UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended April 30, 2020

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 0-14338

AUTODESK, INC.
(Exact name of registrant as specified in its charter)

Delaware	**94-2819853**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. employer Identification No.)**

111 McInnis Parkway,
San Rafael, California **94903**
(Address of principal executive offices) **(Zip Code)**

(415) 507-5000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	ADSK	The Nasdaq Global Select Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined by Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of May 29, 2020, registrant had outstanding 219,196,718 shares of common stock.

AUTODESK, INC. FORM 10-Q
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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

AUTODESK, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In millions, except per share data)
(Unaudited)

	Three Months Ended April 30,	
	2020	2019
Net revenue:		
Subscription	$ 803.0	$ 595.8
Maintenance	62.1	112.0
Total subscription and maintenance revenue	865.1	707.8
Other	20.6	27.7
Total net revenue	885.7	735.5
Cost of revenue:		
Cost of subscription and maintenance revenue	57.4	59.7
Cost of other revenue	17.1	13.8
Amortization of developed technology	7.4	9.2
Total cost of revenue	81.9	82.7
Gross profit	803.8	652.8
Operating expenses:		
Marketing and sales	341.3	313.3
Research and development	217.4	205.6
General and administrative	104.8	99.1
Amortization of purchased intangibles	9.7	9.8
Restructuring and other exit costs, net	—	0.2
Total operating expenses	673.2	628.0
Income from operations	130.6	24.8
Interest and other expense, net	(40.1)	(16.2)
Income before income taxes	90.5	8.6
Provision for income taxes	(24.0)	(32.8)
Net income (loss)	$ 66.5	$ (24.2)
Basic net income (loss) per share	$ 0.30	$ (0.11)
Diluted net income (loss) per share	$ 0.30	$ (0.11)
Weighted average shares used in computing basic net income (loss) per share	219.2	219.6
Weighted average shares used in computing diluted net income (loss) per share	221.3	219.6

See accompanying Notes to Condensed Consolidated Financial Statements.

AUTODESK, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In millions)
(Unaudited)

	Three Months Ended April 30,	
	2020	**2019**
Net income (loss)	$ 66.5	$ (24.2)
Other comprehensive income (loss), net of reclassifications:		
Net gain on derivative instruments (net of tax effect of ($0.4) and ($0.3), respectively)	4.0	3.3
Change in net unrealized gain on available-for-sale debt securities (net of tax effect of $0.1 and ($0.4), respectively)	0.4	1.1
Change in defined benefit pension items (net of tax effect of zero and $0.1, respectively)	(0.3)	(0.6)
Net change in cumulative foreign currency translation loss (net of tax effect of zero and $0.4, respectively)	(22.9)	(10.4)
Total other comprehensive loss	(18.8)	(6.6)
Total comprehensive income (loss)	$ 47.7	$ (30.8)

See accompanying Notes to Condensed Consolidated Financial Statements.

AUTODESK, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In millions)
(Unaudited)

	April 30, 2020	January 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,389.7	$ 1,774.7
Marketable securities	77.2	69.0
Accounts receivable, net	356.5	652.3
Prepaid expenses and other current assets	200.9	163.3
Total current assets	2,024.3	2,659.3
Computer equipment, software, furniture and leasehold improvements, net	164.2	161.7
Operating lease right-of-use assets	424.7	438.8
Developed technologies, net	67.0	70.9
Goodwill	2,430.2	2,445.0
Deferred income taxes, net	50.8	56.4
Long-term other assets	382.7	347.2
Total assets	$ 5,543.9	$ 6,179.3
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$ 85.2	$ 83.7
Accrued compensation	158.1	272.1
Accrued income taxes	25.2	21.2
Deferred revenue	2,163.9	2,176.1
Operating lease liabilities	46.0	48.1
Current portion of long-term notes payable, net	—	449.7
Other accrued liabilities	99.9	168.3
Total current liabilities	2,578.3	3,219.2
Long-term deferred revenue	841.2	831.0
Long-term operating lease liabilities	402.0	411.7
Long-term income taxes payable	18.9	19.1
Long-term deferred income taxes	81.0	82.5
Long-term notes payable, net	1,635.6	1,635.1
Long-term other liabilities	126.0	119.8
Stockholders' deficit:		
Common stock and additional paid-in capital	2,401.3	2,317.0
Accumulated other comprehensive loss	(179.1)	(160.3)
Accumulated deficit	(2,361.3)	(2,295.8)
Total stockholders' deficit	(139.1)	(139.1)
Total liabilities and stockholders' deficit	$ 5,543.9	$ 6,179.3

See accompanying Notes to Condensed Consolidated Financial Statements.

AUTODESK, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)
(Unaudited)

	Three Months Ended April 30,	
	2020	**2019**
Operating activities:		
Net income (loss)	$ 66.5	$ (24.2)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation, amortization and accretion	30.0	32.7
Stock-based compensation expense	98.2	75.2
Deferred income taxes	3.5	24.4
Restructuring and other exit costs, net	—	0.2
Other operating activities	32.7	15.3
Changes in operating assets and liabilities		
Accounts receivable	295.5	206.2
Prepaid expenses and other assets	(47.5)	11.4
Accounts payable and other liabilities	(154.6)	(172.6)
Deferred revenue	(1.1)	62.2
Accrued income taxes	4.1	(9.6)
Net cash provided by operating activities	327.3	221.2
Investing activities:		
Purchases of marketable securities	(11.0)	(19.8)
Sales of marketable securities	—	4.6
Capital expenditures	(19.9)	(14.7)
Purchases of developed technologies	(3.6)	—
Other investing activities	(43.5)	0.7
Net cash used in investing activities	(78.0)	(29.2)
Financing activities:		
Proceeds from issuance of common stock, net of issuance costs	56.8	46.9
Taxes paid related to net share settlement of equity awards	(32.5)	(25.8)
Repurchases of common stock	(202.0)	(88.5)
Repayment of debt	(450.0)	(125.0)
Other financing activities	(2.5)	—
Net cash used in financing activities	(630.2)	(192.4)
Effect of exchange rate changes on cash and cash equivalents	(4.1)	(2.4)
Net decrease in cash and cash equivalents	(385.0)	(2.8)
Cash and cash equivalents at beginning of period	1,774.7	886.0
Cash and cash equivalents at end of period	$ 1,389.7	$ 883.2

Supplemental cash flow disclosure:		
Non-cash financing activities:		
Fair value of common stock issued to settle liability-classified restricted stock units	$ 28.7	$ —

See accompanying Notes to Condensed Consolidated Financial Statements.

1. Basis of Presentation

The accompanying unaudited Condensed Consolidated Financial Statements of Autodesk, Inc. ("Autodesk," "we," "us," "our," or the "Company") as of April 30, 2020, and for the three months ended April 30, 2020 and 2019, have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP") for interim financial information along with the instructions to Form 10-Q and Article 10 of Securities and Exchange Commission ("SEC") Regulation S-X. Accordingly, they do not include all of the information and notes required by GAAP for annual financial statements. In management's opinion, Autodesk made all adjustments (consisting of normal, recurring and non-recurring adjustments) during the quarter that were considered necessary for the fair statement of the financial position and operating results of the Company. The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect reported amounts in the financial statements and accompanying notes. Actual results could differ from those estimates. In addition, the results of operations for the three months ended April 30, 2020, are not necessarily indicative of the results for the entire fiscal year ending January 31, 2021, or for any other period. Further, the balance sheet as of January 31, 2020, has been derived from the audited Consolidated Balance Sheet as of this date. There have been no material changes, other than what is discussed herein, to Autodesk's significant accounting policies as compared to the significant accounting policies disclosed in the Annual Report on Form 10-K for the fiscal year ended January 31, 2020. These unaudited Condensed Consolidated Financial Statements should be read in conjunction with the Consolidated Financial Statements and related notes, together with management's discussion and analysis of financial position and results of operations, contained in Autodesk's Annual Report on Form 10-K for the fiscal year ended January 31, 2020, filed on March 19, 2020.

2. Recently Issued Accounting Standards

With the exception of those discussed below, there have been no recent changes in accounting pronouncements issued by the Financial Accounting Standards Board ("FASB") or adopted by the Company during the three months ended April 30, 2020, that are applicable to the Company.

Accounting standards adopted

In June 2016, FASB issued ASU No. 2016-13 regarding ASC Topic 326, "Financial Instruments - Credit Losses," which requires the measurement and recognition of expected credit losses for certain financial instruments using forward-looking information to calculate credit loss estimates. Autodesk adopted ASU 2016-13 as of the effective date which represents Autodesk's fiscal year beginning February 1, 2020. The ASU did not have a material impact on Autodesk's consolidated financial statements at adoption.

Adoption and policy elections

Allowances for uncollectible trade receivables and contract assets are subject to impairment using the expected credit loss model. Allowances for expected credit losses are measured based upon the lifetime expected credit loss which is based on historical experience, the number of days that billings are past due, reasonable economic forecast, including revised forecast data for the current economic environment, customer payment behavior, credit reports and other customer specific information. Allowances for credit losses on trade receivables and contract assets were not material for the three months ended April 30, 2020.

Autodesk's investments in available-for-sale debt securities are subject to a periodic impairment review. If Autodesk does not intend to sell and it is more likely than not that Autodesk will not be required to sell the available-for-sale debt security prior to recovery of its amortized cost basis, Autodesk will determine whether a decline in fair value below the amortized cost basis is due to credit-related factors. The credit loss is measured as the amount by which the debt security's amortized cost basis exceeds the estimate of the present value of cash flows expected to be collected, up to the difference between the amortized cost basis and the fair value. Impairment will be assessed at the individual security level. Credit-related impairment is recognized as an allowance on the Condensed Consolidated Balance Sheets with a corresponding adjustment to "Interest and other expense, net" on the Company's Condensed Consolidated Statements of Operations. Any impairment that is not credit-related is recognized in "Accumulated other comprehensive loss" on the Condensed Consolidated Balance Sheets.

Autodesk does not measure an allowance for credit losses on accrued interest receivables on available-for-sale debt securities separately. Autodesk writes off accrued interest receivables by reversing interest income in the period deemed uncollectible in “Interest and other expense, net” on the Company's Condensed Consolidated Statements of Operations. Any accrued interest receivable on available-for-sale debt securities is recorded in “Cash and cash equivalents”, “Prepaid expenses and other current assets,” or "Long-term other assets,” in the accompanying Condensed Consolidated Balance Sheets, as applicable.

Recently issued accounting standards not yet adopted

In March 2020, FASB issued ASU No. 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting", which provides optional expedients and exceptions for applying generally accepted accounting principles (GAAP) to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. The amendments are effective for all entities as of March 12, 2020 through December 31, 2022. The expedients and exceptions provided by the amendments do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, except for hedging relationships existing as of December 31, 2022, that an entity has elected certain optional expedients for and that are retained through the end of the hedging relationship. Autodesk is identifying contracts that may be impacted by reference rate reform, how this standard may be applied to them, and the subsequent impact to the financial statements and disclosure requirements.

3. Revenue Recognition

Revenue Disaggregation

Autodesk recognizes revenue from the sale of (1) product subscriptions, cloud service offerings, and EBAs, (2) renewal fees for existing maintenance plan agreements that were initially purchased with a perpetual software license, and (3) consulting, training and other goods and services. The three categories are presented as line items on Autodesk's unaudited Condensed Consolidated Statements of Operations.

Information regarding the components of Autodesk's net revenue from contracts with customers by product family, geographic location, and sales channel is as follows:

	Three Months Ended April 30,	
(in millions)	**2020**	**2019**
Net revenue by product family:		
Architecture, Engineering and Construction	$ 382.7	$ 304.3
AutoCAD and AutoCAD LT	262.2	213.2
Manufacturing	182.9	167.5
Media and Entertainment	52.6	45.5
Other	5.3	5.0
Total net revenue	$ 885.7	$ 735.5
Net revenue by geographic area:		
Americas		
U.S.	$ 300.6	$ 249.1
Other Americas	61.6	46.7
Total Americas	362.2	295.8
Europe, Middle East and Africa	344.8	297.2
Asia Pacific	178.7	142.5
Total net revenue	$ 885.7	$ 735.5
Net revenue by sales channel:		
Indirect	$ 623.4	$ 516.4
Direct	262.3	219.1
Total net revenue	$ 885.7	$ 735.5

Payments for product subscriptions, industry collections, cloud subscriptions, and maintenance subscriptions are typically due up front with payment terms of 30 to 60 days. Payments on EBAs are typically due in annual installments over the contract term, with payment terms of 30 to 60 days. Autodesk does not have any material variable consideration, such as obligations for returns, refunds, warranties or amounts due to customers for which significant estimation or judgment is required as of the reporting date.

Remaining performance obligations consist of total short-term, long-term and unbilled deferred revenue. As of April 30, 2020, Autodesk had remaining performance obligations of $3.47 billion, which represents the total contract price allocated to remaining performance obligations, which are generally recognized over the next three years. We expect to recognize $2.35 billion or 68% of our remaining performance obligations as revenue during the next 12 months. We expect to recognize the remaining $1.12 billion or 32% of our remaining performance obligations as revenue thereafter.

The amount of remaining performance obligations may be impacted by the specific timing, duration and size of customer subscription and support agreements, varying billing cycles of such agreements, the specific timing of customer renewals, and foreign currency fluctuations.

Contract Balances

We receive payments from customers based on a billing schedule as established in our contracts. Contract assets relate to performance completed in advance of scheduled billings. Contract assets were not material as of April 30, 2020. Deferred revenue relates to billings in advance of performance under the contract. The primary changes in our contract assets and deferred revenues are due to our performance under the contracts and billings.

Revenue recognized during the three months ended April 30, 2020 and 2019, that was included in the deferred revenue balances at January 31, 2020 and 2019, was $787.2 million and $643.4 million, respectively. The satisfaction of performance obligations typically lags behind payments received under revenue contracts from customers.

4. Concentration of Credit Risk

Autodesk places its cash, cash equivalents and marketable securities in highly liquid instruments with, and in the custody of, multiple diversified financial institutions globally with high credit ratings and limits the amounts invested with any one institution, type of security and issuer. Autodesk's primary commercial banking relationship is with Citigroup Inc. and its global affiliates. Citibank, N.A., an affiliate of Citigroup, is one of the lead lenders and an agent in the syndicate of Autodesk's $650.0 million line of credit facility. See Note 13, "Borrowing Arrangements," in the Notes to Condensed Consolidated Financial Statements for further discussion.

Total sales to the Company's largest distributor Tech Data Corporation and its global affiliates ("Tech Data") accounted for 38% and 35% of Autodesk's total net revenue for the three months ended April 30, 2020 and 2019, respectively. The majority of the net revenue from sales to Tech Data is for sales made outside of the United States. In addition, Tech Data accounted for 38% and 31% of trade accounts receivable at April 30, 2020, and January 31, 2020, respectively. Ingram Micro Inc. ("Ingram Micro") accounted for 10% of Autodesk's total net revenue during the three months ended April 30, 2020 and 2019. No other customer accounted for more than 10% of Autodesk's total net revenue or trade accounts receivable for each of the respective periods.

5. *Financial Instruments*

The following tables summarize the Company's financial instruments' amortized cost, gross unrealized gains, gross unrealized losses, and fair value by significant investment category as of April 30, 2020, and January 31, 2020:

	April 30, 2020						
(in millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Level 1	Level 2	Level 3
Cash equivalents (1):							
Commercial paper	$ 29.0	$ —	$ —	$ 29.0	$ —	$ 29.0	$ —
Money market funds	690.2	—	—	690.2	690.2	—	—
Other (2)	5.1	—	—	5.1	4.1	1.0	—
Marketable securities:							
Short-term available for sale							
Commercial paper	11.0	—	—	11.0	—	11.0	—
Short-term trading securities							
Mutual funds (3)	62.1	5.4	(1.3)	66.2	66.2	—	—
Non-marketable equity security derivative asset (4)	0.1	0.4	(0.2)	0.3	—	—	0.3
Derivative contract assets (4)	0.2	12.0	(0.1)	12.1	—	12.1	—
Derivative contract liabilities (5)	—	—	(6.5)	(6.5)	—	(6.5)	—
Total	$ 797.7	$ 17.8	$ (8.1)	$ 807.4	$ 760.5	$ 46.6	$ 0.3

(1) Included in “Cash and cash equivalents” in the accompanying Condensed Consolidated Balance Sheets. These investments are classified as debt securities with stated contractual maturities due within one year.
(2) Consists of custody cash deposits and certificates of deposit.
(3) See Note 11, "Deferred Compensation " for more information.
(4) Included in “Prepaid expenses and other current assets” or “Long-term other assets” in the accompanying Condensed Consolidated Balance Sheets.
(5) Included in “Other accrued liabilities” in the accompanying Condensed Consolidated Balance Sheets.

	January 31, 2020						
(in millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Level 1	Level 2	Level 3
Cash equivalents (1):							
Agency bonds	$ 6.0	$ —	$ —	$ 6.0	$ —	$ 6.0	$ —
Commercial paper	36.8	—	—	36.8	—	36.8	—
Money market funds	1,135.5	—	—	1,135.5	1,135.5	—	—
Other (2)	2.3	—	—	2.3	1.3	1.0	—
Marketable securities:							
Short-term trading securities							
Mutual funds (3)	59.9	9.2	(0.1)	69.0	69.0	—	—
Non-marketable equity security derivative asset (4)	0.1	0.5	—	0.6	—	—	0.6
Derivative contract assets (4)	1.0	9.2	(1.3)	8.9	—	8.9	—
Derivative contract liabilities (5)	—	—	(4.7)	(4.7)	—	(4.7)	—
Total	$ 1,241.6	$ 18.9	$ (6.1)	$ 1,254.4	$ 1,205.8	$ 48.0	$ 0.6

(1) Included in “Cash and cash equivalents” in the accompanying Condensed Consolidated Balance Sheets. These investments are classified as debt securities with stated contractual maturities due in one year.
(2) Consists of custody cash deposits and certificates of deposit.
(3) See Note 11, "Deferred Compensation " for more information.

(4) Included in “Prepaid expenses and other current assets,” or "Long-term other assets," in the accompanying Condensed Consolidated Balance Sheets.
(5) Included in “Other accrued liabilities” in the accompanying Condensed Consolidated Balance Sheets.

Autodesk applies fair value accounting for certain financial assets and liabilities, which consist of cash equivalents, marketable securities and other financial instruments, on a recurring basis. The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

As of April 30, 2020, and January 31, 2020, Autodesk had no material unrealized losses, individually and in the aggregate, for marketable debt securities that are in a continuous unrealized loss position for greater than twelve months. Total unrealized gains for securities with net gains in accumulated other comprehensive income was not material for the three months ending April 30, 2020.

Autodesk monitors all marketable debt securities for potential credit losses by reviewing indicators such as, but not limited to, current credit rating, change in credit rating, credit outlook, and default risk. There were no allowances for credit losses for the three months ending April 30, 2020. There were no write offs of accrued interest receivables for the three months ending April 30, 2020.

There was no realized gain or loss for the sales or redemptions of debt securities during the three months ended April 30, 2020 and 2019. Gains and losses resulting from the sale or redemption of debt securities are recorded in “Interest and other expense, net” on the Company's Condensed Consolidated Statements of Operations.

There were no proceeds from the sale and maturity of marketable debt securities for the three months ended April 30, 2020. Proceeds from the sale and maturity of marketable debt securities for the three months ended April 30, 2019 were $4.6 million.

Non-marketable equity securities

As of April 30, 2020, and January 31, 2020, Autodesk had $148.5 million and $122.5 million in direct investments in privately held companies, respectively. These non-marketable equity security investments do not have readily determined fair values, and Autodesk uses the measurement alternative to account for the adjustment to these investments in a given quarter. If Autodesk determines that an impairment has occurred, Autodesk writes down the investment to its fair value.

Adjustments to the carrying value of our non-marketable equity securities with no readily determined fair values measured using the measurement alternative were as follows:

	Three Months Ended April 30,		Cumulative Amount as of April 30, 2020
(in millions)	2020	2019	
Upward adjustments (1)	$ 3.0	$ 0.5	$ 12.4
Negative adjustments, including impairments (1)	(19.1)	(3.2)	(28.1)
Net adjustments	$ (16.1)	$ (2.7)	$ (15.7)

(1) Included in "Interest and other expense, net" on the Company's Condensed Consolidated Statements of Operations.

Foreign currency contracts designated as cash flow hedges

Autodesk uses foreign currency contracts to reduce the exchange rate impact on a portion of the net revenue or operating expense of certain anticipated transactions. These currency collars and forward contracts are designated and documented as cash flow hedges. The notional amounts of these contracts are presented net settled and were $889.3 million at April 30, 2020, and $981.3 million at January 31, 2020. Outstanding contracts are recognized as either assets or liabilities on the balance sheet at fair value. The majority of the net gain of $12.4 million remaining in “Accumulated other comprehensive loss” as of April 30, 2020 is expected to be recognized into earnings within the next twenty-four months.

