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Greater China Semiconductors | Asia Pacific

Old Memory – Reaffirming Asymmetric Risks

We see ongoing upside on legacy Flash and 2.5D IPD/3D WoW memory. Reiterate OW on Macronix and AP Memory; raise AP Memory PT further.

Key Takeaways

- Intel continues to make progress on advanced packaging, suggesting upside on AP Memory IPD in 2028.
- Higher DRAM pricing could suggest WoW pricing renegotiation, enlarging TAM.
- Macronix earnings suggests continued pricing upside in 2H for MLC NAND and NOR.

Higher DRAM pricing and Intel’s commentary suggests upside SiCap and WoW TAM: Intel mentioned that the company continued to make progress on advanced packaging, including additional growth in customer backlog ([link](#)). We believe EMIB-T will be the important packaging technology with Mediatek’s TPU ([link](#)). If there are additional clients, there could be potential upside on SiCap TAM ([link](#)). We also believe WoW TAM could be larger given the much higher DRAM cost ([link](#)). Our prior assumption of ASP US\$6 per GB appears to be too low vs. DRAM pricing above US\$15.

Macronix earnings suggested upside on MLC (Exhibit 2): strong 1Q results beat was helped by eMMC (MLC) which recorded +94% Q/Q growth and +3,994% Y/Y growth. Management sees large undersupply for eMMC, and expects continued pricing upside in 2H for eMMC and NOR. The company also expects GM improvement to continue.

DDR4 remains strong but upside likely capped: According to the Taiwan local news, Nanya Tech will penetrate into the VR supply chain through LPDDR offering; that said, we think the news could be misleading as we believe the SOCAMM2 will require LPDDR5X, which we haven’t seen the sample from the company. In the near term, we continue to see pricing hike into 3Q but likely capped on US\$25 per GB even for networking clients. Meanwhile, we do see GigaDevice trying to ramp up 16G LPDDR4 and 32G DDR4 based on gen 4 technology.

Keeping our selective view; up AP Memory PT: We revise up AP Memory’s PT to NT\$1,000; we estimate its earnings to grow 60%+ in both 2027 and 2028, boosted by SiCap and WoW. We estimate 74% of the revenue coming from these new opportunities in 2028. For Macronix, we retain OW and our Top Pick.

MORGAN STANLEY TAIWAN LIMITED+
Daniel Yen, CFA
Equity Analyst
Daniel.Yen@morganstanley.com +886 2 2730-2863

Charlie Chan
Equity Analyst
Charlie.Chan@morganstanley.com +886 2 2730-1725

MORGAN STANLEY ASIA LIMITED+
Daisy Dai, CFA
Equity Analyst
Daisy.Dai@morganstanley.com +852 2848-7310

MORGAN STANLEY TAIWAN LIMITED+
Tiffany Yeh
Equity Analyst
Tiffany.Yeh@morganstanley.com +886 2 7712-3032

MORGAN STANLEY ASIA LIMITED+
Ethan Jia
Research Associate
Ethan.Jia@morganstanley.com +852 3963-2287

GREATER CHINA TECHNOLOGY SEMICONDUCTORS		
Asia Pacific Industry View		Attractive
WHAT'S CHANGED		
AP Memory Technology Corp (6531.TW)	From	To
Price Target	NT\$777.00	NT\$1,000.00

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Reaction to earnings

Impact to our thesis	Financial results versus consensus	Direction of next 12-month consensus EPS
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Macronix International Co Ltd (2337.TW)

Strengthens our thesis

↑ Modest upside

↑ Modest revision higher

Source: Company data, Morgan Stanley Research

Key Charts and Exhibits

Exhibit 1: Order of preference: GC memory

	Macronix 2337.TW	AP Memory 6531.TW	PSMC 6770.TW	GigaDevice 603986.SS	Nanya Tech 2408.TW	Winbond 2344.TW
						
Rating	Overweight	Overweight	Overweight	Overweight	Equal-Weight	Equal-Weight
Trading Currency	TWD	TWD	TWD	CNY	TWD	TWD
Price Target	202.0	1,000.0	71.0	348.0	278.0	100.0
Current Price (as of 2026/4/27)	145.0	753.0	54.5	303.4	226.5	93.9
Upside/(Downside) (%)	39%	33%	30%	15%	23%	6%
Market Cap (in USD mm)	8,321.4	3,874.8	7,173.8	29,626.4	22,198.4	12,481.0
Avg Daily Traded Vol (in USD mm)	149.6	53.2	166.5	906.9	456.5	295.0
Street View: Ratings						
Buy/Overweight	90%	100%	50%	92%	75%	80%
Hold/Equal-weight	0%	0%	50%	5%	19%	20%
Sell/Underweight	10%	0%	0%	0%	6%	0%
Bull Case Value	326.0	1,175.0	113.6	604.0	588.0	120.0
Upside (%)	125%	56%	108%	99%	160%	28%
Bear Case Value	119.5	400.0	35.5	219.0	155.0	41.4
Downside (%)	-18%	-47%	-35%	-28%	-32%	-56%
Risk/Reward Skew	7.1	1.2	3.1	3.6	5.1	0.5
Morgan Stanley Estimates						
FY26e	TWD	TWD	TWD	CNY	TWD	TWD
Sales	66,682	9,333	66,303	17,061	301,785	224,249
EBITDA	24,507	2,901	12,145	6,005	217,986	106,288
EBIT	16,970	2,841	4,581	5,736	205,800	90,677
EPS	7.35	16.16	8.61	8.10	53.71	16.57
FY27e						
Sales	126,013	14,326	72,058	24,555	377,418	264,897
EBITDA	54,966	5,077	18,971	9,504	265,451	129,416
EBIT	48,496	5,014	11,931	9,235	242,266	109,239
EPS	20.82	27.19	2.21	12.98	62.86	19.87
FY26 MSe vs. Consensus Mean						
Sales	-5.4%	7.0%	-1.8%	18.0%	24.7%	8.3%
EBITDA	-0.7%	-1.2%	-58.6%	2.3%	32.9%	5.8%
EBIT	-30.9%	12.9%	-76.9%	11.1%	27.3%	6.8%
EPS	-35.5%	-10.7%	49.8%	11.2%	29.8%	7.7%
FY27 MSe vs. Consensus Mean						
Sales	12.9%	3.3%	-9.5%	35.4%	32.9%	-1.0%
EBITDA	2.8%	3.3%	-34.8%	31.7%	39.2%	-1.8%
EBIT	20.5%	4.6%	-30.5%	36.2%	30.3%	3.2%
EPS	-26.9%	1.5%	-34.9%	36.9%	34.7%	-3.4%
Valuation Multiples at Last Close						
FY26e						
P/E	19.7x	46.6x	6.3x	37.5x	4.2x	5.7x
EV/EBIT	24.2x	52.9x	23.7x	38.2x	5.0x	4.9x
EV/EBITDA	12.5x	38.0x	7.5x	31.5x	4.0x	3.9x
EV/Sales	4.6x	11.8x	1.4x	11.1x	2.9x	1.8x
FCF Yield	-12.5%	1.5%	53.0%	2.2%	-30.4%	9.5%
FY27e						
P/E	7.0x	27.7x	24.7x	23.4x	3.6x	4.7x
EV/EBIT	5.5x	21.6x	7.4x	19.8x	2.7x	2.8x
EV/EBITDA	4.9x	21.4x	4.7x	19.3x	2.4x	2.4x
EV/Sales	2.1x	7.6x	1.2x	7.5x	1.7x	1.1x
FCF Yield	16.4%	2.8%	5.8%	3.8%	32.0%	30.4%
Implied Multiples on MS Price Target						
FY26e						
P/E	27.5x	61.9x	8.2x	43.0x	5.2x	6.0x
EV/EBIT	24.2x	52.9x	23.7x	38.2x	5.0x	4.9x
EV/EBITDA	16.7x	51.7x	8.9x	36.4x	4.7x	4.1x
EV/Sales	6.1x	16.1x	1.6x	12.8x	3.4x	2.0x
FY27e						
P/E	9.7x	36.8x	32.2x	26.8x	4.4x	5.0x
EV/EBIT	7.7x	33.1x	25.2x	28.5x	3.6x	3.9x
EV/EBITDA	6.8x	32.7x	15.9x	27.7x	3.3x	3.3x
EV/Sales	3.0x	11.6x	4.2x	10.7x	2.3x	1.6x

Source: FactSet, Morgan Stanley Research (e) estimates. Pricing as of April 27, 2026.

