taxes	(832)	(3,225)	(2,727)	(992)	14,312	1,618	3,322	3,977	7,468	7,982	8,319	8,899	9,757	10,267	10,668	11,029	(7,477)	23,249	32,649	41,721
Percent of Revenues	-8.4%	-28.6%	-23.0%	-7.9%	105.6%	9.0%	15.8%	17.1%	30.9%	31.4%	31.7%	32.0%	34.7%	35.1%	35.2%	35.5%	NM	30.7%	31.7%	35.2%
Change vs Year-Ago	112.9%	64.8%	-3.3%	-62.0%	-167.2%	-100.2%	-221.8%	-277.5%	-47.9%	-391.3%	-150.4%	-124.0%	-30.7%	-29.1%	-28.2%	-23.8%				
Taxes	(165)	(180)	(1)	(62)	(101)	(324)	(864)	(795)	(1,484)	(1,590)	(1,664)	(1,762)	(1,811)	(2,052)	(2,134)	(2,206)	(336)	(1,084)	(1,500)	(1,344)
Tax Rate	-17.7%	-3.3%	0.0%	-10.4%	0.7%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	4.5%	8.1%	20.0%	20.0%
Reported Income (TW GAAP)	(1,097)	(3,334)	(2,728)	(654)	14,211	1,294	2,458	3,182	5,974	6,392	6,656	7,127	7,906	8,214	8,534	8,823	(7,813)	21,365	26,119	33,377
Percent of Revenues	-9.9%	-29.6%	-23.0%	-5.2%	104.9%	7.2%	12.0%	13.7%	24.7%	25.1%	25.3%	26.2%	27.6%	28.1%	28.2%	28.4%	-16.7%	28.2%	25.4%	28.1%
Change vs Year-Ago	149.8%	70.3%	-3.2%	-56.4%	-139.2%	-138.8%	-197.4%	-288.5%	-58.0%	-391.3%	-150.4%	-124.0%	-30.7%	-29.1%	-28.2%	-23.8%	NM	NM	22.3%	27.8%
EPS (NT\$)	(0.26)	(0.80)	(0.65)	(0.46)	3.36	0.31	0.67	0.68	1.37	1.43	1.53	1.68	1.76	1.83	1.89	1.87	(1.87)	4.80	5.61	7.16
Change vs Year-Ago	NM	NM	NM	NM	NM	NM	NM	NM	-67.8%	-247.2%	-150.4%	-124.0%	-30.7%	-29.1%	-23.8%	NM	NM	16.7%	27.8%	
Weighted average shares	4,179	4,188	4,191	4,193	4,239	4,239	4,659	4,659	4,659	4,659	4,659	4,659	4,659	4,659	4,659	4,659	4,188	4,449	4,659	4,659

Source: Company data, Morgan Stanley Research (E) estimates

PSMC: Valuation methodology

We raise our price target to NT\$111 from NT\$88: We incorporate our revised estimates and maintain our P/B valuation methodology. Our new target is based on a 2026e P/B of 2.6x, up from 2.1x previously, and above the historical average of 1.5x since 2021, reflecting our strong conviction in shipments, ASP improvements, and the emerging 3D AI foundry business. We believe PSMC is well positioned to benefit from its Micron partnership, including front-end migration to the 1y process node and back-end opportunities in advanced DRAM production (e.g., HBM). The company is also catching up with the DRAM pricing upcycle.

Exhibit 28: PSMC: Historical forward P/B



Source: Company data, Morgan Stanley Research estimates

Exhibit 29: PSMC: Historical forward P/B vs ROE



Source: Company data, Morgan Stanley Research estimates

Risk Reward – Powerchip Semiconductor Manufacturing Co (6770.TW)

Beneficiary of mature node up-cycle and EMIB supply chain

PRICE TARGET NT\$111.00

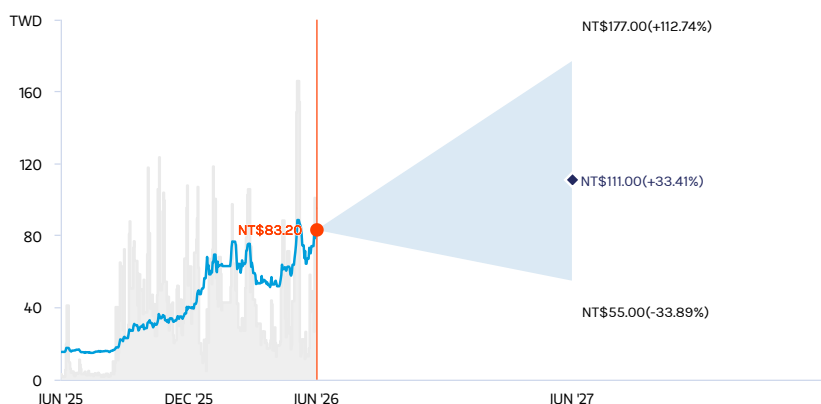
Base case, 2.6x 2026e P/B. This method is in line with our approach for Greater China memory IDM players, in view of the industry's high volatility. Our 2.6x target P/B is higher than the historical average of 1.5x since 2021, reflecting our optimistic view on improved pricing and utilization.