The location and amount of gain or loss recognized in income on cash flow hedges together with the total amount of income or expense presented in the Company's Condensed Consolidated Statements of Operations where the effects of the hedge are recorded were as follows for the three months ended April 30, 2020 and 2019:

	Three Months Ended April 30, 2020					
	Net revenue		Cost of revenue	Operating expenses		
(in millions)	Subscription revenue	Maintenance revenue	Cost of subscription and maintenance revenue	Marketing and sales	Research and development	General and administrative
Total amounts of income and expense line items presented in the condensed consolidated statements of operations in which the effects of cash flow hedges are recorded	$ 803.0	$ 62.1	$ 57.4	$ 341.3	$ 217.4	$ 104.8
Gain (loss) on cash flow hedging relationships in Subtopic ASC 815-20						
Foreign exchange contracts						
Amount of gain (loss) reclassified from accumulated other comprehensive income into income	$ 2.1	$ 0.6	$ (0.2)	$ (0.8)	$ (0.1)	$ (0.4)

	Three Months Ended April 30, 2019					
	Net Revenue		Cost of revenue	Operating expenses		
(in millions)	Subscription Revenue	Maintenance Revenue	Cost of subscription and maintenance revenue	Marketing and sales	Research and development	General and administrative
Total amounts of income and expense line items presented in the condensed consolidated statements of operations in which the effects of cash flow hedges are recorded	$ 595.8	$ 112.0	$ 59.7	$ 313.3	$ 205.6	$ 99.1
Gain (loss) on cash flow hedging relationships in Subtopic ASC 815-20						
Foreign exchange contracts						
Amount of gain (loss) reclassified from accumulated other comprehensive income into income	$ 2.2	$ 1.3	$ (0.1)	$ (1.6)	$ (0.3)	$ (0.8)

Derivatives not designated as hedging instruments

Autodesk uses foreign currency contracts that are not designated as hedging instruments to reduce the exchange rate risk associated primarily with foreign currency denominated receivables, payables, and cash. The notional amounts of these foreign currency contracts are presented net settled and were $219.1 million at April 30, 2020, and $736.2 million at January 31, 2020.

Fair Value of Derivative Instruments

The fair values of derivative instruments in Autodesk's Condensed Consolidated Balance Sheets were as follows as of April 30, 2020 and January 31, 2020:

(in millions)	Balance Sheet Location	Fair Value at April 30, 2020	Fair Value at January 31, 2020
Derivative Assets			
Foreign currency contracts designated as cash flow hedges	Prepaid expenses and other current assets	$ 7.4	$ 1.0
Derivatives not designated as hedging instruments	Prepaid expenses and other current assets and long-term other assets	5.0	8.4
Total derivative assets		$ 12.4	$ 9.4
Derivative Liabilities			
Foreign currency contracts designated as cash flow hedges	Other accrued liabilities	$ 4.0	$ 2.8
Derivatives not designated as hedging instruments	Other accrued liabilities	2.5	1.9
Total derivative liabilities		$ 6.5	$ 4.7

The effects of derivatives designated as hedging instruments on Autodesk's Condensed Consolidated Statements of Operations were as follows for the three months ended April 30, 2020 and 2019, (amounts presented include any income tax effects):

(in millions)	Foreign Currency Contracts Three Months Ended April 30, 2020	 2019
Amount of gain recognized in accumulated other comprehensive loss on derivatives (effective portion)	$ 5.1	$ 4.0
Amount and location of gain (loss) reclassified from accumulated other comprehensive loss into income (effective portion)		
Net revenue	$ 2.7	$ 3.5
Cost of revenue	(0.2)	(0.1)
Operating expenses	(1.3)	(2.7)
Total	$ 1.2	$ 0.7

The effects of derivatives not designated as hedging instruments on Autodesk's Condensed Consolidated Statements of Operations were as follows for the three months ended April 30, 2020 and 2019, (amounts presented include any income tax effects):

(in millions)	Three Months Ended April 30, 2020	 2019
Amount and location of (loss) gain recognized on derivatives in net income (loss)		
Interest and other expense, net	$ (1.0)	$ 4.1

6. Stock-based Compensation Expense

Restricted Stock Units:

A summary of restricted stock activity for the three months ended April 30, 2020, is as follows:

	Unvested restricted stock units	Weighted average grant date fair value per share
	(in thousands)	
Unvested restricted stock units at January 31, 2020	4,732.3	$ 147.24
Granted	775.4	168.55
Vested	(727.6)	148.38
Canceled/Forfeited	(63.4)	148.64
Performance Adjustment (1)	15.4	166.97
Unvested restricted stock units at April 30, 2020	4,732.1	$ 150.43

(1) Based on Autodesk's financial results and relative total stockholder return for the fiscal 2020 performance period. The performance stock units were attained at rates ranging from 96.6% to 101.1% of the target award.

The fair value of the shares vested during the three months ended April 30, 2020 and 2019, was $111.4 million and $50.3 million, respectively.

During the three months ended April 30, 2020, Autodesk granted 0.5 million restricted stock units. Autodesk recorded stock-based compensation expense related to restricted stock units of $76.9 million and $54.4 million during the three months ended April 30, 2020 and 2019, respectively.

During the three months ended April 30, 2020, Autodesk settled the remaining liability-classified awards in the amount of $28.7 million. The ultimate number of shares earned was based on the Autodesk closing stock price on the vesting date. As these awards were settled in a fixed dollar amount of shares, the awards were accounted for as a liability-classified award and were expensed using the straight-line method over the vesting period.

During the three months ended April 30, 2020, Autodesk granted 0.3 million performance stock units for which the ultimate number of shares earned is determined based on the achievement of performance criteria at the end of the stated service and performance period. The performance criteria for the performance stock units are based on revenue goals adopted by the Compensation and Human Resource Committee, as well as total stockholder return compared against companies in the S&P North American Technology Software Index with a market capitalization over $2.0 billion (“Relative TSR”). The fair value of the performance stock units is expensed using the accelerated attribution method over the three-year vesting period and have the following vesting schedule:

- Up to one third of the performance stock units may vest following year one, depending upon the achievement of the performance criteria for fiscal 2021 as well as 1-year Relative TSR (covering year one).
- Up to one third of the performance stock units may vest following year two, depending upon the achievement of the performance criteria for year two as well as 2-year Relative TSR (covering years one and two).
- Up to one third of the performance stock units may vest following year three, depending upon the achievement of the performance criteria for year three as well as 3-year Relative TSR (covering years one, two and three).

Performance stock units are not considered outstanding stock at the time of grant, as the holders of these units are not entitled to any of the rights of a stockholder, including voting rights.

Autodesk recorded stock-based compensation expense related to performance stock units of $7.4 million and $6.5 million for the three months ended April 30, 2020 and 2019, respectively.

1998 Employee Qualified Stock Purchase Plan ("ESPP")

Under Autodesk's ESPP, which was approved by stockholders in 1998, eligible employees may purchase shares of Autodesk's common stock at their discretion using up to 15% of their eligible compensation, subject to certain limitations, at 85% of the lower of Autodesk's closing price (fair market value) on the offering date or the exercise date. The offering period for ESPP awards consists of four, six-month exercise periods within a 24-month offering period.

A summary of the ESPP activity for the three months ended April 30, 2020 and 2019 is as follows:

	Three Months Ended April 30,	
	2020	**2019**
Issued shares (in millions)	0.5	0.5
Average price of issued shares	$ 122.54	$ 99.46
Weighted average grant date fair value of awards granted under the ESPP (1)	$ 45.70	$ 52.41

(1) Calculated as of the award grant date using the Black-Scholes Merton ("BSM") option pricing model.

Stock-based Compensation Expense

The following table summarizes stock-based compensation expense for the three months ended April 30, 2020 and 2019, respectively, as follows:

	Three Months Ended April 30,	
(in millions)	**2020**	**2019**
Cost of subscription and maintenance revenue	$ 3.7	$ 3.6
Cost of other revenue	1.5	1.3
Marketing and sales	40.7	32.5
Research and development	32.9	26.7
General and administrative	19.4	11.1
Stock-based compensation expense related to stock awards and ESPP purchases	98.2	75.2
Tax benefit	(0.1)	(0.2)
Stock-based compensation expense related to stock awards and ESPP purchases, net of tax	$ 98.1	$ 75.0

Stock-based Compensation Expense Assumptions

Autodesk determines the grant date fair value of its share-based payment awards using a BSM option pricing model or the quoted stock price on the date of grant, unless the awards are subject to market conditions, in which case Autodesk uses a binomial-lattice model (e.g., Monte Carlo simulation model). The Monte Carlo simulation model uses multiple input variables to estimate the probability that market conditions will be achieved. Autodesk uses the following assumptions to estimate the fair value of stock-based awards:

	Three Months Ended April 30, 2020		Three Months Ended April 30, 2019	
	Performance Stock Units	**ESPP**	**Performance Stock Units**	**ESPP**
Range of expected volatilities	50.7%	39.4 - 45.8%	36.3%	36.6 - 39.7%
Range of expected lives (in years)	N/A	0.5 - 2.0	N/A	0.5 - 2.0
Expected dividends	—%	—%	—%	—%
Range of risk-free interest rates	0.3%	0.3 - 0.5%	2.5%	2.4 - 2.5%

Autodesk estimates expected volatility for stock-based awards based on the average of the following two measures: (1) a measure of historical volatility in the trading market for the Company's common stock, and (2) the implied volatility of traded forward call options to purchase shares of the Company's common stock. The expected volatility for performance stock units subject to market conditions includes the expected volatility of Autodesk's peer companies within the S&P North American Technology Software Index with a market capitalization over $2.0 billion, depending on the award type.

The range of expected lives of ESPP awards are based upon the four, six-month exercise periods within a 24-month offering period.

Autodesk does not currently pay, and does not anticipate paying in the foreseeable future, any cash dividends. Consequently, an expected dividend yield of zero is used in the BSM option pricing model and the Monte Carlo simulation model.

The risk-free interest rate used in the BSM option pricing model and the Monte Carlo simulation model for stock-based awards is the historical yield on U.S. Treasury securities with equivalent remaining lives.

Autodesk recognizes expense only for the stock-based awards that ultimately vest. Autodesk accounts for forfeitures of our stock-based awards as those forfeitures occur.

7. Income Tax

Autodesk had income tax expense of $24.0 million, relative to pre-tax income of $90.5 million for the three months ended April 30, 2020, and income tax expense of $32.8 million, relative to pre-tax income of $8.6 million for the three months ended April 30, 2019. Income tax expense for the three months ended April 30, 2020, decreased primarily due to the jurisdictional mix of earnings, offset by the U.S. full valuation allowance and a reduction in withholding taxes.

Autodesk regularly assesses the need for a valuation allowance against its deferred tax assets. In making that assessment, Autodesk considers both positive and negative evidence related to the likelihood of realization of the deferred tax assets to determine, based on the weight of available evidence, whether it is more likely than not that some or all of the deferred tax assets will not be realized. In evaluating the need for a valuation allowance, Autodesk considered cumulative losses as a significant source of negative evidence and maintained a valuation allowance against our deferred tax attributes in the U.S. and certain foreign jurisdictions as of April 30, 2020.

The Company anticipates a significant increase in U.S. taxable income in fiscal 2021 due to current year increase in global earnings. We currently forecast the utilization of U.S. deferred tax assets to offset U.S. taxable income resulting from the inclusion of foreign earnings. While increased U.S. taxable income is considered positive evidence, we believe that the cumulative losses should be given more weight and have maintained the valuation allowance on our U.S. deferred tax assets.

As Autodesk continually strives to optimize the overall business model, tax planning strategies may become feasible and prudent allowing the Company to realize many of the deferred tax assets that are offset by a valuation allowance; therefore, Autodesk will continue to evaluate the ability to utilize the deferred tax assets each quarter, both in the U.S. and in foreign jurisdictions, based on all available evidence, both positive and negative

As of April 30, 2020, the Company had $218.6 million of gross unrecognized tax benefits, of which $201.7 million would reduce our valuation allowance, if recognized. The remaining $16.9 million would impact the effective tax rate, if recognized. It is possible that the amount of unrecognized tax benefits will change in the next twelve months; however, an estimate of the range of the possible change cannot be made at this time.

8. Other Intangible Assets, Net

Other intangible assets, including developed technologies, customer relationships, trade names, patents, user lists and the related accumulated amortization were as follows:

(in millions)	April 30, 2020	January 31, 2020
Developed technologies, at cost	$ 649.4	$ 647.1
Customer relationships, trade names, patents, and user lists, at cost (1)	529.6	532.2
Other intangible assets, at cost (2)	1,179.0	1,179.3
Less: Accumulated amortization	(985.6)	(972.2)
Other intangible assets, net	$ 193.4	$ 207.1

(1) Included in “Long-term other assets” in the accompanying Condensed Consolidated Balance Sheets.
(2) Includes the effects of foreign currency translation.

9. Cloud Computing Arrangements

Autodesk enters into certain cloud-based software hosting arrangements that are accounted for as service contracts. Costs incurred for these arrangements are capitalized for application development activities, if material, and immediately expensed for preliminary project activities and post-implementation activities. Autodesk amortizes the capitalized development costs straight-line over the fixed, non-cancellable term of the associated hosting arrangement plus any reasonably certain renewal periods. The capitalized costs are included in "Prepaid expenses and other current assets" and "Long-term other assets" on our Condensed Consolidated Balance Sheets. Capitalized costs were $31.1 million and $22.3 million at April 30, 2020, and January 31, 2020, respectively. Accumulated amortization was $2.1 million and $1.2 million at April 30, 2020, and January 31, 2020, respectively. Amortization expense for the three months ended April 30, 2020 and 2019, was $0.9 million and none, respectively.

10. Goodwill

Goodwill consists of the excess of the consideration transferred over the fair value of net assets acquired in business combinations. The following table summarizes the changes in the carrying amount of goodwill for the three months ended April 30, 2020 (in millions):

Balance as of January 31, 2020	$	2,594.2
Less: accumulated impairment losses as of January 31, 2020		(149.2)
Net balance as of January 31, 2020		2,445.0
Effect of foreign currency translation		(14.8)
Balance as of April 30, 2020	$	2,430.2

Autodesk operates as a single operating segment and single reporting unit. As such, when Autodesk tests goodwill for impairment annually in its fourth fiscal quarter, it is performed on the Company's single reporting unit. Autodesk performs impairment testing more often if circumstances indicate a potential impairment may exist, or if events have affected the composition of reporting units.

When goodwill is assessed for impairment, Autodesk has the option to perform an assessment of qualitative factors of impairment (“optional assessment”) prior to necessitating a quantitative impairment test. Should the optional assessment be used for any given fiscal year, qualitative factors to consider include cost factors; financial performance; legal, regulatory, contractual, political, business, or other factors; entity specific factors; industry and market considerations, macroeconomic conditions, and other relevant events and factors affecting the reporting unit. If, after assessing the totality of events or circumstances, it is more likely than not that the fair value of the reporting unit is greater than its carrying value, then performing the quantitative impairment test is unnecessary.

The quantitative impairment test is necessary when either Autodesk does not use the optional assessment or, as a result of the optional assessment, it is not more likely than not that the fair value of the reporting unit is greater than its carrying value. In situations in which an entity's reporting unit is publicly traded, the fair value of the Company may be approximated by its market capitalization, in performing the quantitative impairment test.

Goodwill impairment exists when the estimated fair value of goodwill is less than its carrying value. If impairment exists, the carrying value of the goodwill is reduced to fair value through an impairment charge recorded in our Condensed Consolidated Statements of Operations. The process of evaluating the potential impairment of goodwill is subjective and requires significant judgment at many points during the analysis. The value of Autodesk’s goodwill could also be impacted by future adverse changes such as: (i) declines in Autodesk’s actual financial results, (ii) a sustained decline in Autodesk’s market capitalization, (iii) a significant slowdown in the worldwide economy or the industries Autodesk serves, or (iv) changes in Autodesk’s business strategy.

There was no goodwill impairment during the three months ended April 30, 2020.

11. Deferred Compensation

At April 30, 2020, Autodesk had marketable securities totaling $77.2 million, of which, $66.2 million is related to investments in debt and equity securities that are held in a rabbi trust under non-qualified deferred compensation plans. Of the $66.2 million related to the deferred compensation liability at April 30, 2020, $4.7 million was classified as current and $61.5 million was classified as non-current liabilities. Of the $69.0 million related to the deferred compensation liability at January 31, 2020, $5.3 million was classified as current and $63.7 million was classified as non-current liabilities. The securities are recorded in the Condensed Consolidated Balance Sheets under the current portion of "Marketable securities." The current and non-current portions of the liability are recorded in the Condensed Consolidated Balance Sheets under “Accrued compensation” and “Long-term other liabilities,” respectively.

Costs to obtain a contract with a customer

Sales commissions earned by our internal sales personnel and our reseller partners are considered incremental and recoverable costs of obtaining a contract with a customer. The ending balance of assets recognized from costs to obtain a contract with a customer was $91.5 million as of April 30, 2020 and $98.8 million as of January 31, 2020. Amortization expense related to assets recognized from costs to obtain a contract with a customer was $22.8 million and $24.7 million during the three months ended April 30, 2020 and 2019, respectively. Autodesk did not recognize any contract cost impairment losses during the three months ended April 30, 2020 and 2019.

12. Computer Equipment, Software, Furniture and Leasehold Improvements, Net

Computer equipment, software, furniture, leasehold improvements and the related accumulated depreciation were as follows:

(in millions)	April 30, 2020	January 31, 2020
Computer hardware, at cost	$ 155.0	$ 159.7
Computer software, at cost	64.8	64.0
Leasehold improvements, land and buildings, at cost	292.5	284.0
Furniture and equipment, at cost	75.5	69.0
	587.8	576.7
Less: Accumulated depreciation	(423.6)	(415.0)
Computer software, hardware, leasehold improvements, furniture and equipment, net	$ 164.2	$ 161.7

13. Borrowing Arrangements

In January 2020, Autodesk issued $500.0 million aggregate principal amount of 2.85% notes due January 15, 2030 (“2020 Notes”). Net of a discount of $1.1 million and issuance costs of $4.8 million, Autodesk received net proceeds of $494.1 million from issuance of the 2020 Notes. Both the discount and issuance costs are being amortized to interest expense over the term of the 2020 Notes using the effective interest method. The proceeds of the 2020 Notes have been used for the repayment of the $450.0 million 2015 Notes, as defined below, and the remainder is available for general corporate purposes.

In December 2018, Autodesk entered into a credit agreement by and among Autodesk, the lenders from time to time party thereto and Citibank, N.A., as agent, which provides for an unsecured revolving loan facility in the aggregate principal amount of $650.0 million with an option, subject to customary conditions, to request an increase in the amount of the credit facility by up to an additional $350.0 million, and is available for working capital or other business needs. The credit agreement contains customary covenants that could, among other things, restrict the imposition of liens on Autodesk's assets, and restrict Autodesk's ability to incur additional indebtedness or make dispositions of assets if Autodesk fails to maintain compliance with the financial covenants. The credit agreement financial covenants consist of (1) a minimum interest coverage ratio of 2.50:1.0 starting with the fiscal quarter ending January 31, 2019, and increasing to 3.00:1.0 starting with the fiscal quarter ending April 30, 2019, and (2) a maximum leverage ratio of 3.50:1.0 starting with the fiscal quarter ending July 31, 2019, and dropping to 3.00:1.0 in the fiscal quarter ending January 31, 2020. At April 30, 2020, Autodesk was in compliance with the credit agreement covenants. Revolving loans under the credit agreement bear interest, at Autodesk's option, at either (i) a floating rate per annum equal to the base rate plus a margin of between 0.000% and 0.500%, depending on Autodesk’s Public Debt Rating (as defined in the credit agreement) or (ii) a per annum rate equal to the rate at which dollar deposits are offered in the London interbank market, plus a margin of between 0.900% and 1.500%, depending on Autodesk’s Public Debt Rating. The maturity date on the credit agreement is December 2023. At April 30, 2020, Autodesk had no outstanding borrowings under the credit agreement.

In June 2017, Autodesk issued $500.0 million aggregate principal amount of 3.5% notes due June 15, 2027 (the “2017 Notes”). Net of a discount of $3.1 million and issuance costs of $4.9 million, Autodesk received net proceeds of $492.0 million from issuance of the 2017 Notes. Both the discount and issuance costs are being amortized to interest expense over the term of the 2017 Notes using the effective interest method. The proceeds of the 2017 Notes have been used for the repayment of $400.0 million of debt due December 15, 2017, and the remainder is available for general corporate purposes.

