BEHIND
THE NUMBERS
Quality of Earnings Analysis
January 15, 2021

Jeff Middleswart
jmiddleswart@btnresearch.com

Bill Whiteside, CFA
bwhiteside@btnresearch.com

www.btnresearch.com

Cadence Design Systems, Inc. (CDNS) 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 CDNS with a 4+ (Acceptable) rating.

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

Summary

Overall, we see no significant problems with CDNS's earnings quality. The company recognizes the bulk of its revenue over time and deferred revenue days have been trending up which is generally a positive. The remaining performance obligation has also been trending up which bodes well for future revenue recognition.

While CDNS has seen negative impacts from COVID, it has also benefitted from an unexpected boost to growth from some Chinese customers ordering hardware ahead of upcoming export restrictions. These hardware sales are recognized upfront and help to boost operating margins. Reducing other expenses such as travel has also helped margins. R&D spending, while robust, was still lower than expected in the third quarter due to delays in hiring. These all led to an increase in operating margins of more than 400 bps in the quarter. These items will reverse in the first half but in our view, the company has done a good job of laying this out for investors to see.

With regards to earnings quality, we note the following:

What is strong?

- About 85-90% of revenue is recurring and recognized over time. The company has determined that its software licenses that include maintenance and support are a single performance obligation which leads to all of the associated revenue being recognized over time rather than having the license portion being recognized upfront. This is a good sign for the quality of reported earnings.

- Deferred revenue days have risen significantly YOY in the last few quarters. While this could have been boosted some by acquisitions, we suspect that this was at least partially due to a shift to contracts billed annually from quarterly. Regardless, this bodes well for reported revenue in the near-term.

- The remaining performance obligation has been growing which also indicates continued growth in revenue in upcoming quarters.

What is weak?

- Like most tech companies, CDNS adds back the amortization of acquired intangibles to its non-GAAP results. We are critics of this practice as it disregards the cost of acquisitions. CDNS made two minor acquisitions in the first quarter of 2020, none in 2019 and 2018, and two minor deals in 2017. It is not as dependent on acquisitions for growth or obtaining technology as some in the sector. Free cash flow after the buyback has covered all acquisition spending the last few years. CDNS's adjustment also boosts non-GAAP results by about 6-7% so it is not as large as many we see. So, while we are negative on the practice, the distortion is not as large a concern as it is for some of its peers.

- CDNS also adds back stock option expense which boosts non-GAAP results by about 25%. We are always negative on adding this expense back as the company would have to pay cash to its employees if it terminated the options plans and it must spend cash to buy back shares to avoid dilution.

- CDNS capitalizes the costs to obtain contracts which largely consist of commissions and amortizes them over 2-3 years. Many of its peers do this and the amortization period is relatively short compared to others. However, the company only discloses detail on capitalized balances and amortization on an annual basis and we would prefer to see this detail quarterly.

- The company has incurred $4-6 million in acquisition and integration charges over the last four quarters presumably related to its first-quarter acquisitions. These amounts are added back to non-GAAP results. However, it was adding back $1-$2 million acquisition and integration charges prior to that even though the last sizeable deal was done in 2017. This casts some doubt on how "one time" these charges really were. $2 million in charges amounts to about a penny per share, so these amounts are not especially material, but we will be watching for unusual spikes in these adjustments going forward.

Supporting Detail

Deferred Revenue Trends Appear Strong

Between 85-90% of the company's revenue is considered recurring in nature. This includes revenue recognized over time from software deals, services, royalties, and maintenance on IP licenses and hardware. The balance of revenue such as sales of hardware and individual IP licenses is recognized upfront. According to the company's SEC filings, revenue under time-based software agreements "are generally invoiced in equal, quarterly amounts, although some customers prefer to be invoiced in single or annual amounts."

We note that CDNS has elected to consider licenses and support under its software arrangements to be a single, combined performance obligation which results in those revenues being recognized over time. This is a plus for earnings quality and predictability since if the company had determined that the license portion was separate, it would have resulted in the company recognizing that portion of revenue upfront.