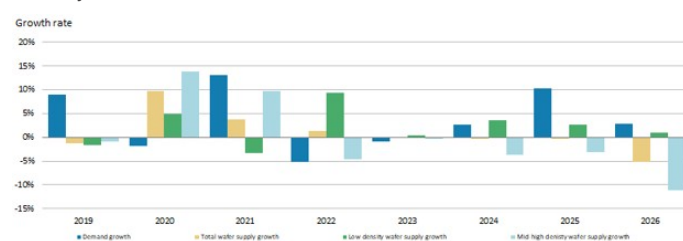
Exhibit 2: Macronix 1Q26 earnings results

P/L Comparison (NT\$ mn)	1Q26						
	1Q25	4Q25	1Q26	Q/Q	Y/Y	MSe.	Diff.
Net sales	6,137	7,729	10,469	35%	71%	8,973	17%
Gross profit	1,087	1,868	4,271	129%	293%	3,020	41%
Operating profit	-1,082	-392	1,933			660	193%
Pretax profit	-969	-302	2,066			583	255%
Net profit	-873	-295	1,776			492	261%
EPS (NT\$)	-0.47	-0.16	0.90			0.26	242%
Key ratios (%)							
Gross margin	17.7%	24.2%	40.8%	16.6 ppt	23.1 ppt	24.7%	16.1 ppt
Operating margin	-17.6%	-5.1%	18.5%	23.5 ppt	36.1 ppt	-2.1%	20.5 ppt
Pretax margin	-15.8%	-3.9%	19.7%	23.7 ppt	35.5 ppt	-2.8%	22.6 ppt
Net profit margin	-14.2%	-3.8%	17.0%	20.8 ppt	31.2 ppt	-2.4%	19.4 ppt

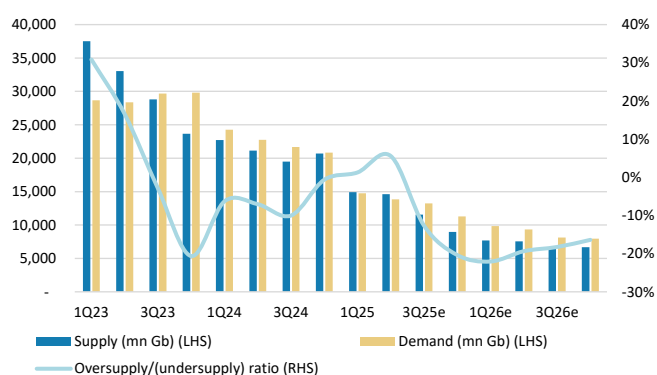
Source: Company data, Morgan Stanley Research

Exhibit 3: NOR flash demand and supply growth rates

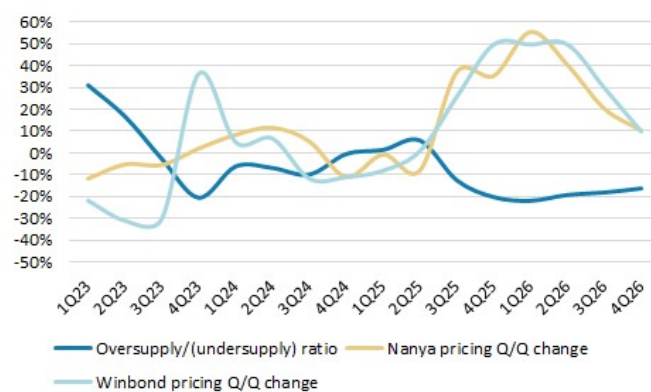
Source: Company data, Morgan Stanley Research

Exhibit 4: NOR flash demand growth and supply growth by density

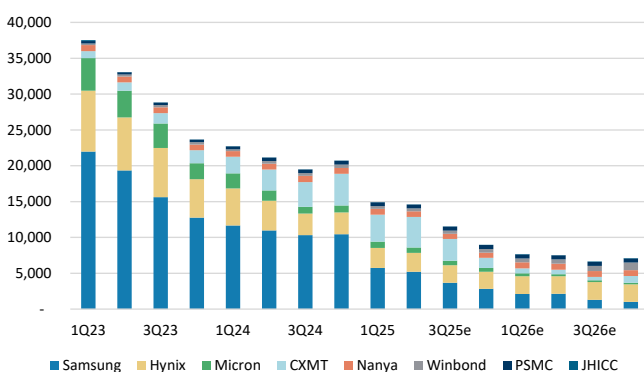
Source: Company data, Morgan Stanley Research

Exhibit 5: DDR4 quarterly supply and demand summary

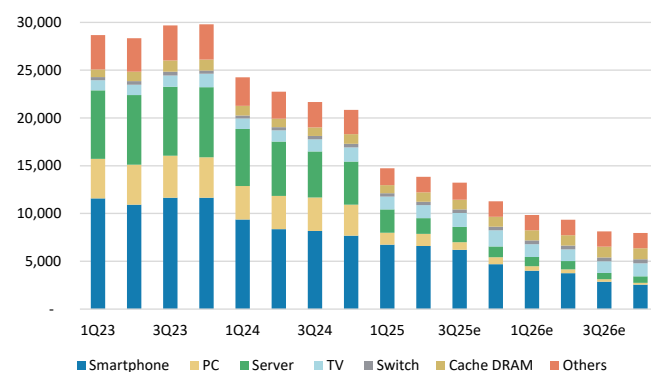
Source: Morgan Stanley Research (e) estimates

Exhibit 6: Quarterly oversupply/undersupply ratio vs. Nanya and Winbond pricing Q/Q change

Source: Morgan Stanley Research (e) estimates

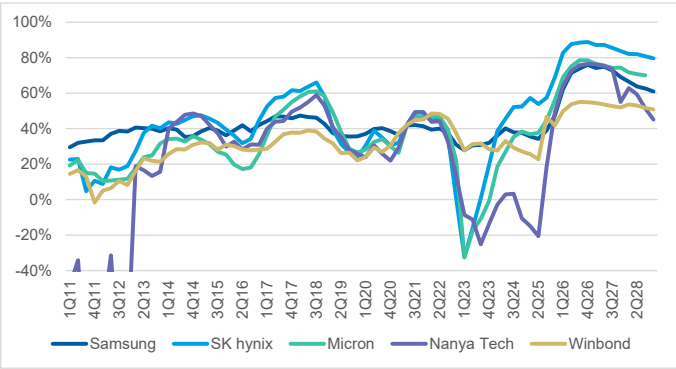
Exhibit 7: Quarterly supply breakdown (mn Gb)

Source: Morgan Stanley Research (e) estimates

Exhibit 8: Quarterly demand breakdown by product (mn Gb)

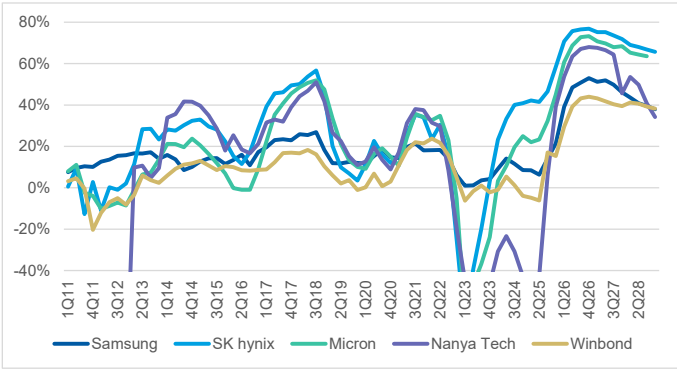
Source: Morgan Stanley Research (e) estimates

