

Fair Value **Last Price** Moat Trend™ **Consider Buy Consider Sell** Uncertainty Economic Moat™ Stewardship **Industry Group** 14 94 USD 20 00 USD 14 00 usp 27 00 USD Medium Stable Wide Standard Semiconductors

Applied Materials is poised to remain the top vendor of semiconductor fabrication tools.

Updated Forecasts and Estimates from 21 Sep 2015

Abhinav Davuluri Equity Analyst abhinav.davuluri@morningstar.com 1-312-244-7400

The primary analyst covering this company does not own its stock.

Research as of 21 Sep 2015 Estimates as of 21 Sep 2015 Pricing data through 02 Oct 2015 Rating updated as of 02 Oct 2015

Currency amounts expressed with "\$" are in U.S. dollars (USD) unless otherwise denoted

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Investment Thesis 21 Sep 2015

Applied Materials is the top vendor of semiconductor fabrication tools. While competitors tend to specialize in a single core competency, Applied competes in almost every key equipment segment with the exception of photolithography. As a result, all major chipmakers develop strong relationships with Applied that span multiple process steps of their chip production. The firm is the dominant player in the material deposition and removal areas, among others.

Applied boasts an impressive global presence with an installed base of more than 30,000 tools and customer engineers stationed in nearly every chip-manufacturing facility in the world. With semiconductor fabrication becoming increasingly complex, resulting in more process steps and new manufacturing technologies, collaboration between chipmakers and equipment providers is set to reach unprecedented levels. We expect Applied to leverage existing relationships and insights into future customer technology needs to take advantage of the proliferating demand for state-of-the-art chips.

The company's scale and resources allow a research and development budget in excess of \$1 billion to serve cutting-edge technologies. Recent inflections such as 3D architectures have been enabled by advanced tools in deposition and removal. As a result, these segments have grown faster than the broader market in recent years and firms such as Applied have directly benefited, as it can outspend smaller chip equipment firms in R&D to develop relevant solutions.

Beyond semiconductors, Applied is a leading supplier of manufacturing tools for flat-panel displays, including liquid crystal displays (LCDs) and organic light-emitting diodes (OLEDs). The firm's solar equipment business has undergone restructuring in recent years, as the market has been plagued with oversupply. The cyclical nature of the chip industry as well as the display and solar markets is a ubiquitous threat to equipment suppliers. However, we believe Applied's expansive product portfolio and large installed base will allow the firm to comfortably weather business cycles over time, and we expect the company to experience decent

Vital Statistics				
Market Cap (USD Mil)				18,400
52-Week High (USD)				25.71
52-Week Low (USD)				14.25
52-Week Total Return %				-25.3
YTD Total Return %				-38.8
Last Fiscal Year End			28	Oct 2014
5-Yr Forward Revenue CAGR %				4.8
5-Yr Forward EPS CAGR %				14.2
Price/Fair Value				0.75
Valuation Summary and Fore	casts			
Fiscal Year:	2013	2014	2015(E)	2016(E)
Price/Earnings	43.6	25.4	14.9	15.9
EV/EBITDA	18.1	13.7	9.7	9.8
EV/EBIT	27.8	17.1	11.6	11.6
Free Cash Flow Yield %	2.0	5.8	3.7	7.0
Dividend Yield %	2.1	1.8	2.7	2.6

Financial Summary	Financial Summary and Forecasts (USD Mil)										
	Fiscal Year:	2013	2014	2015(E)	2016(E)						
Revenue		7,509	9,072	9,641	9,461						
Revenue YoY %		-13.9	20.8	6.3	-1.9						
EBIT		773	1,525	1,523	1,514						
EBIT YoY %		-22.7	97.3	-0.1	-0.6						
Net Income, Adjusted		505	1,076	1,227	1,119						
Net Income YoY %		61.9	112.8	14.1	-8.8						
Diluted EPS		0.41	0.87	1.00	0.94						
Diluted EPS YoY %		69.6	110.8	14.9	-6.3						
Free Cash Flow		330	1,448	585	1,130						
Free Cash Flow YoY %		-112.5	338.9	-59.6	93.1						

Historical/forecast data sources are Morningstar Estimates and may reflect adjustments.

Profile

Applied Materials is the world's largest supplier of semiconductor manufacturing equipment. The firm's systems are used in the chemical and physical vapor deposition steps of the chip-fabrication process. Applied also supplies etching, chemical mechanical polishing, and wafer- and reticle-inspection systems, as well as critical dimension measurement and defect-inspection scanning electron microscopes.



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Morningstar Analysis

Valuation, Growth and Profitability 21 Sep 2015

Our fair value estimate for Applied is \$20 per share. We project that Applied revenue will be roughly flat in fiscal 2016 before growing about 7.5% in fiscal 2017 due to high volume manufacturing reaching the 10-nanometer process node. Longer term, we expect the firm to grow roughly at the same rate as the overall semiconductor equipment market, with a compound annual growth rate of about 5% through 2019. Although we see Applied's market share plateauing at roughly 20% of wafer-level equipment spending, we believe the global services business can reach \$3 billion by 2019 due to the increasing collaboration with customers to troubleshoot high-value problems. Thus, this higher margin and relatively less cyclical segment will help drive gross margin expansion toward the mid-40% range. As Applied looks stay at the forefront of innovation, large research and development expenses will pose as near-term margin headwinds However, we think operating margins could ultimately track in the low-20% range as the profitability of new products improves over time and costs related to the failed Tokyo-Electron merger fade in the rearview.

Scenario Analysis

In our bull case, our fair value estimate would be \$26 per share. After a year of nominal growth in fiscal 2016, we project Applied's top-line will grow in the low double-digits through 2019 via market share gains in segments such as tech. Challenges in leading-edge process technologies are successfully overcome and chipmakers continue meeting the cadence of Moore's Law. Gross and operating margins would track to 45% and 24%, respectively, as the firm benefits from a more favorable product mix and greater adoption of its consulting services. We would expect GAAP EPS to surpass \$2 by 2019, as well.

