BEHIND
THE NUMBERS
Quality of Earnings Analysis
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ANSYS, Inc. (ANSS) Earnings Quality Review

6- Exceptionally Strong
5- Strong
4- Acceptable
3- Minor Concern
2- Weak
1- Strong Concern
+ quality improving
- quality deteriorating

We are initiating earnings quality coverage of ANSS with a 4+ (Acceptable) rating.

For an explanation of the EQ Review Rating scale, please refer to the end of this report.

Summary

ANSS is a leading provider of simulation software utilized by engineers working across virtually every major industry including aerospace, automotive, semiconductors, healthcare, and materials.

Like most large software companies, ANSS is seeing a shift to subscription-based services with components recognized over time and away from perpetual licenses with revenue recognized upfront. This has significant implications for the company's reported results, but overall, we do not have significant concerns with the quality of ANSS's accounting. However, we are more concerned with the company's accounting for its acquisition which we believe distorts the economic reality of the deals.

We do note that the company is seeing decline in annualized booking activity due to the impact of COVID and trade restriction with China. Also, investments in technology and marketing remain high which is resulting in the compression of EBIT. However, these trends are expected to reverse as conditions normalize.

What is weak?

- ANSS has made several acquisitions over the last few years. It has not taken on meaningful debt in the process. However, 75% of the purchase price of the most recent deals have been allocated to goodwill, and it is amortizing acquired technology over ten years which we believe is unrealistically long. However, the company adds back the amortization of acquired intangibles to non-GAAP results anyway. This completely ignores the cost of the deal even though management has noted before that it relies on acquisitions to drive innovation and the company would have to spend cash to develop these capabilities in-house.

- Stock compensation expense amounts to about 25% of non-GAAP operating income. This is not the largest figure we have seen among software companies but it is sizeable. Ignoring these amounts distorts the company's true earnings potential as the company would have to use cash to pay employees if it discontinued the stock-based programs. Also, it must spend cash to repurchase shares to avoid dilution.

- Accounts receivable DSOs have been rising as the company has extended payment terms for new customers and experienced payment delays in the COVID environment. Extending payment terms is not as large an inducement for large software contracts as it is for companies in other industries, so we are not overly concerned by an artificial boost to recent sales growth. We expect DSOs to come back down as we move through 2021.

What is strong?

- We note that unlike many software companies, ANSS does not consider sales commissions to be incremental costs to its contracts so it does not capitalize the costs to obtain its contracts.

What to watch

- Like most of the software industry, ANSS is seeing customers move to lease licenses with bundled maintenance and away from perpetual licenses with maintenance contracts purchased separately. With the advent of ASC 606 in 2018, the company is required to recognize not only revenue from perpetual licenses upfront but also the license portion of leases which has been determined to be 50% of the total contract value. (Maintenance is recognized over the contract term). This can lead to volatility in reported revenue with the timing of large deals.

- Deferred revenue days based on maintenance and service revenues increased YOY in the 9/20 quarter. However, it had been declining for several quarters before that. We believe this is likely due to differences in billing frequencies and time frames between separate maintenance contracts and maintenance bundled under lease contracts. We are not concerned at this point and will continue to monitor the trend going forward.

- The remaining performance obligation (RPO) is deferred revenue plus backlog and represents the total value of unbilled revenue from all existing contracts. Backlog has been growing faster than deferred revenue and now represents more than 60% of RPO, up from the mid-40% range two years ago. This is likely a reflection of the shift to longer-term enterprise deals with a smaller portion of the total contract value being billed early.

Supporting Detail

Overview of Revenue Recognition Policies and Trends

ANSS offers its customers the option to purchase both perpetual licenses which gives them the right an annually purchase maintenance, support, and upgrades, or to lease the product on a fixed-term basis which includes all support and upgrades. Revenue from perpetual licenses is recognized upfront. For lease license agreements, the company has determined that 50% of the contract value is a license and 50% is maintenance and support. The license portion is recognized upfront while the maintenance and support portion is recognized ratably over the lease term. Below we will examine the impact of the required switch to ASC 606 for revenue recognition in 2018, contracts trends, and trends in deferred revenue, remaining performance obligation (RPO), and annual contract value (ACV).

