**ANSYS, Inc. (ANSS)**

**Baird Facts**

Please refer to Appendix - Important Disclosures and Analyst Certification.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>52WK H-L ($) : 299 - 174</td>
<td>Suitability: Q1</td>
<td>FY Dec</td>
</tr>
<tr>
<td>Shares Out (mil): 87.1</td>
<td>L-Term Rev. Gr Rate Est: 10%</td>
<td>1.29A 0.83A 1.17E</td>
</tr>
<tr>
<td>Float (mil): 85.2</td>
<td>L-Term EPS Gr Rate Est: 10%</td>
<td>Q2 1.61A 1.21E 1.54E</td>
</tr>
<tr>
<td>Avg. Daily Vol (mil): 0.76</td>
<td>Debt/Cap: 0.0%</td>
<td>Q3 1.42A 1.50E 1.78E</td>
</tr>
<tr>
<td>Dividend ($) : 0.00</td>
<td>ROE: 14.8%</td>
<td>Q4 2.24A 2.57E 2.87E</td>
</tr>
<tr>
<td>Yield (%): 0.0</td>
<td>FY P/E</td>
<td>Total 6.58A 6.11E 7.35E</td>
</tr>
</tbody>
</table>

**Headquartered**

<table>
<thead>
<tr>
<th>IPO/Founded</th>
<th>Dec</th>
<th>2019A</th>
<th>2020E</th>
<th>2021E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canonsburg, PA</td>
<td>1996 / 1970</td>
<td>Revenue (Mil)</td>
<td>1,528.4</td>
<td>1,601.0</td>
</tr>
<tr>
<td>Management</td>
<td>% Growth</td>
<td>17.3%</td>
<td>4.7%</td>
<td>17.0%</td>
</tr>
<tr>
<td>CEO &amp; President</td>
<td>Operating Margin</td>
<td>45.3%</td>
<td>41.6%</td>
<td>43.1%</td>
</tr>
<tr>
<td>VP &amp; CFO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maria Shields (since Sep ’98)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annette Arribas</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Company Description**

Founded in 1970 and headquartered in Canonsburg, PA (Pittsburgh), ANSYS is the No. 1 market share provider of engineering simulation software. With the 2006 acquisition of Fluent, ANSYS combined its leadership in Finite Element Analysis (FEA) with Fluent's market-leading Computational Fluid Dynamics (CFD) solutions. ANSYS further expanded its product portfolio in 2008 with the acquisition of Ansoft, a provider of Electronic Design Automation (EDA) software. In 2011, ANSYS acquired Apache Data Systems (ADS) which provides power optimization solutions for low-power Integrated Circuits (ICs) further broadening its product suite. ANSYS has recently made investments in Simulation and into broadening its target user base to Design Engineers. The company has a diversified customer base of over 40,000 companies including international leaders in the Aerospace, Automotive, Manufacturing, Electronics, and Biomedical industries.

**Revenue Profile**

**Geographic Revenues**

<table>
<thead>
<tr>
<th>Geographic</th>
<th>Revenues</th>
</tr>
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<tbody>
<tr>
<td>APAC</td>
<td>23%</td>
</tr>
<tr>
<td>EMEA</td>
<td>27%</td>
</tr>
<tr>
<td>US</td>
<td>41%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
</tr>
<tr>
<td>Ind. Equip.</td>
<td>11%</td>
</tr>
<tr>
<td>Auto</td>
<td>17%</td>
</tr>
<tr>
<td>A&amp;D</td>
<td>17%</td>
</tr>
<tr>
<td>High Tech</td>
<td>33%</td>
</tr>
</tbody>
</table>

**Additional Detail (Product or End Mkt)**

<table>
<thead>
<tr>
<th>Other</th>
<th>Energy</th>
<th>Chemicals</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>8%</td>
<td>6%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: Baird estimates, Factset, Company reports
Competition

MSC Software is a competitor. Like ANSYS, MSC only plays in the simulation software market, and has the second-largest market share. Additional competition comes from CAD/PLM vendors such as Dassault Systemes, Autodesk, Siemens/UGS, and Parametric Technologies. ANSYS may see greater competition from the CAD/PLM world as the CAD providers move into the simulation space. With the acquisition of ADS, Apache also competes with EDA vendors like Cadence, Synopsis and Mentor Graphics.

Quick Summary

- **Maintain Outperform rating.** ANSYS stock traded down 2-3% following an update to FY20 guidance (initial thoughts here). Commentary on macro factors, industry performance, and customer spending decisions were similar to what peers have previously noted. As it specifically relates to ANSYS, we do agree with the company that simulation has a special place in the advanced engineering projects of large organizations, something that is helping weather the storm near term with greater benefits longer term. This dynamic being reflected in accelerating ACV growth exiting FY20 likely helps stock move higher.
- **ACV guidance reset to +3-9% YoY in constant currency.**
- **F1Q growth was flat YoY in constant currency and F2Q is also expected to be challenging. F3Q is expected to see a modest improvement, followed by a stronger recovery in F4Q driven by a combination of pent-up demand (deferred transactions from earlier quarters) and visibility on multiyear leases.**
- **Embedded in the outlook is the expectation that larger accounts perform better than SMB, renewal rates remain strong, while net new business comes under pressure. Additionally, the preference for leases over perpetual licenses likely shifts even further.**
- **From an operating cash flow standpoint, the updated range of $425 million to $470 million factors in an incremental $10 million to $20 million of customer payments that would have otherwise been made in 2020, but now may be delayed into 2021. This is the result of extended payment term request on new contracts and delayed payments on existing contracts. Tweaking our own FCF assumptions is the primary driver of our lowered price target with this update.**
- **By end market, semiconductor demand continues to lead the charge.**
- **ANSYS is “seeing little to no reduction in demand in the semiconductor vertical” which accounted for one-third of ACV in 2019. Customers are unwilling to delay R&D efforts given the “global race” for 5G leadership. Relatedly, ANSYS was recognized by TSMC this quarter, received certification by Samsung Foundry on EM simulation, and acquired well-known photonics design company Lumerical for $108 million.**
- **Echoing a dynamic that PTC also referenced, ANSYS continues to see strong demand from long-term government programs associated with military and defense. Commercial aerospace appears to be the minority share of ANSYS’ A&D exposure (17% of total), and management noted pressures here.**
- **We found the commentary around Automotive to be encouraging, with ANSYS well positioned to benefit from autonomy and electrification investments. Two good wins called out this quarter were with Denso (Toyota’s largest keiretsu supplier) for electric and autonomous vehicle development, and a “major” automotive OEM for LS-DYNA’s virtual crash testing capability.**