Exhibit 9: Memory vendors GM



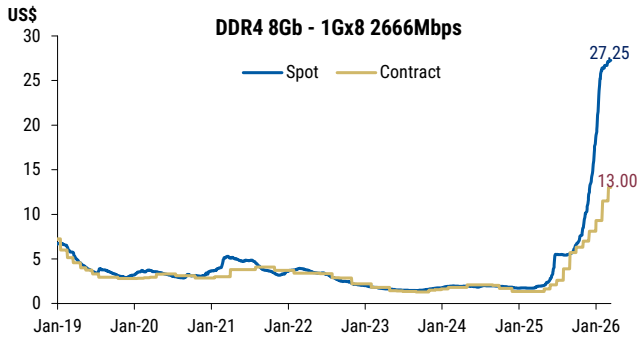
Source: Company data, Morgan Stanley Research estimates

Exhibit 10: Memory vendors OPM



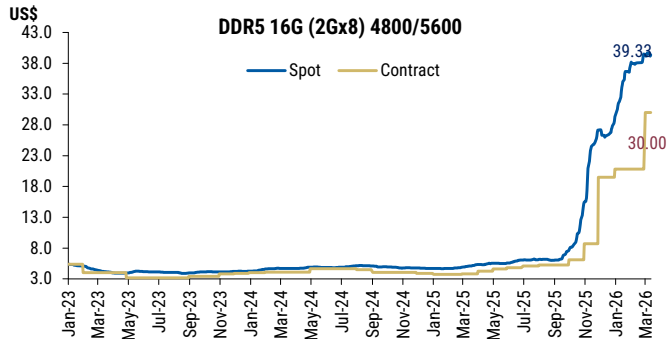
Source: Company data, Morgan Stanley Research

Exhibit 11: DDR4 8Gb (1Gx8) pricing chart



Source: DRAmEXchange, Morgan Stanley Research; data as of Mar 13, 2026

Exhibit 12: DDR5 16Gb (2Gx8) pricing chart

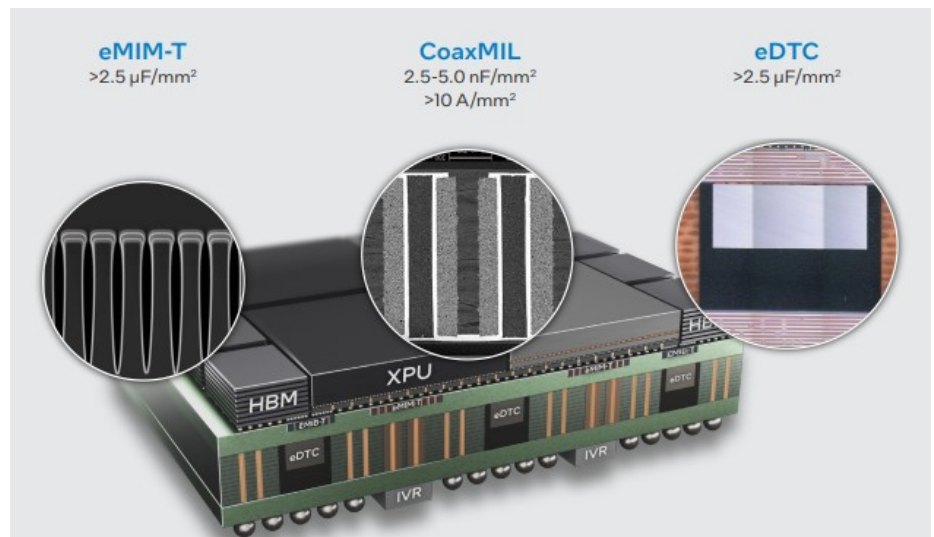


Source: DRAmEXchange, Morgan Stanley Research; data as of Mar 13, 2026

AP Memory: Bottom-up Analysis for IPD Business; Intel EMIB Opportunity

According to Intel (covered by Joseph Moore), to further stabilize power delivery, Intel Foundry integrates embedded deep trench capacitors (eDTC) for ultra-high capacitance density close to the load, thereby flattening PDN impedance across the base die. Embedded MIM (eMIM-T) technology delivers superior decoupling at the base die, leveraging the same advanced architecture as Omni MIM even on mature nodes. For precise, high-speed point-of-load regulation, CoaxMIL technology embeds magnetic inductors into the substrate, enabling integrated voltage regulators (IVRs) with rapid response and minimal loss. Together, these technologies form a scalable power delivery fabric that keeps pace with rising compute density. We believe these eDTC are IPD products that AP Memory provides.

Exhibit 13: An example of Intel Foundry's power delivery solution shown at Intel Direct Connect 2025, showcasing forward-looking plans for increased eMIM-T capacity; we think this is adopting AP Memory's IPD, which is the eDTC here



Source: Intel

Exhibit 14 outlines our estimation for projected contributions to AP memory revenues from 2026 to 2028 across IPD's customer. Humufish is expected to ship ~2 million TPUs at 100 IPD per chip, generating about \$160 million (NT\$4.8 billion) in revenue, as we need to consider the yield rate. China AI GPU demand grows significantly, with total shipments rising from 1,992k units in 2026 to 4,966k in 2028, led by vendors such as Huawei, Cambricon, and T-Head, driving revenue from \$40 million to \$168 million (NT\$1.2 billion to NT\$5.0 billion). Broadcom's Tomahawk 6 CoWoS bookings contribute around \$69 million (NT\$2.07 billion) in 2026e. Altogether, total IPD revenue contribution to AP memory is projected to increase from NT\$3.27 billion in 2026 to NT\$10.04 billion by 2028, reflecting strong growth driven primarily by China's AI GPU expansion and steady contributions from networking and specialized applications.

Exhibit 14: Bottom-up Analysis for IPD Business

	2026	2027	2028
Humufish			
TPU v10 2nm Humufish shipment (k units)			2,000
IPD per chip			100
Humufish IPD number (mn units)			200
IPD ASP (US\$)			0.8
Revenue contribution from Humufish (US\$mn)			160
Revenue contribution from Humufish (NT\$mn)			4,800
China AI GPU			
Total China GPU shipment (k units)	1,992	3,550	4,966
Huawei	900	1,500	2,100
Cambricon	280	440	600
Hygon (GPU only)	130	170	270
MetaX	75	115	140
T-Head (GPU only)	250	450	550
Kunlun	130	270	340
MooreThread	40	85	120
Biren	27	85	125
Iluvatar CoreX	100	250	380
Enflame	40	55	71
Bytedance ASIC	20	130	270
IPD per China GPU chip	40	45	45
IPD ASP (US\$)	0.5	0.8	0.8
Revenue contribution from China GPU (US\$mn)	40	120	168
Revenue contribution from China GPU (NT\$mn)	1,195	3,594	5,028
Broadcom			
Tomhawk 6 CoWoS booking (k units)	23		
IPD Required per CoWoS Wafers	1		
IPD Interposer ASP (US\$k)	3		
Revenue contribution from Tomhawk (US\$mn)	69		
Revenue contribution from Tomhawk (NT\$mn)	2,070		
Others			
Others (e.g. NRE; NT\$mn)	62	2,170	226
Total IPD Revenue Contribution to AP Memory	3,265	3,594	9,828

Source: Company data, Morgan Stanley Research estimates

Macronix: Earnings Estimate Revisions

We raise our 2026/27/28 EPS forecasts by 25%/6%/9%: We factor in 1Q26 results. We continue to believe MLC and legacy TLC NAND will face a deeper shortages into 2H, with undersupply likely rising to ~40%. Global capacity for 2GB to 64GB NAND has largely disappeared, and customer inventory generally lasts only another 6–9 months. Macronix remains the only supplier able to fill the gap. We expect MLC and legacy TLC pricing to rise more than 200% from 1Q26 to 4Q26.