Accounting Change for Revenue Recognition and Contract Trends

In January of 2018, ANSS was required to adopt ASC 606 for revenue recognition. Before the mandatory adoption of the new standard, ANSS recognized revenue from perpetual licenses upfront but recognized the license portion of software leases ratably over the contract term. However, ASC 606 required the company to recognize the license portion of its lease revenue upfront. This is ironically a less conservative approach to revenue recognition than the company's existing method. It had the effect of both artificially boosting revenue growth in the first year of adoption as well as leading to increased volatility in the company's revenue growth trends.

On the subject of the volatility of revenue, it is important to note that the company is seeing a greater demand for large, enterprise deals which can magnify the volatility of reported revenue as large, multi-period deals signed in one period can result in the upfront recognition of the 50% license portion of lease deals. Also, the general trend in the industry has been away from perpetual license sales and towards subscription-based services. Consider the quote from the 12/19 10-K:

> *"We continue to experience increased interest by some of our larger customers in enterprise agreements that often include longer-term, time-based licenses involving a larger number of our software products. While these arrangements typically involve a higher overall transaction price, the upfront recognition of license revenue related to these larger, multi-year transactions can result in significantly higher lease license revenue volatility. As software products, across a large variety of applications and industries, become increasingly distributed in software-as-a-service, cloud and other subscription environments in which the licensing approach is time-based rather than perpetual, we are also experiencing a shifting preference from perpetual licenses to time-based licenses across a broader spectrum of our customers. This shifting preference was elevated in the first three quarters of 2020 as a result of the economic impacts of COVID-19, and we expect it to continue into the foreseeable future."*

Trends in Contract Type

The following table shows a breakout of revenue between perpetual licenses, lease licenses, and maintenance and support for the last eight quarters:

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Lease Licenses (Recognized upfront)	$78.917	$113.209	$44.874	$166.090
Perpetual Licenses (Recognized Upfront)	$62.705	$56.132	$42.956	$102.853
Software Licenses	$141.622	$169.341	$87.830	$268.943
Maintenance (Ratably)	$211.942	$203.179	$200.488	$200.806
Service (Ratably)	$13.401	$13.141	$16.667	$16.479
Maintenance and Service	$225.343	$216.320	$217.155	$217.285
Total Revenue	$366.965	$385.661	$304.985	$486.228

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Lease Licenses (Recognized upfront)	$70.693	$100.004	$69.256	$126.824
Perpetual Licenses (Recognized Upfront)	$66.451	$70.495	$53.788	$99.597
Software Licenses	$137.144	$170.499	$123.044	$226.421
Maintenance (Ratably)	$193.189	$185.118	$181.461	$175.921
Service (Ratably)	$13.566	$13.018	$12.625	$13.090
Maintenance and Service	$206.755	$198.136	$194.086	$189.011
Total Revenue	$343.899	$368.635	$317.130	$415.432

The shift away from perpetual licenses can be seen clearly in the YOY declines in perpetual license revenues, although the decline is also likely accelerated by the COVID environment and trade restrictions with China. At the same time, the license portion of lease agreements (which is recognized upfront) has increased the last two quarters which is consistent with the company's comment regarding the increased popularity of leases versus perpetual licenses.

Annual Contract Value (ACV)

Upon the adoption of ASC 606, ANSS began disclosing a metric it refers to as "Annual Contract Value" (ACV). At the introduction of the measure, management stated:

> *"To assist analysts and investors with their understanding of our operating results, we are introducing a new performance metric, Annual Contract Value (ACV). We believe this new measure is an improved metric as compared to the historically provided bookings metric because it adjusts the sales bookings metric to reflect only the annual value of a contract and also adjusts to reflect the sales booking at the date of the contract inception or renewal."*

ACV represents bookings made during the quarter with a current quarter start date that are annualized for license and maintenance contracts with a term greater than one year. This metric reduces the artificial benefit to bookings growth from a shift to longer-term contracts. The following table shows ACV for the last several quarters:

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Annual Contract Value	$305.334	$336.188	$301.050	$541.300
	5.0%	0.2%	-0.8%	12.7%

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Annual Contract Value	$290.856	$335.384	$303.490	$480.500

Note that recent ACV growth has benefitted from the 4/20 acquisition of Lumerical and the 11/19 acquisition of LST. Reported ACV growth for the nine months ended 9/20 was 3.3%, but this included an approximate 6% boost from acquisitions, so organic ACV growth is currently negative. This is due to COVID's impact on customers as well as trade restrictions with China negatively impacting growth. The company is projecting growth in ACV to return to the low teens as conditions normalize.