In June 2015, Autodesk issued $450.0 million aggregate principal amount of 3.125% notes due June 15, 2020 ("$450.0 million 2015 Notes") and $300.0 million aggregate principal amount of 4.375% notes due June 15, 2025 (“$300.0 million 2015 Notes”) (collectively, the "2015 Notes"). Net of a discount of $0.6 million and $1.1 million, and issuance costs of $3.8 million and $2.5 million, Autodesk received net proceeds of $445.6 million and $296.4 million from issuance of the $450.0 million 2015 Notes and $300.0 million 2015 Notes, respectively. Both the discount and issuance costs are being amortized to interest expense over the respective term of the $300.0 million 2015 Notes using the effective interest method. The proceeds of the $300.0 million 2015 Notes is available for general corporate purposes. On March 4, 2020, the proceeds of the 2020 Notes were used for the repayment of the $450.0 million 2015 Notes. Autodesk paid a redemption price of $452.1 million, plus accrued and unpaid interest to, but not including, the date of redemption.

In December 2012, Autodesk issued $350.0 million aggregate principal amount of 3.6% notes due December 15, 2022 (“2012 Notes”). Autodesk received net proceeds of $346.7 million from issuance of the 2012 Notes, net of a discount of $0.5 million and issuance costs of $2.8 million. Both the discount and issuance costs are being amortized to interest expense over the respective terms of the 2012 Notes using the effective interest method. The proceeds of the 2012 Notes are available for general corporate purposes.

The 2020 Notes, 2017 Notes, $300 million 2015 Notes and the 2012 Notes may all be redeemed at any time, subject to a make whole premium. In addition, upon the occurrence of certain change of control triggering events, Autodesk may be required to repurchase all the aforementioned notes, at a price equal to 101% of their principal amount, plus accrued and unpaid interest to the date of repurchase. All notes contain restrictive covenants that limit Autodesk's ability to create certain liens, to enter into certain sale and leaseback transactions and to consolidate or merge with, or convey, transfer or lease all or substantially all of its assets, subject to important qualifications and exceptions.

Based on the quoted market prices, the approximate fair value of the notes as of April 30, 2020, were as follows:

(in millions)	**Aggregate Principal Amount**	**Fair value**
2012 Notes	$ 350.0	$ 366.9
$300 million 2015 Notes	300.0	328.6
2017 Notes	500.0	555.9
2020 Notes	500.0	524.4

The expected future principal payments for all borrowings as of April 30, 2020, is as follows (in millions):

Fiscal year ending	
2021 (remainder)	—
2022	—
2023	350.0
2024	—
2025	—
Thereafter	1,300.0
Total principal outstanding	$ 1,650.0

14. Leases

Autodesk has operating leases for real estate, vehicles and certain equipment. Leases have remaining lease terms of less than 1 year to 70 years, some of which include options to extend the lease with renewal terms from 1 year to 10 years and some of which include options to terminate the leases from less than 1 year to 10 years. Options to extend the lease are included in the lease liability if they are reasonably certain of being exercised. Payments under our lease arrangements are primarily fixed, however, certain lease agreements contain variable payments, which are expensed as incurred and not included in the operating lease assets and liabilities. These amounts include payments affected by the Consumer Price Index, payments for common area maintenance that are subject to annual reconciliation, and payments for maintenance and utilities. The Company's leases do not contain residual value guarantees or material restrictive covenants. Short-term leases are recognized in the Condensed Consolidated Statements of Operations on a straight-line basis over the lease term. Short-term lease expense was not material for the periods presented. Changes in operating lease right-of-use assets and operating lease liabilities are presented net in the "accounts payable and other liabilities" line in the Condensed Consolidated Statements of Cash Flows.

The components of lease cost were as follows:

	Three Months Ended April 30, 2020					
(in millions)	**Cost of subscription and maintenance revenue**	**Cost of other revenue**	**Marketing and sales**	**Research and development**	**General and administrative**	**Total**
Operating lease cost	$ 2.0	$ 0.7	$ 11.5	$ 7.9	$ 3.4	$ 25.5
Variable lease cost	$ 0.3	$ 0.1	$ 1.5	$ 1.1	$ 0.4	$ 3.4

	Three Months Ended April 30, 2019					
(in millions)	**Cost of subscription and maintenance revenue**	**Cost of other revenue**	**Marketing and sales**	**Research and development**	**General and administrative**	**Total**
Operating lease cost	$ 1.6	$ 0.4	$ 8.8	$ 6.7	$ 2.8	$ 20.3
Variable lease cost	$ 0.2	$ 0.1	$ 1.3	$ 1.0	$ 0.4	$ 3.0

Supplemental operating cash flow information related to leases is as follows:

	Three Months Ended April 30,	
(in millions)	**2020**	**2019**
Cash paid for operating leases included in operating cash flows (1)	$ 24.9	$ 23.6
Non-cash operating lease liabilities arising from obtaining operating lease right-of-use assets	$ 8.5	$ 44.0

(1) Includes $3.4 million and $3.0 million in variable lease payments for the three months ended April 30, 2020 and 2019, respectively, not included in "Operating lease liabilities" and "Long-term operating lease liabilities" on the Condensed Consolidated Balance Sheets.

The weighted average remaining lease term for operating leases is 7.4 and 7.5 years at April 30, 2020, and January 31, 2020, respectively. The weighted average discount rate was 3.36% and 3.41% at April 30, 2020, and January 31, 2020, respectively.

Maturities of operating lease liabilities were as follows (in millions):

Fiscal year ending		
2021 (remainder)	$	43.5
2022		88.5
2023		85.0
2024		71.9
2025		53.0
Thereafter		169.0
		510.9
Less imputed interest		62.9
Present value of operating lease liabilities	$	448.0

As of April 30, 2020, Autodesk has additional operating lease minimum lease payments of $29.8 million for executed leases that have not yet commenced, primarily for office locations.

15. Commitments and Contingencies

Guarantees and Indemnifications

In the normal course of business, Autodesk provides indemnifications of varying scopes, including limited product warranties and indemnification of customers against claims of intellectual property infringement made by third parties arising from the use of its products or services. Autodesk accrues for known indemnification issues if a loss is probable and can be reasonably estimated. Historically, costs related to these indemnifications have not been significant, and because potential future costs are highly variable, Autodesk is unable to estimate the maximum potential impact of these indemnifications on its future results of operations.

In connection with the purchase, sale or license of assets or businesses with third parties, Autodesk has entered into or assumed customary indemnification agreements related to the assets or businesses purchased, sold or licensed. Historically, costs related to these indemnifications have not been significant, and because potential future costs are highly variable, Autodesk is unable to estimate the maximum potential impact of these indemnifications on its future results of operations.

As permitted under Delaware law, Autodesk has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at Autodesk’s request in such capacity. The maximum potential amount of future payments Autodesk could be required to make under these indemnification agreements is unlimited; however, Autodesk has directors’ and officers’ liability insurance coverage that is intended to reduce its financial exposure and may enable Autodesk to recover a portion of any future amounts paid. Autodesk believes the estimated fair value of these indemnification agreements in excess of applicable insurance coverage is minimal.

Legal Proceedings

Autodesk is involved in a variety of claims, suits, investigations, inquiries, and proceedings in the normal course of business including claims of alleged infringement of intellectual property rights, commercial, employment, tax, prosecution of unauthorized use, business practices and other matters. Autodesk routinely reviews the status of each significant matter and assesses its potential financial exposure. If the potential loss from any matter is considered probable and the amount can be reasonably estimated, Autodesk records a liability for the estimated loss. Because of inherent uncertainties related to these legal matters, Autodesk bases its loss accruals on the best information available at the time. As additional information becomes available, Autodesk reassesses its potential liability and may revise its estimates. In the Company's opinion, resolution of pending matters is not expected to have a material adverse impact on its consolidated results of operations, cash flows, or its financial position. Given the unpredictable nature of legal proceedings, there is a reasonable possibility that an unfavorable resolution of one or more such proceedings could in the future materially affect the Company's results of operations, cash flows, or financial position in a particular period, however, based on the information known by the Company as of the date of this filing and the rules and regulations applicable to the preparation of the Company's financial statements, any such amount is either immaterial or it is not possible to provide an estimated amount of any such potential loss.

16. Stockholders' Deficit

Changes in stockholders' deficit by component, net of tax, for the three months ended April 30, 2020, are as follows:

(in millions, except per share data)	Common stock and additional paid-in capital Shares	Common stock and additional paid-in capital Amount	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' deficit
Balances, January 31, 2020	219.4	$ 2,317.0	$ (160.3)	$ (2,295.8)	$ (139.1)
Common shares issued under stock plans	1.0	24.3	—	—	24.3
Stock-based compensation expense	—	88.2	—	—	88.2
Settlement of liability-classified restricted stock units	—	28.7	—	—	28.7
Post-combination expense related to equity awards assumed	—	0.1	—	—	0.1
Net income	—	—	—	66.5	66.5
Other comprehensive loss	—	—	(18.8)	—	(18.8)
Repurchase and retirement of common shares	(1.2)	(57.0)	—	(132.0)	(189.0)
Balances, April 30, 2020	219.2	2,401.3	(179.1)	(2,361.3)	(139.1)

(1) During the three months ended April 30, 2020, Autodesk repurchased 1.2 million shares at an average repurchase price of $153.41 per share. At April 30, 2020, 13.5 million shares remained available for repurchase under the repurchase program approved by the Board of Directors.

Changes in stockholders' deficit by component, net of tax, for the three months ended April 30, 2019, are as follows:

	Common stock and additional paid-in capital Shares	Common stock and additional paid-in capital Amount	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' deficit
Balances, January 31, 2019	219.4	$ 2,071.5	$ (135.0)	$ (2,147.4)	$ (210.9)
Common shares issued under stock plans	0.8	21.1	—	—	21.1
Stock-based compensation expense	—	75.2	—	—	75.2
Post combination expense related to assumed equity	—	0.8	—	—	0.8
Cumulative effect of accounting changes	—	—	—	(0.7)	(0.7)
Net loss	—	—	—	(24.2)	(24.2)
Other comprehensive loss	—	—	(6.6)	—	(6.6)
Repurchase and retirement of common shares	(0.6)	(45.5)	—	(54.5)	(100.0)
Balances, April 30, 2019	219.6	2,123.1	(141.6)	(2,226.8)	(245.3)

17. Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss, net of taxes, consisted of the following at April 30, 2020:

(in millions)	Net Unrealized Gains (Losses) on Derivative Instruments	Net Unrealized Gains (Losses) on Available-for-Sale Debt Securities	Defined Benefit Pension Components	Foreign Currency Translation Adjustments	Total
Balances, January 31, 2020	$ 8.4	$ 4.7	$ (22.8)	$ (150.6)	$ (160.3)
Other comprehensive income (loss) before reclassifications	5.6	0.2	—	(22.9)	(17.1)
Pre-tax (gains)losses reclassified from accumulated other comprehensive loss	(1.2)	0.1	(0.3)	—	(1.4)
Tax effects	(0.4)	0.1	—	—	(0.3)
Net current period other comprehensive income (loss)	4.0	0.4	(0.3)	(22.9)	(18.8)
Balances, April 30, 2020	$ 12.4	$ 5.1	$ (23.1)	$ (173.5)	$ (179.1)

Reclassifications related to gains and losses on available-for-sale debt securities are included in "Interest and other expense, net." Refer to Note 5, "Financial Instruments," for the amount and location of reclassifications related to derivative instruments. Reclassifications of the defined benefit pension components of net periodic benefit cost are included in "Interest and other expense, net."

18. Net Income (Loss) Per Share

Basic net income (loss) per share is computed using the weighted average number of shares of common stock outstanding for the period, excluding stock options and restricted stock units. Diluted net income (loss) per share is based upon the weighted average number of shares of common stock outstanding for the period and potentially dilutive common shares, including the effect of stock options and restricted stock units under the treasury stock method. The following table sets forth the computation of the numerators and denominators used in the basic and diluted net income (loss) per share amounts:

	Three Months Ended April 30,	
(in millions, except per share data)	2020	2019
Numerator:		
Net income (loss)	$ 66.5	$ (24.2)
Denominator:		
Denominator for basic net income (loss) per share—weighted average shares	219.2	219.6
Effect of dilutive securities (1)	2.1	—
Denominator for dilutive net income (loss) per share	221.3	219.6
Basic net income (loss) per share	$ 0.30	$ (0.11)
Diluted net income (loss) per share	$ 0.30	$ (0.11)

(1) The effect of dilutive securities of 2.3 million shares in the three months ended April 30, 2019, has been excluded from the calculation of diluted net loss per share as those shares would have been anti-dilutive due to the net loss incurred in that period.

The computation of diluted net income (loss) per share does not include shares that are anti-dilutive under the treasury stock method because their exercise prices are higher than the average market value of Autodesk’s stock during the periods. For the three months ended April 30, 2020 and 2019, there were no potentially anti-dilutive shares excluded from the computation of diluted net income (loss) per share.

19. Segments

Autodesk operates in one operating segment and accordingly, all required financial segment information is included in the condensed consolidated financial statements. Operating segments are defined as components of an enterprise for which separate financial information is evaluated regularly by the chief operating decision makers ("CODM") in deciding how to allocate resources and assess performance. Autodesk reports segment information based on the “management” approach. The management approach designates the internal reporting used by management for making decisions, allocating resources and assessing performance as the source of the Company’s reportable segments. The Company's CODM allocates resources and assesses the operating performance of the Company as a whole.

Information regarding Autodesk's long-lived assets by geographic area is as follows:

(in millions)	April 30, 2020	January 31, 2020
Long-lived assets (1):		
Americas		
U.S.	$ 425.0	$ 434.2
Other Americas	32.9	33.2
Total Americas	457.9	467.4
Europe, Middle East, and Africa	78.7	75.8
Asia Pacific	52.3	57.3
Total long-lived assets	$ 588.9	$ 600.5

(1) Long-lived assets exclude deferred tax assets, marketable securities, goodwill, and other intangible assets.

ITEM 2. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The discussion in our MD&A and elsewhere in this Form 10-Q contains trend analyses and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are any statements that look to future events and consist of, among other things, our business strategies, including those discussed in “Strategy,” “Overview of the Three Months Ended April 30, 2020 and 2019” and in “Results of Operations-Impacts of COVID-19 to Autodesk’s Business.” Examples of such forward-looking statements may relate to items such as future net revenue, operating expenses, recurring revenue, net revenue retention rate, cash flow, remaining performance obligations and other future financial results (by product type and geography), the effectiveness of our efforts to successfully manage transitions to new markets; our ability to increase our subscription base; expected market trends, including the growth of cloud and mobile computing; the availability of credit; the effect of unemployment; the effects of global economic conditions, including from an economic downturn or recession in the United States or in other countries around the world; the effects of revenue recognition; the effects of recently issued accounting standards; expected trends in certain financial metrics, including expenses; expectations regarding our cash needs; the effects of fluctuations in exchange rates and our hedging activities on our financial results; our ability to successfully expand adoption of our products; our ability to gain market acceptance of new business and sales initiatives; the impact of past acquisitions, including our integration efforts; the impact of economic volatility and geopolitical activities in certain countries, particularly emerging economy countries; the timing and amount of purchases under our stock buy-back plan; and the effects of potential non-cash charges on our financial results and the resulting effect on our financial results. In addition, forward-looking statements also consist of statements involving expectations regarding product capability and acceptance, statements regarding our liquidity and short-term and long-term cash requirements, as well as statements involving trend analyses and statements including such words as “may,” “believe,” “could,” “anticipate,” “would,” “might,” “plan,” “expect,” and similar expressions or the negative of these terms or other comparable terminology. These forward-looking statements speak only as of the date of this Quarterly Report on Form 10-Q and are subject to business and economic risks. As such, our actual results could differ materially from those set forth in the forward-looking statements as a result of a number of factors, including those set forth below in Part II, Item 1A, “Risk Factors,” and in our other reports filed with the U.S. Securities and Exchange Commission. We assume no obligation to update the forward-looking statements to reflect events that occur or circumstances that exist after the date on which they were made, except as required by law.

Note: A glossary of terms used in this Form 10-Q appears at the end of this Item 2.

Strategy

Autodesk makes software for people who make things. If you have ever driven a high-performance car, admired a towering skyscraper, used a smartphone, or watched a great film, chances are you have experienced what millions of Autodesk customers are doing with our software. We empower innovators to achieve the new possible - enabling them to discover first-in-kind solutions to complex design challenges, deliver tangible outcomes in record time, and make data-powered decisions for sustainable outcomes.

Our strategy is to build enduring relationships with customers, delivering innovative technology that provides valuable automation and insight into their design and make process. To drive execution of our strategy, we are focused on three strategic priorities: delivering on the promise of subscription, digitizing the company, and reimagining construction, manufacturing, and production.

We equip and inspire our users with the tailored tools, services, and access they need for success today and tomorrow. At every step, we help users harness the power of data to build upon their ideas and explore new ways of imagining, collaborating, and creating to achieve better outcomes for their customers, for society, and for the world. And because creativity can’t flourish in silos, we connect what matters - from steps in a project to collaborators on a unified platform.

Autodesk was founded during the platform transition from mainframe computers and engineering workstations to personal computers. We developed and sustained a compelling value proposition based upon desktop software for the personal computer. Just as the transition from mainframes to personal computers transformed the industry over 30 years ago, the software industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud-enabled technologies.

Product Evolution

To address this shift, Autodesk made a strategic decision to shift its business model from selling perpetual licenses and maintenance plans to selling subscriptions.

Today, we offer subscriptions for individual products and Industry Collections, EBAs, and cloud service offerings (collectively referred to as "subscription plan"). Subscription plans are designed to give our customers more flexibility with how they use our offerings and to attract a broader range of customers, such as project-based users and small businesses.

Our subscription plans currently represent a hybrid of desktop software and cloud functionality, which provides a device-independent, collaborative design workflow for designers and their stakeholders. Our cloud offerings, for example, BIM 360, Shotgun, AutoCAD web app and AutoCAD mobile app, provide tools, including mobile and collaboration capabilities, to streamline design, collaboration, building and manufacturing and data management processes. We believe that customer adoption of these new offerings will continue to grow as customers across a range of industries begin to take advantage of the scalable computing power and flexibility provided through these new services.

Industry Collections provide our customers with increased access to a broader selection of Autodesk solutions and services that exceeds those previously available in suites - simplifying the customers' ability to get access to a complete set of tools for their industry.

We discontinued the sale of new commercial licenses of most individual software products in fiscal 2016. Additionally, in fiscal 2018, we commenced a program to incentivize maintenance plan customers to move to subscription plan offerings, maintenance-to-subscription ("M2S"), while at the same time increasing maintenance plan pricing over time for customers that remain on maintenance plans. Since launching the program, a substantial majority of maintenance plan customers have converted to subscription plan offerings. We will be retiring maintenance offerings as of May 7, 2021. Customers will have a one-year period starting May 7, 2020, to convert a maintenance seat to subscription plan offerings.

To support our strategic priority of re-imagining construction, in fiscal 2019, we strengthened the foundation of our construction solutions with both organic and inorganic investments. In addition to investing in our BIM 360 portfolio, we acquired Assemble Systems for quantity take off functionality, PlanGrid for document-centric workflows and field execution, and BuildingConnected for bidding and estimation processes. The broadened product portfolio, the Autodesk Construction Cloud, has helped us expand our presence with sub-contractors, trades people, and building owners.

As part of our manufacturing strategy, we continue to attract both global manufacturing leaders and disruptive startups with our generative design and our Fusion 360 technology enhancements.

Our strategy includes improving our product functionality and expanding our product offerings through internal development as well as through the acquisition of products, technology, and businesses. Acquisitions often increase the speed at which we can deliver product functionality to our customers; however, they entail cost and integration challenges and may, in certain instances, negatively impact our operating margins. We continually review these factors in making decisions regarding acquisitions. We currently anticipate that we will continue to acquire products, technology, and businesses as compelling opportunities become available.

We evaluate growth of billings and remaining performance obligations in determining business momentum. To analyze progress, we have disaggregated our growth between the original maintenance model and the subscription plan model. Maintenance plan subscriptions peaked in the fourth quarter of fiscal 2016 as we discontinued selling new maintenance plan subscriptions in fiscal 2017, and we expect the number of these subscriptions to keep declining over time as maintenance plan customers continue to convert to our subscription plans. We will be retiring maintenance offerings as of May 7, 2021. Customers will have a one-year period starting May 7, 2020 to convert a maintenance seat to subscription plan offerings.

Global Reach

We sell our products and services globally, through a combination of indirect and direct channels. Our indirect channels include value added resellers, direct market resellers, distributors, computer manufacturers, and other software developers. Our direct channels include internal sales resources dedicated to selling in our largest accounts, our highly specialized solutions, and business transacted through our online Autodesk branded store. See Note 3, "Revenue Recognition" in the Notes to the Condensed Consolidated Financial Statements for further detail on the results of our indirect and direct channel sales for the three months ending April 30, 2020 and 2019.

We anticipate that our channel mix will continue to change as we scale our online Autodesk branded store business and our largest accounts shift towards direct-only business models. However, we expect our indirect channel will continue to transact and support the majority of our customers and revenue. We employ a variety of incentive programs and promotions to align our direct and indirect channels with our business strategies. In addition, we have a worldwide user group organization and we have created online user communities dedicated to the exchange of information related to the use of our products.