Our fair value estimate for a bear scenario would be \$14 per share. Following a material cyclical downturn in 2016 where Applied's revenue falls 5%, the firm is only able to grow in the low-single digits. Applied's longer-term growth trajectory would be comparable, as it fails to capture additional market share and simply tracks the broader semiconductor market. In this particular case, capital spending from chipmakers slows down due to sustained manufacturing complexities that make the Moore's Law cadence increasingly less economical. As the firm's tools come under competitive pressures, gross margin would track lower to the low-40% range while Applied's operating margin would remain in the high-teens.

Economic Moat

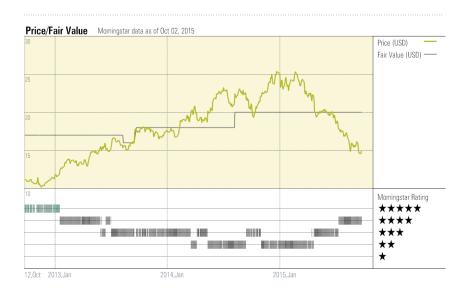
We believe Applied Materials has a wide economic moat due to its position as the top vendor in the semiconductor equipment market. In 2014, the firm's semiconductor equipment share led the industry at 18.6%. Applied's scale and resources allow a research and development budget in excess of \$1 billion to serve cutting edge technologies and thus benefit from inflections such as fin field-effect transistors (FinFET) and 3D NAND. Advanced tools in deposition and removal have become critical to enabling 3D structures. As a result, these segments have grown faster than the broader market in recent years and firms such as Applied have directly benefited, as it can outspend smaller chip equipment firms in R&D to develop relevant solutions.

Moat Trend

We assign Applied Materials a stable moat trend due to its diverse addressable markets and scale to serve them. While competitors tend to operate in specific segments, Applied competes in almost every major segment with the exception of photolithography (led by ASML). Although capital expenditures by major customers such as Intel, Samsung, and Taiwan Semiconductor can be fairly cyclical, Applied has grown its global services business fairly significantly, which provides a stable revenue stream distinct from tool purchases. What began as simply a corrective maintenance and spares provider has evolved into the on-site presence of some 3,000 customer engineers that collaborate with



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chipmakers to troubleshoot high-value problems to improve yields and output, ultimately driving productivity and reducing cost. As traversing the path prescribed by Moore's Law becomes increasingly difficult, we believe this part of the firm will help entrench Applied's installed base of tools in customers' chip-manufacturing facilities.



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Bulls Say/Bears Say

Bulls Say

- Applied Materials is the chip equipment industry's standard bearer. The firm has the broadest product portfolio and offers customers the closest thing to a one-stop shop.
- Applied has been streamlining operations to lower its cost structure and has reinvested some of the savings in R&D in recent quarters.
- ► Applied has benefited from the rising popularity of flat-panel displays, which share manufacturing technologies with those used in semiconductor fabrication. As these displays have become more complex in recent years, demand for Applied's relevant tools has risen.

Bears Say

- ➤ To maintain its market share, Applied must compete successfully in various segments with numerous firms that only specialize in their submarkets. Therefore, Applied may not have the best-of-breed product in every segment in which it competes.
- Applied is exposed to the deeply cyclical semiconductor industry, which means that its financial results can fluctuate considerably.
- ► The chip equipment business is challenging, and Applied has not always been successful when entering new segments.



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Five Year Adjusted Cash Flow Forecast (USD Mil)					
Cook and Franciscope (harinaine of agrical)	2015(E)	2016(E)	2017(E)	2018(E)	2019(E)
Cash and Equivalents (beginning of period) Adjusted Available Cash Flow	3,002 -157	2,530 894	1,973 1,114	2,048 1,333	2,587 1,577
Total Cash Available before Debt Service	2,845	3,424	3,087	3,381	4,164
Principal Payments	_	-400	_	_	_
Interest Payments	-97	-97	-77	-77	-77
Other Cash Obligations and Commitments	-58	-60	-59	-61	-63
Total Cash Obligations and Commitments	-156	-557	-136	-138	-140

Cumulative Annual Cash Flow Cushion



Adjusted Cash Flow Summary

disclosures at the end of this report.

Beginning Cash Balance Sum of 5-Year Adjusted Free Cash Flow Sum of Cash and 5-Year Cash Generation	USD Millions 3,002 4,761 7,763	Commitments 266.3 422.3 688.6
Revolver Availability Asset Adjusted Borrowings (Repayment)		— —
Sum of Cash, 5-Year Cash Generation, Revolver and Adjustments Sum of 5-Year Cash Commitments	7,763 -1,127	688.6

Financial Health

Applied maintains an excellent financial position. At April 26. the firm reported \$3.2 billion in cash and short-term investments and \$1.9 billion in debt, representing gross leverage ratio of 0.9 times EBITDA and net leverage of negative 0.6 times. Leverage has declined sequentially in each of the past eight quarters and is down significantly from the last cyclical peak of nearly 1.8 times in mid-2013. We continue to view the firm's large cash position as justified by the significant cyclicality of the semiconductor equipment manufacturers. During downturns, Applied needs to have the flexibility to continue investing in R&D to remain competitive. Through the cycle, the firm has typically produced substantial, positive cash flow, averaging \$1.3 billion over the past 10 years. Historically, Applied has not been highly acquisitive, but has engaged in large acquisitions from time to time. In 2012, Applied closed a \$4.9 billion (\$4.2 billion net of cash) acquisition of Varian Semiconductor in the first quarter of fiscal 2012 using cash on hand and the \$1.75 billion in debt that it issued in June 2011

For the most part, Applied's shareholder return policy remains conservative, with dividends and repurchases representing an average of just 65% of free cash flow since 2008. In September 2013, Applied announced plans to merge with Tokyo Electron in an all-stock deal that would have created a company with combined revenue of more than \$15 billion and EBITDA of more than \$3 billion. However, this merger was terminated on April 27. Had the merger been completed, management planned to repurchase \$3 billion worth of shares to offset the dilution from shares issued to TE shareholders. Its \$3 billion repurchase program expired at the end of the most recent quarter, against which the company had completed just \$1.4 billion of repurchases. The board has renewed the program for another three years. Meanwhile, Applied's debt maturity schedule remains very manageable, with the majority of its



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debt due beyond 2019. Its next material maturity will be in 2016, when \$400 million comes due, followed by an additional \$200 million due in 2017. While cash flow generation should be more than adequate to meet these or other short-term needs, Applied also has access to a \$1.5 billion unsecured credit facility, which expires in May 2017 and remained undrawn as of April 26.

