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Greater China Technology Hardware | Asia Pacific

ABF Substrates: Pricing Upcycle Is Accelerating

The substrate pricing cycle is proving stronger and earlier than expected. As pricing accelerates and margins continue to expand, we see upside to earnings. We raise estimates across our coverage and continue to recommend owning UMTC (preferred play), NYPCB, and ZDT.

Stronger-than-expected 2Q profitability supports another round of estimate revisions: Unimicron and NYPCB both reported preliminary 2Q earnings that exceeded our expectations. Unimicron's preliminary April earnings came in ahead of our estimates and Street expectations (link), while NYPCB's preliminary April (link) and May (link) results also outperformed both. We attribute the upside primarily to higher utilization rates, a more favorable product mix, and stronger-than-expected pricing. These developments provide the basis for raising our earnings estimates for Unimicron, NYPCB, and Zhen Ding.

Substrate pricing is improving faster than expected; further upside likely in 2H26: Our latest supply chain checks indicate that pricing momentum for both BT and ABF substrates continues to strengthen. Specifically, we estimate NYPCB's BT substrate pricing increased by ~20–30% during 2Q, while ABF substrate pricing rose by roughly 10%. We expect additional pricing increases in 2H26 as supply constraints continue to tighten. We believe this pricing improvement was the primary driver of NYPCB's stronger April and May profitability, and, assuming pricing continues to improve, we expect gross margins to expand further in 3Q. Although we believe these pricing dynamics should benefit the broader substrate industry, NYPCB has historically been among the most aggressive in implementing price increases and may therefore continue to outperform peers on pricing.

Are BT substrate suppliers facing pricing pressure from memory makers? Based on our checks, we do not believe this is the case, at least for Taiwanese BT substrate suppliers. On the contrary, lead times continue to extend, while some suppliers, including Unimicron, appear to be reducing capacity, which further tightens supply.

We reiterate Overweight on Unimicron, NYPCB, and Zhen Ding: Reflecting stronger earnings trajectories and improved pricing outlooks, we raise our EPS estimates for all three companies while reiterating our positive investment stances. Based on upside to our revised price targets, our order of preference is **Unimicron (NT$1,465 PT; 25x CY28 P/E; 50% upside)**, followed by **NYPCB (NT$1,550 PT; 25x CY28 P/E; 35% upside)**, and **Zhen Ding (NT$690 PT; 20x CY28 P/E; 15% upside)**.

Potential risks: 1) Weaker demand for PCs, general servers, and AI servers; 2) meaningful capacity expansion plans; 3) T-glass being more constrained than we expect; 4) CoWoP displacing ABF substrates.

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Industry View **In-Line**

Exhibit 1 : What's changed?

Company	Ticker	Rating		PT		Last close	Upside (%)	EPS change (%)			PEG		
		New	Old	New	Old			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Unimicron	3037.TW	OW	OW	1,465.0	[illegible]	[illegible]	50%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nan Ya PCB	8046.TW	OW	OW	1,550.0	[illegible]	[illegible]	35%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Zhen Ding	4958.TW	OW	OW	690.0	[illegible]	[illegible]	15%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: Bloomberg, Morgan Stanley Research (e) estimates. Pricing as of the close on July 2, 2026

Preview to earnings

Focus KPI	Focus KPI Surprise	Likely impact to consensus EPS*
Unimicron 3037.TW		
2Q GM and 3Q revenue outlook	↑ Likely upside surprise	↑ Modest revision higher
• We raise our 2Q GM estimate to 22.1% (vs 19.5% previously) and are now 80bps above the Street.		
Nan Ya PCB 8046.TW		
2Q GM and 3Q revenue outlook	↑ Likely upside surprise	↑ Modest revision higher
• Our 2Q GM forecast is 60bps above the Street. We raise our 2Q EPS estimate by 31% to NT$3.35 and are now 7% above the Street.		
Zhen Ding 4958.TW		
2Q GM and 3Q margin outlook	↓ Likely downside surprise	– Largely unchanged
• Our 2Q GM forecast is 70bps above the Street. We raise 2Q EPS estimate by 6% to NT$2.09 but are still 5% below the Street, reflecting higher opex and taxes.		

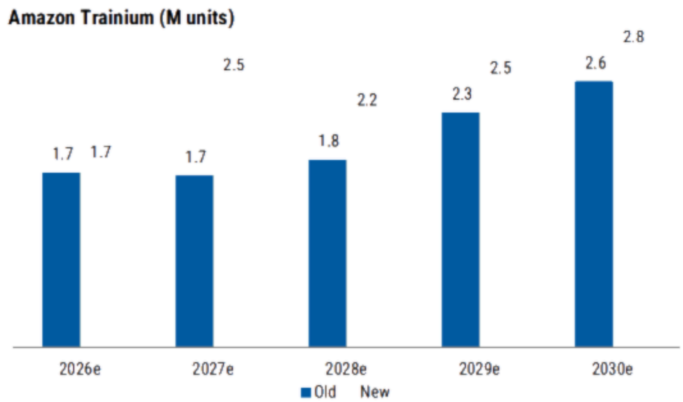
*Likely impact to consensus EPS is for the next 12 months
Source: Company data, Morgan Stanley Research

Changes to Our Assumptions

Stronger ASIC demand from hyperscalers

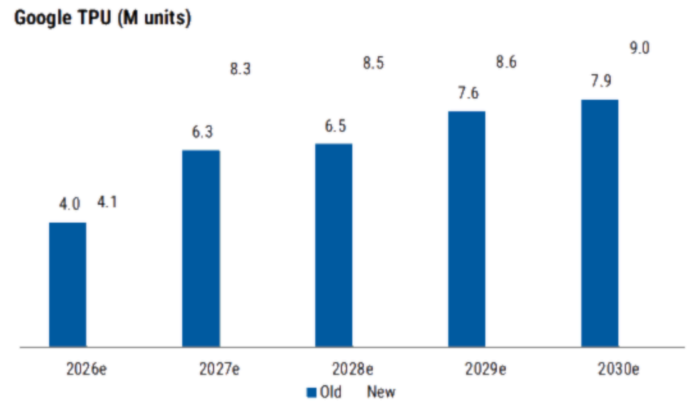
We have updated our ASIC demand forecasts to reflect the latest estimates from our Semiconductors team. As shown in the exhibits below, our revised assumptions point to a steeper production ramp for Amazon's Trainium processors over 2027–30, as well as stronger demand for Google's TPU portfolio over the next five years. Given that these ASICs are characterized by large die sizes and high layer-count package substrates, the upward revisions imply incrementally stronger demand for ABF substrates, further reinforcing our constructive outlook for the substrate suppliers.

Exhibit 2: Changes to Amazon Trainium estimates



Source: Morgan Stanley Research (e) estimates

Exhibit 3: Changes to Google TPU estimates

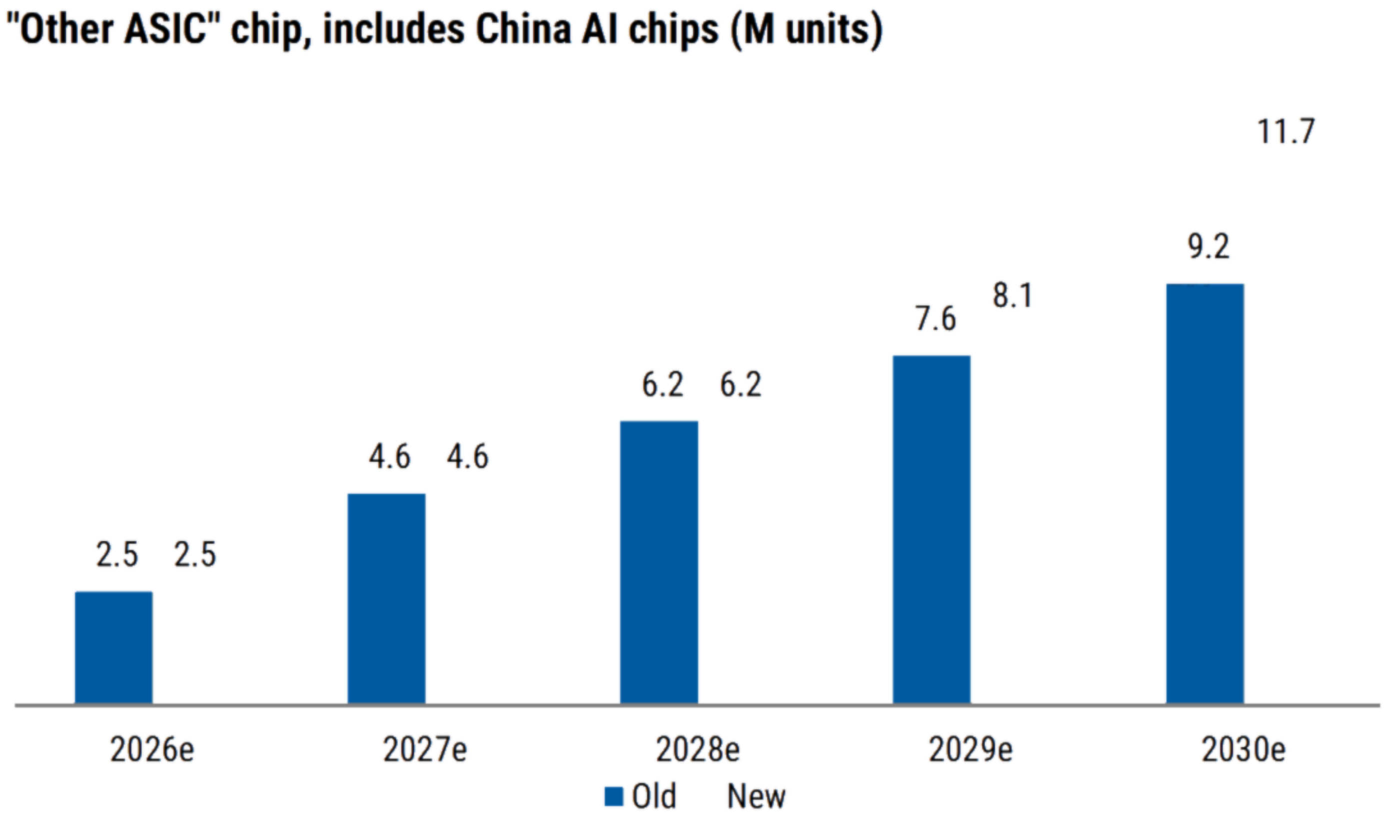


Source: Morgan Stanley Research (e) estimates

Other ASIC chips

For "Other" ASIC chips, we also increase our estimates. Included in this section are ASIC chips from Microsoft, other US companies, and China AI chips, such as those from Huawei, Cambricon, Hygon, T-Head, etc. For China AI chips, we included the latest estimates, also from our semiconductor team, which was published in this report. The latest estimate for China AI chips TAM by 2030 is 36% higher than the prior assumption, driving total "Other ASIC chips" category to reach ~11.7M units by 2030, up from ~9.2M units previously.

Exhibit 4: Seeing increased demand from China AI chips

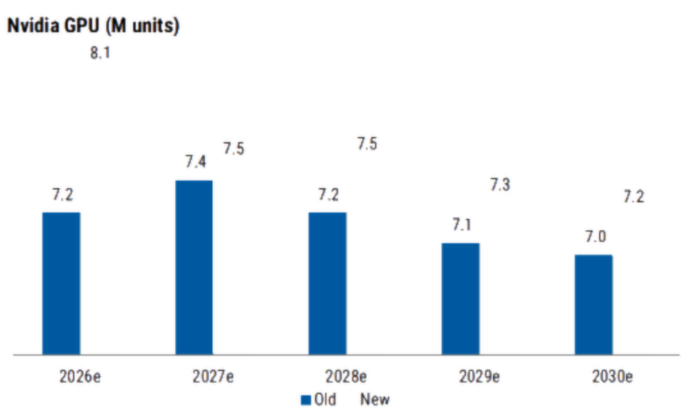


Source: Morgan Stanley Research (e) estimates.

Changes to our GPU forecasts

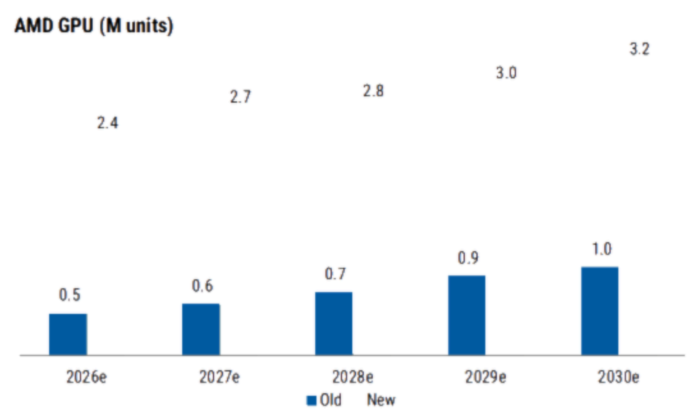
We also update our demand forecasts for Nvidia and AMD GPUs, with our revised estimates generally pointing to stronger demand over CY26–30 compared with our previous assumptions. In addition, we now explicitly incorporate forecasts for Nvidia's server CPU portfolio (including Grace, Vera, and future platforms) into our demand model. Together, these revisions result in a higher overall substrate demand outlook relative to our prior forecasts, reflecting both stronger AI accelerator demand and the growing contribution from Nvidia's server CPU roadmap.