Consensus Price Target Distribution

Source: Refinitiv, Morgan Stanley Research



RISK REWARD CHART



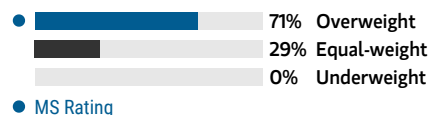
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- We expect a mature node capacity shortage in 2H27, reflecting fast growth of AI power ICs as a key part of future AI infrastructure.
- 3D AI foundry business is expected to be a major revenue contributor - we expect it to make up 5%/10%/14% of total revenue in 2026/27/28.
- We see specialty DRAM price hikes continuing throughout 2026.
- Our new target is based on 2026e P/B of 2.6x, up from 2.1x - higher than the historical average of 1.5x since 2021, reflecting our optimistic view on improved pricing and utilization.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Disruption: *Positive*
Pricing Power: *Positive*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE

NT\$177.00

4.2x 2026e BVPS

Strong sales growth with gross margin expansion: Our assumptions include: 1) a revenue CAGR of >40% in 2025-28; 2) gross margin expanding to 45%+ by 2028; 3) mature node foundry up-cycle longer than expected; 4) faster revenue ramp-up of 3D AI foundry business; 5) longer-than-expected specialty DRAM pricing increase .

BASE CASE

NT\$111.00

2.6x 2026e BVPS

Revenue growth with gross margin improvement: Our assumptions include: 1) a revenue CAGR of 36.4% in 2025-28; 2) a gross margin increase to 43% by 2028; 3) a mature node foundry up-cycle; 4) additional contribution from 3D AI foundry business; 5) specialty DRAM pricing continuing to increase.

BEAR CASE

NT\$55.00

1.3x 2026e BVPS

Revenue decline with gross margin erosion: Our assumptions include: 1) a revenue CAGR in the single digits (%) in 2025-28; 2) gross margin of <10% by 2028; 3) mature node foundry capacity no longer in shortage; 4) delays in revenue contribution from 3D AI foundry business; 5) decreases in specialty DRAM pricing.

Risk Reward – Powerchip Semiconductor Manufacturing Co (6770.TW)

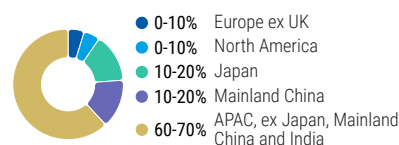
KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
Wafer shipment (k 8 inch)	2,614	2,881	2,965	755
Wafer ASP (USD)	457.7	474.7	517.3	522.0
Utilization rate (%) (%)	79.1	90.3	94.3	95.0

INVESTMENT DRIVERS

- Demand from consumer electronics clients
- Inventory in the supply chain
- Utilization rate
- Long-term agreements with clients

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies [here](#)

MS ALPHA MODELS

3/5
MOST
3 Month
Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Pricing power is sustained in 2026.
- Listing on main board attracts investment fund flows.
- Aluminum process enjoys higher margins.

RISKS TO DOWNSIDE

- Competition from China intensifies.
- Price erosion is faster than expected.
- Demand from consumer electronics clients weakens further.
- Inventory in the supply chain takes longer to digest.

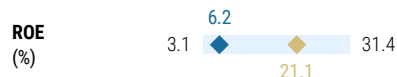
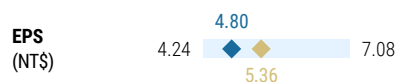
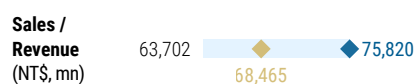
OWNERSHIP POSITIONING

Inst. Owners, % Active 21.3%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

