

TSMC

2Q21 first take: Growth stronger, near-term GMs weaker, positive on semi-upcycle into 2022 and long-term GMs

Overall, the message from the 2Q21 earnings call was moderately positive, in our view: (1) long-term CAGR at the high end of the 10-15% range, with 2021 revenues likely to grow above 20+% yoy (in USD terms); (2) long-term GMs staying above the 50% level as cost pressures are offset by firming up of pricing; (3) more confidence in 2022 supply-demand staying tight, with any eventual inventory digestion being a much shallower correction. A minor negative would be that near-term GMs are under pressure, due to rising depreciation costs, 5nm margin dilution and TWD appreciation. From our perspective, the three key variables for the stock have been: (1) concerns around long-term GMs; (2) duration of the semis upcycle beyond 2021; and (3) clarity around the Intel opportunity at 3nm. We believe that long-term GM concerns can be now laid to rest, while the market should be incrementally more positive on the semis upcycle extending into 2022. The Intel debate is likely to continue through 2H21, and we expect more clarity by end of the year on the extent of TSMC's demand from Intel outsourcing in 2023/24.

- Long-term growth outlook firming up, 2021 outlook marginally better:** TSMC reiterated its long-term revenue CAGR target at the high-end of a 10-15% range, primarily driven by 5G and HPC applications. In addition, with stronger market demand, TSMC has also raised its 2021 revenue growth to 20+% yoy in USD terms, slightly higher than ~20% yoy growth guided previously. (JPMe at 23%)
- GM sluggish near-term, but 50+% long-term target maintained:** 2Q21 GM and 3Q21 GM guidance were both slightly lower than market expectations, primarily due to dilution from 5nm ramp, rising depreciation costs and stronger TWD appreciation. However, management reaffirmed its long-term GM target of 50+%, as TSMC is able to firm up pricing to reflect rising costs (depreciation, material, labor, Fab operating cost, etc.), which should assuage recent market concerns about structural GM erosion from leading edge ramp.
- Semi cycle - looks like 2022 is still in up-cycle mode:** The market has been concerned about the semiconductor cycle peaking in 2H21 for the last few months. TSMC indicated that it expects supply to remain tight into 2H21 and potentially through 2022 as well. It expects customers to build up and maintain higher levels of inventory than pre-pandemic levels due to supply chain uncertainties, and expects any inventory adjustment to be a shallow one. Through the 2Q21 earnings season, we expect more upbeat commentary on the 2022 supply/demand outlook from more bellwether semiconductor companies.

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Overweight

2330.TW, 2330 TT

Price: NT\$614.0

15 Jul 2021

Price Target: NT\$780.0

PT End Date: 31 Dec 2021

Technology

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- Continued confidence in 3nm, clarity on Intel opportunity to emerge later:** TSMC exuded strong confidence in 3nm being a strong and long-lasting node, with current tape-outs tracking well above 5nm at a similar stage of evolution. We expect N3 to reach 20-30% larger revenues than N7 and N5 in the second year of ramp-up (2023) helped by strong ramp up from Apple, AMD and Intel. We expect to see more clarity on the Intel opportunity to emerge later in the year as capacity plans need to be firmed up by end-2021 (we expect 20-30k wfpw capacity allocation for Intel in the 2023 timeframe).
- 2Q results slightly lower, 3Q largely in line:** TSMC 2Q21 earnings were slightly lower than market expectations, primarily due to GM pressure from higher-than-expected TWD appreciation (~50bps impact, according to management). TSMC guided for 3Q21 revenue to grow 11% qoq at the midpoint (in USD, in line with the JPMe of 10% qoq), primarily driven by Apple A15 ramp, in our view. TSMC expects 3Q21 GM to improve ~50bps (50.5% at the mid-point) qoq, helped by improving advanced packaging profitability while being offset by 5nm dilution and depreciation costs.