One of our key strategies is to maintain an open-architecture design of our software products to facilitate third-party development of complementary products and industry-specific software solutions. This approach enables customers and third parties to customize solutions for a wide variety of highly specific uses. We offer several programs that provide strategic investment funding, technological platforms, user communities, technical support, forums, and events to developers who develop add-on applications for our products. For example, we have established the Autodesk Forge developer program to support innovators that build solutions to facilitate the development of a single connected ecosystem for the future of how things are designed, made, and used as well as support ideas that push the boundaries of 3D printing.

In addition to the competitive advantages afforded by our technology, our large global network of distributors, resellers, third-party developers, customers, educational institutions, educators, and students is a key competitive advantage which has been cultivated over an extensive period. This network of partners and relationships provides us with a broad and deep reach into volume markets around the world. Our distributor and reseller network is extensive and provides our customers with the resources to purchase, deploy, learn, and support our solutions quickly and easily. We have a significant number of registered third-party developers who create products that work well with our solutions and extend them for a variety of specialized applications.

Better World

To help our customers imagine, design, and make a better world, our sustainability initiatives focus our efforts on the areas where we can have the greatest positive impact: products and support, catalyzing impact and innovation in our future markets, and leading by example with our 100% renewable and sustainable business practices. Through our products and services, we are supporting our customers to better understand and improve the environmental performance of everything they make and mitigate the causes and effects of climate change.

The Autodesk Foundation (the "Foundation"), a privately funded 501(c)(3) charity organization established and solely funded by us, leads our philanthropic efforts. The purpose of the Foundation is twofold: to support employees to make a better world by matching employees' volunteer time and/or donations to nonprofit organizations; and to support organizations and individuals using design to drive positive social and environmental impact. On our behalf, the Foundation also administers a discounted software donation program to nonprofit organizations, social and environmental entrepreneurs, and others who are developing design solutions that will shape a more sustainable future.

Assumptions Behind Our Strategy

Our strategy depends upon a number of assumptions, including: making our technology available to mainstream markets; leveraging our large global network of distributors, resellers, third-party developers, customers, educational institutions, and students; improving the performance and functionality of our products; and adequately protecting our intellectual property. If the outcome of any of these assumptions differs from our expectations, we may not be able to implement our strategy, which could potentially adversely affect our business. For further discussion regarding these and related risks, see Part II, Item 1A, “Risk Factors.”

Critical Accounting Policies and Estimates

Our Condensed Consolidated Financial Statements are prepared in conformity with U.S. generally accepted accounting principles ("GAAP"). In preparing our Condensed Consolidated Financial Statements, we make assumptions, judgments and estimates that can have a significant impact on amounts reported in our Condensed Consolidated Financial Statements. We evaluate our estimates and assumptions on an ongoing basis. We base our assumptions, judgments, and estimates on historical experience and various other factors that we believe to be reasonable under the circumstances. Actual results could differ materially from these estimates under different assumptions or conditions. Our significant accounting policies are described in Note 1, “Business and Summary of Significant Accounting Policies,” in the Notes to Consolidated Financial Statements in our Form 10-K for the fiscal year ended January 31, 2020.

An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, if different estimates reasonably could have been used, or if changes in the estimate that are reasonably possible could materially impact the financial statements. We highlighted those policies that involve a higher degree of judgment and complexity with further discussion in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our Form 10-K. There have been no material changes to our critical accounting policies and estimates during the three months ended April 30, 2020, as compared to those disclosed in our Form 10-K for the fiscal year ended January 31, 2020. We believe these policies are the most critical to aid in fully understanding and evaluating our financial condition and results of operations.

Overview of the Three Months Ended April 30, 2020

- Total net revenue increased 20% to $885.7 million for the three months ended April 30, 2020, compared to the same period in the prior fiscal year.
- Recurring revenue as a percentage of net revenue was 98% for the three months ending April 30, 2020, compared to 96% for the same period in the prior fiscal year.
- Net revenue retention rate ("NR3") was within the approximate range of 110% and 120% as of April 30, 2020 and 2019.
- Deferred revenue was $3.01 billion, with flat growth compared to the fourth quarter in the prior fiscal year.
- Remaining performance obligations (short-term and long-term deferred revenue plus unbilled deferred revenue) ("RPO") was $3.47 billion, a decrease of 2% compared to the fourth quarter in the prior fiscal year.
- Current remaining performance obligations were $2.35 billion, a decrease of 1% compared to the fourth quarter in the prior fiscal year.

Revenue Analysis

Net revenue increased during the three months ended April 30, 2020, as compared to the same period in the prior fiscal year, primarily due to a 35% increase in subscription revenue, partially offset by a 45% decrease in maintenance revenue as a result of the program to migrate customers from maintenance plans to subscription plans.

For further discussion of the drivers of these results, see below under the heading “Results of Operations.”

We rely significantly upon major distributors and resellers in both the U.S. and international regions, including Tech Data Corporation and its global affiliates (collectively, “Tech Data”). Total sales to Tech Data accounted for 38% and 35% of our total net revenue for the three months ended April 30, 2020 and 2019, respectively. During both the three months ended

April 30, 2020 and 2019, Ingram Micro accounted for 10% of Autodesk's total net revenue, respectively. Our customers through Tech Data and Ingram Micro are the resellers and end users who purchase our software subscriptions and services. Should any of our agreements with Tech Data and Ingram Micro be terminated for any reason, we believe the resellers and end users who currently purchase our products through Tech Data and Ingram Micro would be able to continue to do so under substantially the same terms from one of our many other distributors without substantial disruption to our revenue. Consequently, we believe our business is not substantially dependent on Tech Data and Ingram Micro.

Recurring Revenue and Net Revenue Retention Rate

In order to help better understand our financial performance, we use metrics such as recurring revenue and NR3. These metrics are key performance metrics and should be viewed independently of revenue and deferred revenue as these metrics are not intended to be combined with those items. We use these metrics to monitor the strength of our recurring business. We believe these metrics are useful to investors because they can help in monitoring the long-term health of our business. Our determination and presentation of these metrics may differ from that of other companies. The presentation of these metrics is meant to be considered in addition to, not as a substitute for or in isolation from, our financial measures prepared in accordance with GAAP. Please refer to the Glossary of Terms for the definitions of these metrics.

The following table outlines our recurring revenue metric for the three months ended April 30, 2020 and 2019:

(In millions, except percentage data)	Three Months Ended April 30, 2020	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Three Months Ended April 30, 2019
Recurring revenue (1)	$ 865.0	$ 157.2	22%	$ 707.8
As a percentage of net revenue	98%	N/A	N/A	96%

(1) The acquisition of a business may cause variability in the comparison of recurring revenue in this table above and recurring revenue derived from the revenue reported in the Condensed Consolidated Statements of Operations.

NR3 was within the approximate range of 110% and 120% as of April 30, 2020 and 2019.

Foreign Currency Analysis

We generate a significant amount of our revenue in the United States, Japan, Germany, Finland and the United Kingdom.

The following table shows the impact of foreign exchange rate changes on our net revenue and total spend:

	Three Months Ended April 30, 2020		
	Percent change compared to prior fiscal year	Constant Currency percent change compared to prior fiscal year (1)	Positive/Negative/Neutral impact from foreign exchange rate changes
Net revenue	20%	22%	Negative
Total spend	6%	8%	Positive

(1) Please refer to the Glossary of Terms for the definitions of our constant currency growth rates.

Changes in the value of the U.S. dollar may have a significant effect on net revenue, total spend, and income (loss) from operations in future periods. We use foreign currency contracts to reduce the exchange rate effect on a portion of the net revenue of certain anticipated transactions but do not attempt to completely mitigate the impact of fluctuations of such foreign currency against the U.S. dollar.

Remaining Performance Obligations

RPO represents deferred revenue and contractually stated or committed orders under early renewal and multi-year billing plans for subscription, services, license and maintenance for which the associated deferred revenue has not yet been recognized. Unbilled deferred revenue is not included as a receivable or deferred revenue on our Condensed Consolidated Balance Sheets. See Note 3, “Revenue Recognition” for more details on Autodesk's performance obligations.

(in millions)	April 30, 2020	January 31, 2020
Deferred revenue	$ 3,005.1	$ 3,007.1
Unbilled deferred revenue	469.7	549.6
RPO	$ 3,474.8	$ 3,556.7

RPO consisted of the following:

(in millions)	April 30, 2020	January 31, 2020
Current RPO	$ 2,350.4	$ 2,368.6
Non-current RPO	1,124.4	1,188.1
RPO	$ 3,474.8	$ 3,556.7

We expect that the amount of RPO will change from quarter to quarter for several reasons, including the specific timing, duration and size of customer subscription and support agreements, varying billing cycles of such agreements, the specific timing of customer renewals, and foreign currency fluctuations.

Balance Sheet and Cash Flow Items

At April 30, 2020, we had $1.47 billion in cash and marketable securities. Our cash flow from operations increased to $327.3 million for the three months ended April 30, 2020, compared to $221.2 million for the three months ended April 30, 2019. We repurchased 1.2 million shares of our common stock for $189.0 million during the three months ended April 30, 2020. Comparatively, we repurchased 0.6 million shares of our common stock for $100.0 million during the three months ended April 30, 2019. See further discussion regarding the balance sheet and cash flow activities under the heading “Liquidity and Capital Resources.”

Results of Operations

Impacts of COVID-19 to Autodesk’s Business

We are continuing to conduct business during the COVID-19 pandemic with substantial modifications to employee travel, employee work locations, and virtualization, postponement or cancellation of certain sales and marketing events, among other modifications. We have observed other companies as well as many governments taking precautionary and preemptive actions to address COVID-19, and they may take further actions that alter their normal business operations. We will continue to actively monitor the situation and may take further actions that alter our business operations as may be required by federal, state or local authorities, or that we determine are in the best interests of our employees, customers, partners, suppliers and stockholders.

We have noticed that the COVID-19 pandemic has had some specific effects on our business. During the three months ended April 30, 2020, weekly average users of our products decreased slightly, but we saw an increase in usage of our cloud collaboration products as customers worked from home. During the quarter renewal rates held relatively steady, whereas new business slowed in the second half of the quarter. Among our target markets, AEC revenue held up well while we experienced a slowdown in Manufacturing revenue. Our partial renewal rate remained relatively steady as well.

We also took action to support our customers during the three months ended April 30, 2020 by extending payment terms to 60 days through the beginning of August 2020, offering free commercial use of our cloud collaboration products through June 2020, and delaying the transition from multi-user to named user from May 2020 to August 2020 to minimize customer disruption. Further, we deferred a 20% maintenance price increase from May 2020 to August 2020 to give customers additional time to consider a subscription agreement.

Given the evolving business environment as a result of COVID-19, we are actively managing our spending, reducing travel and entertainment expense, monitoring our hiring rate, shifting to virtual events, and rationalizing our marketing spend. We will continue to invest in critical areas such as R&D, construction, and digitizing the company to ensure our future success as we come out of the pandemic.

We believe our investment in cloud products and a subscription business model, backed by a strong balance sheet, give us a robust foundation to successfully navigate the economic challenges of COVID-19. The extent of the impact on our business in fiscal 2021 will depend on several factors, including: the full duration and the extent of the pandemic; actions taken by governments, businesses and consumers in response to the pandemic; speed and timing of economic recovery; our billings and renewal rates including new business close rates, rate of multi-year contracts and new unit volume growth; and effect of the pandemic on margins and cash flow. All of these factors continue to evolve and remain uncertain at this time, and some of these factors are not within our control. Further discussion of the potential impacts of COVID-19 on our business can be found in Part II, Item 1A "Risk Factors."

Net Revenue

Net Revenue by Income Statement Presentation

Subscription revenue consists of our term-based product subscriptions, cloud service offerings, and flexible enterprise business arrangements. Revenue from these arrangements is recognized ratably over the contract term commencing with the date our service is made available to customers and when all other revenue recognition criteria have been satisfied.

Maintenance revenue consists of renewal fees for existing maintenance plan agreements that were initially purchased with a perpetual software license. Under our maintenance plan, customers are eligible to receive unspecified upgrades, when and if available, and technical support. We recognize maintenance revenue ratably over the term of the agreements, which is generally one year.

Other revenue consists of revenue from consulting, training and other services, and is recognized over time as the services are performed. Other revenue also includes software license revenue from the sale of products which do not incorporate substantial cloud services and is recognized up front.

(In millions, except percentages)	Three Months Ended April 30, 2020	Change Compared to Prior Fiscal Year $	Change Compared to Prior Fiscal Year %	Three Months Ended April 30, 2019	Management comments
Net Revenue:					
Subscription	$ 803.0	$ 207.2	35 %	$ 595.8	Increase due to growth across all subscription types, led by product subscription renewal revenue, which benefited from the success of the M2S program. Also contributing to the growth was an increase in revenue from new product subscriptions and EBA offerings.
Maintenance (1)	62.1	(49.9)	(45)%	112.0	Decrease primarily due to the migration of maintenance plan subscriptions to subscription plan subscriptions with the M2S program.
Total subscription and maintenance revenue	865.1	157.3	22 %	707.8	
Other	20.6	(7.1)	(26)%	27.7	
	$ 885.7	$ 150.2	20 %	$ 735.5	

(1) We expect maintenance revenue will slowly decline; however, the rate of decline will vary based on the number of renewals, the renewal rate, and our ability to incentivize maintenance plan customers to switch over to subscription plan offerings.

Net Revenue by Product Family

Our product offerings are focused in four primary product families: Architecture, Engineering and Construction ("AEC"), AutoCAD and AutoCAD LT, Manufacturing ("MFG"), and Media and Entertainment ("M&E").

(In millions, except percentages)	Three Months Ended April 30, 2020	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Three Months Ended April 30, 2019	Management comments
Net Revenue by Product Family:					
AEC	$ 382.7	$ 78.4	26%	$ 304.3	Up due to increases in revenue from AEC Collections, EBAs, PlanGrid, and BIM 360.
AutoCAD and AutoCAD LT	262.2	49.0	23%	213.2	Up due to increases in revenue from both AutoCAD and AutoCAD LT.
MFG	182.9	15.4	9%	167.5	Up due to increases in revenue from MFG Collections and EBAs.
M&E	52.6	7.1	16%	45.5	Up due to increases in revenue from Maya, EBAs, M&E Collections, and 3DS Max.
Other	5.3	0.3	6%	5.0	
	$ 885.7	$ 150.2	20%	$ 735.5	

Net Revenue by Geographic Area

(In millions, except percentages)	Three Months Ended April 30, 2020	Change compared to prior fiscal year $	Change compared to prior fiscal year %	Constant currency change compared to prior fiscal year %	Three Months Ended April 30, 2019
Net Revenue:					
Americas					
U.S.	$ 300.6	$ 51.5	21%	*	$ 249.1
Other Americas	61.6	14.9	32%	*	46.7
Total Americas	362.2	66.4	22%	23%	295.8
EMEA	344.8	47.6	16%	20%	297.2
APAC	178.7	36.2	25%	26%	142.5
Total Net Revenue	$ 885.7	$ 150.2	20%	22%	$ 735.5
Emerging Economies	$ 111.4	$ 23.5	27%	27%	$ 87.9

* Constant currency data not provided at this level.

We believe that international revenue will continue to comprise a majority of our net revenue. Unfavorable economic conditions in the countries that contribute a significant portion of our net revenue, including in emerging economies such as Brazil, Russia, India, and China, may have an adverse effect on our business in those countries and our overall financial performance. Changes in the value of the U.S. dollar relative to other currencies have significantly affected, and could continue to significantly affect, our financial results for a given period even though we hedge a portion of our current and projected revenue. Increases to the levels of political and economic unpredictability or protectionism in the global market may impact our future financial results.

Net Revenue by Sales Channel

(In millions, except percentages)		Three Months Ended April 30, 2020		Change compared to prior fiscal year $	Change compared to prior fiscal year %		Three Months Ended April 30, 2019	Management Comments
Net Revenue by Sales Channel:								
Indirect	$	623.4	$	107.0	21%	$	516.4	Up due to an increase in subscription revenue offset by lower maintenance plan subscriptions as we continue to migrate customers to subscriptions through the M2S program.
Direct		262.3		43.2	20%		219.1	Up due to an increase in EBAs and our online Autodesk branded store.
Total Net Revenue	$	885.7	$	150.2	20%	$	735.5	

Cost of Revenue and Operating Expenses

Cost of subscription and maintenance revenue includes the labor costs of providing product support to our subscription and maintenance customers, including allocated IT and facilities costs, professional services fees related to operating our network and cloud infrastructure, royalties, depreciation expense and operating lease payments associated with computer equipment, data center costs, salaries, related expenses of network operations, stock-based compensation expense and gains and losses on our operating expense cash flow hedges.

Cost of other revenue includes labor costs associated with product setup, costs of consulting and training services contracts, and collaborative project management services contracts. Cost of other revenue also includes stock-based compensation expense, overhead charges, allocated IT and facilities costs, professional services fees, and gains and losses on our operating expense cash flow hedges. Direct material and overhead charges include the cost associated with electronic and physical fulfillment.

Cost of revenue, at least over the near term, is affected by labor costs, the volume and mix of product sales, fluctuations in consulting costs, amortization of developed technology, new customer support offerings, royalty rates for licensed technology embedded in our products, stock-based compensation expense and gains and losses on our operating expense cash flow hedges.

Marketing and sales expenses include salaries, bonuses, benefits and stock-based compensation expense for our marketing and sales employees, the expense of travel, entertainment and training for such personnel, sales and dealer commissions, and the costs of programs aimed at increasing revenue, such as advertising, trade shows and expositions, and various sales and promotional programs. Marketing and sales expenses also include payment processing fees, the cost of supplies and equipment, gains and losses on our operating expense cash flow hedges, allocated IT and facilities costs, and labor costs associated with sales and order management.

Research and development expenses, which are expensed as incurred, consist primarily of salaries, bonuses, benefits and stock-based compensation expense for research and development employees, the expense of travel, entertainment and training for such personnel, professional services such as fees paid to software development firms and independent contractors, gains and losses on our operating expense cash flow hedges, and allocated IT and facilities costs.

General and administrative expenses include salaries, bonuses, benefits and stock-based compensation expense for our CEO, finance, human resources and legal employees, as well as professional fees for legal and accounting services, certain foreign business taxes, gains and losses on our operating expense cash flow hedges, expense of travel, entertainment and training, net IT and facilities costs, acquisition-related transition costs, and the cost of supplies and equipment.

(In millions, except percentages)	Three Months Ended April 30, 2020	Change compared to prior fiscal year $	%	Three Months Ended April 30, 2019	Management comments
Cost of revenue:					
Subscription and maintenance	$ 57.4	$ (2.3)	(4)%	$ 59.7	Decrease primarily due to a decrease in employee-related costs and professional fees.
Other	17.1	3.3	24 %	13.8	Increase primarily due to an increase in employee-related costs.
Amortization of developed technology	7.4	(1.8)	(20)%	9.2	Decrease as previously acquired developed technologies continue to become fully amortized.
Total cost of revenue	$ 81.9	$ (0.8)	(1)%	$ 82.7	
Operating expenses:					
Marketing and sales	$ 341.3	$ 28.0	9 %	$ 313.3	Increase primarily due to an increase in employee-related costs driven by higher headcount as well as an increase in stock-based compensation expense and cloud hosting costs.
Research and development	217.4	11.8	6 %	205.6	Increase primarily due to an increase in cloud hosting costs and employee-related costs driven by higher headcount as well as an increase in stock-based compensation expense.
General and administrative	104.8	5.7	6 %	99.1	Increase primarily due to charitable contributions and cancellation of corporate events.
Amortization of purchased intangibles	9.7	(0.1)	(1)%	9.8	Decrease as previously acquired purchased intangibles continue to become fully amortized.
Restructuring and other exit costs, net	—	(0.2)	*	0.2	Decreased as we substantially completed the actions authorized under the fiscal 2018 restructuring plan.
Total operating expenses	$ 673.2	$ 45.2	7 %	$ 628.0	

* Percentage is not meaningful.

The following table highlights our expectation for the absolute dollar change and percent of revenue change between the second quarter of fiscal 2021, as compared to the second quarter of fiscal 2020:

	Absolute dollar impact	Percent of net revenue impact
Cost of revenue	Increase	Decrease
Marketing and sales	Increase	Decrease
Research and development	Increase	Decrease
General and administrative	Decrease	Decrease
Amortization of purchased intangibles	Decrease	Decrease

Interest and Other Expense, Net

The following table sets forth the components of interest and other expense, net:

(in millions)	Three Months Ended April 30, 2020	2019
Interest and investment expense, net	$ (22.3)	$ (13.0)
(Loss) gain on foreign currency	(1.8)	0.7
Loss on non-marketable equity securities, net	(16.6)	(5.0)
Other income	0.6	1.1
Interest and other expense, net	$ (40.1)	$ (16.2)

Interest and Other Expense, Net, increased by $23.9 million during the three months ended April 30, 2020, as compared to the same period in the prior fiscal year. This was primarily due to an increase in negative adjustments, including impairments on our non-marketable equity securities and mark-to-market losses in the current period versus gains in the previous period on marketable securities.