Enterprise Risk

The cyclicality of the semiconductor industry is the foundation of the risks faced by Applied. Demand for chip-embedded devices fluctuates over time and thus equipment for manufacturing does as well. As a result, at the bottom of a cycle chipmakers tend to significantly curtail capital expenditures and firms such as Applied are financially afflicted. Furthermore, the extensive breadth of Applied's products leaves the firm vulnerable to specialized competitors that channel their entire R&D toward one or two segments. Mitigating some of these risks is Applied's global service group, which provides on-site troubleshooting for chipmakers and has grown into a material part of the firm's overall business. In addition to creating sticky relationships with customers, we believe service revenue is more immune to business cycles than equipment sales. Taking into account these factors, we assign a medium uncertainty rating to Applied.

Managament Activity

Fund Ownership



Applied Materials Inc AMAT (NAS) | ★★★★

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Management & Ownership

Management Activity				
Name	Position	Shares Held	Report Date*	InsiderActivity
GARY E. DICKERSON	CEO/Director/President,Director	1,542,362	24 Sep 2015	40,000
MICHAEL R. SPLINTER	Director	926,158	22 May 2015	_
DR. RANDHIR THAKUR	Executive VP/General Manager, Divisional	623,332	01 Jul 2015	_
ALI SALEHPOUR	General Manager, Divisional/ Senior VP	537,644	19 Dec 2014	_
MR THOMAS LARKINS	General Counsel/Secretary/Senior VP	511,279	19 Dec 2014	_
DR. OMKARAM NALAMASU	Chief Technology Officer/Senior VP	452,592	01 Jul 2015	_
MR. ROBERT J. HALLIDAY	CFO/Senior VP	377,333	23 Jun 2015	_

^{*}Represents the date on which the owner's name, position, and common shares held were reported by the holder or issuer.

Fund Ownership				
Top Owners	% of Shares Held	% of Fund Assets	Change (k)	Portfolio Date
Vanguard Total Stock Mkt Idx	1.76	0.09	-9	31 Aug 2015
Parnassus Core Equity Fund	1.32	2.28	700	31 Aug 2015
T. Rowe Price Equity Income Fund	1.02	0.89	_	30 Jun 2015
AZ InvestEd Ivy Asset Strategy Fund	0.98	0.95	-6,691	30 Jun 2015
Vanguard Five Hundred Index Fund	1.17	0.11	175	31 Aug 2015
Concentrated Holders				
MiraeAsset Global Alt Engy Eq Master	_	7.02	_	30 Jun 2015
Parnassus Endeavor Fund	0.31	4.84	500	31 Aug 2015
Market Vectors® Mstar Wide Moat ETF	0.18	4.82	_	23 Sep 2015
ProFunds VP Semiconductor	_	4.68	-2	30 Jun 2015
T. Rowe Price Global Technology Equity	_	3.91	10	30 Jun 2015
Institutional Transactions				
	% of Shares	% of Fund	Shares Bought/	
Top 5 Buyers Citadel Advisors Llc	Held 1.63	Assets 0.34	Sold (k) 12,214	Portfolio Date 30 Jun 2015
AllianceBernstein LP	1.27	0.25	8,129	30 Jun 2015
Greenlight Capital, Inc	0.65	1.93	8,000	30 Jun 2015
Glenview Capital Management LLC	1.73	1.62	7,824	30 Jun 2015
American Century Inv Mgt, Inc.	1.34	0.36	6,838	30 Jun 2015
Top 5 Sellers				
Artisan Partners Limited Partnership	2.89	1.26	-37,227	30 Jun 2015
Waddell & Reed Investment Management Co	3.18	1.07	-23,118	30 Jun 2015
	0.07		-17,373	30 Jun 2015
Wellington Management Company LLP				
Wellington Management Company LLP OZ Management LLC	0.04	0.03	-15,224	30 Jun 2015

Management 21 Sep 2015

Gary Dickerson took over as CEO from Michael Splinter in September 2013. Dickerson had been the CEO of Varian, which Applied acquired in fiscal 2012, and is well respected in the chip equipment industry. Other key executives include CFO Bob Halliday, who also joined Applied as part of the Varian acquisition, and Randhir Thakur, executive vice president and general manager of the main semiconductor equipment unit.

We think management's stewardship of shareholder capital is Standard. It is highly focused on profitability, paying particular attention to returns on invested capital and free cash flow, and it has been successful in achieving it. The firm has a strong track record of returning excess cash to shareholders in the form of both a quarterly dividend and its share repurchase program.

However, management's foray into the solar equipment market so far hasn't been as impressive. While Applied has become a key manufacturing equipment supplier to the solar industry through acquisitions and significant investments, it has had to restructure the segment, including the elimination of the thin-film solar equipment business, because of a lack of profitability. Nonetheless, most of the headwinds facing the solar equipment unit can be attributed to the current severe cyclical downturn in the solar industry, which has now dragged on for a couple of years.

Applied periodically partakes in mergers and acquisitions in its main chip equipment business. In fiscal 2012, the firm acquired ion implant tool supplier Varian Semiconductor to bolster its product line. In 2013, the firm announced plans to merge with major chip equipment supplier Tokyo Electron in an all-stock deal, though the deal was terminated following discussions with regulators. In hindsight, the failure of this deal to go through was unsurprising, as the chip equipment industry was already fairly consolidated. Going forward, we expect the firm to focus on organic



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growth in lieu of additional M&A.