Table 1: TSMC 2Q21 Earnings Review

NT\$ billion	2Q21			Variance		Growth	
	Actual	JPMe	BBG 28 days	vs. JPMe	vs. Consensus	Q/Q	Y/Y
Revenues	372	372	371	-0%	0%	3%	20%
Gross profit	186	189	189	-1%	-2%	-2%	13%
GM (%)	50.0%	50.7%	51.0%	-70 bps	-95 bps	-235 bps	-295 bps
Operating profit	146	149	149	-2%	-2%	-3%	11%
OPM (%)	39.1%	40.1%	40.2%	-94 bps	-105 bps	-240 bps	-305 bps
Pretax profit	149	153	152	-2%	-2%	-4%	10%
Net profit	134	137	135	-2%	-1%	-4%	11%
EPS (NT\$)	5.18	5.28	5.21	-2%	-1%	-4%	11%

Source: Company data, J.P. Morgan estimates, Bloomberg Finance L.P.

Table 2: TSMC 3Q21 Guidance

	Company's guidance	JPMe
Revenues (US\$)	14.6-14.9bn	14.6bn
Gross margin (GM)	49.5%-51.5%	51.7%
Operating margin (OPM)	38.5%-40.5%	41.3%

Source: Company data, J.P. Morgan estimates.

Investment Thesis

TSMC is now firmly positioned as the key enabler of the new computing revolution in the semiconductor industry, with multiple architectures, chip platforms and design teams competing to push computing and AI innovation.

With reasonable confidence that Intel is likely to outsource to TSMC in the 3nm era, we expect the market to start perceiving TSMC as a platform (with accompanying network effects and stickiness) enabling the next stage of semiconductor growth.

Valuation

Our Dec-21 PT of NT\$780 is based on 30x FY22E EPS (one notch higher to reflect strong demand outlook in near to medium term), higher than a mid-cycle multiple to reflect a P/E re-rating and benchmarking global semis leaders like ASML and TXN, thanks to the opening up of Intel outsourcing opportunities.

Risks to Rating and Price Target

Key downside risks include: (1) market share losses toward Samsung foundry; and (2) a logic semi inventory correction.

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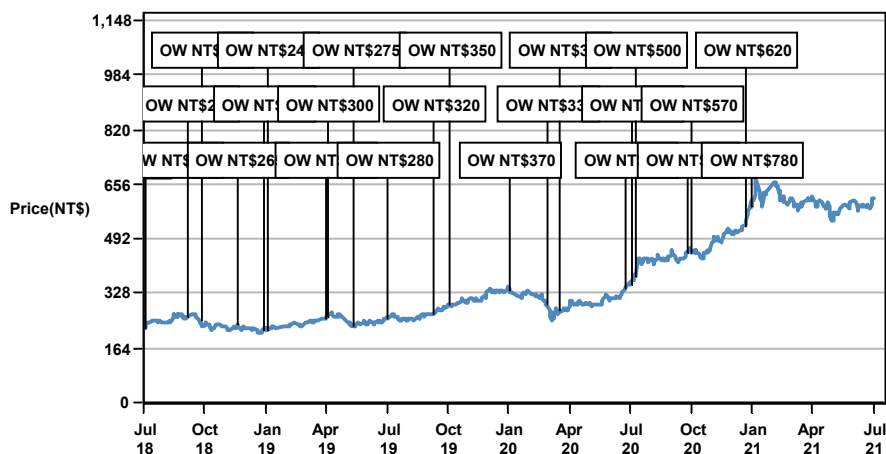
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TSMC (2330.TW, 2330 TT) Price Chart



Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends. Initiated coverage Apr 28, 2002. All share prices are as of market close on the previous business day.

Date	Rating	Price (NT\$)	Price Target (NT\$)
20-Jul-18	OW	224.5	275
20-Sep-18	OW	258.0	290
11-Oct-18	OW	244.0	285
05-Dec-18	OW	234.0	265
11-Jan-19	OW	216.0	245
17-Jan-19	OW	217.5	240
15-Apr-19	OW	252.0	280
18-Apr-19	OW	261.5	300
28-May-19	OW	231.0	275
18-Jul-19	OW	252.0	280
25-Sep-19	OW	265.0	320
18-Oct-19	OW	293.5	350
17-Jan-20	OW	334.5	370
13-Mar-20	OW	294.0	335
01-Apr-20	OW	274.0	325
09-Jul-20	OW	341.0	355
17-Jul-20	OW	357.5	375
24-Jul-20	OW	381.5	500
11-Oct-20	OW	453.0	550
16-Oct-20	OW	453.0	570

04-Jan-21	OW	530.0	620
15-Jan-21	OW	592.0	780

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