BEHIND THE NUMBERS
EARNINGS QUALITY & DIVIDEND SUSTAINABILITY RESEARCH

BTN Research

September 18, 2020

www.btnresearch.com

Jeff Middleswart
jmiddleswart@btnresearch.com

Bill Whiteside, CFA
bwhiteside@btnresearch.com

Autodesk (ADSK) EQ Review

Current EQ Rating*	Previous EQ Rating
3-	3-

6- "Exceptionally Strong"
5- "Strong"
4- "Acceptable"
3- "Minor Concern"
2- "Weak"
1- "Strong Concerns"

Note that a "+" sign indicates the earnings quality improved in the most recent quarter while a "–" sign indicates deterioration

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

Overall, we do not have major concerns with ADSK's earnings. However, we are initiating coverage with a 3- (Minor Concern) rating which largely reflects the near-term risk of a cash flow shortfall posed by any sustained shift away from multi-year deals.

- ADSK shifted the overwhelming majority of its services to cloud-based subscription offerings from perpetual, on-premises license deals years ago. Historically, about 20% of its deferred revenue has been long-term reflecting its propensity to sign multi-year subscription deals. In 2018 to early 2019, the company experienced a shift away from multi-year deals related to its push away from maintenance license deals. However, for the last several quarters, multi-year deals have risen in the mix, driving long-term deferred revenue as a percentage of total deferred revenue to historical highs.

- The shift to multi-year deals has been a boost to cash flow as these contracts are billed upfront and have an immediate impact on cash flow when the bills are collected. However, customers have been more reluctant in the current environment to commit to multi-year deals. This led to disappointment in the latest quarter as the company lowered its full-year guidance for bookings as a result of a shift away from multi-year deals. While it has maintained its cash flow forecasts for now, we could see that being at risk if there is a sustained move away from multi-year deals which could result in a short-term hit to the stock price.

- ADSK capitalizes the cost to obtain contracts. The amortization of capitalized costs has fallen from the mid 30% range to the mid-20% range over the last two years. This is likely a reflection of the shift to multi-year deals which would incur the same level of acquisition costs but would be amortized over a longer contract period. Any sustained decline in the shift away from multi-year deals could see this tailwind reverse. This shift added only about 1.5 cps to EPS growth in the 7/20 quarter, but a reversal could represent a minor unexpected headwind to upcoming quarters.

- Account receivable DSOs have been rising YOY for the last several quarters. This is likely another reflection of the shift to multi-year deals as the average invoice size has likely been rising. In addition, the company extended payment terms to 60 days for customers from March to August which would have also boosted DSOs. We do not see this as a concern.

- ADSK adds back stock compensation expense to its non-GAAP earnings figures which has been boosting them by 35-40% in recent quarters. We believe this overstates non-GAAP profits as the company would have to pay these expenses in cash if it didn't award options and will also have to spend cash to buy back shares or dilute shareholders. The company is still more than self-funding if we treat stock expense as a cash outflow, so this is not as big a concern as it is with some companies. Still, investors should realize that ADSK's options expense as a percentage of non-GAAP profits is one of the highest in the industry.

- The company also adds back the amortization of intangibles to non-GAAP results. However, these amount to 6-8% of adjusted results in the last few quarters as the amounts are declining as older assets become fully amortized so adjusted growth is being penalized by excluding them. Also, the company has not made a major acquisition since the 1/19 quarter and it is not acquiring its way to growth. We are therefore not overly concerned with this distortion.

Impact of Move to Subscription Services

ADSK has been another leader in the push towards presenting its software to customers in the form of cloud services rather than on-premises perpetual licenses. The following table shows a breakout in sales between revenue type:

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Subscription	$841.2	$803.0	$777.4	$715.0
Maintenance	$51.2	$62.1	$79.9	$91.2
Other	$20.7	$20.6	$42.0	$36.5
	$913.1	$885.7	$899.3	$842.7

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Subscription	$663.7	$595.8	$550.0	$481.3
Maintenance	$103.5	$112.0	$137.4	$150.1
Other	$29.6	$27.7	$49.9	$29.5
	$796.8	$735.5	$737.3	$660.9

Subscription revenue includes the company's service subscriptions, cloud offerings, and flexible enterprise business arrangements. These revenues are recognized over the related contract term. Maintenance revenue consists of maintenance arrangements which were originally part of perpetual software deals. These revenues are also recognized ratably over the contract term. The company is actively pushing these customers to subscription arrangements which accounts for the observed decline in category revenues. Finally, other revenue consists of consulting, training, and other services that are recognized over time as well as software license revenue that do not incorporate cloud services that are recognized upfront. ADSK has also been pushing clients away from the latter products and into subscription services accounting for the decline in other revenue.