PSMC: Financial Summary

Exhibit 30: Financial Summary

Income Statement				
NT\$ mn (Years End Dec)	2025	2026e	2027e	2028e
Net sales	46,730	75,820	102,954	118,635
COGS	(48,267)	(59,037)	(61,951)	(67,843)
Gross profit	(1,537)	16,783	41,003	50,792
Operating expenses	(8,054)	5,847	(9,040)	(9,756)
R&D	(5,257)	(6,581)	(5,320)	(5,640)
SG&A	(2,797)	(3,840)	(4,920)	(5,316)
Operating income	(9,591)	22,630	31,964	41,036
Non-operating income	2,114	620	685	685
Pre-tax income	(7,477)	23,249	32,649	41,721
Income tax	(336)	(1,884)	(6,530)	(8,344)
Net income	(7,813)	21,365	26,119	33,377
Adj. wtd. avg. shrs (mn)	4,188	4,449	4,659	4,659
Reported EPS (NT\$)	(1.87)	4.80	5.61	7.16
EPS for consensus (NT\$)	(1.87)	4.80	5.61	7.16

Cash Flow Statement				
NT\$mnn (Years End Dec)	2025	2026e	2027e	2028e
Cash flow from Operations	7,823	48,112	32,691	39,674
Net profits	(7,813)	21,360	26,113	33,370
Depreciation	9,283	7,564	7,465	5,594
Equity investment losses (income)	11	0	0	0
Other adjustments	6,343	19,188	(888)	710
Cash flow from Investing	3,554	41,439	(2,805)	(2,281)
Capex	(8,591)	(15,361)	(2,805)	(2,281)
Change of LT Investment	0	0	0	0
Change of ST Investment	12,145	0	0	0
Other adjustments	(0)	56,800	0	0
Cash flow from financing	(5,517)	59,944	25,991	24,564
Increase in LT debt	6,140	0	0	0
Increase in S/T debt	0	3,000	3,000	3,000
Cash Dividend Paid	0	2,344	(6,409)	(7,836)
Dir & Emp Bonus Paid	0	0	0	0
Issuance of stock	0	29,400	29,400	29,400
Dec/Inc-TreasureSt	0	25,200	0	0
Other Adjustments	(11,657)	0	0	0
Net change in cash	5,860	149,495	55,876	61,957

Balance Sheet				
NT\$mnn (Years End Dec)	2025	2026e	2027e	2028e
Cash	16,789	166,284	222,160	284,117
Mkt Securities	2,800	2,800	2,800	2,800
AR/NR	6,550	4,846	6,581	7,583
Inventory	9,557	5,748	6,031	6,605
Other	8,451	8,451	8,451	8,451
Current Assets	44,148	188,129	246,023	309,556
Long-term investments	49	49	49	49
Fixed assets	122,004	109,520	104,861	101,547
Other assets	12,485	12,485	12,485	12,485
Total Assets	178,686	310,183	363,418	423,637
S/T borrowings	0	0	0	0
AP/NP	2,997	4,548	4,772	5,226
Other ST liabilities	19,789	34,912	38,818	43,650
LT debt	0	0	0	0
Other LT liabilities	73,900	73,900	73,900	73,900
Total Liabilities	96,685	113,360	117,491	122,776
Common shares	42,259	46,459	46,459	46,459
Retained earning	11,792	97,214	146,318	201,252
Other shareholders' equity	27,950	53,150	53,150	53,150
Total Equity	82,000	196,823	245,927	300,861
Total Liab. & Shrhldr's Equity	178,686	310,183	363,418	423,637

E = Morgan Stanley Research Estimates
Source: Morgan Stanley Research, Company Data

Source: Company data, Morgan Stanley Research (E) estimates

Financial Ratios				
	2025	2026e	2027e	2028e
Growth(%)				
Turnover	4.5	62.3	35.8	15.2
Operating profits	3.2	(335.9)	N/A	N/A
Pretax profits	9.4	(410.9)	40.4	27.8
Net profits	N/A	N/A	N/A	N/A
EPS	N/A	N/A	N/A	N/A
Margins (%)				
Gross Margin	(3.3)	22.1	39.8	42.8
Operating Margin	(20.5)	29.8	31.0	34.6
Pretax Margin	(16.0)	30.7	31.7	35.2
Net Profit	(16.7)	28.2	25.4	28.1
Return (%)				
ROAA	(4.3)	8.7	7.8	8.5
ROAE	(9.2)	15.3	11.8	12.2
Gearing (%)				
Net Debt/Equity	69.6	(46.9)	(60.3)	(69.9)
Liabilities/Equity	117.9	57.6	47.8	40.8
Ratios (X)				
Current ratio	1.9	4.8	5.6	6.3
Quick ratio	1.1	4.4	5.3	6.0
Others				
AR/NR Turnover (days)	23.3	23.3	23.3	23.3
Inventory Turnover (days)	35.5	35.5	35.5	35.5
AP Turnover (days)	28.1	28.1	28.1	28.1
Cash Conversion (days)	30.7	30.7	30.7	30.7

Macronix: Earnings Estimate Revisions

We raise our 2026/27/28 EPS forecasts by 34%/20%/21%: This reflects stronger-than-expected memory pricing across NOR flash and SLC/MLC NAND. SLC/MLC NAND pricing is likely to continue rising into 4Q, following the 50–60% increase in 3Q. NOR pricing could increase by 30–40% in 3Q and extend into 4Q.