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Analyst Notes

Applied Materials Trading in 4-Star Territory; Solid Order Growth Props Weak 30 Results 14 Aug 2015

Applied Materials reported fiscal third-quarter results that were slightly below our expectations, but saw significant order growth, particularly in memory. Our investment thesis for this wide-moat name remains unchanged from the firm's analyst day a month ago, as Applied boasts a broad product portfolio that serves leading edge process nodes. With shares trading in 4-star territory, we think Applied may appeal to longer-term investors. However, the cyclical nature of the semiconductor equipment industry serves to curb our interest at this point in time.

Third-quarter revenue was up about 10% year over year to \$2.5 billion, driven by continued 3D NAND capacity buildup. Applied's global services group accounted for almost 27% of total sales, which we believe can be a solid source of revenue, particularly in bouts of weak capital spending. The firm's backlog is a healthy \$3.1 billion, with the majority of new orders being 3D NAND. Gross margin fell to about 41%, though, due to a less-favorable product mix with higher-than-normal memory and display sales. The company's diluted EPS was roughly flat at \$0.27, as a lower operating margin was offset by a lower tax rate.

Management guided fourth-quarter revenue to be roughly flat to down 7% due to short-term weakness in foundry and logic spending. In contrast, 3D NAND is expected to remain a solid catalyst, with Applied projecting 3D NAND capacity of 150,000 wafer starts per month by the end of calendar 2015, which would represent only 15% of total NAND capacity. Wafer fabrication equipment spending for 2015 appears to be about 50% memory-related, versus less than 20% in 2012. We believe this dynamic will reverse and 2016 will feature a more-traditional mix of spending, skewed toward logic and foundry customers ramping respective 10-nanometer process nodes. However, the exact timing of this shift remains fairly uncertain, and we believe shares may

track lower before reverting to our \$20 fair value estimate.

AMAT Illustrates Updated Inflection-Driven Growth Strategy; Shares Fairly Valued 14 Jul 2015

As the failed Tokyo-Electron merger fades into the rear-view mirror, Applied Materials showcased a reinvigorated growth strategy at its analyst day on July 13. Management discussed the imminent technological inflections that will bolster Applied's semiconductor business, while aggressively cutting investment to the embattled solar market. Our fair value estimate remains at \$20 per share and we recommend investors wait and see how critical customers such as Intel and Taiwan Semiconductor Manufacturing perform in upcoming earnings prior to investing in this wide-moat firm.

Applied's long-term projected silicon systems group market share is 21.9% compared with about 18.6% in 2014. In particular, precision deposition and removal tools are expected to drive the majority of share gains. The inflections fueling the demand for these tools include new microarchitectures that feature 3D transistors, or FinFET, and 3D NAND in the memory space. Although we believe there are multiple companies benefiting from these trends, we view Applied as being able to leverage its scale and depth in wafer fabrication equipment to provide innovative conductor etch, atomic layer deposition, and selective removal products to sustain differentiation.

Management also detailed its 2018 financial model that assumed revenue of \$11.6 billion in its base case. This would imply a 6.3% compound annual growth rate from sales in 2014. Our growth assumption is slightly more conservative, as we believe potential delays in 10-nanometer process technology could threaten firms like Applied that have broad product portfolios tailored to leading-edge nodes. Additionally, our margin assumptions deviated slightly lower from Applied's financial model, as we believe



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Analyst Notes

research and development investment will be higher as the firm ventures into new product segments outside of its core competencies.

Although Lam Research, and to a lesser extent Tokyo-Electron, have historically dominated the etch segment, Applied has systematically captured share over the past few years, outgrowing the etch market by 600 basis points in 2014. The firm discussed its new Centris Sym3 Etch tool as a product that would enable Applied to benefit from the multiple patterning inflection taking place due to the delayed Extreme-Ultraviolet lithography technology, and stated it has already shipped 300 chambers in 2015. This product goes after the high-end etch products supplied by the likes of Lam that have more levers to pull to control wafer uniformity--considerably the most crucial aspect of etch effectiveness. We believe this product will provide a solid tailwind for Applied going forward, and we expect the firm to continue capturing market share, especially in the foundry segment during upcoming process node transitions.

Applied Materials Reports Solid 20 Results and Promising 30 Outlook, Shares Still Fairly Valued 14 May 2015

Applied Materials reported fiscal second-quarter earnings that were in line with guidance, while offering optimistic expectations for its third quarter. Following the cancelled merger with Tokyo Electron announced a few weeks ago, we are pleased to see that the firm appears to be on track in its pursuit of a more organic growth strategy. Our wide moat economic rating is still intact and we view shares as fairly valued at current levels.

Revenue for the second quarter came in at \$2.4 billion, up 4% both sequentially and year over year. Total orders rose 11% from the prior quarter at \$2.5 billion. Silicon systems group sales were up 8%, while orders were up 19% mainly because of memory capacity expansion by foundries such as Taiwan Semiconductor Manufacturing and Samsung.

Logic orders were down to 12% of total orders, from 14% the quarter before, most likely due to capital expenditure cuts by Intel. Service sales were up 11% as Applied now has a higher proportion service contract/installed base, which we believe entrenches the firm's presence in major fabrication plants and can lead to further share gains.

Gross margin came in at 41.6%, trailing the firm's long-term target of 44.5% because of a weaker product mix in display and start-up-related costs in the etch segment. In display, the company has experienced a disproportionate mix of smaller screens that require equipment with historically lower margins. Also, management noted that although Applied has gained 7% market share in etch since 2012, the relevant margins have been lower compared with other segments. As Applied ramps these new etch products, there has been downward pressure on margins. We think these specific headwinds will persist over the next few quarters, but we expect incremental margin gains through more optimal product mixes.