A move to subscription services will have several distinct impacts on a company's revenue and cash flow patterns. Under license arrangements, a company recognizes the full amount of the sale upfront. However, under a cloud subscription, cash is typically received upfront, but the revenue is deferred and recognized over the subscription term. This leads to more stable and predictable revenue growth trends. However, given that so much revenue is recurring, a slowdown in demand will not be fully reflected in revenue growth immediately as the company continues to book revenue from existing subscriptions. This makes it very important to monitor trends in bookings and deferred revenue for signs that new business is not coming in.

A Move to Multi-Year Deals Boosts Deferred Revenue and Cash Flows but the Trend Has Reversed

In addition to a move towards subscription revenue, another recent trend that has been impacting ADSK's revenue recognition metrics is a move back to more multi-year contracts.

Under these arrangements, a customer pays upfront for a subscription that spans more than a year. The company explained the benefits of its multi-year contracts in the 4/19 conference call:

> *"And in line with our plans, multi-year contracts moved higher, helping our total billings. Recall that multi-year payments are good for our customers as they benefit from stable pricing and a single approval process. Our partners like them as they can sign higher contract values and maximize their cash flow. And we benefit from a more predictable revenue stream and upfront cash payments."*

The signing of a multi-year deal results in a bump to cash flow in the period as the customer is billed for multiple years in advance. Likewise, deferred revenue receives a boost as these cash flows received well in advance of being recognized as revenue are deferred.

When the company began to push customers away from contract maintenance products and towards subscriptions, it temporarily led to a shift away from multi-year deals. However, beginning in the 10/18 quarter, the company saw the signings of multi-year deals increase again. Consider the commentary from the 4/19 quarter conference call:

> *"The second and third year of those multiyear agreements are recorded in our long term deferred revenue, which grew by 12% and ended the quarter at 17% of the total deferred balance.* ***As we indicated at our Analyst Day, we expect to end the year with a long term balance in the low 20% range of total deferred revenue, in line with the historical range."***

These shifts in the composition of deferred revenue can be seen in the following table:

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Current Deferred Revenue % of Total	73.0%	72.0%	72.4%	75.3%
Long-Term Deferred Revenue % of Total	27.0%	28.0%	27.6%	24.7%

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Current Deferred Revenue % of Total	78.8%	82.5%	84.3%	84.7%
Long-Term Deferred Revenue % of Total	21.2%	17.5%	15.7%	15.3%

In the 4/19 quarter, the company was calling for long-term deferred revenue to climb to the 20% range by the 1/20 quarter. It significantly surpassed that goal with long-term deferred revenue at almost 28 by the 1/20 quarter. For an even closer look at deferred revenue, the following table shows current and short-term deferred revenue days of sales calculated on subscription and maintenance revenue:

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Subscription and Maintenance Revenue	$892.4	$865.1	$857.3	$806.2
Current Deferred Revenue	$2,102.1	$2,163.9	$2,176.1	$1,822.0
Current Deferred Revenue DSO	216.7	225.1	233.5	207.9
Long Term Deferred Revenue	$776.8	$841.2	$831.0	$598.0
Long Term Deferred Revenue DSO	80.1	87.5	89.2	68.2
Total Deferred Revenue Days	296.8	312.6	322.7	276.2

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Subscription and Maintenance Revenue	$767.2	$707.8	$687.4	$631.4
Current Deferred Revenue	$1,772.1	$1,777.5	$1,763.3	$1,517.6
Current Deferred Revenue DSO	212.5	223.5	236.0	221.1
Long Term Deferred Revenue	$477.4	$376.0	$328.1	$274.5
Long Term Deferred Revenue DSO	57.2	47.3	43.9	40.0
Total Deferred Revenue Days	269.8	270.8	279.9	261.1

We can see that through the 1/20 quarter, current deferred revenue days fell on a YOY basis, but this was more than made up for by an increase in long-term deferred revenue days. This fits the narrative of sales shifting to multi-year deals. In the 4/20 quarter, we see a return to a YOY increase in current deferred revenue days, which could have been due to initial caution against signing long-term deals given COVID uncertainties. Finally, the full impact of COVID can be seen in the 7/20 numbers as long-term deferred revenue showed the first sequential decline in several quarters.