We also note the positive trend of recurring backlog rising to 77% in the quarter from the low 70% range a year ago, reflecting the shift to leases from perpetual licenses.

Deferred Revenue Trends

Deferred revenue represents amounts that have been billed or received before being recognized as revenue on the income statement. Since perpetual licenses revenue and the license revenue portion of lease revenue is recognized upfront, the bulk of deferred revenue is related to maintenance and service contracts linked to perpetual licenses and the maintenance and service portion of lease revenues. The following table shows the calculation of deferred revenue days utilizing maintenance and service revenues as the sales component in the formula.

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Maintenance and Service	$225.343	$216.320	$217.155	$217.285
Total Deferred Revenue	$338.432	$336.188	$365.751	$365.274
Deferred Revenue Days	138.2	141.4	153.3	154.7

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Maintenance and Service	$206.755	$198.136	$194.086	$189.011
Total Deferred Revenue	$303.315	$335.384	$344.276	$343.174
Deferred Revenue Days	135.0	154.0	159.6	167.0

	9/30/2018	6/30/2018	3/31/2018
Maintenance and Service	$180.315	$174.766	$172.827
Total Deferred Revenue	$286.453	$323.537	$329.394
Deferred Revenue Days	146.2	168.5	171.5

We can see that deferred revenue days based on maintenance and service revenue has been trending down YOY for the last several quarters before reversing in the 9/20 period. The decline in deferred days is puzzling on the surface as maintenance revenue is deferred regardless of whether it is recorded as part of a lease or purchased separately with a perpetual license. However, it is likely that payment frequency for maintenance contracts purchased with perpetual licenses have different billing frequencies than lease contracts with bundled maintenance and service. If less of the total contract is paid upfront under a lease agreement with bundled maintenance, then deferred revenue relative to maintenance sales could decline as maintenance sales shift to leases from separate contracts. We are therefore not overly concerned by the trend of declining deferred revenue days and view the YOY increase in deferred days in the 9/20 quarter as a positive.

Further reducing our concern with deferred revenue is the company's reported backlog, which is the total unbilled portion of revenue expected to be generated by contracts currently in place. Backlog plus deferred revenue equals the remaining performance obligation (RPO) which is the total value of contracts that are in place but have yet to be recognized on the income statement. These RPO components are shown below for the last eight quarters as a percentage of total RPO:

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Backlog	$541.480	$510.282	$469.275	$505.469
% of RPO	62%	60%	56%	58%
Deferred Revenue	$338.432	$336.188	$365.751	$365.274
% of RPO	38%	40%	44%	42%
RPO	$879.912	$846.470	$835.026	$870.743

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Backlog	$347.072	$381.930	$328.372	$315.998
% of RPO	53%	53%	49%	48%
Deferred Revenue	$303.315	$335.384	$344.276	$343.174
% of RPO	47%	47%	51%	52%
RPO	$650.387	$717.314	$672.648	$659.172

	9/30/2018	6/30/2018	3/31/2018
Backlog	$258.262	$263.365	$265.615
% of RPO	47%	45%	45%
Deferred Revenue	$286.453	$323.537	$329.394
% of RPO	53%	55%	55%
RPO	$544.715	$586.902	$595.009

We can see that the company is reporting sustainable growth in its RPO which bodes well for future revenue recognition. However, backlog is becoming a larger percentage of the RPO which is a reflection of the increase in larger, longer-term deals. This may also indicate a shift towards less of the total contract value being paid upfront.