Interest expense and investment income fluctuates based on average cash, marketable securities, debt balances, average maturities and interest rates.

Gains and losses on foreign currency are primarily due to the impact of re-measuring foreign currency transactions and net monetary assets into the functional currency of the corresponding entity. The amount of the gain or loss on foreign currency is driven by the volume of foreign currency transactions and the foreign currency exchange rates for the period.

Provision for Income Taxes

We account for income taxes and the related accounts under the liability method. Deferred tax liabilities and assets are determined based on the difference between the financial statement and tax bases of assets and liabilities, using enacted rates expected to be in effect during the year in which the basis differences reverse.

Autodesk had an income tax expense of $24.0 million, relative to pre-tax income of $90.5 million for the three months ended April 30, 2020, and an income tax expense of $32.8 million, relative to pre-tax income of $8.6 million for the three months ended April 30, 2019. Income tax expense for the three months ended April 30, 2020 decreased primarily primarily due to the jurisdictional mix of earnings, offset by the U.S. full valuation allowance and a reduction in withholding taxes.

Autodesk regularly assesses the need for a valuation allowance against its deferred tax assets. In making that assessment, Autodesk considers both positive and negative evidence related to the likelihood of realization of the deferred tax assets to determine, based on the weight of available evidence, whether it is more likely than not that some or all of the deferred tax assets will not be realized. In evaluating the need for a valuation allowance, Autodesk considered cumulative losses as a significant source of negative evidence and maintained a valuation allowance against our deferred tax attributes in the U.S. and certain foreign jurisdictions as of April 30, 2020.

The Company anticipates a significant increase in U.S. taxable income in fiscal 2021 due to current year increase in global earnings. We currently forecast the utilization of U.S. deferred tax assets to offset U.S. taxable income resulting from the inclusion of foreign earnings. While increased U.S. taxable income is considered positive evidence, we believe that the cumulative losses should be given more weight and have maintained the valuation allowance on our U.S. deferred tax assets.

As Autodesk continually strives to optimize the overall business model, tax planning strategies may become feasible and prudent allowing the Company to realize many of the deferred tax assets that are offset by a valuation allowance; therefore, Autodesk will continue to evaluate the ability to utilize the deferred tax assets each quarter, both in the U.S. and in foreign jurisdictions, based on all available evidence, both positive and negative.

As of April 30, 2020, we had $218.6 million of gross unrecognized tax benefits, of which $201.7 million would reduce our valuation allowance, if recognized. The remaining $16.9 million would impact the effective tax rate, if recognized. It is possible that the amount of unrecognized tax benefits will change in the next twelve months; however, an estimate of the range of the possible change cannot be made at this time.

We anticipate that the U.S. Department of Treasury will continue to interpret or issue guidance on how provisions of the U.S. Tax Cuts and Jobs Act ("Tax Act") will be applied or otherwise administered. As future guidance is issued, we may make adjustments to amounts that we have previously recorded that may materially impact our financial statements in the period in which the adjustments are made.

Our future effective annual tax rate may be materially impacted by the amount of benefits and charges from tax amounts associated with our foreign earnings that are taxed at rates different from the federal statutory rate, changes in valuation allowances, level of profit before tax, accounting for uncertain tax positions, business combinations, closure of statute of limitations or settlement of tax audits, and changes in tax laws including impacts of the Tax Act. A significant amount of our earnings is generated by our Europe and Asia Pacific subsidiaries. Our future effective tax rates may be adversely affected to the extent earnings are lower than anticipated in countries where we have lower statutory tax rates.

On March 27, 2020, the President of the United States signed into law the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act"). The CARES Act, among other things, included certain income tax provisions for individuals and corporations; however, these benefits do not impact the Company's current tax provision due to the U.S. full valuation allowance. In addition to the CARES Act, the California May budget bill proposed suspending utilization of net operating losses and limiting R&D credits utilization against California taxable income in excess of $5.0 million for the succeeding 5 years. If this state tax legislation is enacted, it may have a material impact on the Company's income tax provision. In response to the impact of COVID-19, certain governmental agencies have provided employer wage and retirement subsidies or employment tax deferrals. Where Autodesk has availed to such subsidies or deferrals, we have accounted for the tax impact in our income tax provision. As of the first quarter of fiscal 2021, the Company continues to be able to reliably estimate forecasted earnings and tax by jurisdiction for the year.

Other Financial Information

In addition to our results determined under GAAP discussed above, we believe the following non-GAAP measures are useful to investors in evaluating our operating performance. For the three months ended April 30, 2020 and 2019, our gross profit, gross margin, income from operations, operating margin, net income (loss), diluted net income (loss) per share and diluted shares used in per share calculation on a GAAP and non-GAAP basis were as follows (in millions except for gross margin, operating margin, and per share data):

	Three Months Ended April 30,	
	2020	2019
	(Unaudited)	
Gross profit	$ 803.8	$ 652.8
Non-GAAP gross profit	$ 816.5	$ 666.9
Gross margin	91%	89%
Non-GAAP gross margin	92%	91%
Income from operations	$ 130.6	$ 24.8
Non-GAAP income from operations	$ 247.8	$ 131.9
Operating margin	15%	3%
Non-GAAP operating margin	28%	18%
Net income (loss)	$ 66.5	$ (24.2)
Non-GAAP net income	$ 188.4	$ 99.0
GAAP diluted net income (loss) per share	$ 0.30	$ (0.11)
Non-GAAP diluted net income per share	$ 0.85	$ 0.45
GAAP weighted average shares used in computing diluted net income (loss) per share	221.3	219.6
Non-GAAP weighted average shares used in computing diluted net income (loss) per share	221.3	222.0

For our internal budgeting and resource allocation process and as a means to evaluate period-to-period comparisons, we use non-GAAP measures to supplement our condensed consolidated financial statements presented on a GAAP basis. These non-GAAP measures do not include certain items that may have a material impact upon our reported financial results. We also use non-GAAP measures in making operating decisions because we believe those measures provide meaningful supplemental information regarding our earning potential and performance for management by excluding certain expenses and charges that may not be indicative of our core business operating results. For the reasons set forth below, we believe these non-GAAP financial measures are useful to investors both because (1) they allow for greater transparency with respect to key metrics used by management in its financial and operational decision-making and (2) they are used by our institutional investors and the analyst community to help them analyze the health of our business. This allows investors and others to better understand and evaluate our operating results and future prospects in the same manner as management, to compare financial results across accounting periods and to those of peer companies and to better understand the long-term performance of our core business. We also use some of these measures for purposes of determining company-wide incentive compensation.

There are limitations in using non-GAAP financial measures because non-GAAP financial measures are not prepared in accordance with GAAP and may be different from non-GAAP financial measures used by other companies. The non-GAAP financial measures included above are limited in value because they exclude certain items that may have a material impact upon our reported financial results. In addition, they are subject to inherent limitations as they reflect the exercise of judgments by management about which charges are excluded from the non-GAAP financial measures. We compensate for these limitations by analyzing current and future results on a GAAP basis as well as a non-GAAP basis and also by providing GAAP measures in our public disclosures. The presentation of non-GAAP financial information is meant to be considered in addition to, not as a substitute for or in isolation from, the directly comparable financial measures prepared in accordance with GAAP. We urge investors to review the reconciliation of our non-GAAP financial measures to the comparable GAAP financial measures included below, and not to rely on any single financial measure to evaluate our business.

Reconciliation of GAAP Financial Measures to Non-GAAP Financial Measures

(In millions except for gross margin, operating margin, and per share data):

	Three Months Ended April 30,	
	2020	2019
	(Unaudited)	
Gross profit	$ 803.8	$ 652.8
Stock-based compensation expense	5.1	4.9
Amortization of developed technologies	7.4	9.2
Acquisition related costs	0.2	—
Non-GAAP gross profit	$ 816.5	$ 666.9
Gross margin	91%	89%
Stock-based compensation expense	1%	1%
Amortization of developed technologies	1%	1%
Non-GAAP gross margin (1)	92%	91%
Income from operations	$ 130.6	$ 24.8
Stock-based compensation expense	98.2	75.2
Amortization of developed technologies	7.4	9.2
Amortization of purchased intangibles	9.7	9.8
Acquisition related costs	1.9	12.7
Restructuring and other exit costs, net	—	0.2
Non-GAAP income from operations	$ 247.8	$ 131.9
Operating margin	15%	3%
Stock-based compensation expense	11%	10%
Amortization of developed technologies	1%	1%
Amortization of purchased intangibles	1%	1%
Acquisition related costs	—%	2%
Non-GAAP operating margin (1)	28%	18%
Net income (loss)	$ 66.5	$ (24.2)
Stock-based compensation expense	98.2	75.2
Amortization of developed technologies	7.4	9.2
Amortization of purchased intangibles	9.7	9.8
Acquisition related costs	1.9	12.7
Restructuring and other exit costs, net	—	0.2
Loss on strategic investments and dispositions, net	16.6	5.0
Discrete tax benefit (provision) items	0.5	(2.3)
Income tax effect of non-GAAP adjustments	(12.4)	13.4
Non-GAAP net income	$ 188.4	$ 99.0

	Three Months Ended April 30,	
	2020	2019
	(Unaudited)	
Diluted net income (loss) per share	$ 0.30	$ (0.11)
Stock-based compensation expense	0.44	0.34
Amortization of developed technologies	0.03	0.04
Amortization of purchased intangibles	0.04	0.04
Acquisition related costs	0.01	0.07
Loss on strategic investments and dispositions, net	0.08	0.02
Discrete tax provision items	—	(0.01)
Income tax effect of non-GAAP adjustments	(0.05)	0.06
Non-GAAP diluted net income per share	$ 0.85	$ 0.45
GAAP weighted average shares used in computing diluted net income (loss) per share	221.3	219.6
Dilutive effect of restricted awards	—	2.4
Non-GAAP weighted average shares used in computing diluted net income (loss) per share	221.3	222.0

(1) Totals may not sum due to rounding.

Our non-GAAP financial measures may exclude the following, as applicable:

Stock-based compensation expenses. We exclude stock-based compensation expenses from non-GAAP measures primarily because they are non-cash expenses and management finds it useful to exclude certain non-cash charges to assess the appropriate level of various operating expenses to assist in budgeting, planning and forecasting future periods. Moreover, because of varying available valuation methodologies, subjective assumptions and the variety of award types that companies can use under FASB ASC Topic 718, we believe excluding stock-based compensation expenses allows investors to make meaningful comparisons between our recurring core business operating results and those of other companies.

Amortization of developed technologies and purchased intangibles. We incur amortization of acquisition-related developed technology and purchased intangibles in connection with acquisitions of certain businesses and technologies. Amortization of developed technologies and purchased intangibles is inconsistent in amount and frequency and is significantly affected by the timing and size of our acquisitions. Management finds it useful to exclude these variable charges from our cost of revenues to assist in budgeting, planning and forecasting future periods. Investors should note that the use of intangible assets contributed to our revenues earned during the periods presented and will contribute to our future period revenues as well. Amortization of developed technologies and purchased intangible assets will recur in future periods.

CEO transition costs. We exclude amounts paid to the Company's former CEOs upon departure under the terms of their transition agreements, including severance payments, acceleration of restricted stock units, and continued vesting of performance stock units, and legal fees incurred with the transition. Also excluded from our non-GAAP measures are recruiting costs related to the search for a new CEO. These costs represent non-recurring expenses and are not indicative of our ongoing operating expenses. We further believe that excluding the CEO transition costs from our non-GAAP results is useful to investors in that it allows for period-over-period comparability.

Goodwill impairment. This is a non-cash charge to write-down goodwill to fair value when there was an indication that the asset was impaired. As explained above, management finds it useful to exclude certain non-cash charges to assess the appropriate level of various operating expenses to assist in budgeting, planning and forecasting future periods.

Restructuring and other exit costs, net. These expenses are associated with realigning our business strategies based on current economic conditions. In connection with these restructuring actions or other exit actions, we recognize costs related to termination benefits for former employees whose positions were eliminated, the closure of facilities and cancellation of certain contracts. We exclude these charges because these expenses are not reflective of ongoing business and operating results. We believe it is useful for investors to understand the effects of these items on our total operating expenses.

Acquisition related costs. We exclude certain acquisition related costs, including due diligence costs, professional fees in connection with an acquisition, certain financing costs, and certain integration related expenses. These expenses are unpredictable, and dependent on factors that may be outside of our control and unrelated to the continuing operations of the acquired business, or our Company. In addition, the size and complexity of an acquisition, which often drives the magnitude of acquisition related costs, may not be indicative of such future costs. We believe excluding acquisition related costs facilitates the comparison of our financial results to the Company's historical operating results and to other companies in our industry.

Loss (gain) on strategic investments and dispositions. We exclude gains and losses related to our strategic investments and dispositions from our non-GAAP measures primarily because management finds it useful to exclude these variable gains and losses on these investments and dispositions in assessing our financial results. Included in these amounts are non-cash unrealized gains and losses on the derivative components, dividends received, realized gains and losses on the sales or losses on the impairment of these investments and dispositions. We believe excluding these items is useful to investors because these excluded items do not correlate to the underlying performance of our business and these losses or gains were incurred in connection with strategic investments and dispositions which do not occur regularly.

Discrete tax provision items. We exclude the GAAP tax provision, including discrete items, from the non-GAAP measure of net (loss) income, and include a non-GAAP tax provision based upon the projected annual non-GAAP effective tax rate. Discrete tax items include income tax expenses or benefits that do not relate to ordinary income from continuing operations in the current fiscal year, unusual or infrequently occurring items, or the tax impact of certain stock-based compensation. Examples of discrete tax items include, but are not limited to, certain changes in judgment and changes in estimates of tax matters related to prior fiscal years, certain costs related to business combinations, certain changes in the realizability of deferred tax assets or changes in tax law. Management believes this approach assists investors in understanding the tax provision and the effective tax rate related to ongoing operations. We believe the exclusion of these discrete tax items provides investors with useful supplemental information about our operational performance.

Establishment (release) of a valuation allowance on certain net deferred tax assets. This is a non-cash charge to record or to release a valuation allowance on certain deferred tax assets. As explained above, management finds it useful to exclude certain non-cash charges to assess the appropriate level of various cash expenses to assist in budgeting, planning and forecasting future periods.

Income tax effects on the difference between GAAP and non-GAAP costs and expenses. The income tax effects that are excluded from the non-GAAP measures relate to the tax impact on the difference between GAAP and non-GAAP expenses, primarily due to stock-based compensation, amortization of purchased intangibles and restructuring charges and other exit costs (benefits) for GAAP and non-GAAP measures.

Liquidity and Capital Resources

Our primary source of cash is from the sale of our software and related services. Our primary use of cash is payment of our operating costs, which consist primarily of employee-related expenses, such as compensation and benefits, as well as general operating expenses for marketing, facilities and overhead costs. In addition to operating expenses, we also use cash to fund our stock repurchase program, repay existing debt and invest in our growth initiatives, which include acquisitions of products, technology and businesses. See further discussion of these items below.

At April 30, 2020, our principal sources of liquidity were cash, cash equivalents and marketable securities totaling $1.47 billion and net accounts receivable of $356.5 million.

On December 17, 2018, Autodesk entered into a Credit Agreement (the “Credit Agreement”) for an unsecured revolving loan facility in the aggregate principal amount of $650.0 million, with an option to request increases in the amount of the credit facility by up to an additional $350.0 million. The maturity date on the credit facility is December 2023. At April 30, 2020, Autodesk had no outstanding borrowings on this line of credit. As of June 2, 2020, we have no amounts outstanding under the credit facility. See Part I, Item 1, Note 13, "Borrowing Arrangements," in the Notes to Condensed Consolidated Financial Statements for further discussion on our covenant requirements. If we are unable to remain in compliance with the covenants under the Credit Agreement, we will not be able to draw on our credit facility.

As of April 30, 2020, we have $1.65 billion aggregate principal amount of notes outstanding. See Part I, Item 1, Note 13, "Borrowing Arrangements," in the Notes to Condensed Consolidated Financial Statements for further discussion.

Our cash and cash equivalents are held by diversified financial institutions globally. Our primary commercial banking relationship is with Citigroup and its global affiliates. In addition, Citibank N.A., an affiliate of Citigroup, is one of the lead lenders and agent in the syndicate of our $650.0 million line of credit.

Long-term cash requirements for items other than normal operating expenses are anticipated for the following: repayment of debt; common stock repurchases; the acquisition of businesses, software products, or technologies complementary to our business; and capital expenditures, including the purchase and implementation of internal-use software applications.

Our cash, cash equivalents, and marketable securities balances are concentrated in a few locations around the world, with substantial amounts held outside of the United States. As of April 30, 2020, approximately 46% of our total cash or cash equivalents and marketable securities are located in foreign jurisdictions and that percentage will fluctuate subject to business needs. There are several factors that can impact our ability to utilize foreign cash balances, such as foreign exchange restrictions, foreign regulatory restrictions or adverse tax costs. The Tax Act included a mandatory one-time tax on accumulated earnings of foreign subsidiaries and generally eliminated U.S. taxes on foreign subsidiary distributions in future periods. As a result, earnings in foreign jurisdictions are generally available for distribution to the U.S. with little to no incremental U.S. taxes. We regularly review our capital structure and consider a variety of potential financing alternatives and planning strategies to ensure we have the proper liquidity available in the locations in which it is needed. We expect to meet our liquidity needs through or in combination of current cash balances, ongoing cash flows, and external borrowings.

Cash from operations could also be affected by various risks and uncertainties, including, but not limited to the risks detailed in Part II, Item 1A titled “Risk Factors.” Additionally, as a result of the COVID-19 pandemic, we have extended contract payment terms for up to 60 days for all customers and partners for new orders and renewals placed directly with Autodesk beginning March 16, 2020 through August 7, 2020. We currently expect to have sufficient liquidity to manage through the COVID-19 pandemic but we will continue to monitor the impact of potential disruptions beyond our control. However, based on our current business plan and revenue prospects, we believe that our existing cash and cash equivalents, our anticipated cash flows from operations and our available credit facility will be sufficient to meet our working capital and operating resource expenditure requirements for at least the next 12 months.

Our revenue, earnings, cash flows, receivables, and payables are subject to fluctuations due to changes in foreign currency exchange rates, for which we have put in place foreign currency contracts as part of our risk management strategy. See Part I, Item 3, “Quantitative and Qualitative Disclosures about Market Risk” for further discussion.

	Three Months Ended April 30,	
(in millions)	**2020**	**2019**
Net cash provided by operating activities	$ 327.3	$ 221.2
Net cash used in investing activities	(78.0)	(29.2)
Net cash used in financing activities	(630.2)	(192.4)

Net cash provided by operating activities of $327.3 million for the three months ended April 30, 2020, was primarily impacted by non-cash stock-based compensation expense, a source of working capital primarily from a decrease in accounts receivable from January 31, 2020, to April 30, 2020 partially offset by a use of working capital from a decrease in accounts payable and other liabilities and our net income. Net cash provided by operating activities of $221.2 million for the three months ended April 30, 2019, includes $147.8 million of non-cash expenses, including stock-based compensation expense, depreciation, amortization and accretion expense, and an increase in changes in operating assets and liabilities of $97.6 million partially offset by our net loss of $24.2 million.

Net cash used in investing activities was $78.0 million for the three months ended April 30, 2020, primarily due to purchases of non-marketable equity securities, capital expenditures and purchases of marketable securities. Net cash used in investing activities for the three months ended April 30, 2019, was primarily due to purchases of marketable securities and capital expenditures.

At April 30, 2020, our short-term investment portfolio had an estimated fair value of $77.2 million and a cost basis of $73.1 million. The portfolio fair value primarily consists of short-term trading securities that were invested in a defined set of mutual funds as directed by the participants in our Deferred Compensation Plan (see Note 11, “Deferred Compensation,” in the Notes to the Condensed Consolidated Financial Statements for further discussion).

Net cash used in financing activities was $630.2 million for the three months ended April 30, 2020, primary due to the repayment of debt and the repurchases of common stock. These cash outflows were offset in part by cash proceeds from the issuance of common stock. Net cash used in financing activities was $192.4 for the three months ended April 30, 2019, and was primary due to the repayment of debt and the repurchases of common stock. These cash outflows were offset in part by cash proceeds from the issuance of common stock.

Issuer Purchases of Equity Securities

Autodesk's stock repurchase program provides Autodesk with the ability to offset the dilution from the issuance of stock under our employee stock plans and reduce shares outstanding over time, and has the effect of returning excess cash generated from our business to stockholders. Under the share repurchase program, Autodesk may repurchase shares from time to time in open market transactions, privately-negotiated transactions, accelerated share repurchase programs, tender offers, or by other means. The share repurchase program does not have an expiration date and the pace and timing of repurchases will depend on factors such as cash generation from operations, available surplus, the volume of employee stock plan activity, remaining shares available in the authorized pool, cash requirements for acquisitions, economic and market conditions, stock price and legal and regulatory requirements.