We do not see evidence of unexpected weakness in revenue trends or aggressive revenue recognition in any of the company's metrics. However, we are somewhat concerned that the uncertain environment could lead to a sustained reversal in the growth of multi-year deals. Management also expressed concerns for this in the 7/20 quarter conference call:

> *"Despite improving multi-year trends we experienced at the end of the quarter, we are taking a cautious view of their continued uptake in the second half of the year, which is impacting the upper end of our billings forecast range for the year."*

If customers elect to sign shorter-term contracts for the time being, it would not necessarily negatively impact revenue growth, but it would have an immediate negative impact on cash flow growth as less cash would be received upfront on a shorter-term deal. A shift away from long-term deals has already hurt the company's bookings figures which, like deferred revenue, benefit from the signing of long-term contracts. The stock already took a 5%+ hit after the 7/20 quarter earnings despite raising its full-year revenue growth guidance to 13.5%-15.0% from the previous quarter's 12-15%. However, investors were concerned by the reduction on the top end of its full-year billing guidance to $4.17 billion from $4.22 billion in the previous quarter. Management blamed the reduction on the shift away from long-term deals. For now, the company left its free cash flow guidance for the year at $1.3 billion-$1.4 billion. **However, if the shift away from long-term deals continues, which is logical to expect given the uncertain environment and push to conserve cash by customers, we could easily see this cash flow forecast fall which would likely result in another negative reaction by the market.**

Capitalized Contract Costs

As required by ASC 606, ADSK capitalizes the cost to obtain contracts and amortizes them over the contract term in the case of sales made by its internal sales force and over an estimated benefit period in the case of sales made by third-party resellers. ADSK does not disclose the estimated billing period as many of its peers do.

The following table shows the balance of capitalized costs to obtain contracts, the amortization of capitalized costs, and the amount of costs capitalized estimated as a plug number. The table also shows amortization expense as a percentage of the average outstanding balance of capitalized contract costs.

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Beginning Balance of Capitalized Contract Costs	$91.5	$98.8	$75.9	$78.6
Amortization	-$23.6	-$22.8	-$26.2	-$25.2
Contract Costs Capitalized During the Period (PLUG)	$20.4	$15.5	$49.1	$22.5
Ending Balance of Capitalized Contract Costs	$88.3	$91.5	$98.8	$75.9
Amortization % of Average Outstanding Balance	26.3%	24.0%	30.0%	32.6%

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Beginning Balance of Capitalized Contract Costs	$85.5	$93.0	$75.8	$82.5
Amortization	-$25.5	-$24.7	-$28.8	-$26.9
Contract Costs Capitalized During the Period (PLUG)	$18.6	$17.2	$46.0	$20.2
Ending Balance of Capitalized Contract Costs	$78.6	$85.5	$93.0	$75.8
Amortization % of Average Outstanding Balance	31.1%	27.7%	34.1%	34.0%

We can see that the amortization expense has been declining YOY on both an absolute basis and as a percentage of the average outstanding balance. This could be a result of the previously discussed move to longer-term contracts, as the capitalized costs would be amortized over a longer time frame. This is another potential negative from any sustained move away from multi-year deals as costs to obtain shorter-term contracts would remain the same but be amortized over a shorter contract period. We estimate that the YOY decline in the amortization percentage only added about 1.5 cps to earnings growth in a quarter that beat estimates by 8 cps. This is not a huge risk but could be a minor unexpected headwind over the next couple of quarters.