Exhibit 5: Changes to our Nvidia GPU estimates



Source: Morgan Stanley Research (e) estimates

Exhibit 6: Changes to our AMD GPU estimates

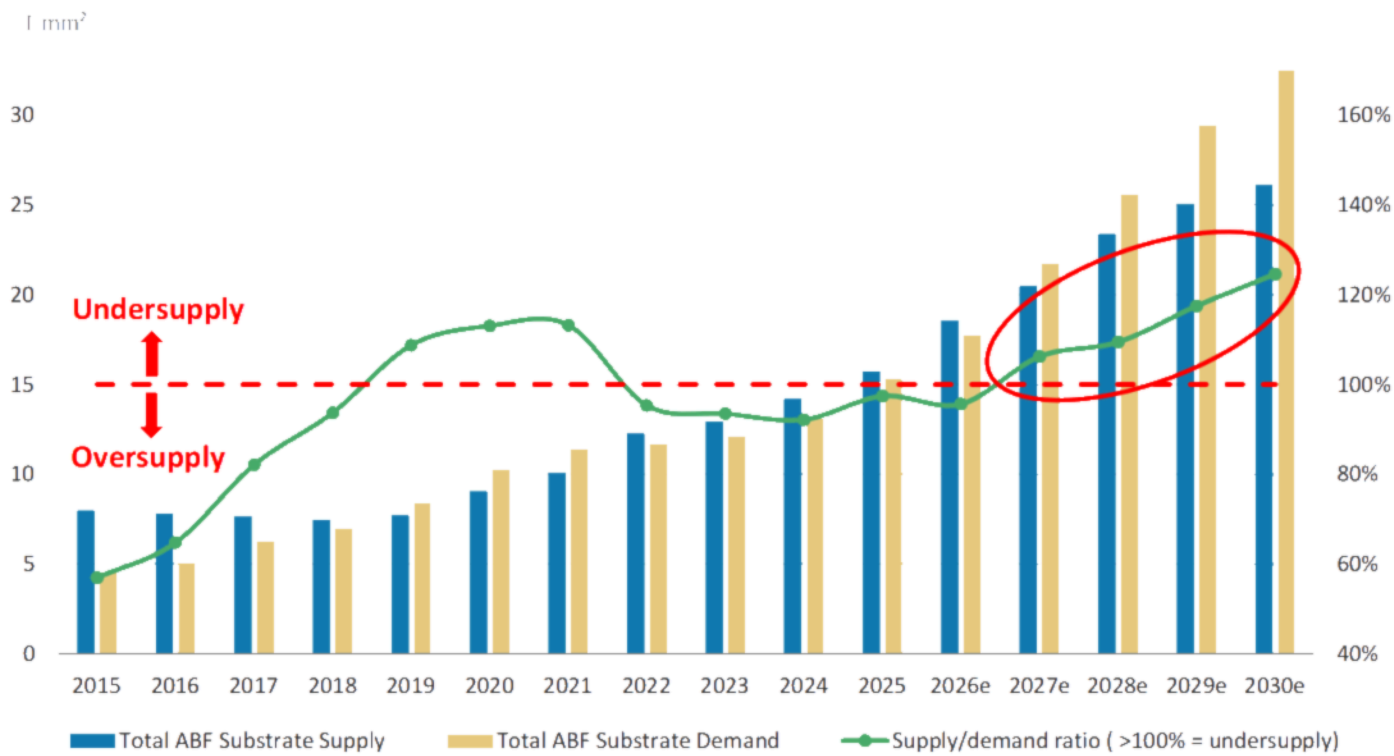


Source: Morgan Stanley Research (e) estimates.

We also baked in recent capacity expansion announcement from AT&S in our model in this report: AT&S (ATSV.VI, not covered) announced that it signed key terms with AMD and another major tech customer to add AI/HPC IC substrate capacity in Kulim, Malaysia. The company said the €1.5-2bn investment is fully supported and financed by long-term customer commitments, pending final execution.

We now expect the ABF supply/demand imbalance to widen by 2030: After baking in the latest assumptions and estimates, our bottom-up ABF substrate S/D model points to 25% undersupply by 2030 (vs. ~22% previously). A detailed breakdown of the changes in assumptions that resulted in this shortage widening can be found in the next section. But increased undersupply gives us more confidence about pricing and margin tailwinds that we expect to see for Unimicron, NYPCB, and ZDT.

Exhibit 7: Expecting ABF substrate under-supply gap to widen by 2030 vs. our prior estimates



Source: Morgan Stanley Research (e) estimates

Exhibit 8: Increased demand assumptions cause CY29-30 under-supply gap to widen vs. our prior estimates

ABF SD	2026e	2027e	2028e	2029e	2030e
Old	93.3%	102.2%	105.8%	114.9%	122.3%
New	95.6%	106.2%	109.4%	117.5%	124.6%

Source: Morgan Stanley Research (e) estimates

What does this new S/D dynamic mean for pricing and margins?

We estimate cost inflation will drive ABF substrate pricing to grow 20-25% y/y in CY26, and 25%+ y/y in CY27, mainly driven by an imbalance in ABF substrate S/D. Because our view is that the imbalance will continue to widen in CY28 and thereafter, we are also assuming pricing will continue to move higher in CY28, in the range of 25-40% y/y, depending on the customer. For Unimicron, which has higher exposure to larger customers, we model 20%+ pricing growth y/y for CY28, but for NYPCB, we estimate pricing growth will accelerate in CY28 to 40%+ y/y growth, reflecting a more severe ABF substrate supply shortage.

Any new capacity expansion plans will need at least two years to bring online: As a result, any new meaningful capacity expansion plans that we hear from hereon out will affect S/D dynamics only for CY29 onward. So for the next two years, our focus will be on changes to end-demand when analyzing this space.

Earnings Calendar and Comps Table

Exhibit 9: Earnings Calendar

Company	C2Q26 Result Date	Earnings Call
SEMCO	Late July	Late July
Ibiden	August 4	August 5
AT&S	August 4	August 4
Unimicron	July 28	July 29
Nan Ya PCB	August 6 or 7	No
Zhen Ding	By mid-August	TBC

Source: Company data, Morgan Stanley Research

2Q Preview: MSe vs. Consensus

Unimicron

Our estimates are broadly in line with consensus at the revenue level but differed on the margin profile. We forecast net sales of NT$42.5bn, essentially in line with consensus, while expecting a stronger gross margin of 22.1%, ~80bps above the Street estimate of 21.4%, reflecting a more favorable product mix and better pricing environment. However, we are also more conservative on operating expenses, resulting in an operating margin of 12.1%, modestly below consensus (12.3%). The key difference vs. the Street is below the operating line, where we assume materially lower non-operating income (NT$491mn vs. NT$980mn consensus), leading to pre-tax income and net income estimates that are 9% and 17% below consensus, respectively. Consequently, our EPS forecast of NT$2.50 is ~17% below the Street estimate of NT$2.99, despite our more constructive view on gross profitability.

Exhibit 10: Unimicron 2Q Preview: We are 80bps above the Street on 2Q GM

Year to Dec. 31 (NT$ mn)	Actual 2Q26E	Q/Q	Y/Y	Consensus 2Q26E	Diff. %
P&L Summary					
Net sales	**42,509**	**14%**	**31%**	**42,358**	**0%**
COGS	(33,108)			(33,311)	
Gross profit	**9,402**	**40%**	**121%**	**9,047**	**4%**
Operating expenses	(4,272)			(3,855)	
Operating income	**5,130**	**86%**	**240%**	**5,192**	**-1%**
Non-operating income	491			980	
Pre-tax income	**5,620**	**-11%**	**1475%**	**6,172**	**-9%**
Net income	**3,877**	**-23%**	**12996%**	**4,648**	**-17%**
EPS (NT$)	**2.50**			**2.99**	
Margins		**ppt**	**ppt**		**ppt**
Gross margin	22.1%	4.2%	9.0%	21.4%	0.8%
Operating margin	12.1%	4.7%	7.4%	12.3%	-0.2%
Pretax margin	13.2%	-3.6%	12.1%	14.6%	-1.4%
Net margin	9.1%	-4.3%	9.0%	11.0%	-1.9%

Source: Company data, Visible Alpha, Morgan Stanley Research estimates

NYPCB

Our estimates are modestly ahead of consensus, driven primarily by stronger operating profitability. Although our revenue forecast is broadly in line with consensus (NT$13.575bn vs. NT$13.64bn consensus), we are more constructive on margins, particularly at the operating level. Our operating margin estimate of 18.2% is 70bps above consensus (17.4%), reflecting stronger gross margin (21.45% vs. 20.8% consensus) and lower-than-expected operating expenses. As a result, our operating profit forecast exceeds consensus by approximately 42%, which, when combined with slightly lower taxes, flows through to EPS of NT$3.35, around 7% above the Street estimate of NT$3.13. Overall, we assume earnings will come in better-than-expected driven more by better profitability than by top-line performance.

Exhibit 11: NYPCB 2Q Preview: We are 75% above the Street on 2Q EPS

	2Q26E Results				
NT$mn	**Actual**	**QoQ**	**YoY**	**Cons**	***Variance***
Net sales	**13,575**	**21%**	**42%**	**13,636**	***0%***
COGS	-10,666	NM	NM	-10,795	*-1%*
Gross profit	**2,909**	**64%**	**278%**	**2,841**	***2%***
Operating expenses	-445	NM	NM	-467	*-5%*
Operating income	**2,464**	**82%**	**573%**	**2,374**	***4%***
Non-operating income	176	-28%	NM	175	*1%*
Pre-tax income	**2,640**	**65%**	**NM**	**2,548**	***4%***
Income tax	-475	NM	NM	-523	*-9%*
Net income	**2,165**	**65%**	**NM**	**2,025**	***7%***
EPS (NT$)	**3.35**	**65%**	**NM**	**3.13**	***7%***
Margins (%)		***ppt***	***ppt***		***ppt***
Gross margin	21.4%	5.6	13.4	20.8%	0.6
Operating margin	18.2%	6.1	14.3	17.4%	0.7
Pre-tax margin	19.4%	5.2	21.8	18.7%	0.8
Net margin	15.9%	4.2	17.9	14.9%	1.1

Source: Company data, Visible Alpha, Morgan Stanley Research estimates

Zhen Ding

Our estimates are modestly above consensus at the operating level, although more conservative below the line. We forecast revenue of NT$48.2bn, ~2% above consensus, reflecting stronger demand assumptions. We also expect a higher gross margin of 22.8%, 70bps above the Street estimate of 22.1%, resulting in gross profit 6% above consensus. Despite assuming slightly higher operating expenses, our operating income estimate remains 4% above consensus, supported by stronger gross profitability. Below the operating line, however, we are more conservative on non-operating income (NT$314mn vs. NT$352mn consensus), leading to net income and EPS forecasts ~5% below the Street. Overall, the key difference vs. consensus is that our model assumes stronger core operating performance but more modest non-operating contributions, offsetting the operating beat on the bottom line.

Exhibit 12: Zhen Ding 2Q Preview: We are 5% below the Street on 2Q EPS

	2Q26E Results				
NT$mn	2Q26E	QoQ	YoY	Cons	Var.
Net sales	**48,160**	**18%**	**26%**	**47,010**	**2%**
COGS	-37,187	17%	19%	-36,616	2%
Gross profit	**10,972**	**25%**	**57%**	**10,394**	**6%**
Operating expenses	-6,875	9%	50%	-6,458	6%
Operating income	**4,097**	**64%**	**69%**	**3,936**	**4%**
Non-operating income	314	-404%	-305%	352	-11%
Pre-tax income	**4,411**	**84%**	**94%**	**4,288**	**3%**
Net income	**2,242**	**57%**	**271%**	**2,350**	**-5%**
EPS (NT$)	**2.09**	**57%**	**231%**	**2.20**	**-5%**
Margins (%)		***ppt***	***ppt***		***ppt***
Gross margin	22.8%	1.1	4.4	22.1%	0.7
Operating margin	8.5%	2.4	2.2	8.4%	0.1
Pre-tax margin	9.2%	3.3	3.2	9.1%	0.0
Net margin	4.7%	1.2	3.1	5.0%	-0.3

Source: Company data, Visible Alpha, Morgan Stanley Research estimates

MSe vs. Consensus

Exhibit 13: Unimicron: MSe vs. Consensus Estimates

Unimicron	MSe			Consensus			Variance		
	2026	2027	2028	2026	2027	2028	2026	2027	2028
Revenue	184,755	265,117	355,074	181,603	256,760	344,427	2%	3%	3%
GM	23.1%	31.9%	38.3%	23.0%	32.0%	36.7%	0%	0%	2%
OpM	13.6%	24.4%	31.8%	13.9%	24.2%	29.3%	0%	0%	2%
Net income	22,855	51,521	89,367	23,299	49,297	79,682	-2%	5%	12%
EPS	14.85	33.48	58.07	15.14	32.03	51.77	-2%	5%	12%

Source: Visible Alpha, Morgan Stanley Research estimates

Exhibit 14: NYPCB: MSe vs. Consensus Estimates

NYPCB	MSe			Consensus			Variance		
	2026	2027	2028	2026	2027	2028	2026	2027	2028
Revenue	56,808	78,966	111,555	58,647	90,842	125,480	-3%	-13%	-11%
GM	23.0%	33.8%	44.8%	23.1%	32.8%	39.3%	0%	1%	5%
OpM	19.9%	31.2%	42.6%	19.7%	30.1%	36.9%	0%	1%	6%
Net income	10,108	21,337	40,621	9,795	23,137	38,756	3%	-8%	5%
EPS	15.64	33.02	62.87	15.16	35.81	59.98	3%	-8%	5%

Source: Visible Alpha, Morgan Stanley Research estimates

Exhibit 15: Zhen Ding: MSe vs. Consensus Estimates

Zhen Ding	MSe			Consensus			Variance		
	2026	2027	2028	2026	2027	2028	2026	2027	2028
Revenue	226,233	291,509	337,259	223,948	288,340	351,953	1%	1%	-4%
GM	24.5%	27.0%	29.1%	23.8%	25.7%	27.1%	1%	1%	2%
OpM	12.0%	15.6%	18.6%	11.2%	14.5%	16.5%	1%	1%	2%
Net income	16,139	27,071	37,047	15,536	25,702	35,394	4%	5%	5%
EPS	15.08	25.30	34.62	14.52	24.02	33.07	4%	5%	5%