Applied expects fiscal third-quarter sales to be up 4% at a midpoint of \$2.5 billion, primarily because of the proliferation of 3D NAND memory. Management cited 3D NAND currently representing only 10% of total NAND capacity, and expects relevant tailwinds to continue throughout the second half of the year. The company's outlook exhibits confidence in its technology, which we believe is warranted, as Applied still boasts a very broad product portfolio even without the merger with Tokyo Electron.

Applied Materials-Tokyo Electron Deal Falls Through Amid Regulatory Scrutiny; No Change in FVE 27 Apr 2015 Applied Materials announced that its impending deal to acquire Tokyo Electron, which would have created a semiconductor equipment powerhouse, has been terminated due to regulatory concerns regarding market overconcentration. Both firms released statements



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Analyst Notes

explaining that neither felt antitrust approval was attainable after being advised by the U.S. Department of Justice that the plan to address competition was inadequate. As a result, shares of Applied were down 7% on April 27.

We were supportive of the combination, as each company boasted a broad product portfolio without much overlap-complementary, in fact. After updating our model to reflect this development, our \$20 fair value estimate was not materially affected, as the reduced growth was mostly offset by a cost of capital adjustment. Additionally, our wide moat economic rating for Applied still holds.

Management made clear that Applied is on track to meet its revenue goals for the year and also announced a share repurchase authorization of \$3 billion. We think this repurchase program represents a consolation of sorts, as it underscores the firm's confidence in its growth prospects. Looking ahead, continued technology advances by customers should allow Applied to enjoy continued growth, particularly in etch and chemical vapor deposition segments. We don't really see any other enticing acquisition targets for Applied, as we expect it to focus on organic growth, at least in the near term.



Applied Materials Inc AMAT (NAS) | $\star\star\star\star$

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Morningstar Analyst Forecasts

Fiscal Year Ends in October						Forecast	
	3-Year						5-Year
Growth (% YoY)	Hist. CAGR	2012	2013	2014	2015	2016	Proj. CAGR
Revenue	-4.8	-17.1	-13.9	20.8	6.3	-1.9	4.8
EBIT	-13.3	-57.3	-22.7	97.3	-0.1	-0.6	10.1
EBITDA	-9.8	-45.0	-16.8	60.6	-4.6	-0.8	8.1
Net Income	-17.0	-83.4	61.9	112.8	14.1	-8.8	11.8
Diluted EPS	-14.8	-82.7	69.6	110.8	14.9	-6.3	14.2
Earnings Before Interest, after Tax	-16.6	-53.5	-40.6	109.8	9.1	-8.8	10.1
Free Cash Flow	-13.3	-219.4	-112.5	338.9	-59.6	93.1	5.5
	3-Year						5-Yeai
Profitability	Hist. Avg	2012	2013	2014	2015	2016	Proj. Avg
Operating Margin %	12.9	11.5	10.3	16.8	15.8	16.0	18.8
EBITDA Margin %	17.7	16.3	15.8	20.9	18.8	19.0	21.8
Net Margin %	7.4	3.6	6.7	11.9	12.7	11.8	14.4
Free Cash Flow Margin %	-3.4	-30.4	4.4	16.0	6.1	11.9	12.5
ROIC %	11.9	13.0	8.0	14.7	13.5	12.1	14.6
Adjusted ROIC %	17.5	18.4	12.1	21.9	19.6	17.0	20.5
Return on Assets %	3.8	8.0	2.1	8.5	9.3	8.6	11.2
Return on Equity %	6.4	1.4	3.6	14.3	15.3	13.8	17.6
	3-Year						5-Yeai
Leverage	Hist. Avg	2012	2013	2014	2015	2016	Proj. Avg
Debt/Capital	0.21	0.21	0.22	0.20	0.19	0.16	0.16
Total Debt/EBITDA	1.35	1.37	1.65	1.02	1.07	0.86	0.75
EBITDA/Interest Expense	15.81	14.97	12.45	20.00	18.62	18.47	27.46

Valuation Summary and F	บเซนสอเอ			
•	2013	2014	2015(E)	2016(E)
Price/Fair Value	0.99	1.10	_	_
Price/Earnings	43.6	25.4	14.9	15.9
EV/EBITDA	18.1	13.7	9.7	9.8
EV/EBIT	27.8	17.1	11.6	11.6
Free Cash Flow Yield %	2.0	5.8	3.7	7.0
Dividend Yield %	2.1	1.8	2.7	2.6
Key Valuation Drivers				
Key Valuation Drivers Cost of Equity %				9.0
•				9.t 5.t
Cost of Equity %	oital %			
Cost of Equity % Pre-Tax Cost of Debt %	oital %			5.8 8.7
Cost of Equity % Pre-Tax Cost of Debt % Weighted Average Cost of Cap	ital %			5.8 8.7 20.6
Cost of Equity % Pre-Tax Cost of Debt % Weighted Average Cost of Cap Long-Run Tax Rate %	nital %			5.8

Additional estimates and scenarios available for download at http://select.morningstar.com.

Discounted Cash Flow Valuation			
	USD Mil	Firm Value (%)	Per Share Value
Present Value Stage I	4,975	22.4	4.12
Present Value Stage II	9,419	42.4	7.80
Present Value Stage III	7,848	35.3	6.50
Total Firm Value	22,242	100.0	18.41
Cash and Equivalents	3,162	_	2.62
Debt	-1,947	_	-1.61
Preferred Stock	_	_	_
Other Adjustments	-500	_	-0.41
Equity Value	22,957	_	19.00
Projected Diluted Shares	1,208		
Fair Value per Share (USD)	_		

The data in the table above represent base-case forecasts in the company's reporting currency as of the beginning of the current year. Our fair value estimate may differ from the equity value per share shown above due to our time value of money adjustment and in cases where probability-weighted scenario analysis is performed.