Exhibit 31: Macronix: Earnings Estimate Revisions

(NT\$ mn)	New 2026e	Old 2026e	Diff.%	New 2027e	Old 2027e	Diff.%	New 2028e	Old 2028e	Diff.%
Net sales	77,854	66,682	17%	143,216	126,013	14%	144,185	127,564	13%
Gross profit	33,669	27,925	21%	72,197	61,874	17%	74,529	63,549	17%
Operating profit	22,733	16,970	34%	58,187	48,496	20%	60,159	49,869	21%
Pretax income	22,860	17,076	34%	58,171	48,421	20%	60,170	49,813	21%
Net income	19,377	14,478	34%	49,257	40,998	20%	50,950	42,178	21%
Diluted EPS	9.84	7.35	34%	25.02	20.82	20%	25.88	21.42	21%
Margins									
Gross margin	43.2%	41.9%	1.4 ppt	50.4%	49.1%	1.3 ppt	51.7%	49.8%	1.9 ppt
Operating margin	29.2%	25.4%	3.8 ppt	40.6%	38.5%	2.1 ppt	41.7%	39.1%	2.6 ppt
Pretax margin	29.4%	25.6%	3.8 ppt	40.6%	38.4%	2.2 ppt	41.7%	39.0%	2.7 ppt
Net margin	24.9%	21.7%	3.2 ppt	34.4%	32.5%	1.9 ppt	35.3%	33.1%	2.3 ppt

NT\$	New '26E	Old '26E	Diff.	New '27E	Old '27E	Diff.	New '28E	Old '28E	Diff.
BVPS	31.41	28.92	9%	56.43	49.74	13%	82.30	71.17	16%

