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## Applied Materials Inc AMAT

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### Applied Materials' Near-Term Prospects Remain Paralyzed by Weak Memory Spending; No Change to FVE



by  
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#### Analyst Note 08/15/2019

Applied Materials reported third-quarter results within our expectations, as a weak memory market isn't a memory just yet for the company. Still, foundry and logic strength helped moderate overall revenue declines. With the Applied Materials' 2019 outlook left relatively untouched and our continued belief that 2020 will prove better for the firm's memory and display business, our fair value estimate of \$49 per share for wide-moat Applied Materials remains unchanged.

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In the quarter, sales were down 14% year over year at \$3.56 billion. The decline continued to be led by the memory market, which was down nearly 30% year over year. Nonetheless, logic and foundry marked a bright spot, up 20% year over year as demand for Internet of Things devices, auto, and sensors continues. Applied Materials' services business was down year over year, caused by transactional services' dependency on memory output. As a result, management lowered revenue expectations for services in the year. The display market continued to experience weakness, bringing in sales of \$339 million in the quarter. Concerning profitability, gross margins for the quarter were 43.7%, down 110 basis points from the prior year quarter. Looking ahead, Applied Materials stressed its belief that the memory market will start recovering in 2020 and display should start to see an inflection point in the next quarter, with roughly flat revenue growth.

Applied Materials' deal with Kokusai appears to remain on track for a 2020 close, as the transaction's currently under review. We continue to believe the expansion of Applied Materials' installed base will be a good thing but further entrenchment in the memory space poses risks for the company.

#### Business Strategy and Outlook 05/16/2019

Applied Materials is a leading 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 (etch) areas, among others.

Applied boasts an impressive global presence with an installed base of more than 40,000 tools and field service 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.

#### Morningstar's Take AMAT

Analyst		
<b>Price</b> 08-30-2019	<b>Fair Value Estimate</b>	<b>Uncertainty</b>
48.02 USD	49 USD	High
<b>Consider Buy</b>	<b>Consider Sell</b>	<b>Economic Moat</b>
29.4 USD	75.95 USD	Wide
<b>Stewardship Rating</b>		
Standard		

#### 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 proliferation of OLED 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 cyclical semiconductor industry, which means that its financial results can fluctuate considerably.
- The chip equipment business can be competitive among incumbents, with Tokyo Electron, Lam Research, and KLA-Tencor all boasting best-in-class tools in certain sub-segments.

#### Competitors AMAT

More...

Name	Price	% Chg	TTM Sales \$ mil
<b>Applied Materials Inc</b>	<b>\$48.02</b>	<b>1.50</b>	<b>15,161</b>
ASML Holding NV ADR	\$222.61	1.31	11,801
ASML Holding NV	217.94	1.37	11,801
Tokyo Electron Ltd	179.00	-0.97	11,297
Tokyo Electron Ltd ADR	44.69	0.16	11,297
Lam Research Corp	\$210.51	1.37	9,654

The company's scale and resources allow a research and development budget in excess of \$2 billion to serve cutting-edge technologies. Recent inflections such as 3D architectures (found in advanced NAND and logic chips) 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 they 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 organic light-emitting diodes, or OLEDs. The cyclical nature of the chip industry and the display market 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 solid growth over the long term.

#### **Economic Moat** 05/16/2019

We believe Applied Materials has a wide economic moat based on its intangible assets around equipment design expertise and research and development, or R&D, cost advantages required to compete for the business of leading-edge manufacturers. These characteristics have allowed it to become the top vendor in the semiconductor equipment market. Applied's scale and resources allow a research and development budget in excess of \$2 billion to serve cutting-edge technologies and thus benefit from inflections such as fin field-effect transistors, or FinFET, and 3D NAND. Advanced tools in deposition and etch have become critical for multiple patterning that enables leading-edge processes. 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 research and development to develop more advanced solutions.

When chipmakers operate numerous fabs around the world, maximizing throughput and reducing process variability across their fleet of tools are top priorities. We believe incumbent tool providers, such as Applied, also have intangible assets derived from service contracts and customer collaboration during process development and subsequent high volume manufacturing. Field service engineers that are on-site at customer fabs help troubleshoot high-value problems to improve yields and output, ultimately driving productivity and reducing cost. We believe a positive feedback loop is subsequently created in which top equipment vendors leverage existing relationships and insights into future customer technology needs to ultimately design and offer superior equipment. Furthermore, the resultant virtuous cycle cannot easily be replicated by potential new entrants. Applied's installed base of over 40,000 tools (140,000 process chambers) is the largest in the industry, which gives us added confidence in our wide moat rating.

#### **Fair Value and Profit Drivers** 05/16/2019

Our fair value estimate is \$49 per share. Applied has been redirecting investments to more favorable opportunities, including the deposition and etch segments catered to multiple patterning and 3D NAND. Furthermore, the firm's display segment has benefited from the ongoing transition of LCD to OLED screens that will be featured in high-end smartphones. Following a down fiscal 2019 due to a deceleration in 3D NAND and display spending, we expect the firm to grow revenue on average 10% through fiscal 2023. We believe the global services business will also support future growth due to greater spares, tool refurbishments, and collaboration with customers to troubleshoot high-value problems that reduce cost, improve product yields, and accelerate new technology ramps. This stable margin and relatively less cyclical segment will help Applied maintain gross margins in the mid-40s. As Applied looks to stay at the forefront of innovation, large research and development spending will remain paramount. We project operating margins will remain in the mid-to-high-20s over our five-year forecast period as a result.

#### **Risk and Uncertainty** 05/16/2019

The cyclical nature of the semiconductor industry is the foundation of the risks faced by Applied Materials. 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. Additionally, a more consolidated customer base, greater capital intensity due to increased complexity, and more diverse demand drivers have mitigated wafer fabrication equipment sales volatility in recent years. Taking into account these factors, we assign a high uncertainty rating to Applied.

#### **Stewardship 12/18/2018**

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. CFO Dan Durn joined in August 2017 from NXP Semiconductors and replaced Bob Halliday, who also joined Applied as part of the Varian acquisition.

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 wasn't as impressive. While Applied was a key manufacturing equipment supplier to the solar industry through acquisitions and significant investments, it 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 severe cyclical downturn in the solar industry, which had dragged on for a few years. Positively, Applied pivoted away from solar toward the display market to augment its primary semiconductor equipment segment, and has enjoyed success in recent 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 growth in lieu of additional M&A.

#### **Overview**

##### **Profile:**

Applied Materials is one of the world's largest suppliers of semiconductor manufacturing equipment, providing materials engineering solutions to help make nearly every chip in the world. The firm's systems are used in every process step with the exception of lithography. Key tools include those for chemical and physical vapor deposition, etching, chemical mechanical polishing, wafer- and reticle-inspection, critical dimension measurement, and defect-inspection scanning electron microscopes.

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