Source: Visible Alpha, Morgan Stanley Research estimates

Exhibit 16: ABF substrate peer comparison table

ABF Substrate	Company	Closing price (LC)	Rating	Price target	Market Cap (US$ mn)	EPS (LC)			Current P/E (X)			PT PEG (X)			P/B (X)			P/S (X)			EV/EBITDA			ROA (%)			ROE (%)		
Ticker		7/3/2026				26E	27E	28E	26E	27E	28E	26E	27E	28E	26E	27E	28E	26E	27E	28E	26E	27E	28E	26E	27E	28E	26E	27E	28E
3037.TW	Unimicron	969	OW	1,465	45,728	14.85	33.48	58.07	65.2	28.9	16.7	0.27	0.23	0.23	11.8	8.9	6.4	7.9	5.5	4.1	31.0	15.9	9.5	8%	15%	20%	20%	35%	45%
8046.TW	NYPCB	1,185	OW	1,550	24,018	15.64	33.02	82.87	75.7	35.9	18.8	0.18	0.32	0.21	14.0	11.0	8.0	13.5	9.7	6.9	43.1	24.2	13.3	15%	29%	38%	20%	34%	49%
4958.TW	Zhen Ding	613	OW	690	20,574	15.08	25.30	34.62	40.6	24.2	17.7	0.34	0.36	0.48	3.6	3.2	2.9	2.9	2.3	1.9	17.6	11.7	8.7	6%	8%	11%	9%	14%	17%
4062.T	Ibiden	23,345	UW	13,000	40,463	213.12	293.93	381.88	109.5	79.4	61.1	-131.70	2.09	2.04	10.8	9.5	8.3	12.8	10.6	8.9	38.9	29.0	23.5	6%	8%	10%	11%	14%	16%
009150.KS	SEMCO	1,988,000	OW	2,560,000	97,578	23,555.40	55,476.57	78,349.18	84.4	35.9	25.4	0.54	0.26	0.82	13.9	10.2	7.3	10.2	6.8	4.8	42.1	21.3	15.0	11%	22%	25%	18%	33%	34%
ATS.AV	AT&S	190	NC	--	8,429	4.21	7.05	12.86	45.0	26.9	14.7	-0.04	0.40	0.18	6.5	5.5	3.6	3.1	2.5	2.0	6.3	6.3	6.3	3%	6%	9%	15%	20%	25%
3189.TW	Kinsus	830	NC	--	13,691	10.23	22.27	42.34	81.2	37.3	19.6	0.41	0.32	0.22	9.8	8.4	6.5	8.3	6.0	4.2	8.5	8.5	8.5	6%	11%	16%	12%	23%	33%
Average									71.7	38.4	24.9	-18.6	0.8	0.6	10.1	8.1	6.1	8.4	6.2	4.7	28.5	16.7	12.1	8%	14%	18%	15%	25%	31%
Median									75.7	35.9	18.8	0.3	0.3	0.2	10.8	8.9	6.5	8.3	6.0	4.2	31.0	15.9	9.5	6%	11%	16%	15%	23%	33%

Source: FactSet (for AT&S and Kinsus), Morgan Stanley Research estimates (for Unimicron, NYPCB, Zhen Ding, Ibiden and SEMCO). NC – Not covered by Morgan Stanley Research.

Related Reports:

Unimicron: Very strong preliminary April profits (27 May 2026)

Nan Ya PCB: Strong preliminary April profits (27 May 2026)

Greater China Technology Hardware: ABF Substrates – AT&S announces capacity expansion in Malaysia (15 Jun 2026)

Nan Ya PCB: Even stronger preliminary May profits (29 Jun 2026)

The State of the Current Cycle

The ABF substrate market has gone through a few cycles over the past two decades. We believe we are now still in the early innings of an upcycle.

There was a prolonged downcycle from 2012-18 as the PC TAM shrank amid the rise of smartphones and tablets. During this tough period, companies were not able to generate profits and had to compete on price to fill their idle capacity. As a result, during those years, there was no or very limited capacity expansion, and capital expenditures by the major ABF substrate suppliers were kept at a minimum (Exhibit 3).

Even as general server demand picked up, lifting utilization rates across the group going into 2020, ABF substrate suppliers remained cautious on the longer-term demand outlook and remained disciplined, hesitating to expand capacity. Hence, capex turned up just slightly in 2019-20, increasing ~US$600mn vs. ~US$2.2bn on average per year in 2012-18.

This underinvestment led to sudden undersupply, as the shock from Covid-19 drove strong work-from-home demand for PCs, as well as increased data usage and storage for general computing driven by online entertainment. This ultimately led to a significant increase in ABF substrate market value from 2020-22, reflecting by the sudden surge in demand along with meaningful pricing adjustments owing to the lack of supply.

During this 2020-22 period, much capacity expansion was set in motion as ABF substrate suppliers and customers came to agree that necessary investments were needed for future growth. Some subsidies were even given to these suppliers to facilitate this capacity expansion. This is why capex jumped from ~US$2.9bn in 2020 to US$4.1bn in 2021 and US$5.5bn in 2022; even in 2023-24, capex remained elevated, as capacity expansion plans continued.

Unfortunately, demand did not play out as expected. As the world came out of the pandemic, demand for PCs and online entertainment fell sharply. This normalization of demand, coupled with capacity expansion from practically every major ABF substrate supplier, resulted in the ABF substrate market once again becoming oversupplied. This led to a sharp decline in ABF substrate market value in 2023-24, as volumes normalized, driving prices down to normalize against the new supply/demand dynamic.

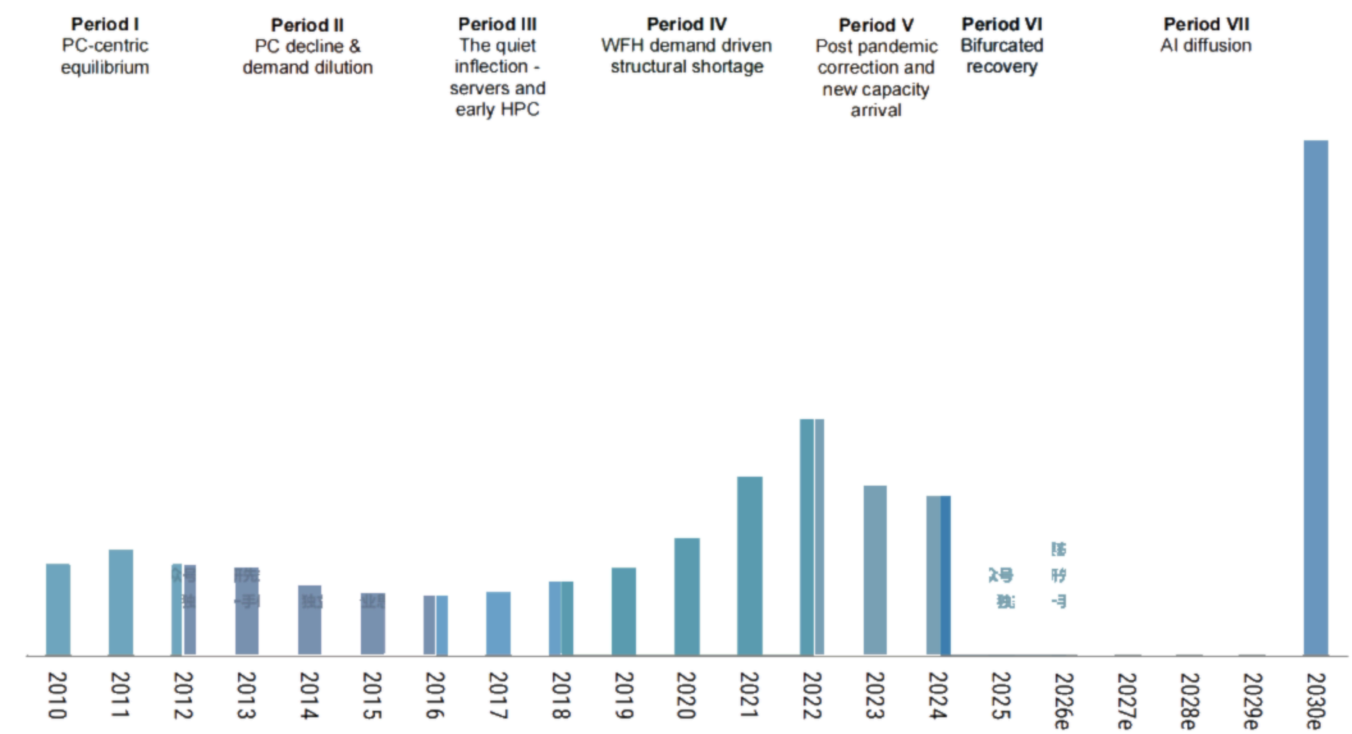
Fortunately, cloud demand remained strong for general computing, and with AI demand starting to pick up, the downcycle this time around was much shorter (two years) vs. the prior downcycle (six years).

In 1H24, the ABF substrate market troughed and we started to see an upward inflection since then, but the pace of the recovery has been moderate and bifurcated. Midrange/low-end markets such as PCs have shown moderate demand recovery, with high-end server and AI-related end-demand recovering and growing at a faster pace. This is why we turned the page on our bearish stance in 1H25, but did not turn more bullish until early 2026.

Periods	Description
Period I (2010-2012): PC-centric equilibrium	ABF substrate demand is primarily driven and dominated by CPU and GPU demand for desktops, notebooks, discrete GPUs, with a meaningfully smaller exposure towards server CPUs.

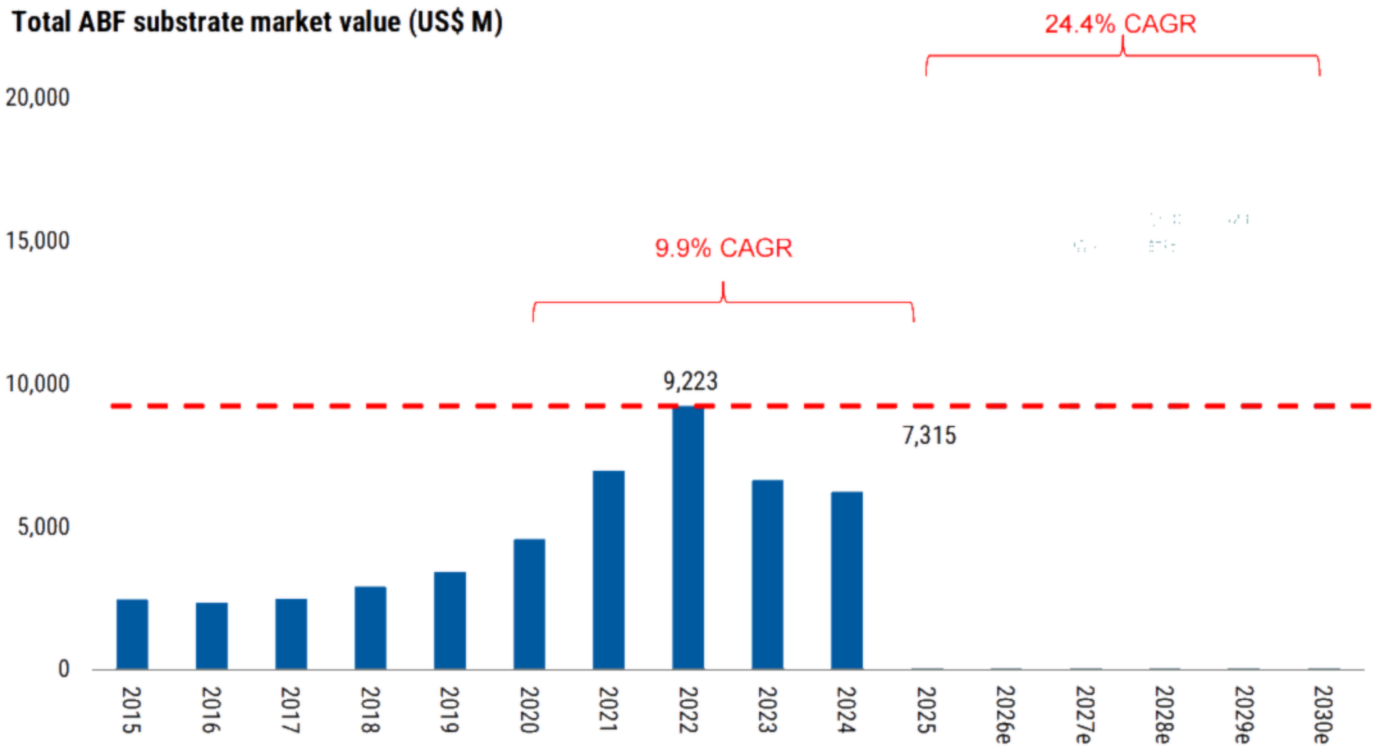
Period II (2012-16): PC decline and demand dilution	Global PC demand entered a structural downcycle as consumer behavior changed, with smartphones and tablets absorbing more consumer time spent. This resulted in lower volumes and increased pricing competition as suppliers fought to fill idle capacity.
Period III (2016-18): The quiet inflection - servers and early HPC	During these years, the PC market matured, while cloud computing started to take off. At the same time, server CPU substrates quietly grew larger with more layers. We also started to see early accelerators being adopted in high performance computing.
Period IV (2018-2022): WFH demand driven structural shortage	The Covid-19 pandemic drove massive work from home demand for consumer electronics and cloud computing. This sudden surge in PC demand and increased time spent on gaming and online entertainment, bundled with a continuous increase in substrate package size and layer count, resulted in a structural shortage, which also resulted in longer lead-times and raised prices. It was during this period (2021-22) that ABF suppliers globally started to invest in new capacity.
Period V (2022-2024): Post-pandemic correction and new capacity arrival	As the world came out of the Covid-19 pandemic, WFH demand faded and PC and cloud computing demand were negatively affected. But at the same time, the new investments and capacity additions were just starting to slowly come online, resulting in a drop in utilization rates and pricing.
Period VI (2024-2026): Bifurcated recovery	PC demand normalized at the pre-Covid levels, with some replacement demand driven by Windows upgrade, while the recovery and growth of AI and general server demand for cloud picks up at a meaningfully higher growth trajectory.
Period VII (2026-30): AI diffusion	Demand for AI proliferates from training to inference, driving ABF substrate market growth to re-accelerate over the next five years after a two-year downcycle following the Covid-19 pandemic. This drives increased demand for AI computing, networking, and cloud computing, while demand for PCs remains soft.