We expect NOR Flash pricing to rise 20–30% in 1Q, with further upside in 2Q, and visibility for continued hikes now extending into 2H26. We also expect global mainstream vendors to reduce NOR capacity. Demand for legacy ROM should strengthen as the Nintendo Switch 2 ramps.

After revisions, our 2026/27/28 EPS forecasts are NT\$7.35/20.82/21.42 vs. FactSet consensus of NT\$12.94/27.43/41.02, as we continue to monitor the pricing trends of MLC NAND.

Exhibit 15: Macronix: Earnings Estimate Revisions

(NT\$ mn)	New 2026e	Old 2026e	Diff.%	New 2027e	Old 2027e	Diff.%	New 2028e	Old 2028e	Diff.%
Net sales	66,682	56,677	18%	126,013	109,328	15%	127,564	109,792	16%
Gross profit	27,925	23,991	16%	61,874	55,079	12%	63,549	55,620	14%
Operating profit	16,970	13,412	27%	48,496	43,644	11%	49,869	43,561	14%
Pretax income	17,076	12,986	31%	48,421	43,168	12%	49,813	43,111	16%
Net income	14,478	10,994	32%	40,998	36,558	12%	42,178	36,511	16%
Diluted EPS	7.35	5.90	25%	20.82	19.61	6%	21.42	19.58	9%
Margins									
Gross margin	41.9%	42.3%	-0.5 ppt	49.1%	50.4%	-1.3 ppt	49.8%	50.7%	-0.8 ppt
Operating margin	25.4%	23.7%	1.8 ppt	38.5%	39.9%	-1.4 ppt	39.1%	39.7%	-0.6 ppt
Pretax margin	25.6%	22.9%	2.7 ppt	38.4%	39.5%	-1.1 ppt	39.0%	39.3%	-0.2 ppt
Net margin	21.7%	19.4%	2.3 ppt	32.5%	33.4%	-0.9 ppt	33.1%	33.3%	-0.2 ppt

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

Exhibit 16: Macronix: BVPS Estimate Revisions

NT\$	New '26E	Old '26E	Diff.	New '27E	Old '27E	Diff.	New '28E	Old '28E	Diff.
BVPS	28.92	28.67	1%	49.74	48.28	3%	71.17	67.86	5%

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

Exhibit 17: Macronix: Quarterly financials

(NT\$ mn)	1Q26e	2Q26e	3Q26e	4Q26e	1Q27e	2Q27e	3Q27e	4Q27e	1Q28e	2Q28e	3Q28e	4Q28e	2025	2026e	2027e	2028e
Total Revenues	10,469	12,969	17,087	26,157	29,574	32,494	31,989	31,957	31,928	31,902	31,878	31,857	28,880	66,682	126,013	127,564
Sequential Change	35.4%	23.9%	31.8%	53.1%	13.1%	9.9%	-1.6%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%				
Change vs Year Ago	70.6%	90.7%	108.0%	238.4%	182.5%	150.6%	87.2%	22.2%	8.0%	-1.8%	-0.3%	-0.3%	11.6%	130.9%	89.0%	1.2%
Cost of Sales	(6,198)	(7,771)	(10,303)	(14,486)	(15,269)	(16,328)	(15,787)	(15,762)	(15,737)	(15,737)	(15,737)	(15,716)	(23,749)	(38,757)	(64,140)	(64,015)
Gross Profit	4,271	5,198	6,784	11,671	14,304	16,166	16,202	16,196	16,191	16,165	16,141	16,140	5,131	27,925	61,874	63,549
Gross Margin	40.8%	40.1%	39.7%	44.6%	48.4%	49.8%	50.6%	50.7%	50.7%	50.7%	50.6%	50.7%	17.8%	41.9%	49.1%	49.8%
Total Opex	(2,339)	(2,569)	(2,791)	(3,256)	(3,468)	(3,631)	(3,627)	(3,645)	(3,664)	(3,682)	(3,701)	(3,720)	(8,829)	(10,955)	(14,372)	(14,768)
Percent of Revenues	22.3%	19.8%	16.3%	12.4%	11.7%	11.2%	11.3%	11.4%	11.5%	11.5%	11.6%	11.7%	30.6%	16.4%	11.4%	11.6%
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%	11.0%	8.5%	5.6%	5.0%	4.6%	4.8%	4.9%	4.9%	5.0%	5.1%	5.1%	19.8%	8.6%	4.8%	5.0%
Sales and Marketing	(425)	(636)	(837)	(1,282)	(1,449)	(1,593)	(1,568)	(1,566)	(1,565)	(1,564)	(1,562)	(1,561)	(1,520)	(3,180)	(6,176)	(6,252)
Percent of Revenues	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	5.3%	4.8%	4.9%	4.9%
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%	3.9%	2.9%	1.9%	1.8%	1.6%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	5.5%	3.0%	1.7%	1.7%
Operating Income	1,933	2,628	3,993	8,416	10,836	12,534	12,575	12,551	12,527	12,483	12,440	12,420	(3,698)	16,970	48,496	49,869
Percent of Revenues	18.5%	20.3%	23.4%	32.2%	36.6%	38.6%	39.3%	39.3%	39.2%	39.1%	39.0%	39.0%	-12.8%	25.4%	38.5%	39.1%
Total Non-operating Income(Loss)	134	10	(19)	(19)	(19)	(18)	(19)	(20)	(20)	(13)	(12)	(11)	64	106	(75)	(56)
Profit Before Taxes	2,066	2,638	3,974	8,397	10,817	12,516	12,556	12,531	12,507	12,470	12,428	12,409	(3,633)	17,076	48,421	49,813
Percent of Revenues	19.7%	20.3%	23.3%	32.1%	36.6%	38.5%	39.3%	39.2%	39.2%	39.1%	39.0%	39.0%	-12.6%	25.6%	38.4%	39.0%
Change vs Year Ago	-313.2%	-287.4%	-516.7%	-2876.3%	423.5%	374.4%	215.9%	49.2%	15.6%	-0.4%	-1.0%	-1.0%				
Taxes	(287)	(404)	(608)	(1,285)	(1,655)	(1,915)	(1,921)	(1,917)	(1,914)	(1,908)	(1,901)	(1,899)	328	(2,583)	(7,408)	(7,621)
Tax Rate	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	9.0%	15.1%	15.3%	15.3%
Net Income, Cont Ops	1,779	2,235	3,366	7,112	9,162	10,601	10,635	10,614	10,593	10,562	10,526	10,510	(3,305)	14,492	41,013	42,192
Percent of Revenues	17.0%	17.2%	19.7%	27.2%	31.0%	32.6%	33.2%	33.2%	33.2%	33.1%	33.0%	33.0%	-11.4%	21.7%	32.5%	33.1%
Minority Interest	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(3)	(14)	(14)	(14)
Reported Income (TW GAAP)	1,776	2,231	3,363	7,109	9,159	10,598	10,632	10,610	10,590	10,559	10,523	10,507	(3,308)	14,478	40,998	42,178
Percent of Revenues	17.0%	17.2%	19.7%	27.2%	31.0%	32.6%	33.2%	33.2%	33.2%	33.1%	33.0%	33.0%	-11.5%	21.7%	32.5%	33.1%
Change vs Year Ago	-303.4%	-274.8%	-489.5%	-2507.8%	415.7%	375.0%	216.2%	49.3%	15.6%	-0.4%	-1.0%	-1.0%	2.9%	-537.7%	183.2%	2.9%
Reported Diluted EPS (NT\$, TW GAAP)	0.90	1.13	1.71	3.61	4.65	5.38	5.40	5.39	5.38	5.36	5.34	5.34	(1.78)	7.35	20.82	21.42
Reported Basic EPS (NT\$, GAAP)	0.90	1.13	1.71	3.61	4.65	5.38	5.40	5.39	5.38	5.36	5.34	5.34	(1.78)	7.35	20.82	21.42