Last Price Moat Trend™ **Fair Value Consider Buy Consider Sell** Uncertainty Economic Moat™ Stewardship **Industry Group** 14.94 USD 20.00 USD 14.00 USD 27.00 USD Medium Wide Stable Standard Semiconductors

Morningstar Analyst Forecasts

Income Statement (USD Mil) Fiscal Year Ends in October				Fare	t
riscal feal elius III Octobel	2012	2013	2014		<u>2016</u>
Revenue	8,719	7,509	9,072	9,641	<i>9,461</i>
Cost of Goods Sold	5,406	4,518	5,229	5,688	5,535
Gross Profit	3,313	2,991	3,843	3,953	3,926
Selling, General & Administrative Expenses	1,076	898	890	916	899
Research & Development	1,237	1,320	1,428	1,514	1,514
Other Operating Expense (Income)	_	_	_	_	_
Depreciation & Amortization (if reported separately)	_	_	_	_	_
Operating Income (ex charges)	1,000	773	1,525	1,523	1,514
Restructuring & Other Cash Charges	168	278	5	_	_
Impairment Charges (if reported separately)	421	63	_	_	_
Other Non-Cash (Income)/Charges	_	_	_	_	
Operating Income (incl charges)	411	432	1,520	1,523	1,514
Interest Expense	95	95	95	97	97
Interest Income		13	23	18	18
Pre-Tax Income	316	350	1,448	1,444	1,435
Income Tax Expense	207	94	376	217	316
Other After-Tax Cash Gains (Losses)	_	_	_	_	_
Other After-Tax Non-Cash Gains (Losses)	_	_	_	_	
(Minority Interest)	_	_	_	_	
(Preferred Dividends)	_				
Net Income	109	256	1,072	1,227	1,119
Weighted Average Diluted Shares Outstanding	1,277	1,219	1,231	1,222	1,189
Diluted Earnings Per Share	0.09	0.21	0.87	1.00	0.94
Adjusted Net Income	312	505	1,076	1,227	1,119
Diluted Earnings Per Share (Adjusted)	0.24	0.41	0.87	1.00	0.94
Dividends Per Common Share	0.34	0.38	0.40	0.40	0.40
EBITDA	833	842	1,895	1,813	1,798
Adjusted EBITDA	1,422	1,183	1,900	1,813	1,798



Last Price Fair Value Moat Trend™ **Consider Buy Consider Sell** Uncertainty Economic Moat™ Stewardship **Industry Group** 14.94 USD 20.00 USD 14.00 USD 27.00 USD Medium Wide Stable Standard Semiconductors

Morningstar Analyst Forecasts

Balance Sheet (USD Mil)					
Fiscal Year Ends in October					ecast
	2012	2013	2014	2015	2016
Cash and Equivalents	1,392	1,711	3,002	2,530	1,973
Investments	545	180	160	160	160
Accounts Receivable	1,220	1,633	1,670	2,113	2,074
Inventory	1,272	1,413	1,567	1,714	1,668
Deferred Tax Assets (Current)	_	_	_	_	_
Other Short Term Assets	673	705	568	604	592
Current Assets	5,102	5,642	6,967	7,121	6,467
Net Property Plant, and Equipment	910	850	861	857	858
Goodwill	3,518	3,294	3,304	3,304	3,304
Other Intangibles	1,355	1,103	951	951	951
Deferred Tax Assets (Long-Term)	162	149	_	_	_
Other Long-Term Operating Assets	_	_	156	166	163
Long-Term Non-Operating Assets	1,055	1,005	935	935	935
Total Assets	12,102	12,043	13,174	13,334	12,677
Accounts Payable	1,436	1,649	1,883	1,714	1,668
Short-Term Debt	_	_	_	400	_
Deferred Tax Liabilities (Current)	_	_	_	_	_
Other Short-Term Liabilities	829	794	940	999	931
Current Liabilities	2,265	2,443	2,823	3,113	2,599
Long-Term Debt	1,946	1,946	1,947	1,547	1,547
Deferred Tax Liabilities (Long-Term)	_	_	_	_	_
Other Long-Term Operating Liabilities	656	566	502	533	497
Long-Term Non-Operating Liabilities	_	_	_	_	_
Total Liabilities	4,867	4,955	5,272	5,194	4,644
Preferred Stock	_	_	_	_	_
Common Stock	12	12	12	12	12
Additional Paid-in Capital	5,863	6,151	6,186	6,186	6,186
Retained Earnings (Deficit)	12,700	12,487	13,228	13,966	14,610
(Treasury Stock)	-11,279	-11,524	-11,524	-12,024	-12,774
Other Equity	-61	-38			
Shareholder's Equity	7,235	7,088	7,902	8,140	8,034
Minority Interest					
Total Equity	7,235	7,088	7,902	8,140	8,034



Last Price Moat Trend™ **Fair Value Consider Buy Consider Sell** Uncertainty Economic Moat™ Stewardship **Industry Group** 14.94 USD 20.00 USD 14.00 USD 27.00 USD Medium Wide Stable Standard Semiconductors

Morningstar Analyst Forecasts

Cash Flow (USD Mil)					
Fiscal Year Ends in October					ecast
	2012	2013	2014	2015	2016
Net Income	109	256	1,072	1,227	1,119
Depreciation	422	410	375	289	284
Amortization	_	_	_	_	_
Stock-Based Compensation	182	162	177	182	179
Impairment of Goodwill	421	278	_	_	
Impairment of Other Intangibles	_	_	_	_	_
Deferred Taxes	161	_	36	_	_
Other Non-Cash Adjustments	229	-28	26	_	_
(Increase) Decrease in Accounts Receivable	493	-404	-21	-443	39
(Increase) Decrease in Inventory	679	-141	-154	-147	46
Change in Other Short-Term Assets	46	-63	5	-36	11
Increase (Decrease) in Accounts Payable	-469	78	79	-169	-46
Change in Other Short-Term Liabilities	-422	75	205	59	-68
Cash From Operations	1,851	623	1,800	963	1,565
(Capital Expenditures)	-162	-190	-241	-285	-285
Net (Acquisitions), Asset Sales, and Disposals	-4,190	-1	13	_	
Net Sales (Purchases) of Investments	-308	406	67	_	
Other Investing Cash Flows	_	_	_	22	-33
Cash From Investing	-4,660	215	-161	-263	-318
Common Stock Issuance (or Repurchase)	-1,319	-63	137	-500	-750
Common Stock (Dividends)	-434	-456	-485	-489	-476
Short-Term Debt Issuance (or Retirement)	_	_		400	-400
Long-Term Debt Issuance (or Retirement)	-1	_		-400	
Other Financing Cash Flows	_	_	_	-182	-179
Cash From Financing	-1,754	-519	-348	-1,171	-1,805
Exchange Rates, Discontinued Ops, etc. (net)	-5	_	_	_	_
Net Change in Cash	-4,568	319	1,291	-472	-558