Exhibit 17: We are entering the AI diffusion era



Source: Morgan Stanley Research (e) estimates.

Exhibit 18: We now expect ABF substrate demand growth to accelerate, growing at 24.4% CAGR over 2025-30e (up from 22.2% previously)



Source: Prismark, Morgan Stanley Research (e) estimates

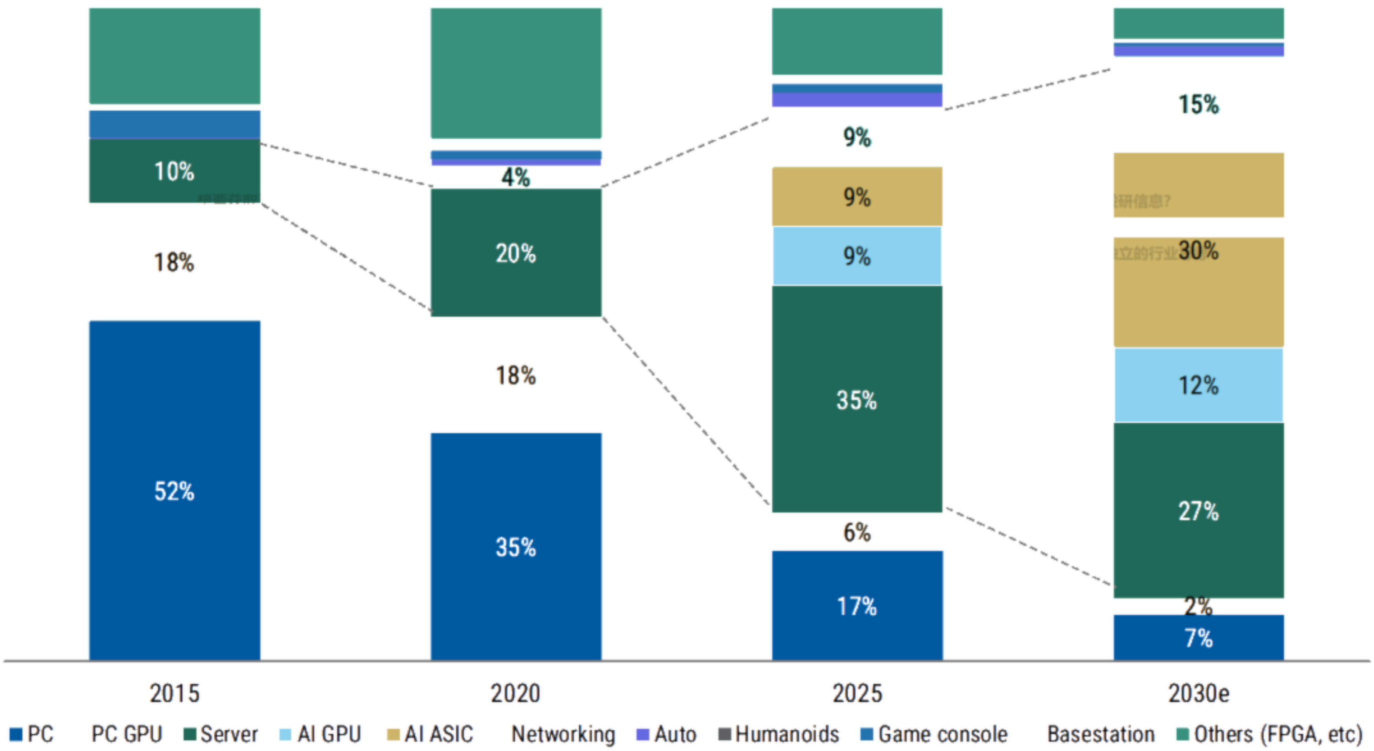
Breaking down ABF substrate end-demand

The end-market mix for ABF substrates has shifted dramatically over the past decade. PCs were once the dominant demand driver, accounting for approximately 70% of global ABF substrate market value in 2015, supported primarily by PC CPUs and GPUs. Since then, however, the industry's demand profile has undergone a structural transformation. We estimate that PC-related applications represented only ~23% of total ABF substrate market value in 2025, and this share is expected to decline further to below 10% by 2030.

In contrast, demand from servers, AI GPUs, AI ASICs, and networking applications has expanded rapidly. We estimate these segments collectively accounted for only around 10% of the ABF substrate market in 2015, but their share increased to ~60% by 2025. Looking ahead, we expect they will represent more than 80% of total ABF substrate market value by 2030.

In our view, this structural shift in end-market demand has been the primary driver of ABF substrate industry growth over the past decade and will become even more pronounced over the next five years. As AI infrastructure deployment accelerates, we expect continued expansion in server, AI accelerator, and networking demand to drive meaningful acceleration in ABF substrate market growth.

Exhibit 19: PC-related ABF demand is seen declining from ~70% in 2015 to <10% by 2030, while server, AI GPU, AI ASIC, and networking-related ABF demand should rise from ~10% in 2015 to 75%+ by 2030



Source: Morgan Stanley Research (e) estimates

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Unimicron: Estimate Changes

We raise our 2026, 2027 and 2028 EPS estimates by 25%, 33% and 14%, respectively, primarily driven by higher assumptions for ASICs and GPUs volumes and better margin profiles.

Exhibit 20: Estimate Changes

Year to Dec. 31 (NT$m)	2026E			2027E			2028E		
	New	Old	% diff	New	Old	% diff	New	Old	% diff
P&L Summary									
Net sales	**184,755**	**184,777**	**0%**	**265,117**	**262,464**	**1%**	**355,074**	**354,693**	**0%**
COGS	(141,992)	(147,780)		(180,574)	(193,803)		(219,066)	(233,768)	
Gross profit	**42,763**	**36,997**	**16%**	**84,543**	**68,660**	**23%**	**136,007**	**120,924**	**12%**
Operating expenses	(17,635)	(17,713)		(19,803)	(19,966)		(23,141)	(21,971)	
Operating income	**25,129**	**19,284**	**30%**	**64,740**	**48,695**	**33%**	**112,866**	**98,953**	**14%**
Non-operating income	5,014	5,027		2,162	2,180		2,162	2,180	
Pre-tax income	**30,143**	**24,311**	**24%**	**66,902**	**50,874**	**32%**	**115,028**	**101,133**	**14%**
Net income	**22,855**	**18,220**	**25%**	**51,521**	**38,875**	**33%**	**89,367**	**78,482**	**14%**
Diluted EPS (NT$)	**14.85**	**11.84**	**25%**	**33.48**	**25.26**	**33%**	**58.07**	**50.99**	**14%**
Margins			***ppt***			***ppt***			***ppt***
Gross margin	23.1%	20.0%	3.1	31.9%	26.2%	5.7	38.3%	34.1%	4.2
Operating margin	13.6%	10.4%	3.2	24.4%	18.6%	5.9	31.8%	27.9%	3.9
Pretax margin	16.3%	13.2%	3.2	25.2%	19.4%	5.9	32.4%	28.5%	3.9
Net margin	12.4%	9.9%	2.5	19.4%	14.8%	4.6	25.2%	22.1%	3.0

Source: Morgan Stanley Research (E) estimates

Price Target and Valuation Methodology

Our 12-month price target increases ~14% to NT$1,465 (from NT$1,285), driven by our increased earnings estimates for CY26-28e: We believe the company's earnings have returned to a growth track from 2026 onward and will see stronger earnings growth in 2027, driven by the high-end ABF substrate market's reversion to undersupply and Unimicron's dominant supply share in AI ASICs and also server CPUs, which puts it in a favorable position to benefit from rising AI investments.

We believe the overall ABF substrate market bottomed in 2H24, and see growth accelerating from 2H26 onward with the ramp of multiple next-generation, large body size ABF substrates for new server GPUs, CPUs, ASICs, and networking chips. New technologies such as embedded passives and Intel's EMIB-T should also increase the manufacturing complexity of the package substrates, which adds to the under-capacity as usable output decreases.

Similar to our analysis of other tech hardware companies within our coverage, we use a residual income (RI) valuation model to value Unimicron – we think it derives the most accurate value of the firm as it takes into account cost of equity. Key assumptions are all unchanged, including:

- Cost of equity of 9.2%;
- Risk-free rate of 1% (10-year Taiwan government note yield);
- Equity risk premium of 8.7%;
- Beta of 1.0;
- Medium-term growth rate of 15%
- Terminal growth rate of 3% (similar to the rest of the companies under our tech hardware coverage).

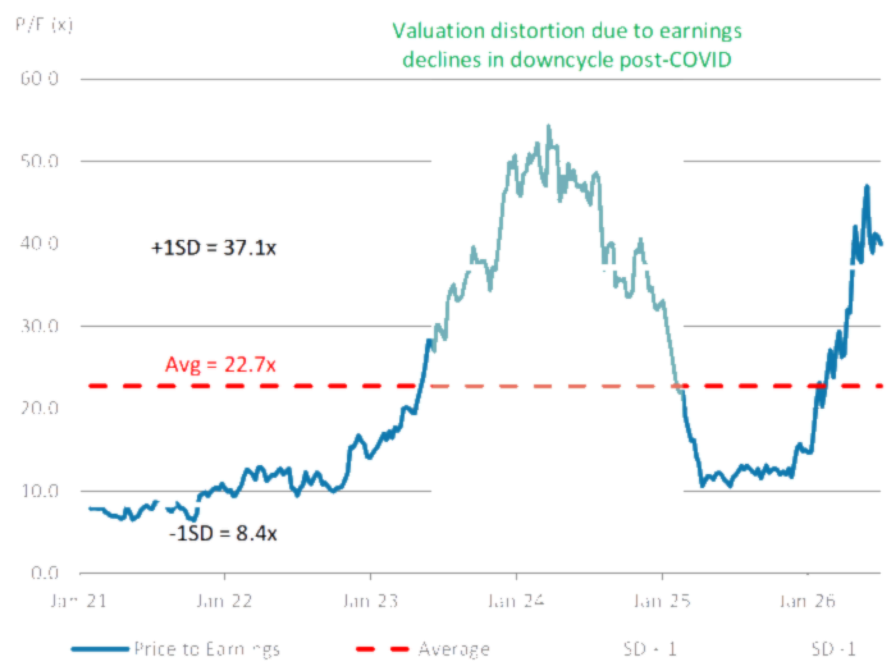
Our bull and bear case values increase by similar magnitudes, to NT$2,500 and NT $490, respectively.

Exhibit 21: Unimicron residual income (RI) model

		2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E	2037E
Total Equity		167,404	232,927	271,757	316,412	367,764	426,820	494,734	572,835	662,651	765,940	851,917
Net Profit		51,521	89,367	102,772	118,188	135,916	156,304	179,749	206,712	237,719	273,376	281,578
Return on Equity		35.1%	44.6%	40.7%	40.2%	39.7%	39.3%	39.0%	38.7%	38.5%	38.3%	34.8%
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Equity Risk Premium (Rm-Rf)	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%
Risk Free Rate (Rf)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Cost of Equity	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%
Residual Income		32,742	59,377	73,488	84,275	96,676	110,935	127,331	146,185	167,865	192,796	196,320
Spread		25.9%	35.5%	31.5%	31.0%	30.6%	30.2%	29.8%	29.5%	29.3%	29.1%	25.6%
Beginning Equity Capital		167,404										
PV of Forecast Period		726,828										
PV of Continuing Value		1,360,370										
Equity Value		2,254,602										
No. of Shares		1,539										
Projected Price		1,465.0										

Source: Morgan Stanley Research (E) estimates.