A key measure to track in assessing the quality of CDNS's reported revenue is deferred revenue relative to sales. The calculation of deferred revenue days is shown in the table below for the last eight quarters:

	9/26/2020	6/27/2020	3/28/2020	12/28/2019
Revenue	$666.607	$638.418	$617.957	$599.555
Total Deferred Revenue	$561.649	$582.376	$521.119	$428.883
Deferred Revenue Days	76.7	83.0	76.7	65.1

	9/28/2019	6/29/2019	3/30/2019	12/29/2018
Revenue	$579.603	$580.419	$576.742	$569.850
Total Deferred Revenue	$392.136	$420.872	$397.063	$401.174
Deferred Revenue Days	61.6	66.0	62.6	64.1

We can see that deferred days have shown a significant YOY increase for the last three quarters. The increase in the 9/20 quarter is even more notable given that the company cited an unusual uptick in hardware and IP sales from China ahead of upcoming export restrictions. The bulk of this revenue would have been recognized upfront and put downward pressure on the deferred days calculation.

Note that the company acquired AWR on 1/15/20 and Integrand Software on 2/6/20 for a total spend of $195.6 million. We do not know how much of the purchase price was allocated to deferred revenue, but it could have played a minor role in the increase in deferred days to the extent the acquired companies defer a larger percentage of their revenues than CDNS' core operations do.

A more likely factor that could be impacting the deferred revenue days trend is a change in the timing of contract billings. Remember that the company generally bills time-based software agreements quarterly. This is reflected in the fact that deferred revenue days are in the 70s. However, if there was a shift towards contracts that were billed annually, then CDNS would have received more cash upfront which would boost deferred revenue relative to revenue recognized on the income statement. Regardless, we take the increase in deferred days as a positive for earnings quality.

Another indication of the growth in the company's core business is the trend in the remaining performance obligation (RPO). The RPO represents the value of contracts that have not been recognized in revenue and includes deferred revenue as well as unbilled amounts under contract. The following table shows RPO for the last eight quarters:

	9/26/2020	6/27/2020	3/28/2020	12/28/2019
RPO	$3,800	$3,700	$3,700	$3,600

	9/28/2019	6/29/2019	3/30/2019	12/29/2018
RPO	$3,000	$2,800	$2,800	$2,900

Note that the company voluntarily removed $70 million from its backlog at the end of the 6/20 quarter as the realization of those amounts became questionable due to the impact of COVID. It added about $12 million of that back to RPO in the 9/20 quarter. Regardless, the trend in backlog is solidly positive which bodes well for near-term future revenue growth.

The fourth quarter will be a 14-week period which will add about $45 million to revenue versus the year-ago fourth quarter. Also, the company expects about $40 million in incremental hardware sales from China in the second half of 2020 which likely represents Chinese customers getting in ahead of new upcoming technology export bans. The midpoint of the company's revenue guidance represents about 14% growth after backing out the impact of the extra week. It remains to be seen how much of the recent bookings were pulled forward into the second half of 2020 due to the export restrictions and will no repeat in the first half of 2021.

Adding Back Amortization of Intangibles- Not as Big a Problem as It Is for Some

As is typical for tech companies, CDNS adds back the amortization of intangible assets picked up in acquisitions to its non-GAAP earnings figures. The following table shows these amounts relative to non-GAAP pre-tax income for the last eight quarters:

	9/26/2020	6/27/2020	3/28/2020	12/28/2019
Amortization of Acquired Intangibles	$15.885	$16.074	$15.066	$12.660
% of non-GAAP Pretax	*6.8%*	*7.3%*	*7.6%*	*7.0%*

	9/28/2019	6/29/2019	3/30/2019	12/29/2018
Amortization of Acquired Intangibles	$12.799	$14.458	$13.162	$12.942
% of non-GAAP Pretax	*7.0%*	*7.5%*	*7.3%*	*7.4%*

CDNS is not highly dependent on acquisitions for growth. The company made two acquisitions in the first quarter of 2020 for a combined purchase price of less than $200 million. There were no major deals done in 2018 and total acquisition spending in 2017 was only $142 million. Spending on acquisitions has not exceeded free cash flow after the buyback at any time during the last three years. Also, the company is not dependent on acquiring its technology as its R&D as a percentage of revenue runs in the upper 30% range which is generous even for the software industry. Regardless, adding back amortization distorts economic reality by disregarding the actual cost of the deals.

