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 March 31, 2021

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: **001-37580**

Alphabet Inc.

(Exact name of registrant as specified in its charter)

Delaware	**61-1767919**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

1600 Amphitheatre Parkway
Mountain View, CA 94043
(Address of principal executive offices, including zip code)
(650) 253-0000
(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
Class A Common Stock, $0.001 par value	**GOOGL**	**Nasdaq Stock Market LLC (Nasdaq Global Select Market)**
Class C Capital Stock, $0.001 par value	**GOOG**	**Nasdaq Stock Market LLC (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 (§232.405 of this chapter) 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 in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of April 20, 2021, there were 300,746,844 shares of Alphabet’s Class A common stock outstanding, 45,836,948 shares of Alphabet's Class B common stock outstanding, and 323,580,001 shares of Alphabet's Class C capital stock outstanding.

Alphabet Inc.
Form 10-Q
For the Quarterly Period Ended March 31, 2021

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Note About Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements include, among other things, statements regarding:

- the ongoing effect of the novel coronavirus pandemic ("COVID-19"), including its macroeconomic effects on our business, operations, and financial results; and the effect of governmental lockdowns, restrictions and new regulations on our operations and processes;
- the growth of our business and revenues and our expectations about the factors that influence our success and trends in our business, including the size and timing of the expected return on our continuing investments in our Google Cloud segment;
- fluctuations in our revenue growth rate and operating margin and various factors contributing to such fluctuations;
- our expectation that the shift from an offline to online world will continue to benefit our business;
- our expectation that the portion of our revenues that we derive from non-advertising revenues will continue to increase and may affect our margins;
- our expectation that our traffic acquisition costs ("TAC") and the associated TAC rate will fluctuate, which could affect our overall margins;
- our expectation that our monetization trends will fluctuate, which could affect our revenues and margins;
- fluctuations in our revenue growth, as well as the change in paid clicks and cost-per-click and the change in impressions and cost-per-impression, and various factors contributing to such fluctuations;
- our expectation that we will continue to periodically review, refine, and update our methodologies for monitoring, gathering, and counting the number of paid clicks and impressions;
- our expectation that our results will be affected by our performance in international markets as users in developing economies increasingly come online;
- our expectation that our foreign exchange risk management program will not fully offset our net exposure to fluctuations in foreign currency exchange rates;
- the expected variability of gains and losses related to hedging activities under our foreign exchange risk management program;
- the amount and timing of revenue recognition from customer contracts with commitments for performance obligations, including our estimate of the remaining amount of commitments and when we expect to recognize revenue;
- fluctuations in our capital expenditures;
- our plans to continue to invest in new businesses, products, services and technologies, systems, land and buildings for data centers and offices, and infrastructure, as well as to continue to invest in acquisitions;
- our pace of hiring and our plans to provide competitive compensation programs;
- our expectation that our cost of revenues, research and development ("R&D") expenses, sales and marketing expenses, and general and administrative expenses may increase in amount and/or may increase as a percentage of revenues and may be affected by a number of factors;
- estimates of our future compensation expenses;
- our expectation that our other income (expense), net ("OI&E"), will fluctuate in the future, as it is largely driven by market dynamics;
- fluctuations in our effective tax rate;
- seasonal fluctuations in internet usage and advertiser expenditures, underlying business trends such as traditional retail seasonality (including developments and volatility arising from COVID-19), which are likely to cause fluctuations in our quarterly results;
- the sufficiency of our sources of funding;
- our potential exposure in connection with new and pending investigations, proceedings, and other contingencies;

- the sufficiency and timing of our proposed remedies in response to decisions from the European Commission ("EC") and other regulators and governmental entities;
- our expectations regarding the timing, design and implementation of our new global enterprise resource planning ("ERP") system;
- the expected timing and amount of Alphabet Inc.'s share repurchases;
- our long-term sustainability and diversity goals;
- our expectation that the change in the estimated useful life of servers and certain network equipment will have a favorable, yet declining, effect on our 2021 operating results;

as well as other statements regarding our future operations, financial condition and prospects, and business strategies. Forward-looking statements may appear throughout this report and other documents we file with the Securities and Exchange Commission ("SEC"), including without limitation, the following sections: Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Quarterly Report on Form 10-Q and Part I, Item 1A, “Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, as may be updated in our subsequent Quarterly Reports on Form 10-Q. Forward-looking statements generally can be identified by words such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "projects," "will be," "will continue," "may," "could," "will likely result," and similar expressions. These forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties, which could cause our actual results to differ materially from those reflected in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this Quarterly Report on Form 10-Q, and in particular, the risks discussed in Part I, Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, and those discussed in other documents we file with the SEC. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

As used herein, "Alphabet," "the company," "we," "us," "our," and similar terms include Alphabet Inc. and its subsidiaries, unless the context indicates otherwise.