Exhibit 22: Unimicron P/E chart



Source: TEJ, Morgan Stanley Research estimates

Financials

Exhibit 23: Quarterly Estimates

NT$ mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2025	2026E	2027E	2028E
Sales	**30,090**	**32,466**	**33,994**	**34,691**	**37,446**	**42,509**	**50,823**	**53,976**	**131,241**	**184,755**	**265,117**	**355,074**
Cost of goods sold	-26,063	-28,221	-29,446	-29,219	-30,720	-33,108	-38,335	-39,829	-112,949	-141,992	-180,574	-219,066
Gross profit	**4,026**	**4,246**	**4,549**	**5,472**	**6,726**	**9,402**	**12,488**	**14,147**	**18,292**	**42,763**	**84,543**	**136,007**
Operating expenses	-2,759	-2,736	-3,016	-3,106	-3,969	-4,272	-4,654	-4,739	-11,618	-17,635	-19,803	-23,141
Operating profit	**1,267**	**1,509**	**1,533**	**2,366**	**2,757**	**5,130**	**7,834**	**9,409**	**6,674**	**25,129**	**64,740**	**112,866**
Interest income (loss)	103	62	-7	25	21	21	21	21	183	82	82	82
Investment income (loss)	32	-13	-1	-10	-10	20	20	20	8	50	80	80
Gains (Losses) from investment disposal	0	0	0	3	2	0	0	0	3	2	0	0
Gains from FAs disposal	3	337	-29	507	732	0	0	0	817	732	0	0
Exchange gain	452	-1,281	487	349	227	0	0	0	7	227	0	0
Others	-483	-257	964	910	2,571	450	450	450	1,134	3,921	2,000	2,000
Pre-tax profit	1,373	357	2,947	4,150	6,299	5,620	8,324	9,899	8,827	30,143	66,902	115,028
Net Income for Minority	9	231	256	381	338	338	338	338	877	1,351	1,351	1,351
Income tax	-450	-97	-496	-235	-918	-1,405	-1,831	-1,782	-1,277	-5,936	-14,030	-24,310
Net profit	**915**	**30**	**2,194**	**3,535**	**5,043**	**3,877**	**6,155**	**7,780**	**6,673**	**22,855**	**51,521**	**89,367**
EPS (NT$)	**0.59**	**0.02**	**1.43**	**2.30**	**3.25**	**2.50**	**3.96**	**5.01**	**4.34**	**14.85**	**33.48**	**58.07**
Margins (%)												
Gross margin	13.4%	13.1%	13.4%	15.8%	18.0%	22.1%	24.6%	26.2%	13.9%	23.1%	31.9%	38.3%
Operating margin	4.2%	4.6%	4.5%	6.8%	7.4%	12.1%	15.4%	17.4%	5.1%	13.6%	24.4%	31.8%
Pre-tax margin	4.6%	1.1%	8.7%	12.0%	16.8%	13.2%	16.4%	18.3%	6.7%	16.3%	25.2%	32.4%
Net margin	3.0%	0.1%	6.5%	10.2%	13.5%	9.1%	12.1%	14.4%	5.1%	12.4%	19.4%	25.2%
QoQ Growth												
Sales	2%	8%	5%	2%	8%	14%	20%	6%				
Gross profit	18%	5%	7%	20%	23%	40%	33%	13%				
Operating profit	86%	19%	2%	54%	17%	86%	53%	20%				
Pre-tax profit	331%	-74%	726%	41%	52%	-11%	48%	19%				
Net profit	1531%	-97%	7310%	61%	41%	-23%	59%	26%				
YoY Growth												
Sales	14%	16%	7%	18%	24%	31%	50%	56%	14%	41%	43%	34%
Gross profit	-6%	15%	-8%	61%	67%	121%	175%	159%	12%	134%	98%	61%
Operating profit	-20%	68%	-22%	248%	118%	240%	411%	298%	30%	276%	158%	74%
Pre-tax profit	-59%	-83%	95%	1201%	359%	1475%	182%	139%	21%	241%	122%	72%
Net profit	-62%	-98%	120%	6204%	451%	12996%	180%	120%	31%	242%	125%	73%

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

Exhibit 24: Consolidated Financial Summary

Income Statement

NT$ mn; FY End Dec	2025	2026E	2027E	2028E
Net sales	**131,241**	**184,755**	**265,117**	**355,074**
Cost of goods sold	-112,949	-141,992	-180,574	-219,066
Gross profit	**18,292**	**42,763**	**84,543**	**136,007**
Operating expenses	-11,618	-17,635	-19,803	-23,141
Sales & Marketing	-1,607	-2,485	-3,216	-3,919
G&A	-5,012	-7,650	-7,877	-9,078
R&D	-4,999	-7,499	-8,710	-10,144
Operating profit	**6,674**	**25,129**	**64,740**	**112,866**
Interest income	183	82	82	82
Investment income	8	50	80	80
Gains from investment disposal	3	2	0	0
Gains from fixed assets disposal	817	732	0	0
Exchange gain	7	227	0	0
Other non-operating income	1,134	3,921	2,000	2,000
Net non-operating profit	**2,153**	**5,014**	**2,162**	**2,162**
Pre-tax profit	8,827	30,143	66,902	115,028
Net Income for Minority	-877	-1,351	-1,351	-1,351
Income tax	-1,277	-5,936	-14,030	-24,310
Net profit	**6,673**	**22,855**	**51,521**	**89,367**
Reported EPS (NT$)	**4.34**	**14.85**	**33.48**	**58.07**

Balance Sheet

NT$ mn; FY End Dec	2025	2026E	2027E	2028E
Cash	54,872	84,130	151,335	243,258
Mkt Securities	38	38	38	38
AR/NR	27,570	38,812	55,693	74,591
Inventory	17,802	22,379	28,460	34,527
Others	5,016	7,061	10,132	13,570
Current Assets	**105,298**	**152,420**	**245,660**	**365,984**
Long-term Investments	836	836	836	836
Fixed Assets	125,866	129,535	121,811	114,387
Other Assets	23,792	23,792	23,792	23,792
Total Assets	**255,792**	**306,584**	**392,099**	**505,000**
S-t Borrowings	10,845	10,845	10,845	10,845
AP/NP	17,494	21,993	27,969	33,931
Other S-T Liabilities	47,115	59,231	75,325	91,382
Other LT Liabilities	38,457	54,138	77,686	104,045
L-t Debt	34,873	33,872	32,871	31,870
Total Liabilities	**148,785**	**180,078**	**224,695**	**272,073**
Common Shares	15,296	15,296	15,296	15,296
Other Shareholders' Equity	91,711	111,209	152,108	217,631
Total Equity	**107,007**	**126,505**	**167,404**	**232,927**
Total Liab./Shrhldr's Equity	**255,792**	**306,584**	**392,099**	**505,000**

Cash Flow Statement

NT$ mn; FY End Dec	2025	2026E	2027E	2028E
Cashflow from Operations	**14,967**	**41,439**	**67,555**	**101,785**
Net Profits	6,673	22,855	51,521	89,367
Depreciation	18,773	19,887	20,078	18,881
Investment losses (income)	0	-50	-80	-80
Investment Disposal Loss	-3	-2	0	0
Change in Working Capital	-2,943	794	-893	-2,945
Other adjustments	-7,533	-2,045	-3,071	-3,438
Cashflow from Investing	**-23,018**	**-23,556**	**-12,354**	**-11,456**
(Purchases) Sale of fixed asset	-24,307	-23,556	-12,354	-11,456
(Purchases) Sale of LT investment	-77	0	0	0
Other adjustments	1,367	0	0	0
Cashflow from financing	**19,073**	**11,602**	**12,005**	**1,594**
Increase in L-T debt	9,950	-1,001	-1,001	-1,001
Increase in S-T debt	4,331	0	0	0
Issuance of stock	0	0	0	0
Other adjustments	7,087	15,681	23,548	26,360
Exchange Rate Adjustment	96	-227	0	0
Net change in cash	11,118	29,258	67,206	91,922

Financial Ratios

	2025	2026E	2027E	2028E
Margins				
Gross margin	13.9%	23.1%	31.9%	38.3%
Operating expenses/sales	-8.9%	-9.5%	-7.5%	-6.5%
Operating margin	5.1%	13.6%	24.4%	31.8%
Tax rate	14.5%	19.7%	21.0%	21.1%
Pre-tax margin	6.7%	16.3%	25.2%	32.4%
Net Margin	5.1%	12.4%	19.4%	25.2%
YoY Growth				
Turnover	13.8%	40.8%	43.5%	33.9%
Gross Profit	12.1%	133.8%	97.7%	60.9%
Operating Profits	30.4%	276.5%	157.6%	74.3%
Pretax Profits	20.6%	241.5%	122.0%	71.9%
Net Profits	31.3%	242.5%	125.4%	73.5%
Adjusted Cash Dividend (NT$)	2.00	6.85	15.44	26.78
Net Debt/Equity	-8.6%	-31.2%	-64.3%	-86.1%
Liabilities/Equity	139.0%	142.3%	134.2%	116.8%
Liabilities/Assets	58.2%	58.7%	57.3%	53.9%
ROAE	6.5%	19.6%	35.1%	44.6%
ROAA	2.7%	8.1%	14.7%	19.9%
A/R Turnover (days)	71.2	65.6	65.1	67.0
A/P Turnover (days)	52.7	50.8	50.5	51.6
Inventory Turnover (days)	52.8	51.6	51.4	52.5
Cash conversion (days)	71.3	66.5	65.9	67.9

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

NYPCB: Estimate Changes

We raise our 2026, 2027 and 2028 EPS estimates by 36%, 39% and 23%, respectively, primarily driven by higher assumptions for AI semiconductors volumes and higher margin profiles.

Exhibit 25: Estimate Changes

	2026E			2027E			2028E		
NT$ mn	New	Old	Variance	New	Old	Variance	New	Old	Variance
Net sales	**56,808**	**55,058**	**3%**	**78,966**	**74,811**	**6%**	**111,555**	**109,356**	**2%**
COGS	-43,726	-45,166	-3%	-52,309	-55,294	-5%	-61,587	-68,495	-10%
Gross profit	**13,081**	**9,891**	**32%**	**26,657**	**19,517**	**37%**	**49,968**	**40,861**	**22%**
Operating expenses	-1,805	-1,788	1%	-2,045	-2,006	2%	-2,397	-2,377	1%
Operating income	**11,276**	**8,103**	**39%**	**24,612**	**17,511**	**41%**	**47,572**	**38,484**	**24%**
Non-operating income	811	811	0%	762	762	0%	762	762	0%
Pre-tax income	**12,087**	**8,914**	**36%**	**25,374**	**18,273**	**39%**	**48,333**	**39,245**	**23%**
Income tax	-1,979	-1,472	34%	-4,037	-2,905	39%	-7,712	-6,256	23%
Net income	**10,108**	**7,442**	**36%**	**21,337**	**15,367**	**39%**	**40,621**	**32,989**	**23%**
EPS (NT$)	**15.64**	**11.52**	**36%**	**33.02**	**23.78**	**39%**	**62.87**	**51.05**	**23%**
Margins (%)			***ppt***			***ppt***			***ppt***
Gross margin	23.0%	18.0%	5.1	33.8%	26.1%	7.7	44.8%	37.4%	7.4
Operating margin	19.9%	14.7%	5.1	31.2%	23.4%	7.8	42.6%	35.2%	7.5
Pre-tax margin	21.3%	16.2%	5.1	32.1%	24.4%	7.7	43.3%	35.9%	7.4
Net margin	17.8%	13.5%	4.3	27.0%	20.5%	6.5	36.4%	30.2%	6.2

Source: Morgan Stanley Research (e) estimates

Price Target and Valuation Methodology

Our price target increases ~22% to NT$1,550, on the back of our raised earnings estimates for CY26-28e: We believe the company's earnings have returned to a growth track from 2026 onward and will see stronger growth in 2027, driven by the high-end ABF substrate market's reversion to undersupply, NYPCB's dominant supply share for networking chips, and its proactive pricing strategy, which puts it in a favorable position to benefit from rising AI investments.

We believe the overall ABF substrate market bottomed in 2H24, and growth should accelerate from 2H26 onward with the ramp of multiple next-generation, large body size ABF substrates for new server GPUs, CPUs, ASICs and networking chips. New technologies, such as embedded passives and Intel's EMIB-T, should also increase manufacturing complexity of the package substrates, adding to the under-capacity as usable output decreases.

Similar to our analysis of other tech hardware companies within our coverage, we use a residual income (RI) valuation model to value NYPCB – we think it derives the most accurate value of the firm given that it takes into account cost of equity. Key assumptions (all unchanged):

- Cost of equity of 9.3%;
- Risk-free rate of 1% (10-year Taiwan government note yield);
- Equity risk premium of 8.7%;
- Beta of 1.0;
- Medium-term growth rate of 17% - fair given our analysis of the substrate market over the next couple of years;
- Terminal growth rate of 3% (similar to the rest of the companies under our tech hardware coverage).

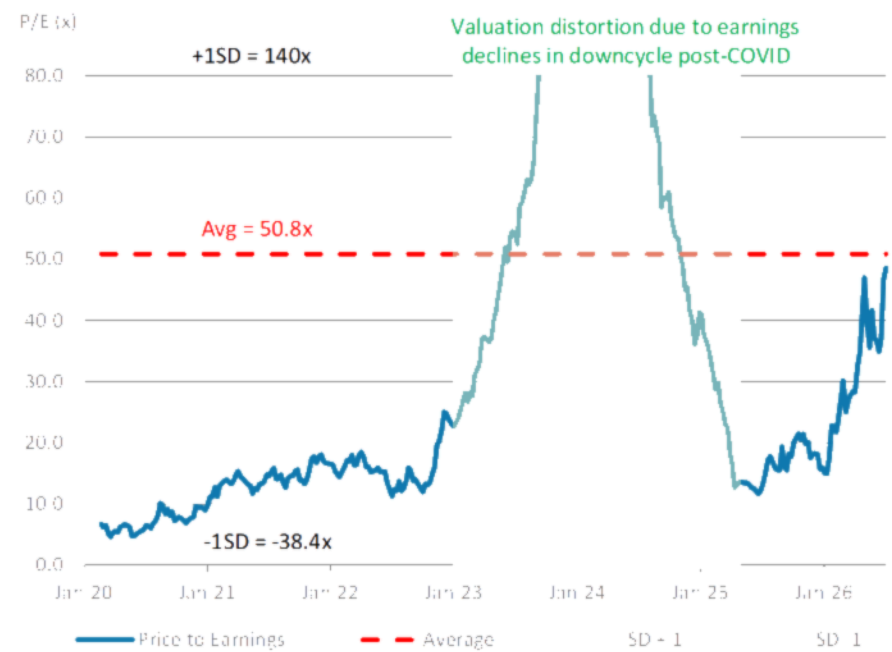
Our bull and bear case values increase by similar magnitudes, to NT$2,770 and NT $790, respectively.