Investment Thesis

- **Our price target is $292** We derive this price target using a P/FCF multiple of 40x on our NTM FCF estimate, one year from now.
  - Since 2016, ANSYS stock has re-rated from the 25x FCF level to highs approaching 46x with current levels near 46x. During this time, the company has soundly exceeded expectations and successfully capitalized on new opportunities to accelerate revenue growth. We also believe the thematic backdrop for design software (incl. CAD and EDA vendors, both of which have also re-rated) is positive and helping drive better awareness of the importance of simulation in the development workflow.
  - The longstanding “bear case” has always been that the stock is expensive from a valuation perspective, and we acknowledge the multiple expansion the stock has seen over the past 12-24 months. However, given the secular growth opportunities that still are early innings, and what we expect to be a more constructive macro backdrop for many key customers in 2020-21, we believe ANSYS is capable of holding recent revaluation with the stock benefiting from strong financial performance.
  - Momentum in the business is as good as it has been in 5+ years, fundamentals are strong, the company is executing its vision of pervasive simulation (which we are believers in and have written about multiple times), and the management team is putting a plan in place to achieve sustainable double-digit ACV growth in 2020 and beyond.
- **Market leadership.** ANSYS is the independent market share leader in the engineering simulation software market. Since 2006, the company has done a handful of acquisitions – in areas such as Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Electronic Design Automation (EDA) – that have served to broaden and deepen its product offering, building even higher barriers to entry.
- **Expanding use case.** ANSYS seeks to expand the footprint of its user base down the pyramid, driving adoption among Design Engineers. While the ratio of Design Engineers to Simulation Analysts varies by company, we believe in many cases the number is greater than 10:1, thus representing a meaningful potential TAM expansion. In an effort to tap this large adjacent market, ANSYS has been making its software easier to use. Additionally, ANSYS has recently shifted its sales approach to offer ELAs to larger customers. ELA fraction will be an important future metric for the company.
- **Improving execution.** In late 2016, the company announced a major executive transition, with the departure of longtime CEO Jim Cashman. It began in 2017 with new CEO Ajei Gopal and a new Head of Sales Rick Mahoney. Both come to ANSYS with substantial large company experience (e.g., IBM, HP, Global Foundries), which we view as important as the company is poised to break through the $1B revenue mark.
- **Multi-physics platform and emerging trends.** ANSYS has emerged as a leader in the introduction of multi-physics into the Simulation market. With ANSYS’ WorkBench integration hub, engineers can combine elements of physics when doing simulation. The ability to simultaneously simulate multiple elements of physics allows the engineer to more closely emulate real world
environments. Additionally, as IOT and “digital twins” becomes pervasive, ANSYS has an opportunity to increase its value to their customer.

- **Recurring revenue.** Roughly 75-80% of ANSYS’ revenue is recurring, in the form of Lease (i.e., subscription) and Maintenance. In addition, ~70% of revenue is from within existing accounts as ANSYS’ largest customers tend to consistently purchase additional new licenses each year.

**Risks & Caveats**

- **Macro economy/cyclicality.** Demand for ANSYS tools is levered to the global economy and requires a moderate capital outlay, and thus a global economic downturn can adversely impact the business. Additionally, while the company is diversified in its end markets, cyclical downturns in major sectors can negatively impact their results.

- **Market size.** The simulation software market is believed to be a $7B market. We believe ANSYS’ valuation implies a meaningful expansion of the simulation software TAM to new industries and new users within existing accounts, namely designers.

- **Acquisitions.** ANSS has historically been acquisitive, and its Workbench framework eases the integration of acquired products. As ANSS likely has higher margins than any acquisition target, any acquisition of size would likely impose near-term dilution.

- **FX.** As ANSS derives a majority of its revenue internationally, operating results could be materially affected by fluctuations in foreign exchange rates, particularly the euro, pound, and yen.

- **COVID-19.** The current environment is subject to greater uncertainty with regard to customer spending behavior.

**Supplemental Information**

Our price target is $292 We derive this price target using a P/FCF multiple of 40x on our NTM FCF estimate, one year from now.
Appendix - Important Disclosures and Analyst Certification

Approved on 20 May 2020 17:30EDT/ Published on 20 May 2020 17:35EDT.

1 Robert W. Baird & Co. Incorporated makes a market in the securities of ANSS.

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ANSYS, Inc.
May 20, 2020

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