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

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

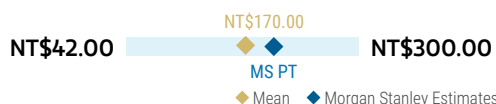
Top Pick; OW on legacy Flash opportunities

PRICE TARGET NT\$202.00

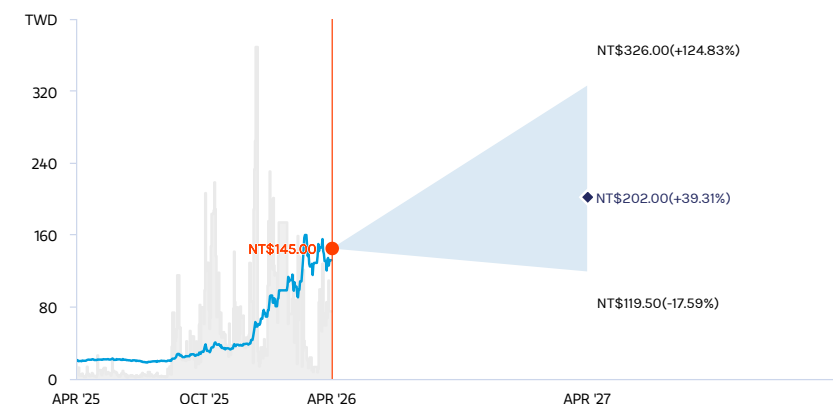
Base case, P/B, in line with our Greater China memory coverage, due to the memory industry's cyclical nature. We apply a target multiple of 7.0x to our 2026 BVPS estimate, vs. its historical average of 1.5x since 2017. We continue to believe the P/B target is justifiable, as The MLC and legacy TLC NAND 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.

Consensus Price Target Distribution

Source: Refinitiv, Morgan Stanley Research



RISK REWARD CHART



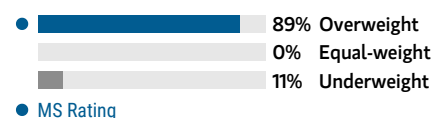
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- 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. The 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\$326.00

11.4x 2026e BVPS

Higher than expected price hike for legacy NAND, and significant price hike for NOR throughout 2026: NAND revenue grows 1000%+, and NOR flash revenue grows 110%+ Y/Y in 2026.

BASE CASE

NT\$202.00

7.0x 2026e BVPS

Significant price hike for legacy NAND, and continued price hike for NOR throughout 2026: NAND revenue grows 641%, and NOR flash revenue grows 96% Y/Y in 2026.

BEAR CASE

NT\$119.50

4.2x 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)

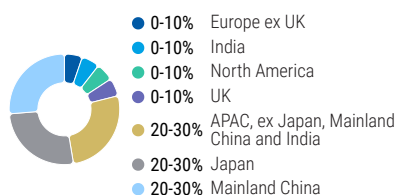
KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
NOR Flash pricing (NT\$)	1,728	2,783	3,256	3,256
ROM sales (NT\$, mn)	5,712	3,887	3,808	4,119
NAND sales (NT\$, mn)	3,705	27,459	92,068	97,771

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

2/5
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 48.4%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e

Sales / Revenue (NT\$, mn) 39,678 66,682 111,712
70,487

EBITDA (NT\$, mn) 9,833 24,507 32,847
24,679

Net income (NT\$, mn) 3,985 14,478 49,046
21,633

EPS (NT\$) 2.15 7.35 25.39
11.40

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

Macronix: Financial Summary

Exhibit 20: Financial Summary

Income Statement, 2025-2028e, Year End Dec					Balance sheet				
(NT\$ mn)	2025	2026e	2027e	2028e	(NT\$ mn)	2025	2026e	2027e	2028e
Turnover	28,880	66,682	126,013	127,564	Assets				
YoY Growth	11.6%	130.9%	89.0%	1.2%	Cash & Equivalents	14,913	2,946	48,648	95,687
Less: COGS	(23,749)	(38,757)	(64,140)	(64,015)	Marketable Security	7	7	7	7
Variable costs	(19,503)	(32,323)	(57,622)	(57,404)	A/R & N/R	4,315	16,215	19,811	19,748
Depreciation & amort	(4,246)	(6,434)	(6,517)	(6,611)	Inventories	9,813	35,102	38,194	38,084
Gross profit	5,131	27,925	61,874	63,549	Other Current Asset	190	190	190	190
YoY Growth	-15.9%	444.2%	121.6%	2.7%	Total current assets	29,425	54,647	107,035	153,903
% margin	17.8%	41.9%	49.1%	49.8%	LT Investment	6,618	6,616	6,613	6,612
Operating Expenses:	(8,829)	(10,955)	(14,372)	(14,768)	Total Fixed Assets	38,549	53,012	48,299	43,587
R&D	(5,714)	(5,764)	(6,084)	(6,404)	Total Other Assets	3,909	3,909	3,909	3,909
Sales and Marketing	(1,520)	(3,180)	(6,176)	(6,252)	Total Assets	78,500	118,183	165,857	208,011
General and Admin	(1,594)	(2,011)	(2,112)	(2,112)	A/P & N/P	3,120	7,662	8,337	8,313
Operating Profit	(3,698)	16,970	48,496	49,869	Accrued Expenses	0	0	0	0
YoY Growth	-5.8%	-558.9%	185.8%	2.8%	Other Payable	1,877	1,877	1,877	1,877
% margin	-12.8%	25.4%	38.5%	39.1%	Total Current Liab.	12,404	16,945	17,620	17,596
Total Non-op	64	106	(75)	(56)	L-T Liabilities	17,386	41,386	47,386	47,386
					Total Other L-T Liab	2,903	2,903	2,903	2,903
					Total Liabilities	32,693	61,234	67,909	67,885
Pretax Profit	(3,633)	17,076	48,421	49,813	Common Stock	18,573	18,573	18,573	18,573
YoY Growth	2.5%	-570.0%	183.6%	2.9%	Preferred Stock				
% margin	-12.6%	25.6%	38.4%	39.0%	Capital Reserve	1,472	1,472	1,472	1,472
Tax	328	(2,583)	(7,408)	(7,621)	Retained earnings	25,916	37,058	78,056	120,234
Reported Net Income	(3,308)	14,478	40,998	42,178	Treasury Stock	(159)	(159)	(159)	(159)
Reported EPS (NT\$)	(1.78)	7.35	20.82	21.42	Total Equity	45,808	56,949	97,948	140,125
ModelWare EPS (NT\$)	(1.78)	7.35	20.82	21.42					
Key Ratios					Cash Flow Statement				
	2025	2026e	2027e	2028e	(NT\$ mn)	2025	2026e	2027e	2028e
Return (%)					Net Income	(3,308)	14,478	40,998	42,178
ROAA	(0.0)	0.1	0.2	0.2	Depreciation	5,094	7,537	6,470	6,470
ROAE	(0.1)	0.2	0.4	0.4	Net Investment Losses (Gains)	(2)	0	0	0
OP. ATO	46.7%	58.2%	100.9%	106.1%	Others	3,051	(32,646)	(6,009)	150
Gearing (x)					Cash Flow-Operating	4,835	(10,630)	41,459	48,797
Net Debt/ Equity	0.1x	0.7x	(0.0x)	(0.3x)	(Purchase) of FA	(3,000)	(22,000)	(1,758)	(1,758)
Current Ratio	2.4x	3.2x	6.1x	8.7x	Sale of Fix Asset	2	0	0	0
Quick Ratio	1.6x	1.1x	3.9x	6.6x	(Purchase)L-T Inv.	0	0	0	0
Operating Cycle					Sale of L-T Inv.	0	0	0	0
AR/IR Turnover (days)	99	81	53	56	Sale(Pur.)S-T Inv.	144	0	0	0
Inventory Turnover (days)	295	281	208	214	Cash Flow-Investing	(2,884)	(22,000)	(1,758)	(1,758)
AP Turnover (days)	69	64	45	47	Inc(Dec)-S-T Debt	(2,488)	0	0	0
Cash Conversion (days)	325	299	216	223	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	24,000	6,000	0
					Cash Flow-Financing	(2,941)	20,663	2,663	(3,337)
					Change in Cash	3,289	(11,967)	42,365	43,703
					Net cash/(debt), b/f	11,623	14,913	2,946	45,311
					Net cash/(debt), c/f	14,913	2,946	45,311	89,014