Exhibit 26: NYPCB residual income (RI) model

		2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E	2037E
Total Equity		69,401	95,832	124,068	157,103	195,755	240,978	293,888	355,794	428,223	512,965	592,144
Net Profit		21,337	40,621	47,527	55,606	65,059	76,119	89,060	104,200	121,914	142,639	146,918
Return on Equity		34.4%	49.2%	43.2%	39.6%	36.9%	34.9%	33.3%	32.1%	31.1%	30.3%	26.6%
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Equity Risk Premium (Rm-Rf)	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%
Risk Free Rate (Rf)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Cost of Equity	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%
Residual Income		13,752	27,694	32,546	37,579	43,379	50,103	57,925	67,045	77,690	90,126	88,871
Spread		25.1%	39.9%	34.0%	30.3%	27.6%	25.6%	24.0%	22.8%	21.8%	21.0%	17.3%
Beginning Equity Capital		69,401										
PV of Forecast Period		329,611										
PV of Continuing Value		602,522										
Equity Value		1,001,534										
No. of Shares		646										
Projected Price		1,550.0										

Source: Morgan Stanley Research (E) estimates

Exhibit 27: NYPCB P/E chart



Source: TEJ, Morgan Stanley Research estimates

Financials

Exhibit 28: Quarterly Estimates

	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2025	2026E	2027E	2028E
Net sales	**8,458**	**9,583**	**10,967**	**11,165**	**11,177**	**13,575**	**15,552**	**16,504**	**40,173**	**56,808**	**78,966**	**111,555**
COGS	(8,028)	(8,814)	(9,918)	(9,766)	(9,406)	(10,666)	(11,599)	(12,056)	(36,526)	(43,726)	(52,309)	(61,587)
Gross profit	**430**	**769**	**1,050**	**1,398**	**1,771**	**2,909**	**3,953**	**4,448**	**3,647**	**13,081**	**26,657**	**49,968**
Operating expenses	(397)	(403)	(429)	(435)	(419)	(445)	(467)	(474)	(1,665)	(1,805)	(2,045)	(2,397)
SG&A	(397)	(403)	(429)	(435)	(419)	(445)	(467)	(474)	(1,665)	(1,805)	(2,045)	(2,397)
R&D	0	0	0	0	0	0	0	0	0	0	0	0
Operating income	**33**	**366**	**620**	**963**	**1,352**	**2,464**	**3,486**	**3,974**	**1,982**	**11,276**	**24,612**	**47,572**
Non-operating income	**223**	**(593)**	**287**	**446**	**246**	**176**	**193**	**196**	**363**	**811**	**762**	**762**
Interest income	45	47	19	34	34	34	34	34	144	135	135	135
Investment income	5	(8)	9	12	13	(8)	9	12	18	26	26	26
Disposal of investment	0	0	0	0	0	0	0	0	0	0	0	0
Exchange gain	124	(699)	167	249	112	0	0	0	(158)	112	0	0
Other	49	67	91	151	87	150	150	150	358	537	600	600
Pre-tax income	**256**	**(227)**	**907**	**1,409**	**1,598**	**2,640**	**3,679**	**4,170**	**2,346**	**12,087**	**25,374**	**48,333**
Income tax	(49)	39	(182)	(207)	(290)	(475)	(589)	(625)	(399)	(1,979)	(4,037)	(7,712)
Minority interest	0	0	0	0	0	0	0	0	0	0	0	0
Net income	**207**	**(187)**	**725**	**1,202**	**1,309**	**2,165**	**3,091**	**3,544**	**1,947**	**10,108**	**21,337**	**40,621**
Adj.wtd.avg.shrs (mn)	646	646	646	646	646	646	646	646	646	646	646	646
EPS	**0.32**	**(0.29)**	**1.12**	**1.86**	**2.03**	**3.35**	**4.78**	**5.48**	**3.01**	**15.64**	**33.02**	**62.87**
Fully Diluted shares (mn)	646	646	646	646	646	646	646	646	646	646	646	646
Diluted EPS (NT$)	**0.32**	**(0.29)**	**1.12**	**1.86**	**2.03**	**3.35**	**4.78**	**5.48**	**3.01**	**15.64**	**33.02**	**62.87**
Margins (%)												
Gross Margin	5.1	8.0	9.6	12.5	15.8	21.4	25.4	27.0	9.1	23.0	33.8	44.8
Operating Margin	0.4	3.8	5.7	8.6	12.1	18.2	22.4	24.1	4.9	19.9	31.2	42.6
Pretax Margin	3.0	(2.4)	8.3	12.6	14.3	19.4	23.7	25.3	5.8	21.3	32.1	43.3
Net Margin	2.5	(2.0)	6.6	10.8	11.7	15.9	19.9	21.5	4.8	17.8	27.0	36.4
QoQ Growth (%)												
Sales	7	13	14	2	0	21	15	6				
Gross Profit	2,441	79	37	33	27	64	36	13				
Operating Profit	NM	10	69	55	40	82	41	14				
Pretax Profit	63	-188	NM	55	13	65	39	13				
Net Profit	16	-190	NM	66	9	65	43	15				
YoY Growth (%)												
Sales	19	18	19	42	32	42	42	48	24	41	39	41
Gross Profit	NM	319	95	8,157	312	278	277	218	920	259	104	87
Operating Profit	NM	NM	396	NM	3,986	573	462	313	NM	469	118	93
Pretax Profit	NM	-226	1,247	794	524	NM	306	196	1,338	415	110	90
Net Profit	NM	-258	1,131	573	531	NM	326	195	856	419	111	90

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

Exhibit 29: Consolidated Financial Summary

Consolidated Income Statement

NT$mn (Year End Dec 31)	2025	2026E	2027E	2028E
Net sales	**40,173**	**56,808**	**78,966**	**111,555**
COGS	(36,526)	(43,726)	(52,309)	(61,587)
Gross profit	**3,647**	**13,081**	**26,657**	**49,968**
Operating expenses	(1,665)	(1,805)	(2,045)	(2,397)
Operating income	**1,982**	**11,276**	**24,612**	**47,572**
Non-operating income	**363**	**811**	**762**	**762**
Interest income	144	135	135	135
Investment income	18	26	26	26
Disposal of investment	-	-	-	-
Exchange gain	(158)	112	-	-
Other	358	537	600	600
Pre-tax income	**2,346**	**12,087**	**25,374**	**48,333**
Income tax	(399)	(1,979)	(4,037)	(7,712)
Minority interests	-	-	-	-
Net income	**1,947**	**10,108**	**21,337**	**40,621**
Adj. wtd. Avg. shrs (m)	646	646	646	646
Reported EPS (NT$)	**3.01**	**15.64**	**33.02**	**62.87**
Diluted shrs (m)	646	646	646	646
Diluted EPS (NT$)	**3.01**	**15.64**	**33.02**	**62.87**

Consolidated Cash Flow Statement

NT$mn (Year End Dec 31)	2025	2026E	2027E	2028E
Operating Cashflow	**3,027**	**12,436**	**21,860**	**38,180**
Net Profits	1,947	10,108	21,337	40,621
Depreciation & Amort.	6,894	6,013	5,483	5,036
Investment losses/(income)	(18)	(26)	(26)	(26)
Working capital change	12,615	(3,537)	(4,770)	(7,210)
Other adjustments	(18,410)	(123)	(163)	(240)
Investing Cashflow	**(1,723)**	**(2,894)**	**(2,853)**	**(2,793)**
Capex	(2,422)	(3,000)	(3,000)	(3,000)
Change of L/T investment	0	0	0	0
Change of S/T investment	0	0	0	0
Other adjustments	625	0	0	0
Financing Cashflow	**(887)**	**1,977**	**(2,355)**	**(7,759)**
Increase in L/T debt	0	0	0	0
Increase in S/T debt	0	0	0	0
Issuance of stock	0	(0)	0	0
Cash dividends	(646)	(1,292)	(6,710)	(14,164)
Other adjustments	(241)	3,269	4,355	6,405
FX adjustment	(309)	(112)	0	0
Net change in cash	**109**	**11,406**	**16,652**	**27,628**

Consolidated Balance Sheet

NT$mn (Year End Dec 31)	2025	2026E	2027E	2028E
Cash	**8,590**	**19,996**	**36,648**	**64,276**
Mkt securities	117	117	117	117
AR/NR	9,552	13,508	18,776	26,526
Inventory	5,068	6,067	7,257	8,545
Others	296	419	582	823
Current Assets	**23,623**	**40,106**	**63,381**	**100,286**
Long-term investments	500	500	500	500
Fixed assets	35,373	32,254	29,624	27,381
Other assets	1,711	1,711	1,711	1,711
Total Assets	**61,207**	**74,572**	**95,217**	**129,878**
S/T borrowings	-	-	-	-
AP/NP	1,711	2,048	2,450	2,885
Other ST liabilities	5,478	6,558	7,845	9,236
Total Current Liabilities	**7,189**	**8,606**	**10,295**	**12,121**
L/T debt	-	-	-	-
Other LT libilities	7,896	11,165	15,520	21,925
Total Liabilities	**15,085**	**19,771**	**25,815**	**34,047**
Common shares	6,462	6,462	6,462	6,462
Retained Earnings	13,031	21,709	36,309	62,740
Other SH' Equity	26,630	26,630	26,630	26,630
Total Shareholders' Equity	**46,123**	**54,801**	**69,401**	**95,832**
Total Liab./SH's Equity	**61,207**	**74,572**	**95,217**	**129,878**

Consolidated Financial Ratios

	2025	2026E	2027E	2028E
Margins (%)				
Gross margin	9.1	23.0	33.8	44.8
Operating margin	4.9	19.9	31.2	42.6
Pretax margin	5.8	21.3	32.1	43.3
Net margin	4.8	17.8	27.0	36.4
YoY growth (%)				
Sales	24.4	41.4	39.0	41.3
Operating profits	NM	468.8	118.3	93.3
Pretax profits	1,338.4	415.3	109.9	90.5
Net profits	855.6	419.2	111.1	90.4
Others				
Cash dividend payout (%)	66%	66%	66%	66%
Cash div (NT$)	2.00	10.38	21.92	41.73
Yield (%)	0%	1%	2%	4%
Net Debt/Equity (%)	-19%	-37%	-53%	-67%
Liabilities/Equity (%)	33%	36%	37%	36%
Liabilities/Assets (%)	25%	27%	27%	26%
ROAE (%)	4%	20%	34%	49%
ROAA (%)	3%	15%	25%	36%
AR/NR Turnover (days)	75	74	75	74
Inventory Turnover (days)	46	46	46	47
AP/NP Turnover (days)	16	16	16	16
Cash conversion cycle	105	105	105	105

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

ZDT: Estimate Changes

We raise our CY2026, 2027 and 2028 EPS estimates by 4% each, reflecting increased demand, pricing, and margin assumptions on ABF substrates.

Exhibit 30: Estimate Changes

	2026E			2027E			2028E		
NT$mn	New	Old	Variance	New	Old	Variance	New	Old	Variance
Net sales	**226,233**	**226,287**	**0%**	**291,509**	**291,591**	**0%**	**337,259**	**337,349**	**0%**
COGS	-170,740	-170,996	0%	-212,926	-213,614	0%	-239,242	-240,162	0%
Gross profit	**55,493**	**55,291**	**0%**	**78,584**	**77,976**	**1%**	**98,017**	**97,187**	**1%**
Operating expenses	-28,404	-29,376	-3%	-33,132	-34,573	-4%	-35,256	-36,776	-4%
Operating income	**27,089**	**25,914**	**5%**	**45,452**	**43,403**	**5%**	**62,761**	**60,411**	**4%**
Non-operating income	1,039	1,039	0%	1,406	1,406	0%	1,406	1,406	0%
Pre-tax income	**28,128**	**26,953**	**4%**	**46,858**	**44,809**	**5%**	**64,166**	**61,817**	**4%**
Net income	**16,139**	**15,470**	**4%**	**27,071**	**25,909**	**4%**	**37,047**	**35,713**	**4%**
EPS (NT$)	**15.08**	**14.46**	**4%**	**25.30**	**24.21**	**4%**	**34.62**	**33.37**	**4%**
Margins (%)			***ppt***			***ppt***			***ppt***
Gross margin	24.5%	24.4%	0.1	27.0%	26.7%	0.2	29.1%	28.8%	0.3
Operating margin	12.0%	11.5%	0.5	15.6%	14.9%	0.7	18.6%	17.9%	0.7
Pre-tax margin	12.4%	11.9%	0.5	16.1%	15.4%	0.7	19.0%	18.3%	0.7
Net margin	7.1%	6.8%	0.3	9.3%	8.9%	0.4	11.0%	10.6%	0.4

Source: Morgan Stanley Research (E) estimates

Price Target and Valuation Methodology

Our base-case value/price target rises ~4% to NT$690, derived from our multistage residual income (RI) model. We use the company's beginning equity plus the present value of all expected residual income of earnings in excess of the cost of capital.

We apply the company's beginning equity plus the present value of all expected residual income of earnings in excess of the cost of capital. The RI is positive when ROAE is above the cost of capital and negative when it is below the cost of capital. We assume a cost of equity of 10%, a medium-term growth rate of 15% and a terminal growth rate of 3% (all unchanged).

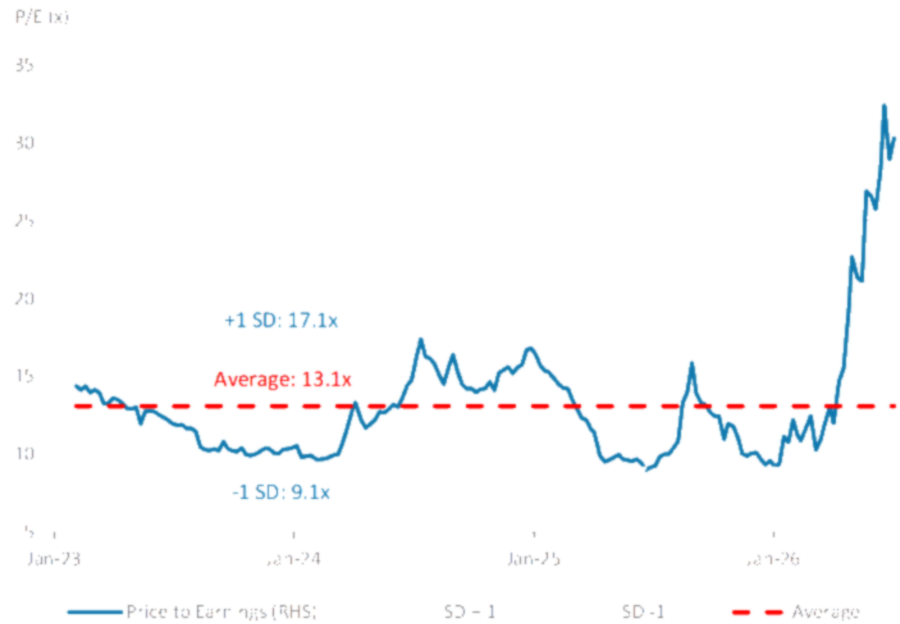
Our bull- and bear-case values also rises by similar magnitudes to NT$980 and NT $400, respectively.

