

UConn Student Managed Fund Analyst Report

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(ASML Holdings NV) (NASDAQ:ASML)		Recommendation: Buy
Target Price: \$704.73	Market Cap: \$256.4 B	P/E Ratio: 36.58
Current Price: \$638.42	Dividend Yield: 0.91%	EV/EBITDA: 20.24
Stop Loss: \$479.78	Beta: 1.33	EBITDA Margin: 33%
52 Week High/Low:	ROE: 59.4%	Gross Margin: 50.5%

Company Background:

ASML produces machinery used to create microchips, selling them to producers such as TSMC, Intel, and Samsung.

Technological breakthrough in lithography establishes a monopoly in the market for producers looking to manufacture cutting edge chips.

ASML employees service and operate machinery due to specialized nature of product.

Industry Outlook:

- Analysts predict the industry could reach over \$700 billion by 2025
- Breakthrough in the EUV makes their product the only one capable of producing cutting-edge chips
- Are the only producer of the machinery used to create microchips which means there is no threat from competitors

Investment Thesis:

- ASML has a monopoly on the equipment required to produce cutting edge semiconductors
- Global diversification in semiconductor workforce will reduce risk and lead to higher demand for lithographic machines
- Continued innovation in technology increases the need for chips with more computing power

Investment Risks:

- Slowdown in broader economy may affect chip demand and delay manufacture's CAPEX plans
- Current labor shortages affect customer capacity to produce, leading to declining demand YoY from FY21 to FY22
- Geopolitical tensions in Eastern Asia threaten the target market for ASML
- Competition technology is advancing

Financial Performance and Valuation: Discounted Cash Flow Analysis

(in \$ millions)	Historical Period												Projection Period									
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30		
Revenue	7,869	6,084	6,967	7,780	6,979	7,610	10,125	12,926	13,232	15,960	22,012	22,301	27,160	31,373	36,361	43,094	51,483	60,804	71,232	84,502		
% Growth	31.57%	-22.68%	14.52%	11.66%	-10.30%	9.04%	33.06%	27.66%	2.37%	20.61%	37.93%	1.31%	21.79%	15.51%	15.90%	18.52%	19.47%	18.11%	17.15%	18.63%		
Cost of Good Sold	4,458	3,506	4,075	4,331	3,765	4,128	5,584	6,986	7,322	8,688	10,411	11,229	13,769	15,513	17,279	21,308	25,126	29,581	33,351	37,062		
% Margin	56.66%	57.62%	58.49%	55.67%	52.94%	54.25%	55.15%	54.05%	55.33%	54.44%	47.29%	50.35%	50.69%	49.45%	47.52%	49.45%	48.80%	48.65%	46.82%	43.86%		
Gross Profit	3,411	2,579	2,892	3,449	3,214	3,481	4,542	5,940	5,911	7,271	11,602	11,073	13,391	15,860	19,082	21,786	26,357	31,223	37,881	47,439		
% Margin	43.34%	42.38%	41.51%	44.33%	46.06%	45.75%	44.85%	45.95%	44.67%	45.56%	52.71%	49.63%	49.31%	50.55%	52.48%	50.55%	51.20%	51.85%	53.18%	56.14%		
R&D Expenditures	822	758	1,172	1,427	1,186	1,224	1,423	1,861	2,204	1,804	3,013	2,404	3,350	3,919	4,543	5,229	5,980	6,791	7,664	8,860		
% Margin	10.45%	12.45%	16.82%	18.34%	16.99%	16.08%	14.05%	14.40%	16.65%	11.30%	19.69%	10.78%	12.33%	12.49%	12.49%	12.13%	11.62%	11.17%	10.76%	10.48%		
SG&A	303	333	414	427	384	415	471	576	583	622	858	958	1,120	1,272	1,488	1,785	2,113	2,492	2,927	3,476		
% Margin	3.86%	5.48%	5.94%	5.48%	5.50%	5.45%	4.65%	4.46%	4.40%	3.90%	3.90%	4.30%	4.12%	4.05%	4.09%	4.14%	4.10%	4.10%	4.11%	4.11%		
Other Operating Income	0	0	86	108	92	104	108	0	0	0	253	0	170	213	267	299	328	352	366	395		
% Margin	0.00%	0.00%	1.23%	1.38%	1.32%	1.36%	1.07%	0.00%	0.00%	0.00%	1.15%	0.00%	0.63%	0.68%	0.74%	0.69%	0.64%	0.58%	0.51%	0.47%		
EBIT	2,285	1,487	1,221	1,488	1,553	1,739	2,540	3,502	3,124	4,845	7,478	7,711	8,751	10,457	12,784	14,473	17,936	21,588	26,924	34,709		
% Margin	29.04%	24.45%	17.52%	19.13%	22.25%	22.85%	25.08%	27.10%	23.61%	30.36%	33.97%	34.58%	32.22%	33.33%	35.16%	33.58%	34.84%	35.50%	37.80%	41.07%		
Tax Expense	253	5	11	102	179	259	346	415	215	686	1,208	1,073	1,127	1,364	1,638	1,840	2,299	2,927	3,631	4,565		
Effective Tax Rate	11.07%	0.37%	0.87%	6.87%	11.54%	14.92%	13.61%	11.86%	6.87%	14.15%	16.15%	13.91%	12.88%	13.04%	12.81%	12.71%	12.82%	13.56%	13.49%	13.15%		
NOPAT	2,032	1,482	1,210	1,386	1,373	1,479	2,194	3,087	2,910	4,159	6,270	6,638	7,624	9,093	11,146	12,633	15,637	18,660	23,293	30,144		
% Margin	25.83%	24.36%	17.37%	17.81%	19.68%	19.44%	21.67%	23.88%	21.99%	26.06%	28.48%	29.77%	28.07%	28.98%	30.65%	29.32%	30.37%	30.69%	32.70%	35.67%		
ADD: Depreciation & Amortization	230	240	304	338	330	395	472	499	502	1,049	557	923	1,200	1,388	1,611	1,897	2,225	2,608	3,086	3,706		
% Margin	2.92%	3.94%	4.36%	4.35%	4.72%	5.19%	4.66%	3.86%	3.79%	6.57%	2.53%	4.14%	4.42%	4.42%	4.43%	4.40%	4.32%	4.29%	4.33%	4.39%		
LESS: CAPEX	419	221	280	476	413	350	383	678	858	1,098	1,065	1,350	1,421	1,642	1,952	2,361	2,794	3,275	3,883	4,724		
% Margin	5.32%	3.63%	4.02%	6.12%	5.91%	4.60%	3.78%	5.24%	6.49%	6.88%	4.84%	6.05%	5.23%	5.23%	5.37%	5.48%	5.43%	5.39%	5.45%	5.59%		
LESS: Change in NWC	(156)	1,650	(91)	(295)	103	429	1,425	(42)	241	(360)	(4,652)	(1,232)	(308)	(350)	(308)	(465)	(902)	(2,027)	(2,589)	(3,533)		
% Margin	-1.99%	27.12%	-1.30%	-3.80%	1.47%	5.64%	14.08%	-0.33%	1.82%	-2.25%	-21.13%	-5.52%	-1.13%	-1.12%	-0.85%	-1.08%	-1.75%	-3.33%	-3.64%	-4.18%		
Unlevered Free Cash Flow	2,000	(149)	1,325	1,544	1,187	1,095	858	2,951	2,313	4,469	10,414	7,442	7,710	9,188	11,114	12,634	15,971	20,021	25,085	32,658		