ANSS Relies on Acquisitions Yet Costs Are Ignored in Non-GAAP Adjustments

(Concern level: MEDIUM)

ANSS has made several acquisitions over the last few years which have added not only to growth but to the company's technological capabilities. The following table shows a schedule of deals done in the last three years:

Closing Date	Company	Price (millions)	Paid
4/1/2020	Lumerical	$107.500	Cash
11/1/2019	LST	$777.800	Cash (60%)/Stock (40%)
11/2/2019	Dynardo	*	
5/1/2019	DfR Solutions	*	
2/4/2019	Helic	*	
2/1/2019	Granta Design	$208.700	Cash
5/2/2018	OPTIS	$291.000	Cash

Dynardo, DfR, and Helic, collectively totaled $136.2 million

After the close of the 9/20 quarter, ANSS announced it is buying AGI for $700 million which will be funded with 67% cash and 33% stock, a similar split to the LST deal shown in the above table. ANSS expects to issue debt to fund the cash portion of the deal as it did with LST. The company's net debt has remained negative throughout the acquisition binge which is positive. As noted above, the company's recent ACV growth would have been negative had it not been for acquisitions, but this appears to be a temporary problem that should reverse after COVID. However, we do have some concerns regarding the company's accounting for acquisitions.

First, the company is utilizing what we consider to be very long estimated useful lives to amortize its acquired intangibles. The following table shows the allocation of the purchase price of the 2019 acquisitions among goodwill amortizable intangible assets:

		% of Price	Avg. Life
Purchase Price	$1,122.764		
Developed Software and Core Technologies	$225.163	20.1%	10 yrs.
Customer Lists	$61.659	5.5%	15 yrs.
Trade Names	$17.230	1.5%	10 yrs.
Goodwill	$841.771	75.0%	-

Approximately 75% of the purchase price was allocated to goodwill which will never show up as a cost on the income statement. Also, developed technology is being amortized over an average life span of ten years. Most software companies utilize a 3 to 5-year period and we see no compelling reason ANSS should be using double that. If the company amortized developed technology over 5 years, it would cost an additional 41 cps just for the 2019 acquisitions.

The useful lives used for amortization becomes irrelevant in practice as the company follows the typical tech company practice of adding back the amortization of acquired intangibles to its non-GAAP results. The following table shows amortization expense added back relative to adjusted operating income for the last eight quarters:

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Amortization of Intangible Assets from Acquisitions	$14.148	$13.927	$13.700	$11.500
Adjusted Operating Income	$146.863	$167.090	$90.573	$236.212

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Amortization of Intangible Assets from Acquisitions	$8.549	$8.551	$8.300	$7.000
Adjusted Operating Income	$149.722	$169.013	$137.186	$215.582

Amortization has grown to about 10% of adjusted operating income. This is not as high as some software companies we follow, but this is still a meaningful and growing cost that is being excluded from consideration by analysts only following non-GAAP figures. ANSS freely admitted in its 10-K that it relies on the technology picked up in these deals to enhance its product line:

> *"Our 2019 acquisitions, each a leader in their respective fields, are intended to bolster our strategy of Pervasive Engineering Simulation. The acquired technologies offer solutions that significantly enhance our portfolio, providing solutions valuable to our customers."*

ANSS spends over 20% of its revenue on R&D which is a reasonable figure in the software industry. However, if the company had developed these acquired technologies in-house, it would have incurred significant incremental R&D expenses that it would not have been able to simply write back into earnings. Therefore, we believe non-GAAP results distort the company's true earnings and this distortion will only grow if the company continues to acquire more companies in the future.

Stock-Based Compensation Is Rising and Added Back in Non-GAAP

The following table shows ANSS's stock-based compensation as a percentage of adjusted non-GAAP operating income:

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Stock-Based Compensation Expense	$38.185	$34.130	$30.900	$31.400
Adjusted Operating Income	$146.863	$167.090	$90.573	$236.212
	26.0%	20.4%	34.1%	13.3%

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Stock-Based Compensation Expense	$31.862	$29.122	$23.800	$24.500
Adjusted Operating Income	$149.722	$169.013	$137.186	$215.582
	21.3%	17.2%	17.3%	11.4%

While not the highest percentage of non-GAAP income we have seen, ANSS's stock compensation expense is still quite high relative to profits and it continues to rise. As regular readers know, we consider stock compensation to be a very real expense as if the company ended these awards without replacing them with cash considering, employees would likely leave. Therefore, we believe these costs should be considered when analyzing the company's true earnings potential.