Exhibit 31: Residual income (RI) model

NT$ mn		2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E
Total Equity		183.212	203.029	227.909	239.286	252.370	267.416	284.719	304.618	327.501	353.817	384.080
Core Net Profit		16.139	27.071	37.047	42.604	48.995	56.344	64.796	74.515	85.692	98.546	113.328
Return on Equity		9.5%	14.8%	18.2%	18.7%	20.5%	22.3%	24.2%	26.2%	28.1%	30.1%	32.0%
Beta (Last 60 Mths)	1.20											
Equity Risk Premium (Rm-Rf)	6%											
Risk Free Rate (Rf)	3%											
Cost of Equity	10%											
Terminal Growth Rate	3%											
Continuing Value Spread	-2%											
Medium-term growth rate	15.0%											
Residual Income		-420	9.300	17.353	20.497	25.784	31.864	38.856	46.897	56.145	66.779	79.008
Spread		0%	5%	9%	9%	11%	13%	15%	16%	18%	20%	22%
Beginning Equity Capital		183.212										
PV of Forecast Period		174.680										
PV of Continuing Value		380.487										
Equity Value		738.380										
No. of Shares		1,070										
Projected Price (EoY)		**690.0**										

Source: Morgan Stanley Research (E) estimates

Exhibit 32: ZDT P/E chart



Source: TEJ, Morgan Stanley Research estimates

Financials

Exhibit 33: Quarterly Estimates

NT$ mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2025	2026E	2027E	2028E
Sales	**40,082**	**38,203**	**47,366**	**56,870**	**40,728**	**48,160**	**64,761**	**72,583**	**182,522**	**226,233**	**291,509**	**337,259**
COGS	-34,197	-31,193	-36,956	-44,040	-31,917	-37,187	-48,092	-53,543	-146,385	-170,740	-212,926	-239,242
Gross profit	**5,885**	**7,011**	**10,410**	**12,830**	**8,812**	**10,972**	**16,669**	**19,040**	**36,136**	**55,493**	**78,584**	**98,017**
Operating expenses	-4,829	-4,586	-5,880	-6,909	-6,308	-6,875	-7,489	-7,732	-22,205	-28,404	-33,132	-35,256
- Promotion	-486	-493	-630	-744	-616	-692	-837	-845	-2,352	-2,990	-3,780	-4,151
- ADM	-1,781	-1,483	-2,270	-2,512	-2,116	-2,378	-2,558	-2,666	-8,046	-9,718	-11,737	-12,890
- R&D	-2,563	-2,611	-2,981	-3,653	-3,576	-3,806	-4,094	-4,221	-11,807	-15,697	-17,615	-18,215
Operating profit	**1,056**	**2,425**	**4,530**	**5,921**	**2,503**	**4,097**	**9,180**	**11,308**	**13,932**	**27,089**	**45,452**	**62,761**
Non-operating income	401	-153	131	-248	-103	314	414	414	131	1,039	1,406	1,406
Interest income	119	91	49	95	64	64	64	64	355	256	256	256
Investment income	-97	203	242	53	431	100	200	200	401	931	550	550
Disposal of investment	0	0	0	0	0	0	0	0	0	0	0	0
Disposal of fixed assets	16	58	-258	-102	0	0	0	0	-286	0	0	0
Exchange gain	103	-103	0	0	0	0	0	0	0	0	0	0
Other	259	-401	98	-294	-598	150	150	150	-338	-148	600	600
Pre-tax profit	1,457	2,272	4,661	5,673	2,400	4,411	9,594	11,722	14,063	28,128	46,858	64,166
Income tax	-431	-885	-1,072	-1,070	-353	-970	-1,804	-1,407	-3,458	-4,534	-7,282	-9,992
Net profit	**632**	**605**	**2,392**	**3,161**	**1,426**	**2,242**	**5,183**	**7,289**	**6,791**	**16,139**	**27,071**	**37,047**
EPS (NT$)	**0.66**	**0.63**	**2.46**	**3.22**	**1.33**	**2.09**	**4.84**	**6.81**	**6.91**	**15.08**	**25.30**	**34.62**
Margins												
Gross margin	15%	18%	22%	23%	22%	23%	26%	26%	20%	25%	27%	29%
Operating margin	3%	6%	10%	10%	6%	9%	14%	16%	8%	12%	16%	19%
Pre-tax margin	4%	6%	10%	10%	6%	9%	15%	16%	8%	12%	16%	19%
Net margin	2%	2%	5%	6%	4%	5%	8%	10%	4%	7%	9%	11%
QoQ Growth												
Sales	-29%	-5%	24%	20%	-28%	18%	34%	12%				
Gross profit	-49%	19%	48%	23%	-31%	25%	52%	14%				
Operating profit	-81%	130%	87%	31%	-58%	64%	124%	23%				
Pre-tax profit	-81%	56%	105%	22%	-58%	84%	117%	22%				
Net profit	-86%	-4%	295%	32%	-55%	57%	131%	41%				
YoY Growth												
Sales	23%	18%	-6%	1%	2%	26%	37%	28%	6%	24%	29%	16%
Gross profit	10%	65%	-9%	12%	50%	57%	60%	48%	11%	54%	42%	25%
Operating profit	42%	-477%	-24%	7%	137%	69%	103%	91%	20%	94%	68%	38%
Pre-tax profit	-3%	346%	-12%	-27%	65%	94%	106%	107%	-7%	100%	67%	37%
Net profit	-35%	25%	-29%	-28%	125%	271%	117%	131%	-26%	138%	68%	37%

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

Exhibit 34: Consolidated Financial Summary

Income Statement

NT$ mn	2025	2026E	2027E	2028E
Net sales	**182,522**	**226,233**	**291,509**	**337,259**
COGS	-146,385	-170,740	-212,926	-239,242
Gross profit	**36,136**	**55,493**	**78,584**	**98,017**
Operating expenses	-22,205	-28,404	-33,132	-35,256
- Promotion	-2,352	-2,990	-3,780	-4,151
- ADM	-8,046	-9,718	-11,737	-12,890
- R&D	-11,807	-15,697	-17,615	-18,215
Operating income	**13,932**	**27,089**	**45,452**	**62,761**
Non-operating income	131	1,039	1,406	1,406
Interest income	355	256	256	256
Investment income	401	931	550	550
Disposal of investment	0	0	0	0
Disposal of fixed assets	-286	0	0	0
Exchange gain	0	0	0	0
Other	-338	-148	600	600
Pre-tax income	14,063	28,128	46,858	64,166
Income tax	-7,272	-11,989	-19,786	-27,119
Net income	**6,791**	**16,139**	**27,071**	**37,047**
EPS (NT$)	**6.91**	**15.08**	**25.30**	**34.62**

Balance Sheet

NT$ mn	2025	2026E	2027E	2028E
Cash	71,116	60,966	72,632	88,446
Mkt securities	36	36	36	36
Accounts/Notes receivables	31,412	38,935	50,169	58,043
Inventory	19,616	22,880	28,533	32,060
Other current assets	5,460	5,460	5,460	5,460
Current Assets	127,641	128,277	156,831	184,045
Long-term investments	9,866	10,797	11,347	11,897
Fixed assets	123,737	145,693	148,605	152,383
Other assets	18,799	18,799	18,799	18,799
Total Assets	**280,043**	**303,566**	**335,582**	**367,124**
S/T borrowings	23,839	23,839	23,839	23,839
AP/NP	23,501	27,411	34,184	38,409
Other ST liabilities	25,481	32,595	38,020	40,458
Other liabilities	21,151	21,151	21,151	21,151
L/T debt	15,359	15,359	15,359	15,359
Total Liabilities	**109,330**	**120,354**	**132,552**	**139,215**
Common shares	10,706	10,706	10,706	10,706
Capital Collection	0	0	0	0
APIC	52,902	52,902	52,902	52,902
Retained earnings	61,549	73,996	93,814	118,694
Treasury Stock	-52	0	0	0
Other shareholders' equity	45607	45607	45607	45607
Shareholders' equity	**170,713**	**183,212**	**203,029**	**227,909**
Total Liab./Shrhldr's Equity	**280,043**	**303,566**	**335,582**	**367,124**

Cash Flow Statement

NT$ mn	2025	2026E	2027E	2028E
Cashflow from operations	**27,617**	**23,490**	**28,920**	**37,981**
Net Profits	10,605	16,139	27,071	37,047
Depreciation	18,552	8,044	7,088	6,222
Equity investment losses (income)	0	-931	-550	-550
Other adjustments	-1,541	238	-4,689	-4,738
Cashflow from investing	**-31,960**	**-30,000**	**-10,000**	**-10,000**
(Purchases) sale of FA (capex)	-32,673	-30,000	-10,000	-10,000
(Purchases) sale of L/T investment	342	0	0	0
(Purchases) sale of S/T investment	-601	0	0	0
Other adjustments	972	0	0	0
Cashflow from financing	**-1,865**	**-3,640**	**-7,254**	**-12,167**
Increase in L/T debt	6,344	0	0	0
Increase in S/T debt	2,191	0	0	0
Issuance of stock	730	0	0	0
Cash dividends	-7,221	-3,692	-7,254	-12,167
Dir.& Emp. Bonus	0	0	0	0
Changes in Treasury Stocks	288	52	0	0
Other adjustments	-4,196	0	0	0
Exchange rate adjustment	-2,177	0	0	0
Net change in cash	-8,386	-10,150	11,666	15,814

Financial Ratios

	2025	2026E	2027E	2028E
Margins				
Gross margin	19.8%	24.5%	27.0%	29.1%
Operating margin	7.6%	12.0%	15.6%	18.6%
Pretax margin	7.7%	12.4%	16.1%	19.0%
Net margin	3.7%	7.1%	9.3%	11.0%
YoY growth				
Sales	6.3%	23.9%	28.9%	15.7%
Operating profits	20.2%	94.4%	67.8%	38.1%
Pretax profits	-6.5%	100.0%	66.6%	36.9%
Net profits	-26.0%	137.7%	67.7%	36.8%
EPS	-28.6%	118.3%	67.7%	36.8%
Net Debt/Equity (Net of mkt secs.)	-19%	-12%	-16%	-22%
Net Debt/Equity	-19%	-12%	-16%	-22%
Liabilities/Equity	64%	66%	65%	61%
Liabilities/Assets	39%	40%	39%	38%
ROAE	4.2%	9.1%	14.0%	17.2%
ROAA	2.5%	5.5%	8.5%	10.5%
AR/NR Turnover (days)	62	57	56	59
AP/NP Turnover (days)	56	54	53	55
Inventory Turnover (days)	47	45	44	46
Cash conversion cycle (days)	52	48	47	49

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

Risk Reward – Unimicron (3037.TW)

Price hikes and spec upgrades to support higher earnings estimates; OW

PRICE TARGET NT$1,465.00

Base case, residual income (RI) valuation model, which we think derives the most accurate value of the firm given that it takes into account cost of equity. We use a cost of equity of 9.2% [risk-free rate of 1% (10-year Taiwan government note yield), equity risk premium of 8.7%, and a beta of 1.0], a medium-term growth rate of 15%, and a terminal growth rate of 3%.

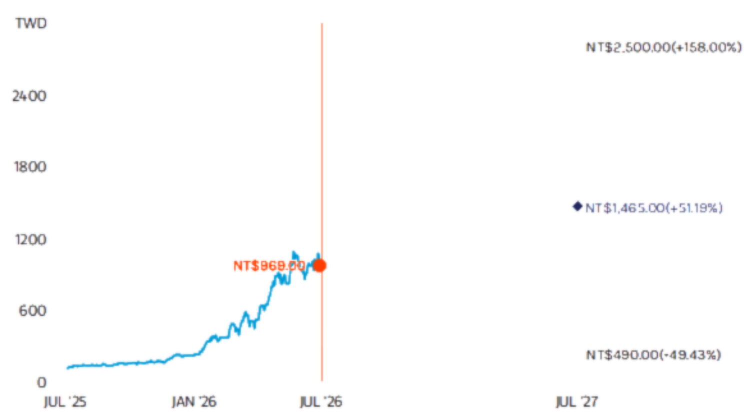
Consensus Price Target Distribution

NT$630.00 ◆ ◆ NT$1,575.00

MS PT

◆ Mean ◆ Morgan Stanley Estimates

RISK REWARD CHART



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

OVERWEIGHT THESIS

- We expect the ABF substrate market to revert to undersupply from 2027 onward, with the undersupply gap reaching 20-25% by 2030.
- This is primarily driven by AI demand, with next-gen AI/networking chips adopting larger body size ABF substrates.
- In the near to medium term, the short supply of T-glass will be a key watch point, but we believe this will mainly affect low-end ABF and BT substrates, as suppliers prioritize supply to the AI chip vendors.
- Our price target implies 44x 2027e P/E or 25x 2028e P/E, above the 10-20x range at which it traded in the previous upcycle. We deem this fair, given AI chip substrate spec upgrades and suppliers' ability to raise prices.

Consensus Rating Distribution

95%	Overweight
5%	Equal-weight
0%	Underweight

● MS Rating

Risk Reward Themes

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

BULL CASE NT$2,500.00

75x 2027e P/E

Demand for AI servers, general servers and PCs is much stronger than expected: Pricing increases more than expected, 30%+ in 2026-27, driving stronger margin expansion for Unimicron.

