

Company Overview

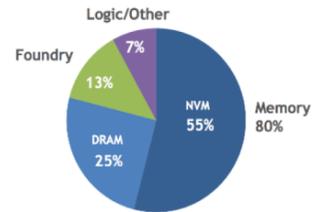


Figure 1. Main functions served

Source: LRCX Investor Relations Report 2018

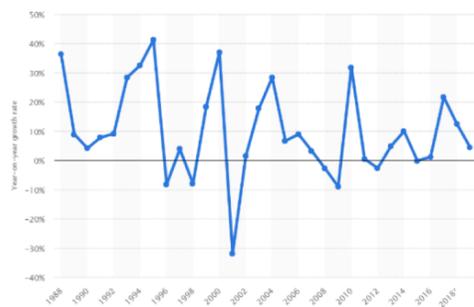


Figure 2. 1988-2018 Global Semi-conductor industry revenue growth

Source: Statista

Lam Research is a supplier of wafer fabrication equipment and services for semiconductor firms around the world. Their wafer fabrication equipment and services allow chipmakers to build smaller, faster and better performing electronic devices. In view of the impending downturn of the semi-conductor industry and the large exposure Lam Research has from it, it would be strategic to take on a more prudent stance moving forward.

Financial Highlights

Millions USD	FY2016	FY2017	FY2018	FY2019F	FY2020F
Revenue	5,886.00	8,014.00	11,077.00	10,966.23	10,856.57
Growth Rate (%)	-	36.2%	38.2%	-1%	-1%
EBITDA	1386	2236	3576	3,090.18	2,586.72
Margin (%)	23.5%	27.9%	32.3%	28.2%	23.8%
Net Income	914.00	1698.00	2381.00	2,631.90	2,605.58
Margin (%)	15.53%	21.19%	21.49%	24.00%	24.00%
ROA	8.45	13.92	19.35	21.09	20.88
ROE	16.62	26.71	35.75	40.48	40.07
EV/EBITDA	11.70	13.73	7.19	5.11	6.11
P/E	20.24	19.95	11.83	9.49	9.59
D/E	1.08	0.78	0.92	0.98	1.01

12M Industry Outlook

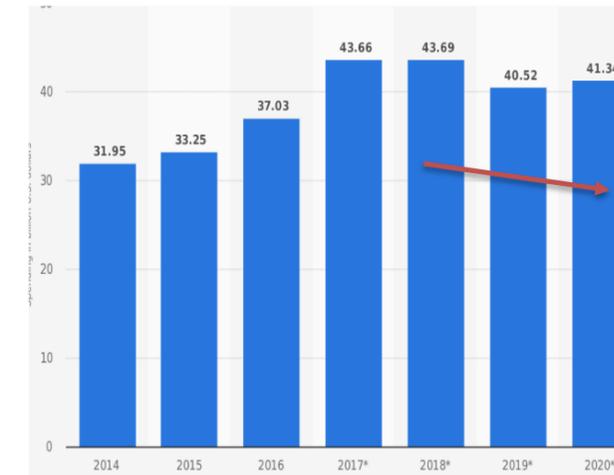


Figure 3. 2014-2020 Worldwide wafer fab Equipment Spending, including wafer-level packaging. (USD Billions)

Source: Statista

1. Looming downturn in 2019

The semiconductor industry is highly cyclical in nature due capital spending cycles (Forbes,2014). Recently, Samsung has announced the cutting back of chip production for the next year to maintain DRAM prices, with DRAM bit growth adjusted from 20% to <20%, and NAND bit growth from 40% to 30%; Semiconductor gear maker KLA Tencor Corp. also said that some chipmakers were delaying plans to expand factory capacity, signaling lowered capital investments in the next 12 months.

2. US-China trade war situation causes near term uncertainty

The escalating trade wars have negatively impacted semiconductor manufacturers and chip equipment firms. The 25% tariff imposed in June 2018 is estimated to affect the combined revenue of Applied Materials, Lam Research and KLA Tencor by as much as 6%. With the trade war showing no signs of de-escalation, it is likely that revenue growth would continue to be dampened in the year ahead.

Investment Thesis

1. Overall weakness in semiconductor industry leading to poor sales projections

The impending end of the growth cycle (Figure 2) would very likely weaken LRCX's growth in the near future. NAND, which accounts for 55% of business has already fall in price in 2017 due to an inventory glut. Customer demand which makes up close to 84% of LRCX's total shipments are delaying their orders in response to the NAND oversupply. DRAM demand which forms 25% of 2017 revenue has also declined due to the slowdown in DRAM bit volume growth which has been worsened by the tapering of technological advancement.

2. Reduced demand from key customers

Key customers (Samsung and Toshiba) have announced lowered growth forecast for 2019 in view of the slowing economy and plateauing sales. Samsung (19% of total sales) are also expected to cut investments on equipment orders, significantly affecting revenue growth potential.

3. Increased operating expenses expected due to trade war

The ensuing trade war has introduced an element of regulatory risks that have to be considered. Being the second largest manufacturer for wafer fabrication machinery, LRCX's sales are heavily pegged to chips demand. Considering that recent US tariffs have affected the supply lines of LRCX, the higher cost would inevitably lead to reduced profit margins in the coming years.

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Valuations

Enterprise value	USD Million	Implied multiples	USD Million
Present value of Free Cash Flow	2,781	Enterprise Value	15,794
Terminal Value	20,078		
Discount Factor	0.60		
Present Value of Terminal Value	12,116	SALES 2015	8,014
% of Enterprise Value	77%		
Enterprise value	15,794	EBITDA 2015	1,903
Less: Total debt	2,495		
Plus: Cash and Cash Equi.	4,950		
Net Debt	-2,455		
Implied Equity Value	18,249	Implied EV/Revenue	2.0x
Outstanding shares (million)	181		
Implied share price (USD)	101	Implied EV/EBITDA	8.3x
Current share price (USD)	149		

We have adopted a 5-year discounted cash flow model to derive Lam Research's intrinsic value.

In view of the impending industry down cycle, we project that the revenue growth for the next two years would be at -1% due to dampened growth forecasts from key customers. Growth rate for the following upcycle (2020 onwards) was placed at 15% based on historical averages. Using a WACC of 10.6% and terminal growth rate of 3%, we have arrived at a 12-month target price of USD101 representing a 32.2% downside from the closing price.

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