The following table provides information about the repurchase of common stock in open-market transactions during the three months ended April 30, 2020:

(Shares in millions)	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (2)
February 1 - February 29	—	$ 181.59	—	14.7
March 1 - March 31	1.1	153.34	1.1	13.6
April 1 - April 30	0.1	139.76	0.1	13.5
Total	1.2	$ 153.41	1.2	

(1) This represents shares purchased in open-market transactions under the stock repurchase plan approved by the Board of Directors.
(2) These amounts correspond to the plan approved by the Board of Directors in September 2016 that authorized the repurchase of 30.0 million shares. The plan does not have a fixed expiration date. See Note 16, “Stockholders' Deficit,” in the Notes to the unaudited Condensed Consolidated Financial Statements for further discussion.

Off-Balance Sheet Arrangements

As of April 30, 2020, we did not have any significant off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K.

Glossary of Terms

Billings: Total revenue plus the net change in deferred revenue from the beginning to the end of the period.

Cloud Service Offerings: Represents individual term-based offerings deployed through web browser technologies or in a hybrid software and cloud configuration. Cloud service offerings that are bundled with other product offerings are not captured as a separate cloud service offering.

Constant Currency (CC) Growth Rates: We attempt to represent the changes in the underlying business operations by eliminating fluctuations caused by changes in foreign currency exchange rates as well as eliminating hedge gains or losses recorded within the current and comparative periods. We calculate constant currency growth rates by (i) applying the applicable prior period exchange rates to current period results and (ii) excluding any gains or losses from foreign currency hedge contracts that are reported in the current and comparative periods.

Enterprise Business Agreements (EBAs): Represents programs providing enterprise customers with token-based access to a broad pool of Autodesk products over a defined contract term.

Free Cash Flow: Cash flow from operating activities minus capital expenditures.

Industry Collections: Autodesk Industry Collections are a combination of products and services that target a specific user objective and support a set of workflows for that objective. Our Industry Collections consist of: Autodesk Architecture, Engineering and Construction Collection, Autodesk Product Design & Manufacturing Collection, and Autodesk Media and Entertainment Collection.

Maintenance Plan: Our maintenance plans provide our customers with a cost effective and predictable budgetary option to obtain the productivity benefits of our new releases and enhancements when and if released during the term of their contracts. Under our maintenance plans, customers are eligible to receive unspecified upgrades when and if available, and technical support. We recognize maintenance revenue over the term of the agreements, generally one year.

Net Revenue Retention Rate (NR3): Measures the year-over-year change in subscription and maintenance revenue for the population of customers that existed one year ago (“base customers”). Net revenue retention rate is calculated by dividing the current quarter subscription and maintenance revenue related to base customers by the total corresponding quarter subscription and maintenance revenue from one year ago. Subscription and maintenance revenue is based on USD reported revenue, and fluctuations caused by changes in foreign currency exchange rates and hedge gains or losses have not been eliminated. Subscription and maintenance revenue related to acquired companies, one year after acquisition, has been captured as existing customers until such data conforms to the calculation methodology. This may cause variability in the comparison. Beginning with the first quarter of fiscal 2021, Autodesk modified its definition of NR3 to the definition above. The effect of this change is not material for the period presented.

Other Revenue: Consists of revenue from consulting, training and other services, and is recognized over time as the services are performed. Other Revenue also includes software license revenue from the sale of products that do not incorporate substantial cloud services and is recognized up front.

Product Subscription: Provides customers the most flexible, cost-effective way to access and manage 3D design, engineering, and entertainment software tools. Our product subscriptions currently represent a hybrid of desktop and SaaS functionality, which provides a device-independent, collaborative design workflow for designers and their stakeholders.

Recurring Revenue: Consists of the revenue for the period from our traditional maintenance plans and revenue from our subscription plan offerings. It excludes subscription revenue related to consumer product offerings, select Creative Finishing product offerings, education offerings, and third-party products. Recurring revenue acquired with the acquisition of a business is captured when total subscriptions are captured in our systems and may cause variability in the comparison of this calculation.

Remaining Performance Obligations (RPO): The sum of total short-term, long-term, and unbilled deferred revenue. Current remaining performance obligations is the amount of revenue we expect to recognize in the next twelve months.

Spend: The sum of cost of revenue and operating expenses.

Subscription Plan: Comprises our term-based product subscriptions, cloud service offerings, and EBAs. Subscriptions represent a combined hybrid offering of desktop software and cloud functionality which provides a device-independent, collaborative design workflow for designers and their stakeholders. With subscription, customers can use our software anytime, anywhere, and get access to the latest updates to previous versions.

Subscription Revenue: Includes subscription fees from product subscriptions, cloud service offerings, and EBAs.

Unbilled Deferred Revenue: Unbilled deferred revenue represents contractually stated or committed orders under early renewal and multi-year billing plans for subscription, services and maintenance for which the associated deferred revenue has not been recognized. Under FASB Accounting Standards Codification ("ASC") Topic 606, unbilled deferred revenue is not included as a receivable or deferred revenue on our Condensed Consolidated Balance Sheet.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign currency exchange risk

Our revenue, earnings, cash flows, receivables and payables are subject to fluctuations due to changes in foreign currency exchange rates. Our risk management strategy utilizes foreign currency contracts to manage our exposure to foreign currency volatility that exists as part of our ongoing business operations. We utilize cash flow hedge contracts to reduce the exchange rate impact on a portion of the net revenue or operating expense of certain anticipated transactions. In addition, we use balance sheet hedge contracts to reduce the exchange rate risk associated primarily with foreign currency denominated receivables and payables. As of April 30, 2020, and January 31, 2020, we had open cash flow and balance sheet hedge contracts with future settlements generally within one to twelve months. Contracts were primarily denominated in euros, Japanese yen, British pounds, Canadian dollars, Australian dollars, Singapore dollars, Swiss francs, Swedish krona, and Czech koruna. We do not enter into foreign exchange derivative instruments for trading or speculative purposes. The notional amount of our option and forward contracts was $1.11 billion and $1.72 billion at April 30, 2020, and January 31, 2020, respectively.

We use foreign currency contracts to reduce the exchange rate impact on the net revenue and operating expenses of certain anticipated transactions. A sensitivity analysis performed on our hedging portfolio as of April 30, 2020, indicated that a hypothetical 10% appreciation of the U.S. dollar from its value at April 30, 2020, and January 31, 2020, would increase the fair value of our foreign currency contracts by $104.5 million and $158.8 million, respectively. A hypothetical 10% depreciation of the dollar from its value at April 30, 2020, and January 31, 2020, would decrease the fair value of our foreign currency contracts by $59.0 million and $119.2 million, respectively.

Interest Rate Risk

Interest rate movements affect both the interest income we earn on our short-term investments and the market value of certain longer-term securities. At April 30, 2020, we had $801.5 million of cash equivalents and marketable securities, including $77.2 million classified as short-term marketable securities. If interest rates were to move up or down by 50 or 100 basis points over a twelve-month period, the market value change of our marketable securities would not have a material impact on our results of operations.

Other Market Risk

From time to time, we make direct investments in privately held companies. Privately held company investments generally are considered inherently risky. The technologies and products these companies have under development are typically in the early stages and may never materialize, which could result in a loss of all or a substantial part of our initial investment in these companies. The evaluation of privately held companies is based on information that we request from these companies, which is not subject to the same disclosure regulations as U.S. publicly traded companies, and as such, the basis for these evaluations is subject to the timing and accuracy of the data received from these companies. See Note 5, "Financial Instruments," for further discussion regarding our privately held investments.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain “disclosure controls and procedures,” as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Our disclosure controls and procedures are designed to ensure that information required to be disclosed in our Exchange Act reports is (i) recorded, processed, summarized and reported within the time periods specified in the rules of the Securities and Exchange Commission, and (ii) accumulated and communicated to Autodesk management, including our CEO and CFO, to allow timely decisions regarding required disclosure. We conducted an evaluation, under the supervision and with the participation of our CEO and CFO, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Based upon this evaluation, our CEO and CFO have concluded that our disclosure controls and procedures were effective to meet the objective for which they were designed and operated at the reasonable assurance level.

Our disclosure controls and procedures include components of our internal control over financial reporting. Our management, including our CEO and CFO, does not expect that our disclosure controls and procedures or our internal control over financial reporting will necessarily prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within Autodesk have been detected.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the three months ended April 30, 2020, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are involved in a variety of claims, suits, investigations, inquiries and proceedings in the normal course of business activities including claims of alleged infringement of intellectual property rights, commercial, employment, tax, prosecution of unauthorized use, business practices, and other matters. In our opinion, resolution of pending matters is not expected to have a material adverse impact on our consolidated results of operations, cash flows, or financial position. Given the unpredictable nature of legal proceedings, there is a reasonable possibility that an unfavorable resolution of one or more such proceedings could in the future materially affect our results of operations, cash flows, or financial position in a particular period, however, based on the information known by us as of the date of this filing and the rules and regulations applicable to the preparation of our financial statements, any such amount is either immaterial or it is not possible to provide an estimated amount of any such potential loss.

ITEM 1A. RISK FACTORS

We operate in a rapidly changing environment that involves significant risks, a number of which are beyond our control. In addition to the other information contained in this Form 10-Q, the following discussion highlights some of these risks and the possible impact of these factors on our business, financial condition, and future results of operations. If any of the following risks actually occur, our business, financial condition, or results of operations may be adversely impacted, causing the trading price of our common stock to decline. In addition, these risks and uncertainties may impact the “forward-looking” statements described elsewhere in this Form 10-Q and in the documents incorporated herein by reference. They could affect our actual results of operations, causing them to differ materially from those expressed in “forward-looking” statements.

Global economic and political conditions may further impact our industries, business and financial results.

Our overall performance depends largely upon domestic and worldwide economic and political conditions. The United States and other international economies have experienced cyclical downturns from time to time in which economic activity was impacted by falling demand for a variety of goods and services, restricted credit, poor liquidity, decreased government spending, reduced corporate profitability, volatility in credit, equity and foreign exchange markets, bankruptcies and overall uncertainty with respect to the economy. These economic conditions can occur abruptly. For example, the recent Coronavirus disease (COVID-19) pandemic has caused additional uncertainty in the global economy, and an economic downturn or recession in the United States or in other countries around the world may occur or may have already occurred and continue. The extent to which COVID-19 may impact our financial condition or results of operations is currently uncertain and will depend on developments such as the impact on our customers, vendors, distributors and resellers, and well as other factors, including: the full duration and the extent of the pandemic; actions taken by governments, businesses and consumers in response to the pandemic; speed and timing of economic recovery; our billings and renewal rates including new business close rates, rate of multi-year contracts and new unit volume growth; and effect of the pandemic on margins and cash flow. All of these factors continue to evolve and remain uncertain at this time, and some of these factors are not within our control. Due to our subscription-based business model, the effect of COVID-19 may not be fully reflected in our results of operations until future periods, if at all. If economic growth in countries where we do business slows or if such countries experience further economic recessions, customers may delay or reduce technology purchases. Our customers include government entities, including the U.S. federal government, and if spending cuts impede the ability of governments to purchase our products and services, our revenue could decline. In addition, a number of our customers rely, directly and indirectly, on government spending.

As described elsewhere in this Risk Factors section, we are dependent on international revenue and operations and are subject to related risks of conducting business globally. Geopolitical trends toward nationalism and protectionism and the weakening or dissolution of international trade pacts may increase the cost of, or otherwise interfere with, conducting business. These trends have increased levels of political and economic unpredictability globally, and may increase the volatility of global financial markets; the impact of such developments on the global economy remains uncertain. Political instability or adverse political developments in any of the countries in which we do business could harm our business, results of operations and financial condition.

A financial sector credit crisis could impair credit availability and the financial stability of our customers, including our distribution partners and channels. A disruption in the financial markets may also have an effect on our derivative counter-parties and could also impair our banking partners, on which we rely for operating cash management. Any of these events could harm our business, results of operations and financial condition.

Our strategy to develop and introduce new products and services exposes us to risks such as limited customer acceptance, costs related to product defects, and large expenditures, each of which may not result in additional net revenue or could result in decreased net revenue.

Rapid technological changes, as well as changes in customer requirements and preferences, characterize the software industry. Just as the transition from mainframes to personal computers transformed the industry over 30 years ago, the software industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud enabled technologies. Customers are also reconsidering how they purchase software products, which requires us to constantly evaluate our business model and strategy. In response, we are focused on providing solutions to enable our customers to be more agile and collaborative on their projects. We devote significant resources to the development of new technologies. In addition, we frequently introduce new business models or methods that require a considerable investment of technical and financial resources such as our introduction of flexible subscription and service offerings. For example, in fiscal 2021, we are transitioning multi-subscription plans to named user plans. It is uncertain whether these strategies, including our product and pricing changes, will prove successful or whether we will be able to develop the necessary infrastructure and business models more quickly than our competitors. We are making such investments through further development and enhancement of our existing products and services, as well as through acquisitions. Such investments may not result in sufficient revenue generation to justify their costs and could result in decreased net revenue or profitability. If we are not able to meet customer requirements, either with respect to our software or the manner in which we provide such products, or if we are not able to adapt our business model to meet our customers' requirements, our business, financial condition or results of operations may be adversely impacted.

In particular, a critical component of our growth strategy is to have customers of our AutoCAD and AutoCAD LT products expand their portfolios to include our other offerings and cloud-based functionality. We want customers using individual Autodesk products to expand their portfolio with our other offerings and cloud-based functionality, and we are taking steps to accelerate this migration. At times, sales of our AutoCAD and AutoCAD LT or individual Autodesk flagship products have decreased without a corresponding increase in Industry Collections or cloud-based functionality revenue or without purchases of customer seats to our Industry Collections. Should this continue, our results of operations will be adversely affected.

Our executive management team must act quickly, continuously, and with vision, given the rapidly changing customer expectations and technology advancements inherent in the software industry, the extensive and complex efforts required to create useful and widely accepted products and the rapid evolution of cloud computing, mobile devices, new computing platforms, and other technologies, such as consumer products. Although we have articulated a strategy that we believe will fulfill these challenges, if we fail to execute properly on that strategy or adapt that strategy as market conditions evolve, we may fail to meet our customers' expectations, fail to compete with our competitors' products and technology, and lose the confidence of our channel partners and employees. This in turn could adversely affect our business and financial performance.

The effect of the novel coronavirus COVID-19 on Autodesk's business is currently unknown but it may adversely affect our business and results of operations.

We are continuing to conduct business during the COVID-19 pandemic with substantial modifications to employee travel, employee work locations, and virtualization, postponement or cancellation of certain sales and marketing events, among other modifications. We have observed other companies as well as many governments taking precautionary and preemptive actions to address COVID-19, and they may take further actions that alter their normal business operations. We will continue to actively monitor the situation and may take further actions that alter our business operations as may be required by federal, state or local authorities, or that we determine are in the best interests of our employees, customers, partners, suppliers and stockholders. It is not clear what the potential effects any such alterations or modifications may have on our business, including the effects on our customers and prospects, or on our financial results.

In particular, if we are not able to retain current customers and attract new business, including multi-year contracts, or if customer renewal rates decline or fluctuate, it could have a material adverse effect upon our business and results of operations. To support our customers, during the three months ended April 30, 2020, among other things, we extended payment terms to 60 days through the beginning of August 2020, offered free commercial use of our cloud collaboration products through June 2020, delayed the transition from multi-user to named user from May to August 2020 to minimize disruption and deferred a 20% maintenance price increase from May to August 2020. These actions are affecting our cash flow, and if these actions as well as our other sales and marketing activities are not successful in retaining current customers and in closing new business, they could have a material adverse effect upon our business and results of operations.

Given the evolving business environment as a result of COVID-19, we are actively managing our spending, reducing travel and entertainment expense, monitoring our hiring rate, shifting to virtual events, and rationalizing our marketing spend. We will continue to invest in critical areas such as R&D, construction, and digitizing the company to ensure our future success as we come out of the pandemic. If we are not able to successfully manage our spending and investment it could have a material adverse effect on our cash balances, business and results of operations.

Our business could suffer as a result of risks, costs, charges and integration risks associated with strategic acquisitions and investments.

We regularly acquire or invest in businesses, software solutions and technologies that are complementary to our business through acquisitions, strategic alliances or equity or debt investments. The risks associated with such acquisitions include, among others, the difficulty of assimilating solutions, operations and personnel, inheriting liabilities such as intellectual property infringement claims, the failure to realize anticipated revenue and cost projections, the requirement to test and assimilate the internal control processes of the acquired business in accordance with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, and the diversion of management's time and attention.

In addition, such acquisitions and investments involve other risks such as:

- the inability to retain customers, key employees, vendors, distributors, business partners, and other entities associated with the acquired business;
- the potential that due diligence of the acquired business or solution does not identify significant problems;
- exposure to litigation or other claims in connection with, or inheritance of claims or litigation risk as a result of, an acquisition, including but not limited to, claims from terminated employees, customers, or other third parties;
- the potential for incompatible business cultures;
- significantly higher than anticipated transaction or integration-related costs;
- the potential additional exposure to fluctuations in currency exchange rates; and
- the potential impact on relationships with existing customers, vendors, and distributors as business partners as a result of acquiring another business.

We may not be successful in overcoming such risks, and such acquisitions and investments may negatively impact our business. In addition, such acquisitions and investments have in the past and may in the future contribute to potential fluctuations in our quarterly financial results. These fluctuations could arise from transaction-related costs and charges associated with eliminating redundant expenses or write-offs of impaired assets recorded in connection with acquisitions and investments. These costs or charges could negatively impact our financial results for a given period, cause quarter to quarter variability in our financial results or negatively impact our financial results for several future periods.

We are dependent on international revenue and operations, exposing us to significant regulatory, global economic, intellectual property, collections, currency exchange rate, taxation, political instability and other risks, which could adversely impact our financial results.

We are dependent on our international operations for a significant portion of our revenue. International net revenue represented 66% of our net revenue for both the three months ended April 30, 2020 and 2019. Our international revenue, including that from emerging economies, is subject to general economic and political conditions in foreign markets, including conditions in foreign markets resulting from economic and political conditions in the U.S. Our revenue is also impacted by the relative geographical and country mix of our revenue over time. At times, these factors adversely impact our international revenue, and consequently our business as a whole. Our dependency on international revenue makes us much more exposed to global economic and political trends, which can negatively impact our financial results, even if our results in the U.S. are strong for a particular period.

We anticipate that our international operations will continue to account for a significant portion of our net revenue, and, as we expand our international development, sales and marketing expertise, will provide significant support to our overall efforts in countries outside of the U.S.

Risks inherent in our international operations include:

- economic volatility;
- tariffs, quotas, and other trade barriers and restrictions;
- fluctuating currency exchange rates, including devaluations, currency controls and inflation, and risks related to any hedging activities we undertake;
- unexpected changes in regulatory requirements and practices;
- delays resulting from difficulty in obtaining export licenses for certain technology;
- different purchase patterns as compared to the developed world;
- operating in locations with a higher incidence of corruption and fraudulent business practices, particularly in emerging economies;
- increasing enforcement by the U.S. under the Foreign Corrupt Practices Act, and adoption of stricter anti-corruption laws in certain countries, including the United Kingdom;
- difficulties in staffing and managing foreign sales and development operations;
- local competition;
- longer collection cycles for accounts receivable;
- U.S. and foreign tax law changes impacting how multinational companies are taxed and the complexities of tax reporting;
- laws regarding the management of and access to data and public networks;
- possible future limitations upon foreign owned businesses;
- increased financial accounting and reporting burdens and complexities;
- inadequate local infrastructure;
- greater difficulty in protecting intellectual property;
- software piracy; and
- other factors beyond our control, including popular uprisings, terrorism, war, natural disasters, and diseases and pandemics, such as COVID-19.

Some of our business partners also have international operations and are subject to the risks described above.

The "Brexit" vote has exacerbated and may further exacerbate many of the risks and uncertainties described above. The United Kingdom officially left the European Union pursuant to Brexit on January 31, 2020, with a transitional period set to end on December 31, 2020. The withdrawal of the United Kingdom from the European Union could, among other potential outcomes, adversely affect the tax, tax treaty, banking, operational, legal and regulatory regimes to which our businesses in the region are subject. The withdrawal could also, among other potential outcomes, create currency volatility, disrupt the free movement of goods, services and people between the United Kingdom and the European Union and significantly disrupt trade between the United Kingdom and the European Union and other parties. While the United Kingdom left the European Union as of January 31, 2020, it has until December 31, 2020, to negotiate a new trade agreement addressing customs and trade matters. Further, uncertainty around these and related issues could lead to adverse effects on the United Kingdom economy, the European Union economies, and the other economies in which we operate.