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

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

AP Memory: Estimate Revisions Summary

We raise our 2027/28 EPS estimates by 3%/16%: We factor in increased IPD revenue contribution due to a stronger outlook. We also estimate higher pricing for wafer-on-wafer memory. In comparison, FactSet consensus 2026/27/28 estimates are NT \$13.11/23.93/32.47. Our stronger EPS forecasts reflect our more constructive view on the IPD shipment outlook, we believe.

Exhibit 21: AP Memory – Estimate revisions

(NT\$ mn)	New '26e	Old '26e	Diff.	New '27e	Old '27e	Diff.	New '28e	Old '28e	Diff.
Net sales	9,333	9,333	0%	14,326	13,777	4%	22,173	18,865	18%
COGS	4,784	4,784		7,026	6,724		10,587	8,896	
Gross profit	4,550	4,550	0%	7,300	7,053	4%	11,585	9,969	16%
Operating expenses	1,709	1,709		2,286	2,211		3,322	2,913	
Operating profit	2,841	2,841	0%	5,014	4,842	4%	8,264	7,056	17%
Non-op. income (exp.)	343	343		343	343		343	343	
Pretax income	3,183	3,183	0%	5,357	5,185	3%	8,606	7,399	16%
Taxes	556	556		936	906		1,504	1,293	
Net income	2,627	2,627	0%	4,420	4,279	3%	7,102	6,106	16%
Reported EPS	16.16	16.16	0%	27.19	26.32	3%	43.68	37.56	16%
Margins									
Gross margin	48.7%	48.7%	0.0%	51.0%	51.2%	-0.2%	52.3%	52.8%	-0.6%
Operating margin	30.4%	30.4%	0.0%	35.0%	35.1%	-0.1%	37.3%	37.4%	-0.1%
Pretax margin	34.1%	34.1%	0.0%	37.4%	37.6%	-0.2%	38.8%	39.2%	-0.4%
Net margin	28.1%	28.1%	0.0%	30.9%	31.1%	-0.2%	32.0%	32.4%	-0.3%
Opex %	18.3%	18.3%	0.0%	16.0%	16.0%	-0.1%	15.0%	15.4%	-0.5%

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

Exhibit 22: AP Memory – Quarterly financial summary

(NT\$ mn)	1Q26e	2Q26e	3Q26e	4Q26e	1Q27e	2Q27e	3Q27e	4Q27e	1Q28e	2Q28e	3Q28e	4Q28e	2025	2026e	2027e	2028e
Total Revenues	2,101	2,222	2,451	2,558	3,055	3,296	3,791	4,184	4,687	5,297	5,802	6,387	5,658	9,333	14,326	22,173
Sequential Change	12.5%	5.8%	10.3%	4.4%	19.4%	7.9%	15.0%	10.4%	12.0%	13.0%	9.5%	10.1%				
Change vs Year Ago	115.5%	67.3%	64.0%	37.0%	45.4%	48.3%	54.6%	63.5%	53.4%	60.7%	53.0%	52.7%	35.0%	65.0%	53.5%	54.8%
Cost of Sales	1,098	1,145	1,248	1,293	1,521	1,632	1,843	2,030	2,236	2,526	2,766	3,059	3,024	4,784	7,026	10,587
Percent of Revenues	52%	52%	51%	51%	50%	50%	49%	49%	48%	48%	48%	48%	53%	51%	49%	48%
Gross Profit	1,003	1,078	1,204	1,265	1,534	1,664	1,948	2,154	2,451	2,771	3,036	3,328	2,634	4,550	7,300	11,585
Percent of Revenues	47.7%	48.5%	49.1%	49.5%	50.2%	50.5%	51.4%	51.5%	52.3%	52.3%	52.3%	52.1%	46.5%	48.7%	51.0%	52.3%
Incremental Margin	31%	61%	55%	57%	54%	54%	57%	52%	59%	52%	52%	50%	33%	52%	55%	55%
Total Opex	401	411	439	458	519	524	595	648	716	799	863	944	1,234	1,709	2,286	3,322
Percent of Revenues	19.1%	18.5%	17.9%	17.9%	17.0%	15.9%	15.7%	15.5%	15.3%	15.1%	14.9%	14.8%	21.8%	18.3%	16.0%	15.0%
Operating Income	602	667	765	807	1,015	1,140	1,353	1,506	1,735	1,972	2,172	2,384	1,399	2,841	5,014	8,264
Percent of Revenues	28.6%	30.0%	31.2%	31.6%	33.2%	34.6%	35.7%	36.0%	37.0%	37.2%	37.4%	37.3%	24.7%	30.4%	35.0%	37.3%
Total Non-operating Income (Loss)	86	86	86	86	86	86	86	86	86	86	86	86	119	343	343	343
Profit Before Taxes	687	752	851	893	1,101	1,226	1,439	1,591	1,820	2,058	2,258	2,470	1,518	3,183	5,357	8,606
Percent of Revenues	33%	34%	35%	35%	36%	37%	38%	38%	39%	39%	39%	39%	27%	34%	37%	39%
Taxes	120	131	149	156	192	214	251	278	318	360	395	432	279	556	936	1,504
Tax Rate	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%	18.3%	17.5%	17.5%	17.5%
Reported Income (TW GAAP)	567	621	702	737	908	1,012	1,187	1,313	1,502	1,698	1,863	2,038	1,240	2,627	4,420	7,102
Percent of Revenues	27.0%	27.9%	28.6%	28.8%	29.7%	30.7%	31.3%	31.4%	32.1%	32.1%	32.1%	31.9%	21.9%	28.1%	30.9%	32.0%
Change vs Year Ago	71%	-214%	-1%	-4%	60%	63%	69%	78%	65%	68%	57%	55%	-21%	112%	68%	61%
Reported EPS (NT\$, TW GAAP)	3.49	3.82	4.32	4.53	5.59	6.22	7.30	8.08	9.24	10.45	11.46	12.54	7.63	16.16	27.19	43.68
Change vs Year Ago	71%	-214%	-1%	-4%	60%	63%	69%	78%	65%	68%	57%	55%	-22%	112%	68%	61%

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

AP Memory: Valuation Methodology

We raise our price target to NT\$1,000 from NT\$777 to factor in our earnings estimate changes. We also lift our intermediate growth rate from 12.8% to 14.3% as we factor in the Intel EMIB opportunity for AI in the long run.

Aside from intermediate growth, our other residual income model assumptions are unchanged, including: 1) cost of equity unchanged at 9.2% (2.0% risk-free rate, 6% risk premium, 1.2 beta); 2) payout ratio of 67%; and 3) terminal growth rate of 3% to be more in line with the long-term macro growth rate. Our new PT implies 2026e P/E of 62x and 2027e P/E of 37x – more than 1 s.d. above the historical average since 2020. Our bull and bear case values rise to NT\$1,175 (from NT\$1,145) and NT\$400 (from NT\$376), respectively.