Implied Perpetuity Growth Rate and WACC	
WACC	10.3
Perpetuity Growth Rate	2.5
Terminal Value	\$427,073
Implied Equity Value and Share Price	
PV of FCF	\$79,658
PV of TV	\$194,400
Enterprise Value	\$274,058
Less: Debt	\$3,764
Add: Cash & Equivalents	\$7,785
Equity Value	\$278,079
Shares Outstanding	39
Implied Share Price	\$704
Current Price	\$ 639
Margin of Safety	10.1

Sensitivity Analysis

		WACC				
		9.34%	9.84%	10.34%	10.84%	11.34%
Growth Rate	\$704.73					
	1.50%	\$ 746.36	\$ 692.35	\$ 644.72	\$ 602.45	\$ 564.70
	2.00%	\$ 784.87	\$ 725.18	\$ 672.93	\$ 626.85	\$ 585.94
	2.50%	\$ 829.02	\$ 762.48	\$ 704.73	\$ 654.18	\$ 609.59
	3.00%	\$ 880.13	\$ 805.24	\$ 740.87	\$ 684.99	\$ 636.06
	3.50%	\$ 939.99	\$ 854.74	\$ 782.29	\$ 720.00	\$ 665.92

Relative Valuation

Company	EV (\$B)	EV/EBITDA	P/E	Div. Yield	Total Debt/EBITDA (x)	Debt/Total Assets	ROE
Median	\$ 17.90	12.18	15.70	0.91	0.79	21.05%	37.35%
ASML	\$ 260.49	29.24	37.67	0.91	0.52	10.97%	59.97%
LAM Research	\$ 67.31	10.64	13.35	1.35	0.79	30.38%	69.23%
KLA	\$ 55.15	11.35	14.80	1.32	1.28	53.78%	110.68%
MKS	\$ 9.86	10.78	12.03	1.05	5.41	44.96%	11.04%
ASM	\$ 17.90	21.93	43.24	0.73	0.04	0.75%	23.38%
Applied Materials	\$ 102.45	12.18	15.65	0.87	0.72	21.81%	51.90%
Tokyo Electron	\$ 54.94	11.37	15.70	3.35	-	0.23%	36.22%

ESG

ESG Risk Rating

COMPREHENSIVE ?

11.1

Low Risk

Negligible	Low	Medium	High	Severe
0-10	10-20	20-30	30-40	40+

Ranking

Industry Group (1st = lowest risk)

Semiconductors

2 out of 316

Universe

Global Universe

406 out of 15361

Last Update: Mar 22, 2023 ?