"Alphabet," "Google," and other trademarks of ours appearing in this report are our property. This report contains additional trade names and trademarks of other companies. We do not intend our use or display of other companies' trade names or trademarks to imply an endorsement or sponsorship of us by such companies, or any relationship with any of these companies.

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Alphabet Inc.
CONSOLIDATED BALANCE SHEETS
(in millions, except share amounts which are reflected in thousands, and par value per share amounts)

	As of December 31, 2020	As of March 31, 2021 (unaudited)
Assets		
Current assets:		
Cash and cash equivalents	$ 26,465	$ 26,622
Marketable securities	110,229	108,482
Total cash, cash equivalents, and marketable securities	136,694	135,104
Accounts receivable, net	30,930	28,006
Income taxes receivable, net	454	493
Inventory	728	888
Other current assets	5,490	7,646
Total current assets	174,296	172,137
Non-marketable investments	20,703	25,294
Deferred income taxes	1,084	1,129
Property and equipment, net	84,749	87,606
Operating lease assets	12,211	12,598
Intangible assets, net	1,445	1,823
Goodwill	21,175	22,341
Other non-current assets	3,953	4,167
Total assets	$ 319,616	$ 327,095
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 5,589	$ 4,801
Accrued compensation and benefits	11,086	8,375
Accrued expenses and other current liabilities	28,631	30,732
Accrued revenue share	7,500	6,962
Deferred revenue	2,543	2,690
Income taxes payable, net	1,485	1,893
Total current liabilities	56,834	55,453
Long-term debt	13,932	13,887
Deferred revenue, non-current	481	530
Income taxes payable, non-current	8,849	9,278
Deferred income taxes	3,561	4,406
Operating lease liabilities	11,146	11,382
Other long-term liabilities	2,269	2,146
Total liabilities	97,072	97,082
Contingencies (Note 9)		
Stockholders' equity:		
Convertible preferred stock, $0.001 par value per share, 100,000 shares authorized; no shares issued and outstanding	0	0
Class A and Class B common stock, and Class C capital stock and additional paid-in capital, $ 0.001 par value per share: 15,000,000 shares authorized (Class A 9,000,000, Class B 3,000,000, Class C 3,000,000); 675,222 (Class A 300,730, Class B 45,843, Class C 328,649) and 671,094 (Class A 300,747, Class B 45,836, Class C 324,511) shares issued and outstanding	58,510	59,436
Accumulated other comprehensive income (loss)	633	(3)
Retained earnings	163,401	170,580
Total stockholders' equity	222,544	230,013
Total liabilities and stockholders' equity	$ 319,616	$ 327,095

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF INCOME
(in millions, except per share amounts; unaudited)

	Three Months Ended March 31,	
	2020	**2021**
Revenues	$ 41,159	$ 55,314
Costs and expenses:		
Cost of revenues	18,982	24,103
Research and development	6,820	7,485
Sales and marketing	4,500	4,516
General and administrative	2,880	2,773
Total costs and expenses	33,182	38,877
Income from operations	7,977	16,437
Other income (expense), net	(220)	4,846
Income before income taxes	7,757	21,283
Provision for income taxes	921	3,353
Net income	$ 6,836	$ 17,930
Basic net income per share of Class A and B common stock and Class C capital stock	$ 9.96	$ 26.63
Diluted net income per share of Class A and B common stock and Class C capital stock	$ 9.87	$ 26.29

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions; unaudited)

	Three Months Ended March 31,	
	2020	2021
Net income	$ 6,836	$ 17,930
Other comprehensive income (loss):		
Change in foreign currency translation adjustment	(550)	(423)
Available-for-sale investments:		
Change in net unrealized gains (losses)	498	(488)
Less: reclassification adjustment for net (gains) losses included in net income	(169)	11
Net change, net of income tax benefit (expense) of $(81) and $135	329	(477)
Cash flow hedges:		
Change in net unrealized gains (losses)	378	179
Less: reclassification adjustment for net (gains) losses included in net income	(22)	85
Net change, net of income tax benefit (expense) of $(81) and $(50)	356	264
Other comprehensive income (loss)	135	(636)
Comprehensive income	$ 6,971	$ 17,294

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In millions, except share amounts which are reflected in thousands; unaudited)