Source: Company data, Morgan Stanley Research (E) estimates

Exhibit 32: Macronix: Quarterly financials

(NT\$ mn)	1Q26	2Q26e	3Q26e	4Q26e	1Q27e	2Q27e	3Q27e	4Q27e	1Q28e	2Q28e	3Q28e	4Q28e	2025	2026e	2027e	2028e
Total Revenues	10,469	14,309	20,894	32,181	34,004	36,865	36,197	36,150	36,106	36,064	36,025	35,989	28,880	77,854	143,216	144,185
Sequential Change	35.4%	36.7%	46.0%	54.0%	5.7%	8.4%	-1.8%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%				
Change vs Year Ago	70.6%	110.5%	154.4%	316.4%	224.8%	157.6%	73.2%	12.3%	6.2%	-2.2%	-0.5%	-0.4%	11.6%	169.6%	84.0%	0.7%
Cost of Sales	(6,198)	(8,442)	(12,168)	(17,377)	(17,352)	(18,339)	(17,680)	(17,648)	(17,431)	(17,422)	(17,414)	(17,388)	(23,749)	(44,185)	(71,019)	(69,656)
Gross Profit	4,271	5,868	8,726	14,804	16,652	18,526	18,516	18,502	18,674	18,642	18,611	18,601	5,131	33,669	72,197	74,529
Gross Margin	40.8%	41.0%	41.8%	46.0%	49.0%	50.3%	51.2%	51.2%	51.7%	51.7%	51.7%	51.7%	17.8%	43.2%	50.4%	51.7%
Total Opex	(2,339)	(2,515)	(2,802)	(3,280)	(3,399)	(3,536)	(3,528)	(3,547)	(3,565)	(3,583)	(3,601)	(3,620)	(8,829)	(10,936)	(14,010)	(14,369)
Percent of Revenues	22.3%	17.6%	13.4%	10.2%	10.0%	9.6%	9.7%	9.8%	9.9%	9.9%	10.0%	10.1%	30.6%	14.0%	9.8%	10.0%
R&D	(1,411)	(1,431)	(1,451)	(1,471)	(1,491)	(1,511)	(1,531)	(1,551)	(1,571)	(1,591)	(1,611)	(1,631)	(5,714)	(5,764)	(6,084)	(6,404)
Percent of Revenues	13.5%	10.0%	6.9%	4.6%	4.4%	4.1%	4.2%	4.3%	4.4%	4.4%	4.5%	4.5%	19.8%	7.4%	4.2%	4.4%
Sales and Marketing	(425)	(581)	(848)	(1,307)	(1,381)	(1,497)	(1,470)	(1,468)	(1,466)	(1,464)	(1,463)	(1,461)	(1,520)	(3,161)	(5,814)	(5,854)
Percent of Revenues	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	5.3%	4.1%	4.1%	4.1%
General and Admin	(503)	(503)	(503)	(503)	(528)	(528)	(528)	(528)	(528)	(528)	(528)	(528)	(1,594)	(2,011)	(2,112)	(2,112)
Percent of Revenues	4.8%	3.5%	2.4%	1.6%	1.6%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	5.5%	2.6%	1.5%	1.5%
Operating Income	1,933	3,353	5,924	11,524	13,253	14,991	14,988	14,955	15,110	15,059	15,010	14,981	(3,698)	22,733	58,187	60,159
Percent of Revenues	18.5%	23.4%	28.4%	35.8%	39.0%	40.7%	41.4%	41.4%	41.8%	41.8%	41.7%	41.6%	-12.8%	29.2%	40.6%	41.7%
Total Non-operating Income(Loss)	134	10	(9)	(8)	(7)	(4)	(3)	(2)	0	1	4	5	64	126	(16)	11
Profit Before Taxes	2,066	3,363	5,914	11,516	13,246	14,986	14,985	14,954	15,110	15,060	15,013	14,986	(3,633)	22,860	58,171	60,170
Percent of Revenues	19.7%	23.5%	28.3%	35.8%	39.0%	40.7%	41.4%	41.4%	41.8%	41.8%	41.7%	41.6%	-12.6%	29.4%	40.6%	41.7%
Change vs Year Ago	-313.2%	-338.9%	-720.0%	-3907.5%	541.0%	345.6%	153.4%	29.9%	14.1%	0.5%	0.2%	0.2%				
Taxes	(287)	(515)	(905)	(1,762)	(2,027)	(2,293)	(2,293)	(2,288)	(2,312)	(2,304)	(2,297)	(2,293)	328	(3,468)	(8,900)	(9,206)
Tax Rate	-13.9%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	9.0%	15.2%	15.3%	15.3%
Net Income, Cont Ops	1,779	2,849	5,009	9,754	11,220	12,694	12,692	12,666	12,798	12,756	12,716	12,693	(3,305)	19,391	49,271	50,964
Percent of Revenues	17.0%	19.9%	24.0%	30.3%	33.0%	34.4%	35.1%	35.0%	35.4%	35.4%	35.3%	35.3%	-11.4%	24.9%	34.4%	35.3%
Minority Interest	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(3)	(14)	(14)	(14)
Reported Income (TW GAAP)	1,776	2,845	5,006	9,750	11,216	12,690	12,689	12,662	12,795	12,753	12,713	12,690	(3,308)	19,377	49,257	50,950
Percent of Revenues	17.0%	19.9%	24.0%	30.3%	33.0%	34.4%	35.1%	35.0%	35.4%	35.4%	35.3%	35.3%	-11.5%	24.9%	34.4%	35.3%
Change vs Year Ago	-303.4%	-322.9%	-679.9%	-3402.5%	531.6%	346.0%	153.5%	29.9%	14.1%	0.5%	0.2%	0.2%	2.9%	-685.8%	154.2%	3.4%
Reported Diluted EPS (NT\$, TW GAAP)	0.90	1.44	2.54	4.95	5.70	6.44	6.44	6.43	6.50	6.48	6.46	6.44	(1.78)	9.84	25.02	25.88
Reported Basic EPS (NT\$, GAAP)	0.90	1.44	2.54	4.95	5.70	6.44	6.44	6.43	6.50	6.48	6.46	6.44	(1.78)	9.84	25.02	25.88

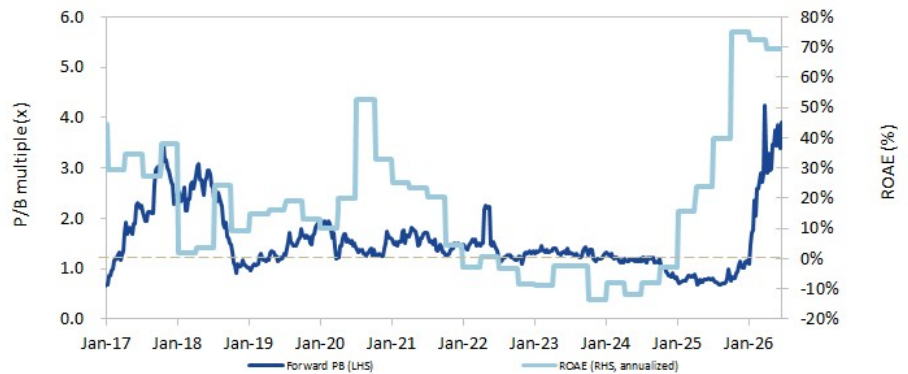
Source: Company data, Morgan Stanley Research (E) estimates

Macronix: Valuation Methodology

We raise our price target to NT\$220 from NT\$202: We continue to use a P/B multiple methodology to derive our price target, in line with our approach for Greater China memory IDM peers and in view of the industry's high volatility. Historically, forward P/B has had a similar trend vs. ROAE, and as we expect a net profit turnaround driven by elevated prices, we believe the stock will trade up to 7.0x 2026e BVPS (same as our prior target) vs. its historical band of 0.5x-1.5x since 2017.