BASE CASE NT$1,465.00

44x 2027e P/E

Entering up-cycle driven by AI chip upgrades: Robust demand for AI GPUs and ASICs, supported by continued data center infrastructure investments by CSPs and neo cloud, leads to undersupply in the high-end ABF market from 2027 onward. PC demand is sluggish, while general servers still show double-digit unit growth in 2026. ASP has bottomed and started to inflect upward, driven by raw material price hikes and substrate spec upgrades.

BEAR CASE NT$490.00

15x 2027e P/E

Demand for AI servers and general servers softens, with PC demand weakening further: The result is greater ABF oversupply; thus, there are pricing declines of ~15-20% in 2026-27, leading to weaker margins for Unimicron over the next two years.

Risk Reward – Unimicron (3037.TW)

KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
IC substrate ASP YoY (%)	7.5	30.0	35.1	28.9
IC substrate GM (%)	15.2	27.3	36.6	42.8

INVESTMENT DRIVERS

- 5G smartphone demand
- 5G base station demand
- Automotive demand

GLOBAL REVENUE EXPOSURE

- 0-10% Latin America
- 0-10% North America
- 30-40% APAC, ex Japan, Mainland China and India
- 50-60% Mainland China

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MS ALPHA MODELS

4/5 MOST 3 Month Horizon

RISKS TO PT/RATING

RISKS TO UPSIDE

- Better-than-expected ABF substrate demand from PC and server customers
- Capex cuts; halt to its capacity expansion plan
- Continued yield issues of alternative technology that doesn't require substrate (e.g., CoWoP)

RISKS TO DOWNSIDE

- Sudden demand shortfall
- Technological change that would not require ABF substrates
- Intensifying competition
- Yield issues or production hiccups when ramping new capacity

OWNERSHIP POSITIONING

Inst. Owners, % Active 72.5%

MS ESTIMATES VS. CONSENSUS

FY Dec 2027e

	Low	Morgan Stanley Estimate	High
Sales / Revenue (NT$, mn)	197,806	265,117	320,188
Net income (NT$, mn)	28,608	51,521	77,607
EPS (NT$)	18.16	33.48	50.49

◆ Mean ◆ Morgan Stanley Estimates

Risk Reward – Nan Ya PCB (8046.TW)

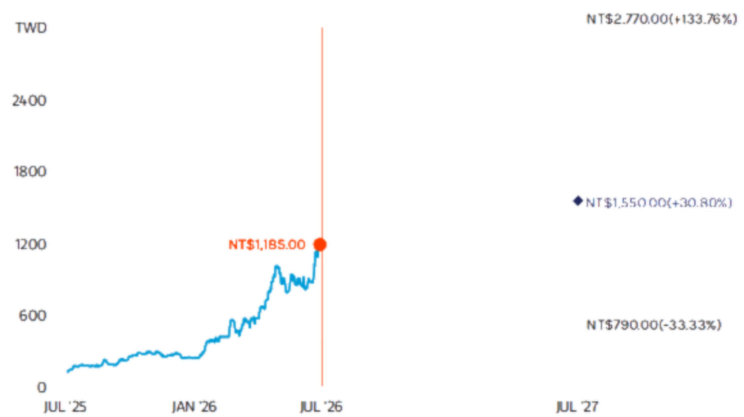
Price hikes and spec upgrades to support higher earnings estimates; OW

PRICE TARGET NT$1,550.00

Base case, residual income (RI) valuation model, which we think derives the most accurate value of the firm given that it takes into account cost of equity. We use a cost of equity of 9.3% [risk-free rate of 1% (10-year Taiwan government note yield), equity risk premium of 8.7%, and a beta of 1.0], a medium-term growth rate of 17%, and a terminal growth rate of 3%.

Consensus Price Target Distribution

RISK REWARD CHART

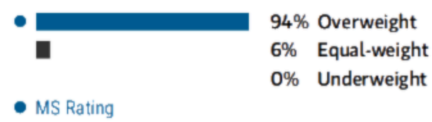


Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

OVERWEIGHT THESIS

- Price hikes for BT and ABF substrates, driven by raw material cost increases, will likely drive margin improvement for NYPCB.
- We believe the ABF substrate market will become undersupplied again from 2027 onward, driven by AI demand, with next-gen AI/networking chips adopting large-body size ABF substrates.
- NYPCB should benefit from ABF substrate structural tailwinds as well - rising data traffic, big data analysis, AI/ML, and 5G.
- Our price target implies 47x 2027e P/E or 25x 2028e P/E, vs. the 10-30x range in which it traded in the previous upcycle. We deem this fair given ABF substrate spec upgrades and suppliers' ability to raise prices.

Consensus Rating Distribution



Risk Reward Themes

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

here

BULL CASE NT$2,770.00

84x 2027e P/E

BT price increases further in 1H26, and ABF becomes undersupplied faster than expected (current expectation is from 2027 onward), driving even stronger margin expansion for Nan Ya PCB.

BASE CASE NT$1,550.00

47x 2027e P/E

Entering up-cycle driven by AI chip upgrades: Robust demand for AI GPUs/ASICs and networking chips, supported by continued data center infrastructure investments by CSPs and neo cloud, leads to undersupply in the high-end ABF market from 2027 onward. PC demand is sluggish, while general servers still show double-digit unit growth in 2026. ASP has bottomed and started to inflect upward, driven by raw material price hikes and substrate spec upgrades.

BEAR CASE NT$790.00

24x 2027e P/E

ABF demand weakens further, resulting in greater oversupply in the next few years. Thus, ABF pricing decreases 20% or more in 2026-27, leading to weaker margins for Nan Ya PCB.

Risk Reward – Nan Ya PCB (8046.TW)

KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
ABF ASP y/y (%)	10.0	20.0	33.9	38.6
ABF GM (%)	17.3	30.5	41.4	53.0

INVESTMENT DRIVERS

- 5G smartphone demand
- 5G base station demand
- Automotive demand

GLOBAL REVENUE EXPOSURE

- 30-40% Mainland China
- 60-70% APAC, ex Japan, Mainland China and India

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MS ALPHA MODELS

3/5 MOST | 3 Month Horizon

RISKS TO PT/RATING

RISKS TO UPSIDE

- Better-than-expected ABF and BT demand
- Faster-than-expected pickup in AI and 5G demand
- Stronger-than-expected ASP hike
- Continued yield issues of alternative technology that doesn't require substrate (e.g. CoWoP)

RISKS TO DOWNSIDE

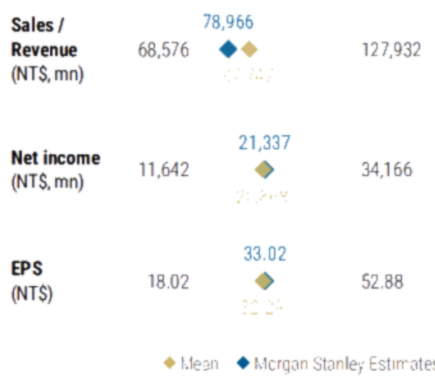
- Sudden demand shortfall, creating headwinds for ABF substrate demand and pricing
- Technological change that would not require ABF substrates
- Intensifying competition

OWNERSHIP POSITIONING

Inst. Owners, % Active 68.6%

MS ESTIMATES VS. CONSENSUS

FY Dec 2027e



Risk Reward – Zhen Ding (4958.TW)

Growing China and international AI chip substrate and PCB vendor

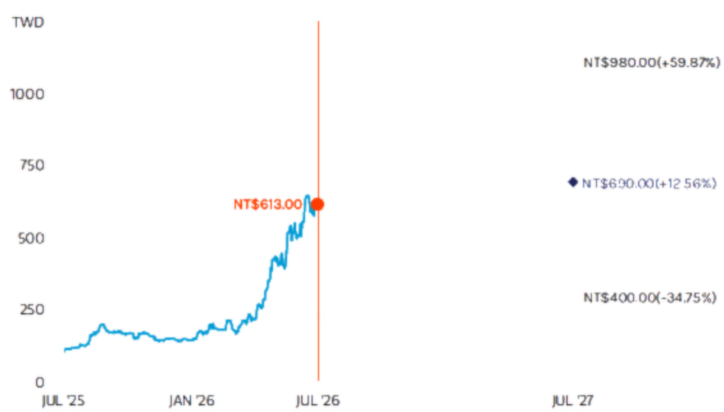
PRICE TARGET NT$690.00

Base case, residual income model. Key assumptions include a cost of equity of 10%, a medium-term growth rate of 15% and a terminal growth rate of 3%.

Consensus Price Target Distribution NT$200.00 ◆ NT$720.00 MS PT

◆ Mean ◆ Morgan Stanley Estimates

RISK REWARD CHART



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

OVERWEIGHT THESIS

- iPhone volumes are more resilient than Android given Apple's advantages on securing memory.
- ZDT is one of the key ABF substrate suppliers for China AI chips, which is expected to grow meaningfully over the next few years.
- ZDT is growing its ABF exposure to International clients as well, including Google TPU.
- AI optical transceiver module PCB is a meaningful growth driver for ZDT, with very good margins (GM 40%+).
- Shenzhen ABF fab 1 continues to ramp and has turned profitable in 1Q26, and fab 2 is now under construction. Kaohsiung fab is on track to enter mass production in 2H26.
- Our PT implies 27x/20x CY27e/28e P/E.

Consensus Rating Distribution

100%	Overweight
0%	Equal-weight
0%	Underweight

● MS Rating

Risk Reward Themes

Pricing Power: *Negative*

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BULL CASE NT$980.00

39x 2027e P/E

Greater share gains and better earnings contribution from new projects in ABF and AI Server PCBs: In the bull case, we assume ZDT is able to do Google TPU substrate extremely well and uses it to approach other ASIC/GPU customers, expanding its international client base. Additionally, we also assume ZDT expands Nvidia AI PCB share to 20-30% share on good execution and yield.

BASE CASE NT$690.00

27x 2027e P/E

Stable demand for F-PCB and SLP, with share gains in BT/ABF substrates, and AI server PCBs: Zhen Ding is one of the main ABF substrate suppliers for China AI chips, while growing its share for international clients, potentially starting with Google TPU. At the same time, it continues to grow its AI server PCB share with Nvidia and other hyperscalers, and grows its exposure to optical module transceivers.

BEAR CASE NT$400.00

16x 2027e P/E

Weaker iPhone demand with share loss and ZDT does not execute on Google TPU substrates: iPhone demand misses market expectations, Zhen Ding loses share in F-PCB to Chinese peers, and SLP demand is also weak. We also assume here that ZDT fails to execute on TPU substrates and only continues to have exposure to China AI chips, with less than 5% share for Nvidia AI PCBs.

Risk Reward – Zhen Ding (4958.TW)

KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
F-PCB sales y/y (%)	5.0	1.2	14.6	7.3
F-PCB GM (%)	21.3	24.1	24.6	25.6
F-PCB ASP per sq ft (NT$)	59.5	60.4	63.1	65.3

INVESTMENT DRIVERS

- iPhone, MacBook, iPad demand
- F-PCB content per iPhone, MacBook, iPad
- F-PCB ASP
- Yield rate for ABF/BT substrates

GLOBAL REVENUE EXPOSURE

- 0-10% APAC, ex Japan, Mainland China and India
- 0-10% Latin America
- 10-20% Mainland China
- 70-80% North America

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MS ALPHA MODELS

3/5 **MOST** 3 Month Horizon

RISKS TO PT/RATING

RISKS TO UPSIDE

- Higher-than-expected F-PCB content increase for iPhones
- Better-than-expected production yield/share allocation for SLP
- Share gains on higher margin F-PCB pieces

RISKS TO DOWNSIDE

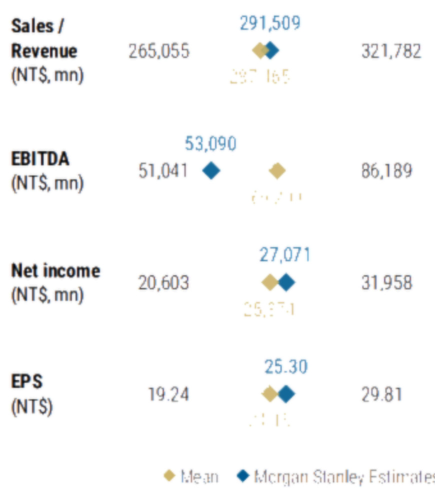
- Worse-than-expected iPhone sell-through
- Lower-than-expected F-PCB content increase for iPhones
- Worse-than-expected production yield/share allocation for SLP
- Increasing competition from Chinese peers, intensifying pricing pressure

OWNERSHIP POSITIONING

Inst. Owners, % Active 66.8%

MS ESTIMATES VS. CONSENSUS

FY Dec 2027e



Valuation Methodology and Risks

Samsung Electro-Mechanics (009150.KS)

Base case, residual income valuation model. We apply a 10% cost of equity (beta 1.0, equity risk premium of 6.5%, and risk-free rate of 3.5%) and a 5% terminal growth rate. Our base year is 2026 and our forecast period is 2026-36.

Risks to Upside

- Price hikes driven by MLCC shortage
- Better-than-expected smartphone demand
- Higher MLCC margin from better yield and product mix
- Strong tailwind from China's consumption-friendly policies

Risks to Downside

- Significant pullback in Samsung's mobile flagship product cycle and SEMCO's lower market share
- Execution risk in penetrating Chinese smartphone customers
- Consumer demand headwinds in 2026

Ibiden (4062.T)

Derived from the base case. DCF assumptions: 2.6% risk-free rate, 1.40 beta, 3.2% risk premium, for 6.9% WACC. Terminal growth of 0% from F3/36.

Risks to Upside

- High-value-added ABF package products support earnings increase beyond our expectation from F3/27 2H.
- Sales exceed our base-case scenario as material shortages for FC packages are resolved.

Risks to Downside

- Sales are weaker than base case because due to intensified competition and declining market share in ABF packages.
- We estimate OP sensitivity to FX changes at ¥800mn for ¥1/US$ and ¥100mn for ¥1/€.

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