

# US Semiconductors and Semi Equipment

## The State of Semis: CQ2:22 Update

### Equities

Americas

Semiconductors

#### Key high level messages

We have again updated our 250+ page comprehensive summary of our sector thoughts, key messages, forecasts, most read research, and investment thesis/risks for each of the 20 companies in our semis/SPE coverage universe. The deck can be found [HERE](#) with charts and analyses across each of the key end markets as we move into the heart of CQ2:22 earnings. Fundamentally, weakening consumer demand/confidence and downstream inventory that has grown to near record highs are driving an accelerated peak in the chip cycle. With the probability of an economic "hard landing" growing and estimate cuts only just beginning, the probability is high that cancellations start to materialize as supply improves. Thus, it feels a bit too early to turn more broadly positive on the sector. Many companies have also benefited from price increases which could exacerbate comps on the downside. In a draconian scenario where semi revenue declines ~30% from here ('01 ~38%, '08 ~20%), it is plausible that there is another ~20% downside for the sector but this embeds a very conservative assumption on the multiple that investors would pay for a depressed revenue stream so a more realistic downside seems more like ~15% at most. We would also note that the group has already underperformed the S&P by nearly 25% from the peak - very consistent w/ what we saw in 2008 - so the idiosyncratic move to the downside seems to have largely played out. Also, as the ISM moves to 50 and potentially below, we are optimistic that history repeats itself and the group moves into more of a recovery phase. Valuation is still not washed out, but for the sector to go materially lower from here, it would probably require a big down move in the market.

#### Sector debates

With consumer markets having rapidly weakened, the sustainability of data center demand is one of the key debates we hear from investors. Even as some hyperscalers (and NVDA) are slowing the pace of opex, we remain constructive on the capex outlook due to workload growth, shift to AI, and new CPU product cycles. Smartphone has been weak, but comps in China should start to improve and the iPhone launch may help support sentiment. On memory, because it is a more transactional market, the negative demand response has been more rapid, making this one of the only verticals where estimates have come down meaningfully. From here, bits are coming down so much over the next 4-5 months, capex is being rapidly cut, and technology challenges for major producers are likely to result in very limited growth in bit supply for '23, making it hard to see big downside in DRAM pricing. We are less optimistic on NAND. For SPE, pushouts from memory producers have begun and WFE should peak in 2H:22 before declining through '23 and maybe into '24. We still model ~\$95B in WFE for '23 but if foundry/logic cuts were to start to materialize - which seems more likely than not - we could see a draconian scenario of \$65-70B/yr depending on what INTC does.

#### Favorite stocks

In semis, we continue to favor the compute and memory verticals due to our structurally bullish demand view around AI and the push of more compute (and memory) to the edge. In compute, we favor NVDA as it builds more stable revenue sources around its wide GPU and software moats and we see data center remaining strong enough to cushion a correction in gaming that should start in 2H:22. We continue to like MRVL as it leverages a broad portfolio and its 5nm investments into a host of new applications/opportunities. We like MU particularly after clearing the decks to some degree with its soft guidance for FQ1:23 (Nov) and what appears to be a very strong commitment to not burn cash and TBV. In SPE, we favor LRCX on a relative basis as memory headwinds

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abate and risk shifts to foundry where it has relatively little exposure. For income investors, we favor AVGO as a compounder with some cyclical downside protection. In analog, we prefer ADI. For INTC, we do see the company starting to close the competitive gap in terms of process technology, but product roadmap execution remains a big issue and a weak PC environment + lack of government subsidies may force a choice between cutting capex and burning a substantial amount of cash in '22 and '23. For AMD, we remain Neutral as INTC starts to close the competitive balance on process. For QCOM, we remain keyed to a mmWave ramp that still seems a way out.

## Valuation Method and Risk Statement

We use various valuation techniques such as P/E, EV/FCF for valuing the companies in this report. Risk factors include but are not limited to macroeconomic factors such as a downturn in the economy, a disruption of international trade, technological disruption due to new inventions, or business model innovation whereby structural changes in the industry alter the future course of unit sales, ASPs, and revenues

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Buy	FSR is > 6% above the MRA.	57%	32%
Neutral	FSR is between -6% and 6% of the MRA.	35%	26%
Sell	FSR is > 6% below the MRA.	9%	21%
Short-Term Rating	Definition	Coverage <sup>3</sup>	IB Services <sup>4</sup>
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 June 2022.

1:Percentage of companies under coverage globally within the 12-month rating category.

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Company Name	Reuters	12-month rating	Price	Price date
<b>Advanced Micro Devices Inc</b> <sup>16,20</sup>	AMD.O	Neutral (CBE)	US\$79.35	08 Jul 2022
<b>Analog Devices Inc</b> <sup>16,7</sup>	ADI.O	Buy	US\$149.94	08 Jul 2022
<b>Broadcom Inc.</b> <sup>16</sup>	AVGO.O	Buy	US\$498.69	08 Jul 2022
<b>Intel Corp.</b> <sup>16,6,7</sup>	INTC.O	Neutral	US\$37.99	08 Jul 2022
<b>LAM Research Corp</b> <sup>16</sup>	LRCX.O	Buy	US\$415.12	08 Jul 2022
<b>Marvell Technology Group</b> <sup>16</sup>	MRVL.O	Buy	US\$46.99	08 Jul 2022
<b>Micron Technology Inc</b> <sup>16</sup>	MU.O	Buy	US\$59.14	08 Jul 2022
<b>NVIDIA Corp</b> <sup>16</sup>	NVDA.O	Buy	US\$158.38	08 Jul 2022
<b>Qualcomm Inc.</b> <sup>16</sup>	QCOM.O	Neutral	US\$136.01	08 Jul 2022

Source: UBS. All prices as of local market close. Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date.

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