Exhibit 23: AP Memory: Residual Income model

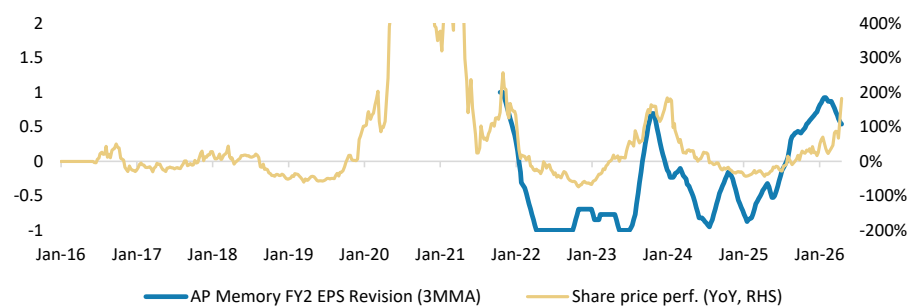
(NT\$ mn)	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e
Total Equity	14,156	16,807	20,933	24,155	27,837	32,045	36,854	42,350	48,631	55,808	64,011	73,385
Net Profit	2,627	4,420	7,102	8,116	9,275	10,600	12,114	13,843	15,820	18,079	20,661	23,611
ROAE	19.8%	28.6%	37.6%	36.0%	35.7%	35.4%	35.2%	35.0%	34.8%	34.6%	34.5%	34.4%
Residual Income	1,311	2,739	4,779	5,610	6,395	7,293	8,319	9,491	10,830	12,361	14,110	16,109
Spread	10.6%	19.3%	28.4%	26.8%	26.5%	26.2%	26.0%	25.8%	25.6%	25.4%	25.3%	25.2%
Ending Equity Capital	14,156											
PV of Forecast Period	46,845											
PV of Continuing Value	101,532											
Equity Value	162,533											
No. of Shares	163											
Projected Price (NT\$)	1,000											

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

Exhibit 24: AP Memory: Historical forward P/E



Source: Company data, Morgan Stanley Research

Exhibit 25: AP Memory: Earnings estimate revision breadth

Source: Company data, Morgan Stanley Research estimates

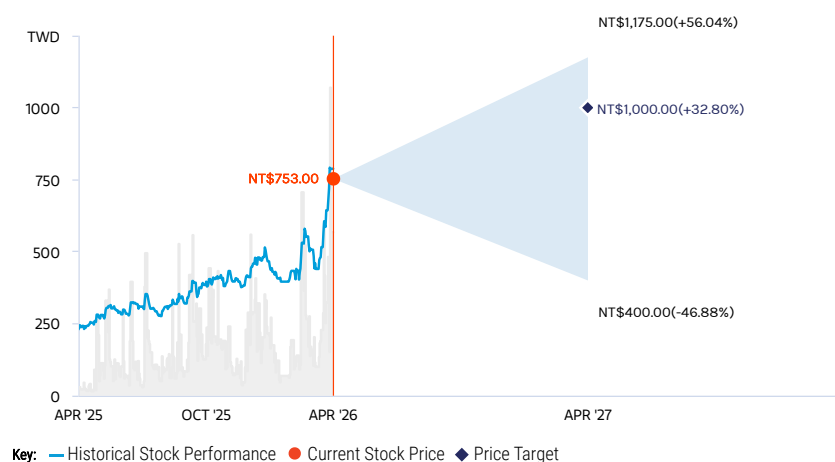
Risk Reward – AP Memory Technology Corp (6531.TW)

OW on IPD and WoW opportunities

PRICE TARGET NT\$1,000.00

Base case, derived from a residual income model. Key RI model assumptions include 1) cost of equity constant at 9.2% (2.0% risk-free rate, 6% risk premium, 1.2 beta); 2) payout ratio of 67%; 3) terminal growth rate of 3.0%; and 4) medium-term growth rate of 14.3%.

RISK REWARD CHART

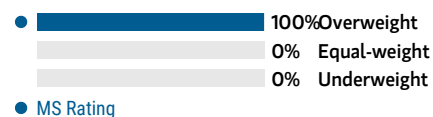


Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- IPD (interposers and discretes) revenue is likely to ramp in 2026-27, and be further driven by new IPD interposer opportunities into 2028.
- Memory bandwidth and power consumption are the next issues to be resolved in AI computing, and we believe AP Memory's wafer-on wafer (WoW) packaging technology could be an effective solution.
- The company expects memory business to be stable in the near term.
- Overall AI business should continue to rise in the mix – a positive read for the margin profile.
- Our PT implies 62x 2026e P/E and 37x 2027e P/E - more than 1 s.d. above the average level since 2020.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Positive*
Technology Diffusion: *Positive*

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

BULL CASE

NT\$1,175.00

73x 2026e EPS

Faster-than-expected AI and IPD business progress with PSRAM generating more cash flow: We assume: 1) WoW packaging revenue to reach >NT\$10bn, and IPD revenue to reach <NT\$8bn by 2028; 2) total revenue to rise at a 55%+ CAGR, 2025-28; and 3) gross margin to increase from 46.5% in 2025 to 60%+ by 2028.

BASE CASE

NT\$1,000.00

62x 2026e EPS

Fast-growing AI and IPD business, with PSRAM generating stable cash flows: We expect: 1) WoW revenue to reach NT\$6.3bn, and IPD revenue to reach NT\$10bn+ by 2028; 2) total revenue to rise at a 58% CAGR, 2025-28; and 3) gross margin to increase from 46.5% in 2025 to over 52% in 2028.

BEAR CASE

NT\$400.00

25x 2026e EPS

Slower-than-expected AI and IPD business progress, with PSRAM facing intensifying competition: We assume: 1) WoW packaging revenue of ~NT\$1.5bn, and IPD revenue of ~NT\$2bn by 2028; 2) total revenue to rise at a 10-15% CAGR, 2025-28; and 3) gross margin to remain at ~51% by 2028.

Risk Reward – AP Memory Technology Corp (6531.TW)

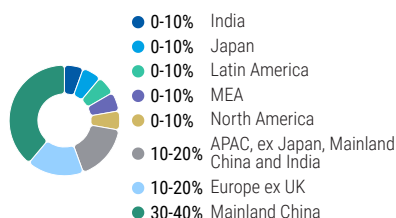
KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
1. Wifi Sales (%) (%)	73.7	55.7	39.2	26.1
2. Ethernet Sales (%) (%)	7.1	8.7	20.5	28.5

INVESTMENT DRIVERS

- Demand for AI applications
- Consumer tech demand, especially from the IoT market

GLOBAL REVENUE EXPOSURE



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

RISKS TO PT/RATING

RISKS TO UPSIDE

- Stronger-than-expected consumer demand
- Faster-than-expected IPD ramp and WoW packaging development
- Milder competition from partners (foundry, memory house, GPU vendor) or other design houses

RISKS TO DOWNSIDE

- Weaker-than-expected consumer demand
- Slower-than-expected IPD ramp and WoW packaging development
- Intensifying competition from partners (foundry, memory house, GPU vendor) or other design houses

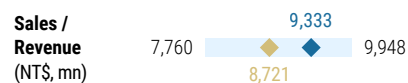
OWNERSHIP POSITIONING

Inst. Owners, % Active 56.2%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