In addition, the current U.S. administration has instituted or proposed changes to foreign trade policy including the negotiation or termination of trade agreements, the imposition of tariffs on products imported from certain countries, economic sanctions on individuals, corporations or countries and other government regulations affecting trade between the United States and other countries in which we do business. New or increased tariffs and other changes in U.S. trade policy could trigger retaliatory actions by affected countries, and certain foreign governments, including the Chinese government, have instituted or are considering imposing trade sanctions on certain U.S. manufactured goods. The escalation of protectionist or retaliatory trade measures in either the United States or any other countries in which we do business, such as a change in tariff structures, export compliance or other trade policies, may increase the cost of, or otherwise interfere with, conducting our business.

Even if we are able to successfully manage the risks of international operations, our business may be adversely affected if our business partners are not able to successfully manage these risks.

Security incidents may compromise the integrity of our or our customers' offerings, services, data or intellectual property, harm our reputation, damage our competitiveness, create additional liability and adversely impact our financial results.

As we digitize Autodesk and use cloud and web-based technologies to leverage customer data to deliver the total customer experience, we are exposed to increased security risks and the potential for unauthorized access to, or improper use of, our and our customers' information. Like other software offerings and systems, ours are vulnerable to security incidents. We devote resources to maintain the security and integrity of our systems, offerings, services and applications (online, mobile and desktop). We accomplish this by enhancing security features, conducting penetration tests, code hardening, releasing security vulnerability updates and accelerating our incident response time. Despite these efforts, we may not prevent security incidents, and we may face delays or other difficulties in identifying or responding to security incidents.

Hackers regularly have targeted our systems, offerings, services and applications, and we expect them to do so in the future. Security incidents could disrupt the proper functioning of our systems, solutions or services; cause errors in the output of our customers' work; allow unauthorized access to sensitive data or intellectual property, including proprietary or confidential information of ours or our customers; or cause other destructive outcomes.

The risk of a security incident, particularly through cyber attack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. These threats include but are not limited to identity theft, unauthorized access, DNS attacks, wireless network attacks, viruses and worms, advanced persistent threat (APT), application centric attacks, peer-to-peer attacks, phishing, malicious file uploads, backdoor trojans and distributed denial of service (DDoS) attacks. In addition, third parties may attempt to fraudulently induce our employees, vendors, partners or users to disclose information to gain access to our data or our users' data and there is the risk of employee, contractor, or vendor error or malfeasance. Despite efforts to create security barriers to such threats, it is impossible for us to entirely eliminate these risks.

If any of the foregoing security incidents were to occur or to be perceived to have occurred, our reputation may suffer, our competitive position may be diminished, customers may stop paying for our solutions and services, we could be required to expend significant capital and other resources to evaluate and alleviate the security incident and in an effort to prevent further or additional incidents, and we could face regulatory inquiry, lawsuits and potential liability. We could incur significant costs and liabilities, including due to litigation, indemnity obligations, damages for contract breach, penalties for violation of applicable laws or regulations, and costs for remediation and other incentives offered to customers or other business partners in an effort to maintain business relationships after a breach, and our financial performance could be negatively impacted.

We cannot assure you that any limitations of liability provisions in our contracts would be enforceable or adequate or would otherwise protect us from any liabilities or damages with respect to any particular claim relating to a security breach or other security incident. We also cannot be sure that our existing insurance coverage will continue to be available on acceptable terms or will be available in sufficient amounts to cover one or more large claims related to a security breach, or that the insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our financial condition, operating results, and reputation.

Increasing regulatory focus on privacy issues and expanding laws may impact our business or expose us to increased liability.

Our strategy to digitize Autodesk involves increasing our use of cloud and web-based technologies and applications to leverage customer data to improve our offerings for the benefit of our customers. To accomplish this strategy, we must collect and otherwise process customer data, which may include personal data. Federal, state and foreign government privacy and data security laws apply to the treatment of personal data. Governments, regulators, the plaintiffs' bar, privacy advocates and customers have increased their focus on how companies collect, process, use, store, share and transmit personal data.

The General Data Protection Regulation ("GDPR") is applicable in all European Union member states and introduced new data protection requirements in the European Union and substantial fines for non-compliance. We have modified our privacy practices to comply with GDPR. We have self-certified under the EU-U.S. Privacy Shield program and make use of model contractual clauses approved by the European Commission in relation to the transfer of personal data from the European Union to the United States. The Privacy Shield and the European Commission's model contractual clauses are currently the subject of legal challenges in the European Union, however, and it is unclear whether these will serve as appropriate means for us to transfer personal data from the European Union to the United States. We have also self-certified to the Swiss-U.S. Privacy Shield program in relation to the transfer of personal data from Switzerland to the United States. This Privacy Shield program also may no longer be valid due to possible legal challenges. Additionally, in June 2016, the United Kingdom voted to leave the European Union, which could also lead to further legislative and regulatory changes with regard to personal data. The United Kingdom Data Protection Act that substantially implements the GDPR became law in May 2018. It remains unclear, however, how United Kingdom data protection laws or regulations will develop in the medium to longer term and how data transfers to and from the United Kingdom will be regulated at the time, if any, that Brexit is effectuated.

In addition, in June 2018, California enacted the California Consumer Privacy Act (the "CCPA"), which took effect in January 2020. The CCPA, among other things, gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA was amended in September 2018 and November 2019, and modifications were proposed in February 2020. It is unclear whether further modifications will be made to this law. Additionally, in October 2019, the California Department of Justice published a notice of proposed rulemaking action with respect to draft regulations to implement the CCPA. We cannot yet predict the impact of the CCPA on our business or operations, but it may require us to modify our data processing practices and policies and to incur substantial costs and expenses in to comply.

The GDPR, CCPA and other state and global laws and regulations increased our responsibility and potential liability in relation to personal data, and we have and will continue to put in place additional processes and programs to demonstrate compliance. New privacy laws and regulations are under development at the U.S. Federal and state level and many international jurisdictions. Any actual or perceived failure to comply with the GDPR, the CCPA or other data privacy laws or regulations, or related contractual or other obligations, or any perceived privacy rights violation, could lead to investigations, claims, and proceedings by governmental entities and private parties, damages for contract breach, and other significant costs, penalties, and other liabilities, as well as harm to our reputation and market position.

Additionally, we store customer information and content and if our customers fail to comply with contractual obligations or applicable laws, it could result in litigation or reputational harm to us. The GDPR, CCPA and other laws and self-regulatory codes may affect our ability to reach current and prospective customers, to understand how our offerings and services are being used, to respond to customer requests allowed under the laws, and to implement our new business models effectively. These new laws and regulations would similarly affect our competitors as well as our customers. These requirements could impact demand for our offerings and services and result in more onerous contract obligations.

We rely on third parties to provide us with a number of operational and technical services; third-party security incidents could expose us to liability, harm our reputation, damage our competitiveness and adversely impact our financial performance.

We rely on third parties, such as Amazon Web Services, to provide us with operational and technical services. These third parties may have access to our systems, provide hosting services, or otherwise process data about us or our customers, employees, or partners. Any third-party security incident could compromise the integrity of, or availability or result in the theft of, data. In addition, our operations, or the operations of our customers or partners, could be negatively affected in the event of a security breach, and could be subject to the loss or theft of confidential or proprietary information, including source code. Unauthorized access to data and other confidential or proprietary information may be obtained through break-ins, network breaches by unauthorized parties, employee theft or misuse, or other misconduct. If any of the foregoing were to occur or to be perceived to occur, our reputation may suffer, our competitive position may be diminished, customers may buy fewer of our offerings and services, we could face lawsuits and potential liability, and our financial performance could be negatively impacted.

Delays in service from third-party service providers could expose us to liability, harm our reputation, damage our competitiveness and adversely impact our financial performance.

From time to time, we may rely on a single or limited number of suppliers, or upon suppliers in a single country, for the provision of services and materials that we use in the operation of our business and production of our solutions. The inability of such third parties to satisfy our requirements could disrupt our business operations or make it more difficult for us to implement our business strategy. If any of these situations were to occur, our reputation could be harmed, we could be subject to third-party liability, including under data protection and privacy laws in certain jurisdictions, and our financial performance could be negatively impacted.

We are investing in resources to update and improve our information technology systems to digitize Autodesk and support our customers. Should our investments not succeed, or if delays or other issues with new or existing information technology systems disrupt our operations, our business could be harmed.

We rely on our network and data center infrastructure, technology systems and our websites for our development, marketing, operational, support, sales, accounting and financial reporting activities. We continually invest resources to update and improve these systems in order to meet the evolving requirements of our business and customers. In particular, our transition to cloud-based products and a subscription-only business model involves considerable investment in the development of technologies, as well as back-office systems for technical, financial, compliance and sales resources.

Such improvements are often complex, costly and time consuming. In addition, such improvements can be challenging to integrate with our existing technology systems, or may uncover problems with our existing technology systems. Unsuccessful implementation of hardware or software updates and improvements could result in disruption in our business operations, loss of customers, loss of revenue, errors in our accounting and financial reporting or damage to our reputation, all of which could harm our business.

We may not be able to predict subscription renewal rates and their impact on our future revenue and operating results.

Our customers are not obligated to renew their subscriptions for our offerings, and they may elect not to renew. We cannot assure renewal rates, or the mix of subscriptions renewals. Customer renewal rates may decline or fluctuate due to a number of factors, including offering pricing, competitive offerings, customer satisfaction, and reductions in customer spending levels, customer activity or number of users due to economic downturns, including as a result of the current COVID-19 pandemic, or financial markets uncertainty. If our customers do not renew their subscriptions or if they renew on less favorable terms, our revenues may decline.

Our software is highly complex and may contain undetected errors, defects or vulnerabilities, each of which could harm our business and financial performance.

The software solutions that we offer are complex and, despite extensive testing and quality control, may contain errors, defects or vulnerabilities. Some errors, defects and vulnerabilities in our software solutions may only be discovered after they have been released. Any errors, defects or vulnerabilities could result in the need for corrective releases to our software solutions, damage to our reputation, loss of revenue, an increase in subscription cancellations or lack of market acceptance of our offerings, any of which would likely harm our business and financial performance.

Existing and increased competition and rapidly evolving technological changes may reduce our revenue and profits.

The software industry has limited barriers to entry, and the availability of computing devices with continually expanding performance at progressively lower prices contributes to the ease of market entry. The software industry has undergone a transition from developing and selling perpetual licenses and on-premises products to subscriptions and cloud-enabled technologies. This shift further lowers barriers to entry and poses a disruptive challenge to established software companies. The markets in which we compete are characterized by vigorous competition, both by entry of competitors with innovative technologies and by consolidation of companies with complementary offerings and technologies. In addition, some of our competitors in certain markets have greater financial, technical, sales and marketing, and other resources. Furthermore, a reduction in the number and availability of compatible third-party applications, or our inability to rapidly adapt to technological and customer preference changes, including those related to cloud computing, mobile devices, and new computing platforms, may adversely affect the sale of our solutions. Because of these and other factors, competitive conditions in the industry are likely to intensify in the future. Increased competition could result in price reductions, reduced net revenue and profit margins and loss of market share, any of which would likely harm our business.

We are subject to governmental export and import controls that could impair our ability to compete in international markets or subject us to liability if we violate the controls.

Our offerings are subject to U.S. export controls and economic sanctions laws and regulations that prohibit the delivery of certain solutions and services without the required export authorizations or export to locations, governments, and persons targeted by U.S. sanctions. While we have processes in place to prevent our offerings from being exported in violation of these laws, including obtaining authorizations as appropriate and screening against U.S. government and international lists of restricted and prohibited persons, we cannot guarantee that these processes will prevent all violations of export control and sanctions laws.

We also note that if our channel partners fail to obtain appropriate import, export or re-export licenses or permits, we may also be adversely affected, through reputational harm as well as other negative consequences including government investigations and penalties. We presently incorporate export control and sanctions compliance requirements in our channel partner agreements. Complying with export control and sanctions regulations for a particular sale may be time-consuming and may result in the delay or loss of sales opportunities. Violations of U.S. sanctions or export control laws can result in fines or penalties.

We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.

Because we conduct a substantial portion of our business outside the U.S., we face exposure to adverse movements in foreign currency exchange rates. These exposures may change over time as business practices evolve and economic conditions change. Our exposure to adverse movements in foreign currency exchange rates could have a material adverse impact on our financial results and cash flows.

We use derivative instruments to manage a portion of our cash flow exposure to fluctuations in foreign currency exchange rates. As part of our risk management strategy, we use foreign currency contracts to manage a portion of our exposures of underlying assets, liabilities, and other obligations, which exist as part of our ongoing business operations. These foreign currency instruments have maturities that extend for one to twelve months in the future, and provide us with some protection against currency exposures. However, our attempts to hedge against these risks may not be completely successful, resulting in an adverse impact on our financial results.

The fluctuations of currencies in which we conduct business can both increase and decrease our overall revenue and expenses for any given fiscal period. Although our foreign currency cash flow hedge program extends beyond the current quarter in order to reduce our exposure to foreign currency volatility, we do not attempt to completely mitigate this risk, and in any case, will incur transaction fees in adopting such hedging programs. Such volatility, even when it increases our revenues or decreases our expenses, impacts our ability to accurately predict our future results and earnings.

In addition, Brexit may contribute to volatility in foreign exchange markets with respect to the British Pound and Euro, which we may not be able to effectively manage, and our financial results could be adversely impacted. Additionally, countries in which we operate may be classified as highly inflationary economies, requiring special accounting and financial reporting treatment for such operations, or such countries’ currencies may be devalued, or both, which may adversely impact our business operations and financial results.

If we do not maintain good relationships with the members of our distribution channel, our ability to generate revenue will be adversely affected. If our distribution channel suffers financial losses, becomes financially unstable or insolvent, or is not provided the right mix of incentives to sell our subscriptions, our ability to generate revenue will be adversely affected.

We sell our software products both directly to end-users and through a network of distributors and resellers. For both the three months ended April 30, 2020 and 2019, approximately 70% and 70%, respectively, of our revenue was derived from indirect channel sales through distributors and resellers and we expect that the majority of our revenue will continue to be derived from indirect channel sales in the near future. Our ability to effectively distribute our solutions depends in part upon the financial and business condition of our distributor and reseller network. Computer software distributors and resellers typically are not highly capitalized, have previously experienced difficulties during times of economic contraction and experienced difficulties during the past several years. We have processes to ensure that we assess the creditworthiness of distributors and resellers prior to our sales to them. In the past we have taken steps to support them, and may take additional steps in the future, such as extending credit terms and providing temporary discounts. These steps, if taken, could harm our financial results. If our distributors and resellers were to become insolvent, they would not be able to maintain their business and sales, or provide customer support services, which would negatively impact our business and revenue.

We rely significantly upon major distributors and resellers in both the U.S. and international regions, including the distributors Tech Data and Ingram Micro. Tech Data accounted for 38% and 35% of our total net revenue for three months ended April 30, 2020 and 2019, respectively, and Ingram Micro accounted for 10% of our total net revenue for both three months ended April 30, 2020 and 2019. Should any of our agreements with Tech Data and Ingram Micro be terminated for any reason, we believe the resellers and end users who currently purchase our products through Tech Data and Ingram Micro would be able to continue to do so under substantially the same terms from one of our many other distributors without substantial disruption to our revenue. Consequently, we believe our business is not substantially dependent on either Tech Data or Ingram Micro. However, if either distributor were to experience a significant disruption with its business, or if our relationship with either of them were to significantly deteriorate, it is possible that our ability to sell to end users would be, at least temporarily, negatively impacted. This could in turn negatively impact our financial results. For example, on November 13, 2019, Tech Data announced that it had entered into a definitive agreement to be acquired by an affiliate of funds managed by affiliates of Apollo Global Management, a global alternative investment manager. The transaction is not subject to a financing condition and is expected to close in the first half of calendar year 2020, subject to the satisfaction of customary closing conditions. The transaction has been approved by Tech Data stockholders but has not yet closed. If there is any uncertainty resulting from the transaction between Tech Data and Apollo with the resellers and end users who currently purchase our products through Tech Data, our ability to sell to these resellers and end users could be, at least temporarily, negatively impacted.

Over time, we have modified and will continue to modify aspects of our relationship with our distributors and resellers, such as their incentive programs, pricing to them and our distribution model to motivate and reward them for aligning their businesses with our strategy and business objectives. Changes in these relationships and underlying programs could negatively impact their business and harm our business. Further, our distributors and resellers may lose confidence in our business, move to competitive products, or may not have the skills or ability to support customers. The loss of or a significant reduction in business with those distributors or resellers could harm our business. In particular, if one or more of such distributors or resellers were unable to meet their obligations with respect to accounts payable to us, we could be forced to write off such accounts and may be required to delay the recognition of revenue on future sales to these customers. These events could have a material adverse effect on our financial results.

Our financial results, key metrics and other operating metrics fluctuate within each quarter and from quarter to quarter making our future revenue and financial results difficult to predict.

Our quarterly financial results, key metrics and other operating metrics have fluctuated in the past and will continue to do so in the future. These fluctuations could cause our stock price to change significantly or experience declines. We also provide investors with quarterly and annual financial forward-looking guidance that could prove to be inaccurate as a result of these fluctuations. In addition to the other factors described in this Part I, Item 1A, some of the factors that could cause our financial results, key metrics and other operating metrics to fluctuate include:

- general market, economic, business, and political conditions in Europe, APAC, and emerging economies, including from an economic downturn or recession in the United States or in other countries around the world;

- failure to produce sufficient revenue, billings, subscription, profitability and cash flow growth, including as a result of the current COVID-19 pandemic;

- failure to accurately predict the impact of acquired businesses or to identify and realize the anticipated benefits of acquisitions, and successfully integrate such acquired businesses and technologies;
- potential goodwill impairment charges related to prior acquisitions
- failure to manage spend;
- changes in billings linearity;
- changes in subscription mix, pricing pressure or changes in subscription pricing;
- weak or negative growth in one or more of the industries we serve, including AEC, manufacturing, and digital media and entertainment markets;
- the success of new business or sales initiatives;
- security breaches, related reputational harm, and potential financial penalties to customers and government entities;
- restructuring or other accounting charges and unexpected costs or other operating expenses;
- timing of additional investments in our technologies or deployment of our services;
- changes in revenue recognition or other accounting guidelines employed by us and/or established by the Financial Accounting Standards Board, Securities Exchange Commission or other rule-making bodies;
- fluctuations in foreign currency exchange rates and the effectiveness of our hedging activity;
- dependence on and the timing of large transactions;
- adjustments arising from ongoing or future tax examinations;
- the ability of governments around the world to adopt fiscal policies, meet their financial and debt obligations, and to finance infrastructure projects;
- failure to expand our AutoCAD and AutoCAD LT customer base to related design products and services;
- our ability to rapidly adapt to technological and customer preference changes, including those related to cloud computing, mobile devices and new computing platforms;
- the timing of the introduction of new products by us or our competitors;
- the financial and business condition of our reseller and distribution channels;
- perceived or actual technical or other problems with a product or combination of subscriptions;
- unexpected or negative outcomes of matters and expenses relating to litigation or regulatory inquiries;
- increases in cloud functionality-related expenses;
- timing of releases and retirements of offerings;
- changes in tax laws, tax or accounting rules and regulations, such as increased use of fair value measures;
- changes in sales compensation practices;
- failure to effectively implement and maintain our copyright legalization programs, especially in developing countries;
- renegotiation or termination of royalty or intellectual property arrangements;

- interruptions or terminations in the business of our consultants or third-party developers;
- the timing and degree of expected investments in growth and efficiency opportunities;
- failure to achieve continued success in technology advancements;
- catastrophic events, natural disasters, or public health situations, such as pandemics and epidemics, including COVID-19;
- regulatory compliance costs; and
- failure to appropriately estimate the scope of services under consulting arrangements.

We have also experienced fluctuations in financial results in interim periods in certain geographic regions due to seasonality or regional economic or political conditions. In particular, our financial results in Europe during our third quarter are usually affected by a slower summer period, and our APAC operations typically experience seasonal slowing in our third and fourth quarters.

Our operating expenses are based in part on our expectations for future revenue and are relatively fixed in the short term. Accordingly, any revenue shortfall below expectations has had, and in the future could have, an immediate and significant adverse effect on our profitability. Greater than anticipated expenses or a failure to maintain rigorous cost controls would also negatively affect profitability.

Because we derive a substantial portion of our net revenue from a small number of solutions, including our AutoCAD-based software products and collections, if these offerings are not successful, our revenue will be adversely affected.

We derive a substantial portion of our net revenue from sales of subscriptions of a limited number of our offerings, including AutoCAD software, solutions based on AutoCAD, which include our collections that serve specific markets and products that are interoperable with AutoCAD. Any factor adversely affecting sales of these subscriptions, including the product release cycle, market acceptance, product competition, performance and reliability, reputation, price competition, economic and market conditions and the availability of third-party applications, would likely harm our financial results. During the three months ending April 30, 2020 and 2019, combined revenue from our AutoCAD and AutoCAD LT family products, not including collections having AutoCAD or AutoCAD LT as a component, represented 30% and 29% of our total net revenue, respectively.