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
14.94 USD	20.00 USD	14.00 USD	27.00 USD	Medium	Wide	Stable	Standard	Semiconductors

Comparable Company Analysis

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Valuation Analysis																
		Price/Ea	rnings		EV/EBITE	A		Price/Fr	ee Cash Flo	w	Price/Bo	ok		Price/Sa	les	
Company/Ticker	Price/Fair Value	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Lam Research Corp LRCX USA	1.01	21.1	19.8	17.2	9.5	9.6	7.9	19.2	22.0	21.5	2.2	2.5	1.9	2.4	2.5	1.8
KLA-Tencor Corp KLAC USA	0.83	20.9	25.1	15.8	11.4	15.9	10.6	16.9	17.9	14.6	3.3	21.1	NM	4.1	3.2	2.7
Average		21.0	22.5	16.5	10.5	12.8	9.3	18.1	20.0	18.1	2.8	11.8	1.9	3.3	2.9	2.3
Applied Materials Inc AMAT US	0.75	25.4	14.9	15.9	13.7	9.7	9.8	17.3	27.1	14.4	3.4	2.3	2.3	3.0	1.9	1.9

Returns Analysis		ROIC %			Adjusted	ROIC %		Return o	n Equity %		Return o	n Assets %		Dividend	l Yield %	
Company/Ticker Lam Research Corp LRCX USA	Last Historical Year Total Assets (Mil) — USD	2014 16.6	2015(E) 18.6	2016(E) 16.2	2014 23.3	2015(E) 25.2	2016(E) 20.9	2014 13.3	2015(E) 12.9	2016(E) 12.7	2014 8.3	2015(E) 7.6	2016(E) 7.7	2014	2015(E) 0.9	2016(E) 1.4
KLA-Tencor Corp KLAC USA	— USD	22.3	15.0	18.9	25.3	17.0	21.3	16.3	17.9	-435.9	10.8	7.1	12.5	2.5	3.4	4.1
Average		19.5	16.8	17.6	24.3	21.1	21.1	14.8	15.4	-211.6	9.6	7.4	10.1	2.5	2.2	2.8
Applied Materials Inc AMAT US	13,174 USD	14.7	13.5	12.1	21.9	19.6	17.0	14.3	15.3	13.8	8.5	9.3	8.6	1.8	2.7	2.6

Growth Analysis																
		Revenue	Growth %		EBIT Gro	wth %		EPS Gro	wth %		Free Cas	h Flow Gro	wth %	Dividend	l/Share Gro	owth %
	Last Historical Year															
Company/Ticker	Revenue (Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Lam Research Corp LRCX USA	4,607 USD	28.0	14.2	9.3	465.3	28.0	-3.7	375.5	27.8	-7.1	25.9	-19.1	-44.3	-	366.7	_
KLA-Tencor Corp KLAC USA	2,929 USD	3.1	-3.9	6.3	5.8	-14.3	13.0	8.0	-35.5	43.0	-88.7	-231.4	-635.8	12.5	927.8	-88.8
Average		15.6	5.2	7.8	235.6	6.9	4.7	191.8	-3.9	18.0	-31.4	-125.3	-340.1	12.5	647.3	-88.8
Applied Materials Inc AMAT US	9,072 USD	20.8	6.3	-1.9	97.3	-0.1	-0.6	110.8	14.9	-6.3	338.9	-59.6	93.1	5.3	_	_



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
14.94 USD	20.00 USD	14.00 USD	27.00 USD	Medium	Wide	Stable	Standard	Semiconductors

Comparable Company Analysis

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Profitability Analysis																
	Last Historical Year	Gross M	oss Margin % EBI			Vlargin %		Operatin	g Margin %	0	Net Mar	gin %		Free Cas	h Flow Ma	rgin %
Company/Ticker	Net Income (Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Lam Research Corp LRCX USA	560 USD	43.6	43.4	42.5	21.8	22.5	19.2	14.7	16.5	14.5	12.2	13.8	11.6	12.4	11.2	8.4
KLA-Tencor Corp KLAC USA	583 USD	57.9	56.8	57.0	29.2	21.8	27.7	26.4	23.5	25.0	19.9	13.0	16.6	24.3	17.6	18.2
Average		50.8	50.1	49.8	25.5	22.2	23.5	20.6	20.0	19.8	16.1	13.4	14.1	18.4	14.4	13.3
Applied Materials Inc AMAT US	1,076 USD	42.4	41.0	41.5	20.9	18.8	19.0	16.8	15.8	16.0	11.9	12.7	11.8	17.2	7.0	13.5

Leverage Analysis		Debt/Equ	iity %		Debt/Tota	ıl Cap %		EBITDA/	nterest Ex	p.	Total Del	bt/EBITDA		Assets/E	quity	
Company/Ticker Lam Research Corp LRCX USA	Last Historical Year Total Debt (Mil) 1,519 USD	2014 30.2	2015(E) 51.0	2016(E) 22.9	2014 23.2	2015(E) 33.8	2016(E) 18.6	2014 16.3	2015(E) 25.1	2016(E) 17.5	2014 1.5	2015(E) 2.2	2016(E) 1.1	2014 1.6	2015(E) 1.8	2016(E) 1.5
KLA-Tencor Corp KLAC USA	748 USD	20.4	753.0	-384.9	16.9	88.3	135.1	15.9	6.4	7.7	0.9	5.2	3.0	1.5	11.5	-4.8
Average		25.3	402.0	-181.0	20.1	61.1	76.9	16.1	15.8	12.6	1.2	3.7	2.1	1.6	6.7	-1.7
Applied Materials Inc AMAT US	1,947 USD	24.6	23.9	19.3	19.8	19.3	16.2	20.0	18.6	18.5	1.0	1.1	0.9	1.7	1.6	1.6