Receivables Elevated Due to Collection Issues

The following table shows the calculation of accounts receivable DSOs for the last eight quarters:

	9/30/2020	6/30/2020	3/31/2020	12/31/2019
Revenue	$366.965	$385.661	$304.985	$486.228
Accounts Receivable	$371.352	$343.247	$337.105	$433.479
DSO	93.1	81.0	100.6	82.0

	9/30/2019	6/30/2019	3/31/2019	12/31/2018
Revenue	$343.899	$368.635	$317.130	$415.432
Accounts Receivable	$295.590	$297.798	$268.526	$317.700
DSO	79.1	73.5	76.2	70.4

The YOY increase in the 12/20 quarter was likely worsened by an acquisition. In addition, collections in subsequent quarters were impacted by COVID. Management stated in the Q3 conference call regarding cash flow:

> *"We have also factored into our outlook, the adverse impacts of customer payments that will be delayed into 2021, because of extended payment terms negotiated on new contracts and delayed payments on existing contracts. We're maintaining our estimate of these payments related negative impacts by 2020 operating cash flow to be in the range of $15 million to $25 million."*

For most industries, an increase in DSOs is a red flag as it indicates the extension of payment terms to pull sales into the current quarter at the expense of the next. While management did reference an extension of payment terms on new contracts, this is not as big a draw for customers for software companies. Therefore, we view this as more of a courtesy the company is extending in the COVID environment than a trick to boost sales in a current quarter. In our view, this makes the DSO increase less of a concern.

Explanation of EQ Rating Scale

6- (Exceptionally Strong)- Indicates uncommonly conservative accounting policies to the point that revenue and earnings are essentially understated relative to the company's peers. Higher possibility of reporting positive earnings surprises

5 (Strong)- Indicates the company has no areas of concern with its reported results and we see very little risk of the company disappointing due to recent results being overstated from aggressive reporting in recent periods.

4 (Acceptable)- Indicates the company may have exhibited a minor “red flag”, but the severity of the issue is not yet a concern. Minimal risk of an earnings disappointment resulting from previous earnings or cash flow overstatement

3 (Minor Concern)- Indicates the company has exhibited either a larger number of or more serious warning signs than companies receiving a 4. The likelihood of an immediate earnings or cash flow disappointment is not considered to be high, but the signs mentioned deserve a higher degree of attention in the future.

2 (Weak) Indicates the company’s recently reported results have benefitted materially from aggressive accounting. Follow up work should be performed to determine the nature and extent of the problem. There is a possibility that upcoming results could disappoint as the impact of unsustainable benefits disappears.

1 (Strong Concern)- Indicates that the company’s recent results are significantly overstated and that we view a disappointment in upcoming quarters is highly likely

In addition to the numerical rating, the EQ Review Rating also include either a minus or plus sign. A minus sign indicates that our analysis shows the overall earnings quality of the company has worsened since the last review and there is a possibility the numerical rating will fall should the problem continue into upcoming quarters. Likewise, a positive sign indicates that the overall earnings quality is improving, and the company may see an upgrade in its numerical rating should the trend continue.

Key Points to Understand About the EQ Score

The EQ Review Rating is much more than a blind, quantitative scoring method. While we utilize proprietary adjustments, ratios, and methods developed over decades of earnings quality analysis, the foundation of all of our analysis is reading recent SEC filings, press releases, conference call transcripts and in some cases, conversations with managements.

The EQ Review Rating is not comparable to a traditional buy/sell rating. The Rating is intended to specifically convey the extent to which reported earnings may be over/understated. Fundamental factors such as forecasts for future growth, increasing competition, and valuation are not reflected in the rating. Therefore, a high score does not in itself indicate a company is a buy but rather indicates that recent results are a good indication of the underlying earnings and cash generation capacity of the company. A low score (1-2) will likely result in us performing a more thorough review of fundamental factors to determine if the company warrants a full-blown sell recommendation.

Disclosure

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