We raise our bull case value to NT\$355, which is 11.3x our 2026e BVPS, and our bear case value to NT\$130, which is 4.1x our 2026e BVPS.

Exhibit 33: Forward P/B vs. ROAE



Source: Factset, Morgan Stanley Research

Risk Reward – Macronix International Co Ltd (2337.TW) Top Pick

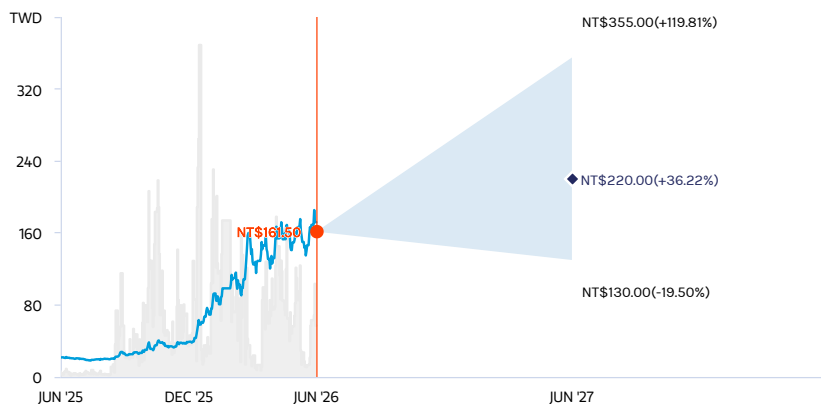
Top Pick; OW on legacy Flash opportunities

PRICE TARGET NT\$220.00

Base case, P/B, in line with our Greater China memory coverage, due to the memory industry's cyclical nature. We apply a target multiple of 7.0x to our 2026 BVPS estimate, vs. its historical average of 1.5x since 2017. We continue to believe the P/B target is justifiable, as the MLC and legacy TLC NAND could be in greater shortage into 2H26, with under supply easily going up to 40%. The only supplier which could fill the gap remains Macronix.



RISK REWARD CHART



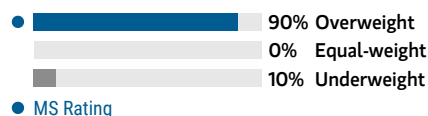
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- MLC and legacy TLC NAND could be in greater shortage into 2H26, with under supply easily going up to 40%. The only supplier which could fill the gap in our view remains Macronix. Pricing for MLC and legacy TLC could rise over 200% from 1Q26 to 4Q26.
- We expect low-single-digit NOR undersupply throughout 2026, driven by capacity cannibalization from other high-margin products.
- ROM may benefit from the Nintendo Switch 2, which started selling in June 2025.
- We view the current P/B valuation as attractive given the strong near-term outlook.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power: *Positive*

Secular Growth: *Positive*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE

NT\$355.00

11.3x 2026e BVPS

Higher than expected price hike for legacy NAND, and significant price hike for NOR throughout 2026: NAND revenue grows 1200%+, and NOR flash revenue grows 150%+ Y/Y in 2026.

BASE CASE

NT\$220.00

7.0x 2026e BVPS

Significant price hike for legacy NAND, and continued price hike for NOR throughout 2026: NAND revenue grows 833%, and NOR flash revenue grows 130% Y/Y in 2026.

BEAR CASE

NT\$130.00

4.1x 2026e BVPS

Moderate price hike for legacy NAND, and flattish price for NOR throughout 2026: NAND revenue grows <150%, and NOR flash revenue grows <80% Y/Y in 2026.