Stock Compensation Added Back

Like most tech companies, CDNS also adds back stock-based compensation to its non-GAAP results. The following table shows these amounts relative to non-GAAP pre-tax income for the last eight quarters:

	9/26/2020	6/27/2020	3/28/2020	12/28/2019
Stock Based Compensation Expense	$45.334	$46.907	$46.482	$46.758
% of non-GAAP Pretax	*19.3%*	*21.3%*	*23.5%*	*25.9%*

	9/28/2019	6/29/2019	3/30/2019	12/29/2018
Stock Based Compensation Expense	$48.279	$44.257	$42.253	$42.594
% of non-GAAP Pretax	*26.6%*	*23.1%*	*23.3%*	*24.4%*

While not the highest we have seen, CDNS' stock compensation expense is substantial relative to profits. Our standard argument against this practice is the fact that the company would have to pay its employees cash if it were to eliminate the options awards. Also, the company must spend cash to repurchase shares to avoid dilution, so ignoring these costs is overstating the actual returns on the business.

Regular Acquisition and Integration Costs

Another non-GAAP adjustment is the adding back of "acquisition and integration-related" costs which are shown in the table below.

	9/26/2020	6/27/2020	3/28/2020	12/28/2019
Acquisition and Integration-Related Costs	$6.739	$5.315	$3.970	$3.466
% of non-GAAP Pretax Income	2.9%	2.4%	2.0%	1.9%

	9/28/2019	6/29/2019	3/30/2019	12/29/2018
Acquisition and Integration-Related Costs	$1.838	$1.889	$0.914	-$1.360
% of non-GAAP Pretax Income	1.0%	1.0%	0.5%	-0.8%

The company does not give much color on what is included in these charges. We can assume that the spike in costs in the 12/19 quarter was due to pre-deal costs related to the two acquisitions made in the 3/20 period. But keep in mind that before that, the last acquisition of any size was made in 2017. The fact that these costs were still being identified and added back calls into question how "one-time" these items really were. The concern is the possibility that costs such as management time spent on the deals are being included in these charges and dismissed by those focusing non-GAAP earnings. For reference, every $2 million in expenses added back adds about a penny per share to non-GAAP results. We will continue to monitor these charges going forward and will be concerned by unusual spikes in amounts added back.

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

Behind the Numbers, LLC is an independent research firm structured to provide analytical research to the financial community. Behind the Numbers, LLC is not rendering investment advice based on investment portfolios and is not registered as an investment adviser in any jurisdiction. All research is based on fundamental analysis using publicly available information including SEC filed documents, company presentations, annual reports, earnings call transcripts, as well as those of competitors, customers, and suppliers. Other information sources include mass market and industry news resources. These sources are believed to be reliable, but no representation is made that they are accurate or complete, or that errors, if discovered, will be corrected. Behind the Numbers, LLC does not use company sources beyond what they have publicly written or discussed in presentations or media interviews. Behind the Numbers does not use or subscribe to expert networks. All employees are aware of this policy and adhere to it.

The authors of this report have not audited the financial statements of the companies discussed and do not represent that they are serving as independent public accountants with respect to them. They have not audited the statements and therefore do not express an opinion on them. Other CPAs, unaffiliated with Mr. Middleswart, may or may not have audited the financial statements. The authors also have not conducted a thorough "review" of the financial statements as defined by standards established by the AICPA.

This report is not intended, and shall not constitute, and nothing contained herein shall be construed as, an offer to sell or a solicitation of an offer to buy any securities referred to in this report, or a "BUY" or "SELL" recommendation. Rather, this research is intended to identify issues that investors should be aware of for them to assess their own opinion of positive or negative potential.

Behind the Numbers, LLC, its employees, its affiliated entities, and the accounts managed by them may have a position in, and from time-to-time purchase or sell any of the securities mentioned in this report. Initial positions will not be taken by any of the aforementioned parties until after the report is distributed to clients, unless otherwise disclosed. It is possible that a position could be held by Behind the Numbers, LLC, its employees, its affiliated entities, and the accounts managed by them for stocks that are mentioned in an update, or a BTN Thursday Thoughts.