Accounts Receivables DSOs Increasing

Accounts receivable DSOs have been increasing for the last several quarters, as seen in the following table:

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Sales	$913	$886	$899	$843
Trade Receivables	$490	$357	$652	$520
Trade Receivables Days of Sales	49.4	36.2	66.7	56.8

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Sales	$797	$736	$737	$661
Trade Receivables	$347	$268	$474	$309
Trade Receivables Days of Sales	40.1	32.4	59.2	43.0

Ordinarily, a large, sustained increase in DSOs would be a point of concern. However, given the increase in multi-year deals discussed above, it is logical to expect an increase in DSOs as the company's average invoice size increased during the period in question. The YOY growth in DSO began to subside in the 4/20 quarter before increasing again in the 7/20 quarter which was likely due to the company extending payment terms to 60 days for customers from 3/16/20 to 8/7/20. We would expect to see DSOs begin to drift down in the next couple of quarters as these receivables are collected and the mix of longer-term deals falls.

Adding Back Stock Compensation Expense

As is typical for tech companies, ADSK adds back stock-based compensation to its non-GAAP earnings. The following table shows stock compensation for the last eight quarters as a percentage of non-GAAP operating income.

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Non-GAAP Operating Income	$262.4	$247.8	$258.9	$225.3
Stock Compensation Expense	$95.9	$98.2	$105.0	$94.0
% of Non-GAAP Op Inc.	36.5%	39.6%	40.6%	41.7%

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Non-GAAP Operating Income	$186.5	$131.9	$139.2	$92.2
Stock Compensation Expense	$88.2	$75.2	$74.0	$64.2
% of Non-GAAP Operating Income	47.3%	57.0%	53.2%	69.6%

Rapid growth in operating income has resulted in a decline in stock compensation as a percentage of non-GAAP operating income. (Note that YOY stock compensation growth was closer to 40% in previous quarters which was likely due to acquisitions made in the 1/19 quarter making more employees eligible for options plans.) Despite the decline in the percentage of non-GAAP operating income, it is important to realize that profits would be reduced by almost 40% if stock compensation expense was considered a "real" expense. Our standard argument is that stock compensation should essentially be viewed as a cash item given that the company would have to pay its employees cash if it wasn't awarding options and the fact that the company has to spend cash to repurchase shares or dilute shareholders.

The following table shows how much free cash flow would be reduced if we viewed stock compensation expense was paid in cash compensation:

	7/31/2020
T12 Free Cash Flow	$1,322.7
T12 Stock Compensation	$393.1

Free cash flow would be reduced by approximately 30% for the trailing 12 months ended 7/20 if stock compensation was paid in cash. ADSK pays no dividend and free cash more than covers the buyback so ADSK would still be more than self-funding even if we considered options to be a cash expense. Regardless, investors should take note that ADSK's stock compensation expense as a percentage of non-GAAP earnings is one of the highest in the industry.

Adding Back Acquired and Developed Technology Amortization

Like almost all tech companies, ADSK adds back the amortization of acquired intangible assets to its non-GAAP earnings figures. The following table shows amortization as a percentage of non-GAAP operating income:

	7/31/2020	4/30/2020	1/31/2020	10/31/2019
Non-GAAP Operating Income	$262.4	$247.8	$258.9	$225.3
Amortization of Developed and Purchased Technologies	$16.9	$17.1	$18.0	$18.1
Amortization % of Non-GAAP Operating Income	6.4%	6.9%	7.0%	8.0%

	7/31/2019	4/30/2019	1/31/2019	10/31/2018
Non-GAAP Operating Income	$186.5	$131.9	$139.2	$92.2
Amortization of Developed and Purchased Technologies	$18.3	$19.0	$11.1	$7.8
Amortization % of Non-GAAP Operating Income	9.8%	14.4%	8.0%	8.5%

Our argument against adding back amortization of intangibles is that the company spent cash acquiring the assets. If it had not made the acquisition, it would have spent cash and incurred expenses to develop them in-house. Thus, adding those expenses back to adjusted profits completely ignores those very real costs.

However, compared to other tech companies, ADSK's amortization of intangibles is relatively small. It is also declining as older assets become fully amortized. Finally, the company has not made a major acquisition since the 1/19 quarter and it is not acquiring its way to growth. Therefore, we are not overly concerned by the distortion caused by adding back amortization at this point.

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 Concerns"	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 may 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 the next quarter. 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.