Risk Reward – Macronix International Co Ltd (2337.TW)

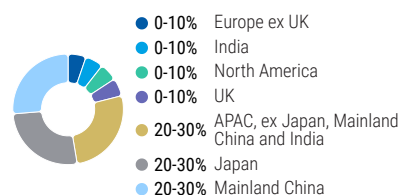
KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
NOR Flash pricing (NT\$)	1,721	3,251	4,056	4,056
ROM sales (NT\$, mn)	5,898	3,887	3,808	4,119
NAND sales (NT\$, mn)	3,540	33,036	102,394	108,737

INVESTMENT DRIVERS

- NOR pricing trend
- SLC NAND pricing
- Peers' production expansion

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies [here](#)

MS ALPHA MODELS

1/5
MOST

3 Month
Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Wider legacy NAND supply / demand gap
- NOR up-cycle, driven by limited supply expansion and/or stronger demand
- Faster growth for Switch hardware and core titles

RISKS TO DOWNSIDE

- Less severe legacy NAND supply / demand gap
- NOR down-cycle, driven by faster supply expansion and/or demand weakness
- Slower growth for Switch hardware and core titles

OWNERSHIP POSITIONING

Inst. Owners, % Active **49.6%**

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e

Sales / Revenue (NT\$, mn)

57,136	77,854	112,239
	79,889	

EBITDA (NT\$, mn)

21,681	30,271	41,618
	31,688	

Net income (NT\$, mn)

14,478	19,377	37,482
	26,197	

EPS (NT\$)

7.35	9.84	19.04
	13.29	

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

Macronix: Financial Summary

Exhibit 34: Financial Summary

Income Statement, 2025-2028e, Year End Dec				
(NT\$ mn)	2025	2026e	2027e	2028e
Turnover	28,880	77,854	143,216	144,185
YoY Growth	11.6%	169.6%	84.0%	0.7%
Less: COGS	(23,749)	(44,185)	(71,019)	(69,656)
Variable costs	(19,503)	(37,751)	(65,496)	(64,883)
Depreciation & amort	(4,246)	(6,434)	(5,523)	(4,773)
Gross profit	5,131	33,669	72,197	74,529
YoY Growth	-15.9%	556.2%	114.4%	3.2%
% margin	17.8%	43.2%	50.4%	51.7%
Operating Expenses:	(8,829)	(10,936)	(14,010)	(14,369)
R&D	(5,714)	(5,764)	(6,084)	(6,404)
Sales and Marketing	(1,520)	(3,161)	(5,814)	(5,854)
General and Admin	(1,594)	(2,011)	(2,112)	(2,112)
Operating Profit	(3,698)	22,733	58,187	60,159
YoY Growth	-5.8%	-714.8%	156.0%	3.4%
% margin	-12.8%	29.2%	40.6%	41.7%
Total Non-op	64	126	(16)	11
Pretax Profit	(3,633)	22,860	58,171	60,170
YoY Growth	2.3%	-729.2%	154.5%	3.4%
% margin	-12.6%	29.4%	40.6%	41.7%
Tax	328	(3,468)	(8,900)	(9,206)
Reported Net Income	(3,308)	19,377	49,257	50,950
Reported EPS (NT\$)	(1.78)	9.84	25.02	25.88
ModelWare EPS (NT\$)	(1.78)	9.84	25.02	25.88
Key Ratios				
	2025	2026e	2027e	2028e
Return (%)				
ROAA	(0.0)	0.1	0.3	0.2
ROAE	(0.1)	0.2	0.4	0.4
OP_ATO	46.7%	62.0%	107.2%	111.5%
Gearing (x)				
Net Debt/ Equity	0.1x	0.7x	(0.1x)	(0.4x)
Current Ratio	2.4x	3.6x	6.9x	9.9x
Quick Ratio	1.6x	1.3x	4.6x	7.6x
Operating Cycle				
AR/NR Turnover (days)	115	80	54	56
Inventory Turnover (days)	330	279	215	219
AP Turnover (days)	77	63	47	48
Cash Conversion (days)	368	296	222	227

Balance sheet				
(NT\$ mn)	2025	2026e	2027e	2028e
Assets				
Cash & Equivalents	14,913	4,636	63,636	119,013
Marketable Security	7	7	7	7
A/R & N/R	4,315	19,950	22,410	22,310
Inventories	9,813	42,109	42,766	42,136
Other Current Asset	190	190	190	190
Total current assets	29,425	67,078	129,195	183,843
LT Investment	6,618	6,613	6,609	6,607
Total Fixed Assets	38,549	53,012	48,299	44,466
Total Other Assets	3,909	3,909	3,909	3,909
Total Assets	78,500	130,612	188,012	238,824
Liabilities				
A/P & N/P	3,120	9,191	9,335	9,197
Accrued Expenses	0	0	0	0
Other Payable	1,877	1,877	1,877	1,877
Total Current Liab.	12,404	18,475	18,618	18,481
L-T Liabilities	17,386	47,386	55,386	55,386
Total Other L-T Liab	2,903	2,903	2,903	2,903
Total Liabilities	32,693	68,764	76,907	76,770
Equity				
Common Stock	18,573	18,573	18,573	18,573
Preferred Stock				
Capital Reserve	1,472	1,472	1,472	1,472
Retained earnings	25,916	41,957	91,213	142,163
Treasury Stock	(159)	(159)	(159)	(159)
Total Equity	45,808	61,848	111,105	162,054