AP Memory: Financial Summary

Exhibit 26: Financial summary

Income Statement

NT\$m (Years End Dec)	2025	2026e	2027e	2028e
Net sales	5,658	9,333	14,326	22,173
COGS	(3,024)	(4,784)	(7,026)	(10,587)
Gross profit	2,634	4,550	7,300	11,585
Operating expenses	(1,234)	(1,709)	(2,286)	(3,322)
Operating income	1,399	2,841	5,014	8,264
Non-operating income	119	343	343	343
Pre-tax income	1,518	3,183	5,357	8,606
Income tax	56	153	257	413
Net Income bf. emp. bonus	1,575	3,336	5,614	9,020
Employee bonus expense	335	709	1,194	1,918
Reported net income	1,240	2,627	4,420	7,102
Adj. wtd. avg. shrs (million)	163	163	163	163
Reported EPS (NT\$)	7.63	16.16	27.19	43.68
Modelware Diluted EPS (NT\$)	7.63	16.16	27.19	43.68

Balance Sheet

NT\$m (Years End Dec)	2025	2026e	2027e	2028e
Cash	7,263	8,263	9,896	12,416
Mkt Securities	3,756	3,756	3,756	3,756
AR/INR	588	1,026	1,575	2,437
Inventory	1,145	1,546	2,271	3,422
Other	187	187	187	187
Current Assets	12,939	14,778	17,684	22,217
Long-term investments	1,206	1,206	1,206	1,206
Fixed assets	57	63	69	76
Deferred assets	126	126	126	126
Other assets	411	411	411	411
Total Assets	14,740	16,584	19,497	24,037
S/T borrowings	200	200	200	200
AP/INP	505	557	819	1,234
Other ST liabilities	1,582	1,582	1,582	1,582
LT debt	0	0	0	0
Other LT liabilities	89	89	89	89
Common shares	814	814	814	814
Total Liabilities	2,376	2,428	2,690	3,105
Additional capital	7,595	7,595	7,595	7,595
Retained earning	3,776	5,568	8,220	12,345
Other shareholders' equity	179	179	179	179
Total Equity	12,364	14,156	16,807	20,933
Total Liab. & Shrhldr's Equity	14,740	16,584	19,497	24,037

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

Cash Flow Statement

NT\$m (Years End Dec)	2025	2026e	2027e	2028e
Cashflow from Operations	1,575	1,901	3,471	5,568
Net profits	1,240	2,627	4,420	7,102
Depreciation	59	61	62	64
Working Capital Change	(145)	(787)	(1,012)	(1,539)
Other adjustments	421	0	0	0
Cashflow from Investing	(67)	(66)	(69)	(71)
Capex	(26)	(66)	(63)	(71)
Change of LT Investment	0	0	0	0
Change of ST Investment	0	0	0	0
Other adjustments	(41)	0	0	0
Cashflow from financing	1,564	(835)	(1,769)	(2,977)
Increase in L/T debt	0	0	0	0
Increase in S/T debt	100	0	0	0
Cash Dividend Paid	(968)	(835)	(1,769)	(2,977)
Div& Emp Bonus Paid	0	0	0	0
Issuance of stock	0	0	0	0
Other adjustments	2,433	0	0	0
Exchange rate adjustment	3	0	0	0
Net change in cash	3,075	1,000	1,633	2,520

Financial Ratios

	2025	2026e	2027e	2028e
Growth(%)				
Turnover	35.0	65.0	53.5	54.8
Operating profits	31.6	103.0	76.5	64.8
Pretax profits	-25.3	109.6	68.3	60.7
Net profits	-21.4	111.9	68.3	60.7
EPS	-21.6	111.8	68.3	60.7
Margins (%)				
Gross Margin	46.5	48.7	51.0	52.3
Operating Margin	24.7	30.4	35.0	37.3
Pretax Margin	26.8	34.1	37.4	38.8
Net Profit	21.9	28.1	30.9	32.0
Return (%)				
ROAE	10.2	19.8	28.6	37.6
ROAA	8.9	16.8	24.5	32.6
Gearing (%)				
Net Debt/Equity	(57.1)	(57.0)	(57.7)	(58.4)
Liabilities/Equity	19.2	17.2	16.0	14.8
Ratios (X)				
Current ratio	5.7	6.3	6.8	7.4
Quick ratio	3.4	4.0	4.4	4.9
Others				
AR/INR Turnover (days)	40	40	40	40
Inventory Turnover (days)	118	118	118	118
AP Turnover (days)	43	43	43	43
Cash Conversion (days)	116	116	116	116

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Valuation Methodology and Risks

Micron Technology Inc. (MU.O)

~25x through-cycle earnings of US \$21.00, a premium to history reflecting new opportunities in AI, At the high end of broader semis.

Risks to Upside

- Customers continue to demonstrate an appetite to take on inventory around macroeconomic uncertainty
- Additional wafer intensity of HBM further improves overall supply and demand
- Micron's HBM share surpasses expectations

Risks to Downside

- Pricing can turn quickly; a falter in end demand with inventories elevated could lead to a swift price reduction
- HBM demand falters and competition intensifies, pressuring pricing

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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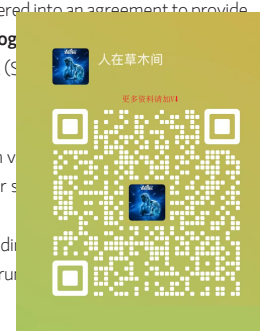
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Overweight/Buy	1534	42%	461	50%	30%	698	43%
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Not-Rated/Hold	4	0%	1	0%	25%	1	0%
Underweight/Sell	568	15%	89	10%	16%	209	13%
Total	3,679		923			1624	

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INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (04/27/2026)
Charlie Chan		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US\$53.23
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb352.01
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT\$134.00
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT\$4,160.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT\$495.50
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,356.72
Global Unichip Corp (3443.TW)	O (07/27/2024)	NT\$3,955.00
GlobalWafers Co Ltd (6488.TWO)	O (09/19/2025)	NT\$620.00

Gudeng Precision (3680.TWO)	O (11/25/2025)	NT\$449.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK\$114.60
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK\$414.20
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT\$283.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb106.58
MediaTek (2454.TW)	O (11/28/2025)	NT\$2,435.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb724.12
Nanya Technology Corp. (2408.TW)	E (03/20/2026)	NT\$226.50
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb516.25
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb104.63
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT\$1,835.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb90.12
Silergy Corp. (6415.TW)	E (04/21/2026)	NT\$420.00
SMIC (0981.HK)	O (10/21/2025)	HK\$68.25
TSMC (2330.TW)	O (02/07/2022)	NT\$2,265.00
UMC (2303.TW)	E (04/20/2026)	NT\$72.70
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT\$138.50
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT\$492.50
Daisy Dai, CFA		
ASMP Ltd (0522.HK)	O (07/24/2025)	HK\$165.80
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb55.16
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT\$136.00
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb92.77
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb28.93
Innoscence (2577.HK)	E (10/13/2025)	HK\$67.45
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb46.32
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK\$44.76
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb107.70
StarPower Semiconductor Ltd (603290.SS)	O (03/01/2022)	Rmb110.70
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb73.36
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb39.65
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb79.13
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT\$753.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT\$1,290.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT\$16,000.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT\$120.00
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb176.25
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb303.42
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT\$145.00
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK\$259.20
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb178.09
Novatek (3034.TW)	U (02/04/2026)	NT\$416.50
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT\$136.00
Parade Technologies Ltd (4966.TWO)	E (01/30/2026)	NT\$615.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT\$54.50
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT\$555.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb66.41
Winbond Electronics Corp (2344.TW)	E (03/20/2026)	NT\$93.90
WPG Holdings (3702.TW)	O (03/16/2026)	NT\$95.50
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT\$201.00
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb132.94
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb393.46
Tiffany Yeh		

AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT\$1,080.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT\$739.00
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US\$11.50
Hon Precision (7769.TW)	O (04/17/2026)	NT\$4,970.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT\$4,880.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US\$147.54
Winway Technology Co Ltd (6515.TW)	O (04/17/2026)	NT\$9,580.00

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