Liquidity Analysis																
	Market Cap	Cash per	Share		Current R	atio		Quick Ra	ntio		Cash/Sh	ort-Term D	ebt	Payout F	Ratio %	
Company/Ticker	(Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Lam Research Corp LRCX USA	10,390 USD	8.32	8.48	6.17	3.02	2.38	4.63	2.56	2.02	3.76	2.80	1.10	_	5.0	22.7	22.1
KLA-Tencor Corp KLAC USA	7,944 USD	18.75	14.58	3.68	5.12	3.90	2.11	4.39	3.28	1.52	_	_	_	51.9	89.4	65.0
Average		13.54	11.53	4.93	4.07	3.14	3.37	3.48	2.65	2.64	2.80	1.10	_	28.5	56.1	43.6
Applied Materials Inc AMAT US	18,400 USD	2.44	2.07	1.66	2.47	2.29	2.49	1.91	1.74	1.85	-	6.33	_	45.9	39.8	42.5



Research Methodology for Valuing Companies

Components of Our Methodology

- ► Economic Moat[™] Rating
- ▶ Moat Trend™ Rating
- ► Moat Valuation
- ► Three-Stage Discounted Cash Flow
- ► Weighted Average Cost of Capital
- ► Fair Value Estimate
- Scenario Analysis
- Uncertainty Ratings
- Margin of Safety
- ► Consider Buying/Selling
- Stewardship Rating

We believe that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth. Four key components drive the Morningstar rating: our assessment of the firm's economic moat, our estimate of the stock's fair value, our uncertainty around that fair value estimate and the current market price. This process ultimately culminates in our single-point star rating. Underlying this rating is a fundamentally focused methodology and a robust, standardized set of procedures and core valuation tools used by Morningstar's equity analysts.

The concept of the Morningstar Economic Moat™
Rating plays a vital role not only in our qualitative assessment of a firm's investment potential, but also in our actual calculation of our fair value estimates. We assign three moat ratings—none, narrow, or wide—as well as the Morningstar Moat Trend™ Rating—positive, stable, or negative—to each company we cover. Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns on invested capital over at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for

10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. The assumptions that we make about a firm's economic moat play a vital role in determining the length of "economic outperformance" that we assume in the terminal sections of our valuation model. To assess the sustainability of excess profits, analysts perform ongoing assessments of what we call the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger; stable where we don't anticipate changes to competitive advantages over the next several years; or negative when we see signs of deterioration.

At the heart of our valuation system is a detailed projection of a company's future cash flows. The first stage of our three-stage discounted cash flow model can last from 5 to 10 years and contains numerous detailed assumptions about various financial and operating items. The second stage of our model where a firm's return on new invested capital (RONIC) and earnings growth rate implicitly fade until the perpetuity year—can last anywhere from one year (for companies with no economic moat) to 10-15 years (for wide-moat companies). In our third stage, we assume the firm's RONIC equals its weighted average cost of capital, and we calculate a continuing value using a standard perpetuity formula. In deciding on the rate at which to discount future cash flows, we use a building block approach,

Morningstar Research Methodology for Valuing Companies



Source: Morningstar, Inc.

Detailed Methodology Documents and Materials*

- ► Comprehensive Equity Research Methodology
- Uncertainty Methodology
- Cost of Fauity Methodology
- ► Morningstar DCF Valuation Model
- ► Stewardship Rating Methodology

which takes into account expectations for market real return, inflation, country risk premia, corporate credit spread, and any additional systematic risk.

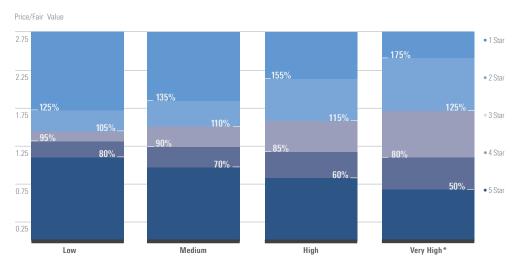
We also employ a number of other tools to augment our valuation process, including scenario analysis, where we assess the likelihood and performance of a business under different economic and firm-specific conditions. Our analysts model three scenarios for each company we cover, stresstesting the model and examining the distribution of resulting fair values.

The Morningstar Uncertainty Rating captures the range of likely potential fair values and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating represents the analysts' ability to bound the estimated value of the shares in a company around the Fair Value Estimate, based on the characteristics of the business underlying the stock, including

operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

Our corporate Stewardship Rating represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts consider companies' investment strategy and valuation, financial leverage, dividend and share buyback policies, execution, compensation, related party transactions, and accounting practices. Corporate governance practices are only considered if they've had a demonstrated impact on shareholder value. Analysts assign one of three ratings: "Exemplary," "Standard," and "Poor." Analysts judge stewardship from an equity holder's perspective. Ratings are determined on an absolute basis. Most companies will receive a Standard rating, and this is the default rating in the absence of evidence that managers have made exceptionally strong or poor capital allocation decisions.

Morningstar Margin of Safety and Star Rating Bands



* Occasionally a stock's uncertainty will be too high for us to estimate, in which case we label it Extreme

Source: Morningstar, Inc.

^{*}Please contact a sales representative for more information.



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
14.94 USD	20.00 USD	14.00 USD	27.00 USD	Medium	Wide	Stable	Standard	Semiconductors



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Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
14.94 USD	20.00 USD	14.00 USD	27.00 USD	Medium	Wide	Stable	Standard	Semiconductors

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Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
14.94 USD	20.00 USD	14.00 USD	27.00 USD	Medium	Wide	Stable	Standard	Semiconductors

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