Cash Flow Statement				
(NT\$ mn)	2025	2026e	2027e	2028e
Net Income	(3,308)	19,377	49,257	50,950
Depreciation	5,094	7,537	6,470	5,591
Net Investment Losses (Gains)	(2)	0	0	0
Others	3,051	(41,854)	(2,969)	594
Cash Flow-Operating	4,835	(14,940)	52,758	57,135
Investing				
(Purchase) of FA	(3,000)	(22,000)	(1,758)	(1,758)
Sale of Fix Asset	2	0	0	0
(Purchase)L-T Inv.	0	0	0	0
Sale of L-T Inv.	0	0	0	0
Sale(Pur.)S-T Inv.	144	0	0	0
Cash Flow-Investing	(2,884)	(22,000)	(1,758)	(1,758)
Financing				
Inc(Dec)-S-T Debt	(2,488)	0	0	0
Dividend Paid	(3,337)	(3,337)	(3,337)	(3,337)
Dir & Emp Bonus	0	0	0	0
Proceed from New Issue	0	0	0	0
Dec/Inc-TreasureSt	0	0	0	0
Others	2,884	30,000	8,000	0
Cash Flow-Financing	(2,941)	26,663	4,663	(3,337)
Change in Cash	3,289	(10,277)	55,663	52,040
Net cash/(debt), b/f	11,623	14,913	4,636	60,299
Net cash/(debt), c/f	14,913	4,636	60,299	112,339

e = Morgan Stanley Research Estimates
Source: Company Data, Morgan Stanley Research

Source: Company data, Morgan Stanley Research (E) estimates

Risk Reward Reference links

1. View explanation of Options Probabilities methodology - [Options_Probabilities_Exhibit_Link.pdf](#)
2. View descriptions of Risk Rewards Themes - [RR_Themes_Exhibit_Link.pdf](#)
3. View explanation of regional hierarchies - [GEG_Exhibit_Link.pdf](#)
4. View explanation of Theme/Exposure methodology - [ESG_Sustainable_Solutions_External_Link.pdf](#)
5. View explanation of HERS methodology - [ESG_HERS_External_Link.pdf](#)

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Global Stock Ratings Distribution

(as of May 31, 2026)

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Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1542	42%	465	51%	30%	707	43%
Equal-weight/Hold	1571	43%	369	40%	23%	723	44%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	551	15%	86	9%	16%	201	12%
Total	3,667		920			1632	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/25/2026)
Charlie Chan		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US\$101.60
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb399.13
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT\$150.50
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT\$4,230.00

ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT\$641.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,505.00
Global Unichip Corp (3443.TW)	O (06/24/2026)	NT\$4,850.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT\$1,040.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT\$505.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK\$192.80
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK\$793.00
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT\$334.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb111.32
MediaTek (2454.TW)	O (11/28/2025)	NT\$4,310.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb770.52
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT\$477.00
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb798.00
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb89.71
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT\$2,475.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb138.28
Silergy Corp. (6415.TW)	U (05/19/2026)	NT\$615.00
SMIC (0981.HK)	O (10/21/2025)	HK\$86.00
TSMC (2330.TW)	O (02/07/2022)	NT\$2,390.00
UMC (2303.TW)	O (05/19/2026)	NT\$178.50
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT\$220.00
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT\$463.00

Daisy Dai, CFA

ASMPT Ltd (0522.HK)	O (07/24/2025)	HK\$204.80
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb84.72
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT\$180.00
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb110.10
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb49.86
Innoscence (2577.HK)	E (10/13/2025)	HK\$67.20
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb104.17
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK\$28.24
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb172.28
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb138.22
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb87.50
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb36.19
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb137.45

Daniel Yen, CFA

AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT\$1,100.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT\$1,435.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT\$17,425.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT\$124.50
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb124.23
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb775.21
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT\$161.50
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK\$459.00
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb279.16
Novatek (3034.TW)	U (02/04/2026)	NT\$561.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT\$177.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT\$658.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT\$83.20
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT\$814.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb59.81
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT\$219.50
WPG Holdings (3702.TW)	O (03/16/2026)	NT\$107.00
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT\$217.50

Duan Liu

Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb179.45
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb677.30

Tiffany Yeh

AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT\$1,105.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT\$629.00
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US\$15.73
Hon Precision (7769.TW)	O (04/17/2026)	NT\$6,920.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT\$6,905.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US\$321.66
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT\$9,100.00

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