Our debt service obligations may adversely affect our financial condition and cash flows from operations.

We have $1.6 billion of debt, consisting of notes due at various times from December 2022 to January 2030, as described in Part 2, Item 8. We also entered into a credit agreement that provides for an unsecured revolving loan facility in the aggregate principal amount of $650.0 million, with an option to be increased up to $1.0 billion, as described in Part 2, Item 8. Maintenance of our indebtedness, contractual restrictions, and additional issuances of indebtedness could:

- cause us to dedicate a substantial portion of our cash flows from operations towards debt service obligations and principal repayments;
- increase our vulnerability to adverse changes in general economic, industry and competitive conditions;
- limit our flexibility in planning for, or reacting to, changes in our business and our industry;
- impair our ability to obtain future financing for working capital, capital expenditures, acquisitions, general corporate or other purposes; and
- due to limitations within the debt instruments, restrict our ability to grant liens on property, enter into certain mergers, dispose of all or substantially all of the assets of Autodesk and its subsidiaries, taken as a whole, materially change our business and incur subsidiary indebtedness, subject to customary exceptions.

We are required to comply with the covenants set forth in our credit agreement. If we breach any of the covenants and do not obtain a waiver from the note holders or lenders, then, subject to applicable cure periods, we would not be able to incur additional indebtedness under the credit agreement described in Part 2, Item 8 and any outstanding indebtedness under the credit agreement may be declared immediately due and payable. In addition, changes by any rating agency to our credit rating may negatively impact the value and liquidity of our securities. Under certain circumstances, if our credit ratings are downgraded or other negative action is taken, the interest rate payable by us under our credit agreement could increase. Downgrades in our credit ratings could also restrict our ability to obtain additional financing in the future and could affect the terms of any such financing.

If we are not able to adequately protect our proprietary rights, our business could be harmed.

We rely on a combination of patent, copyright and trademark laws, trade secret protections, confidentiality procedures and contractual provisions to protect our proprietary rights. Despite such efforts to protect our proprietary rights, unauthorized parties from time to time have copied aspects of our software or have obtained and used information that we regard as proprietary. Policing unauthorized use of our software is time-consuming and costly. We are unable to measure the extent to which unauthorized use of our software exists and we expect that unauthorized use of software will remain a persistent problem, particularly in emerging economies. Furthermore, our means of protecting our proprietary rights may not be adequate.

Additionally, we actively protect the secrecy of our confidential information and trade secrets, including our source code. If unauthorized disclosure of our source code occurs, we could potentially lose future trade secret protection for that source code. The loss of future trade secret protection could make it easier for third parties to compete with our offerings by copying functionality, which could adversely affect our financial performance and our reputation. We also seek to protect our confidential information and trade secrets through the use of non-disclosure agreements with our employees, customers, contractors, vendors and partners. However, it is possible that our confidential information and trade secrets may be disclosed or published without our authorization. If this were to occur, it may be difficult and/or costly for us to enforce our rights, and our financial performance and reputation could be negatively impacted.

We may face intellectual property infringement claims that could be costly to defend and result in the loss of significant rights.

As more software patents are granted worldwide, the number of offerings and competitors in our industries grows and the functionality of products in different industries overlaps, we expect that software developers will be increasingly subject to infringement claims. Infringement or misappropriation claims have in the past been, and may in the future be, asserted against us, and any such assertions could harm our business. Additionally, certain patent holders without products have become more aggressive in threatening and pursuing litigation in attempts to obtain fees for licensing the right to use patents. Any such claims or threats, whether with or without merit, have been and could in the future be time-consuming to defend, result in costly litigation and diversion of resources, cause product delays or require us to enter into royalty or licensing agreements. In addition, such royalty or license agreements, if required, may not be available on acceptable terms, if at all, which would likely harm our business.

We rely on software from third parties, and a failure to properly manage our use of third-party software could result in increased costs or loss of revenue.

Many of our products are designed to include software licensed from third parties. Such third-party software includes software licensed from commercial suppliers and software licensed under public open source licenses. We have internal processes to manage our use of such third-party software. However, if we fail to adequately manage our use of third-party software, then we may be subject to copyright infringement or other third-party claims. If we are non-compliant with a license for commercial software, then we may be required to pay penalties or undergo costly audits pursuant to the license agreement. In the case of open-source software licensed under certain “copyleft” licenses, the license itself may require, or a court-imposed remedy for non-compliant use of the open source software may require, that proprietary portions of our own software be publicly disclosed or licensed. This could result in a loss of intellectual property rights, increased costs, damage to our reputation and/or a loss of revenue.

From time to time we realign or introduce new business and sales initiatives; if we fail to successfully execute and manage these initiatives, our results of operations could be negatively impacted.

As part of our effort to accommodate our customers' needs and demands and the rapid evolution of technology, we from time to time evolve our business and sales initiatives such as realigning our development and marketing organizations, offering software as a service, and realigning our internal resources in an effort to improve efficiency. We may take such actions without clear indications that they will prove successful, and at times, we have been met with short-term challenges in the execution of such initiatives. Market acceptance of any new business or sales initiative is dependent on our ability to match our customers' needs at the right time and price. Often, we have limited prior experience and operating history in these new areas of emphasis. If any of our assumptions about expenses, revenue or revenue recognition principles from these initiatives proves incorrect, or our attempts to improve efficiency are not successful, our actual results may vary materially from those anticipated, and our financial results will be negatively impacted.

Net revenue, billings, earnings, cash flow or subscriptions shortfalls or the volatility of the market generally may cause the market price of our stock to decline.

The market price for our common stock has experienced significant fluctuations and may continue to fluctuate significantly. The market price for our common stock may be affected by a number of factors, including the other factors described in this Part I, Item 1A and the following:

- shortfalls in our expected financial results, including net revenue, billings, earnings and cash flow or key performance metrics, such as subscriptions, including as a result of the current COVID-19 pandemic, and how those results compare to securities analyst expectations, including whether those results fail to meet, exceed, or significantly exceed securities analyst expectations;
- quarterly variations in our or our competitors' results of operations;
- general socio-economic, political or market conditions, including from an economic downturn or recession in the United States or in other countries around the world;
- changes in forward-looking estimates of future results, how those estimates compare to securities analyst expectations, or changes in recommendations or confusion on the part of analysts and investors about the short-term and long-term impact to our business;
- uncertainty about certain governments' abilities to repay debt or effect fiscal policy;
- the announcement of new offerings or enhancements by us or our competitors;
- unusual events such as significant acquisitions, divestitures, regulatory actions, and litigation;
- changes in laws, rules, or regulations applicable to our business;
- outstanding debt service obligations; and
- other factors, including factors unrelated to our operating performance, such as instability affecting the economy or the operating performance of our competitors.

Significant changes in the price of our common stock could expose us to costly and time-consuming litigation. Historically, after periods of volatility in the market price of a company's securities, a company becomes more susceptible to securities class action litigation. This type of litigation is often expensive and diverts management's attention and resources.

Our business could be adversely affected if we are unable to attract and retain key personnel.

Our success and ability to invest and grow depend largely on our ability to attract and retain highly skilled technical, professional, managerial, sales, and marketing personnel. Historically, competition for these key personnel has been intense. The loss of services of any of our key personnel (including key personnel joining our company through acquisitions), the inability to retain and attract qualified personnel in the future, or delays in hiring required personnel, particularly engineering and sales personnel, could make it difficult to meet key objectives, such as timely and effective product introductions and financial goals.

Our investment portfolio consists of a variety of investment vehicles that are subject to interest rate trends, market volatility, and other economic factors. If general economic conditions decline, this could cause the credit ratings of our investments to deteriorate, illiquidity in the financial marketplace, and we may experience a decline in interest income and an inability to sell our investments, leading to impairment in the value of our investments.

It is our policy to invest our cash, cash equivalents and marketable securities in highly liquid instruments with, and in the custody of, financial institutions with high credit ratings and to limit the amounts invested with any one institution, type of security and issuer. However, we are subject to general economic conditions, interest rate trends and volatility in the financial marketplace that can affect the income that we receive from our investments, the net realizable value of our investments (including our cash, cash equivalents and marketable securities) and our ability to sell them. Any one of these factors could reduce our investment income, or result in material charges, which in turn could impact our overall net income (loss) and earnings (loss) per share.

From time to time we make direct investments in privately held companies. Privately held company investments are considered inherently risky. The technologies and products these companies have under development are typically in the early stages and may never materialize, which could result in a loss of all or a substantial part of our initial investment in these companies. The evaluation of privately held companies is based on information that we request from these companies, which is not subject to the same disclosure regulations as U.S. publicly traded companies, and as such, the basis for these evaluations is subject to the timing and accuracy of the data received from these companies.

A loss on any of our investments may cause us to record an other-than-temporary impairment charge. The effect of this charge could impact our overall net income (loss) and earnings (loss) per share. In any of these scenarios, our liquidity may be negatively impacted, which in turn may prohibit us from making investments in our business, taking advantage of opportunities and potentially meeting our financial obligations as they come due.

We are subject to legal proceedings and regulatory inquiries, and we may be named in additional legal proceedings or become involved in regulatory inquiries in the future, all of which are costly, distracting to our core business and could result in an unfavorable outcome, or a material adverse effect on our business, financial condition, results of operations, cash flows or the trading prices for our securities.

We are involved in legal proceedings and receive inquiries from regulatory agencies. As the global economy has changed and our business has evolved, we have seen an increase in litigation activity and regulatory inquiries. Like many other high technology companies, the number and frequency of inquiries from U.S. and foreign regulatory agencies we have received regarding our business and our business practices, and the business practices of others in our industry, have increased in recent years. In the event that we are involved in significant disputes or are the subject of a formal action by a regulatory agency, we could be exposed to costly and time-consuming legal proceedings that could result in any number of outcomes. Any claims or regulatory actions initiated by or against us, whether successful or not, could result in expensive costs of defense, costly damage awards, injunctive relief, increased costs of business, fines or orders to change certain business practices, significant dedication of management time, diversion of significant operational resources, or otherwise harm our business. In any of these cases, our financial results, results of operations, cash flows or the trading prices for our securities could be negatively impacted.

Changes in tax rules and regulations, and uncertainties in interpretation and application, could materially affect our tax obligations and effective tax rate.

We are a U.S.-based multinational company subject to tax in multiple U.S. and foreign tax jurisdictions. Our effective tax rate is primarily based on our expected geographic mix of earnings, statutory rates, intercompany arrangements, including the manner we develop, value and license our intellectual property, and enacted tax rules. Significant judgment is required in determining our effective tax rate and in evaluating our tax positions on a worldwide basis. While we believe our tax positions, including intercompany transfer pricing policies, are consistent with the tax laws in the jurisdictions in which we conduct our business, it is possible that these positions may be overturned by jurisdictional tax authorities and may have a significant impact on our effective tax rate.

Tax laws in the United States and in foreign tax jurisdictions are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. For example, the U.S. government enacted significant tax law changes in December 2017, the U.S. Tax Cuts and Jobs Act ("Tax Act"), which impacted our tax obligations and effective tax rate beginning in our fiscal 2018 tax year and significant tax legislation was included in the March 2020 CARES Act. Due to the complexity and varying interpretations of the Tax Act and the CARES Act, the U.S. Department of Treasury and other standard-setting bodies have been issuing and will continue to issue regulations and interpretative guidance that could significantly impact how we will apply the law and the ultimate impact to our results of operations from both the Tax Act and the CARES Act, including for our prior tax years.

Increasingly, governmental tax authorities are scrutinizing existing corporate tax regulatory and legal regimes. Many countries in the European Union, as well as other countries and organizations such as the Organization for Economic Cooperation and Development, are actively considering new taxing regimes and changes to existing tax laws that are contrary to the way in which we have interpreted and historically applied the rules and regulations in our tax returns filed in such jurisdictions. If U.S. or other foreign tax authorities change applicable tax laws or successfully challenge how or where our profits are currently recognized, our overall taxes could increase, and our business, financial condition or results of operations may be adversely impacted.

Changes in existing financial accounting standards or practices, or taxation rules or practices may adversely affect our results of operations.

Changes in existing accounting or taxation rules or practices, new accounting pronouncements or taxation rules, or varying interpretations of current accounting pronouncements or taxation practice could have a significant adverse effect on our results of operations or the way we conduct our business. Further, such changes could potentially affect our reporting of transactions completed before such changes are effective.

We are required to evaluate our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002 and any adverse results from such evaluation could result in a loss of investor confidence in our financial reports and have an adverse effect on our stock price.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we are required to furnish a report by our management on our internal control over financial reporting. The report contains, among other matters, an assessment of the effectiveness of our internal control over financial reporting as of the end of our fiscal year, including a statement as to whether or not our internal control over financial reporting is effective. This assessment must include disclosure of any material weaknesses in our internal control over financial reporting identified by management.

If our management or independent registered public accounting firm identifies one or more material weaknesses in our internal control over financial reporting, we would be unable to assert that such internal control over financial reporting is effective. If we are unable to assert that our internal control over financial reporting is effective (or if our independent registered public accounting firm is unable to express an opinion that our internal controls are effective), we could lose investor confidence in the accuracy and completeness of our financial reports, which could have an adverse effect on our business and stock price.

In preparing our financial statements we make certain assumptions, judgments and estimates that affect amounts reported in our consolidated financial statements, which, if not accurate, may significantly impact our financial results.

We make assumptions, judgments and estimates for a number of items, including revenue recognition for our hybrid desktop software and cloud service subscriptions, the fair value of financial instruments, goodwill, long-lived assets and other intangible assets, the realizability of deferred tax assets and the fair value of stock awards. We also make assumptions, judgments and estimates in determining the accruals for employee related liabilities including commissions, bonuses, and sabbaticals; and in determining the accruals for uncertain tax positions, partner incentive programs, product returns reserves, allowances for doubtful accounts, asset retirement obligations and legal contingencies. These assumptions, judgments and estimates are drawn from historical experience and various other factors that we believe are reasonable under the circumstances as of the date of the consolidated financial statements. Actual results could differ materially from our estimates, and such differences could significantly impact our financial results.

We rely on third-party technologies and if we are unable to use or integrate these technologies, our solutions and service development may be delayed and our financial results negatively impacted.

We rely on certain software that we license from third parties, including software that is integrated with internally developed software and used in our offerings to perform key functions. These third-party software licenses may not continue to be available on commercially reasonable terms, and the software may not be appropriately supported, maintained or enhanced by the licensors. The loss of licenses to, or inability to support, maintain and enhance any such software could result in increased costs or delays until equivalent software can be developed, identified, licensed and integrated, which would likely harm our business.

Disruptions with licensing relationships and third-party developers could adversely impact our business.

We license certain key technologies from third parties. Licenses may be restricted in the term or the use of such technology in ways that negatively affect our business. Similarly, we may not be able to obtain or renew license agreements for key technology on favorable terms, if at all, and any failure to do so could harm our business.

Our business strategy has historically depended in part on our relationships with third-party developers who provide products that expand the functionality of our design software. Some developers may elect to support other products or may experience disruption in product development and delivery cycles or financial pressure during periods of economic downturn. In particular markets, such disruptions have in the past, and would likely in the future, negatively impact these third-party developers and end users, which could harm our business.

Additionally, technology created by outsourced product development, whether outsourced to third parties or developed externally and transferred to us through business or technology acquisitions, has certain additional risks such as effective integration into existing products, adequate transfer of technology know-how and ownership and protection of transferred intellectual property.

As a result of our strategy of partnering with other companies for product development, our product delivery schedules could be adversely affected if we experience difficulties with our product development partners.

We partner with certain independent firms and contractors to perform some of our product development activities. We believe our partnering strategy allows us to, among other things, achieve efficiencies in developing new products and maintaining and enhancing existing product offerings. Our partnering strategy creates a dependency on such independent developers. Independent developers, including those who currently develop solutions for us in the U.S. and throughout the world, may not be able or willing to provide development support to us in the future. In addition, use of development resources through consulting relationships, particularly in non-U.S. jurisdictions with developing legal systems, may be adversely impacted by, and expose us to risks relating to, evolving employment, export and intellectual property laws. These risks could, among other things, expose our intellectual property to misappropriation and result in disruptions to product delivery schedules.

Our business may be significantly disrupted upon the occurrence of a catastrophic event.

Our business is highly automated and relies extensively on the availability of our network and data center infrastructure, our internal technology systems and our websites. We also rely on hosted computer services from third parties for services that we provide to our customers and computer operations for our internal use. The failure of our systems or hosted computer services due to a catastrophic event, such as an earthquake, fire, flood, tsunami, weather event, telecommunications failure, power failure, cyber attack, terrorism, or war, or business interruption from epidemic or pandemic diseases, or the fear of such events, could adversely impact our business, financial results and financial condition. We have developed disaster recovery plans and maintain backup systems in order to reduce the potential impact of a catastrophic event, however there can be no assurance that these plans and systems would enable us to return to normal business operations. In addition, any such event could negatively impact a country or region in which we sell our products. This could in turn decrease that country's or region's demand for our products, thereby negatively impacting our financial results.

If we were required to record an impairment charge related to the value of our long-lived assets, or an additional valuation allowance against our deferred tax assets, our results of operations would be adversely affected.

Our long-lived assets are tested for impairment if indicators of impairment exist. If impairment testing shows that the carrying value of our long-lived assets exceeds their estimated fair values, we would be required to record a non-cash impairment charge, which would decrease the carrying value of our long-lived assets, as the case may be, and our results of operations would be adversely affected. Our deferred tax assets include net operating loss, amortizable tax assets and tax credit carryforwards that can be used to offset taxable income and reduce income taxes payable in future periods. Each quarter, we assess the need for a valuation allowance, considering both positive and negative evidence to determine whether all or a portion of the deferred tax assets are more likely than not to be realized. We have a full valuation allowance against our U.S., Canada and Netherlands deferred tax assets. Changes in the amount of the U.S. and foreign jurisdictions valuation allowance could also result in a material non-cash expense or benefit in the period in which the valuation allowance is adjusted and our results of operations could be materially affected. We will continue to perform these tests on our worldwide deferred tax assets and any future adjustments to the realizability of our deferred tax assets may have a material effect on our financial condition and results of operations.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

There were no sales of unregistered securities during the three months ended April 30, 2020.

The information concerning issuer purchases of equity securities required by this Item is incorporated by reference herein to the section of this Report entitled "Issuer Purchases of Equity Securities" in Part I, Item 2 above.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

The Exhibits listed below are filed or incorporated by reference as part of this Form 10-Q.

Exhibit No.	Description
3.1	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 filed with the Registrant's Current Report on Form 8-K filed on March 23, 2020)
10.1*	Participants, target awards and payout formulas for fiscal year 2021 under the Registrant's Executive Incentive Plan (incorporated by reference to Item 5.02 of the Registrant's Current Report on Form 8-K filed on April 15, 2020)
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934
32.1 †	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS ††	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH ††	XBRL Taxonomy Extension Schema
101.CAL ††	XBRL Taxonomy Extension Calculation Linkbase
101.DEF ††	XBRL Taxonomy Definition Linkbase
101.LAB ††	XBRL Taxonomy Extension Label Linkbase
101.PRE ††	XBRL Taxonomy Extension Presentation Linkbase
104 ††	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Denotes a management contract or compensatory plan or arrangement.

† The certifications attached as Exhibit 32 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Autodesk, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

†† The financial information contained in these XBRL documents is unaudited.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Dated: June 2, 2020

AUTODESK, INC.
(Registrant)

/s/ STEPHEN W. HOPE

Stephen W. Hope
Vice President and Chief Accounting Officer
(Principal Accounting Officer)

Exhibit 31.1

CERTIFICATIONS

I, Andrew Anagnost, certify that:

1. I have reviewed this report on Form 10-Q of Autodesk, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: June 2, 2020

/s/ ANDREW ANAGNOST

Andrew Anagnost

President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, R. Scott Herren, certify that:

1. I have reviewed this report on Form 10-Q of Autodesk, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: June 2, 2020

/s/ R. SCOTT HERREN

R. Scott Herren

Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Based on my knowledge, I, Andrew Anagnost, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Autodesk, Inc. on Form 10-Q for the quarterly period ended April 30, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-Q fairly presents in all material respects the financial condition and results of operations of Autodesk, Inc.

Dated: June 2, 2020

/s/ ANDREW ANAGNOST

Andrew Anagnost
President and Chief Executive Officer
(Principal Executive Officer)

Based on my knowledge, I, R. Scott Herren, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Autodesk, Inc. on Form 10-Q for the quarterly period ended April 30, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-Q fairly presents in all material respects the financial condition and results of operations of Autodesk, Inc.

Dated: June 2, 2020

/s/ R. SCOTT HERREN

R. Scott Herren
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)