	Three Months Ended March 31, 2020					
	Class A and Class B Common Stock, Class C Capital Stock and Additional Paid-In Capital		Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance as of December 31, 2019	688,335	$ 50,552	$ (1,232)	$ 152,122	$ 201,442
Common and capital stock issued	2,125	106	0	0	106
Stock-based compensation expense	0	3,222	0	0	3,222
Tax withholding related to vesting of restricted stock units and other	0	(1,179)	0	0	(1,179)
Repurchases of capital stock	(6,488)	(606)	0	(7,890)	(8,496)
Sale of interest in consolidated entities	0	1,593	0	0	1,593
Net income	0	0	0	6,836	6,836
Other comprehensive income (loss)	0	0	135	0	135
Balance as of March 31, 2020	683,972	$ 53,688	$ (1,097)	$ 151,068	$ 203,659

	Three Months Ended March 31, 2021				
	Class A and Class B Common Stock, Class C Capital Stock and Additional Paid-In Capital		Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance as of December 31, 2020	675,222	$ 58,510	$ 633	$ 163,401	$ 222,544
Common and capital stock issued	1,569	6	0	0	6
Stock-based compensation expense	0	3,788	0	0	3,788
Tax withholding related to vesting of restricted stock units and other	0	(2,234)	0	0	(2,234)
Repurchases of capital stock	(5,697)	(644)	0	(10,751)	(11,395)
Sale of interest in consolidated entities	0	10	0	0	10
Net income	0	0	0	17,930	17,930
Other comprehensive income (loss)	0	0	(636)	0	(636)
Balance as of March 31, 2021	671,094	$ 59,436	$ (3)	$ 170,580	$ 230,013

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions; unaudited)

	Three Months Ended March 31,	
	2020	2021
Operating activities		
Net income	$ 6,836	$ 17,930
Adjustments:		
Depreciation and impairment of property and equipment	2,899	2,525
Amortization and impairment of intangible assets	209	228
Stock-based compensation expense	3,191	3,745
Deferred income taxes	175	1,100
(Gain) loss on debt and equity securities, net	802	(4,751)
Other	297	(255)
Changes in assets and liabilities, net of effects of acquisitions:		
Accounts receivable	2,602	2,794
Income taxes, net	(245)	785
Other assets	(115)	7
Accounts payable	(835)	(982)
Accrued expenses and other liabilities	(3,531)	(3,530)
Accrued revenue share	(871)	(444)
Deferred revenue	37	137
Net cash provided by operating activities	11,451	19,289
Investing activities		
Purchases of property and equipment	(6,005)	(5,942)
Purchases of marketable securities	(37,563)	(36,426)
Maturities and sales of marketable securities	41,811	39,248
Purchases of non-marketable investments	(572)	(646)
Maturities and sales of non-marketable investments	260	19
Acquisitions, net of cash acquired, and purchases of intangible assets	(190)	(1,666)
Other investing activities	412	30
Net cash used in investing activities	(1,847)	(5,383)
Financing activities		
Net payments related to stock-based award activities	(1,241)	(2,184)
Repurchases of capital stock	(8,496)	(11,395)
Proceeds from issuance of debt, net of costs	1,898	900
Repayments of debt	(1,947)	(937)
Proceeds from sale of interest in consolidated entities, net	1,600	10
Net cash used in financing activities	(8,186)	(13,606)
Effect of exchange rate changes on cash and cash equivalents	(272)	(143)
Net increase in cash and cash equivalents	1,146	157
Cash and cash equivalents at beginning of period	18,498	26,465
Cash and cash equivalents at end of period	$ 19,644	$ 26,622

See accompanying notes.

Alphabet Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1. Nature of Operations and Summary of Significant Accounting Policies

Nature of Operations

Google was incorporated in California in September 1998 and re-incorporated in the State of Delaware in August 2003. In 2015, we implemented a holding company reorganization, and as a result, Alphabet became the successor issuer to Google.

We generate revenues by delivering relevant, cost-effective online advertising, cloud-based solutions that provide customers with platforms, collaboration tools and services, and sales of other products and services, such as apps and in-app purchases, digital content and subscriptions for digital content, and hardware.

Basis of Consolidation

The consolidated financial statements of Alphabet include the accounts of Alphabet and entities consolidated under the variable interest and voting models. All intercompany balances and transactions have been eliminated.

Unaudited Interim Financial Information

The Consolidated Balance Sheet as of March 31, 2021, the Consolidated Statements of Income for the three months ended March 31, 2020 and 2021, the Consolidated Statements of Comprehensive Income for the three months ended March 31, 2020 and 2021, the Consolidated Statements of Stockholders' Equity for the three months ended March 31, 2020 and 2021 and the Consolidated Statements of Cash Flows for the three months ended March 31, 2020 and 2021 are unaudited. These unaudited interim consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP"). In our opinion, the unaudited interim consolidated financial statements include all adjustments of a normal recurring nature necessary for the fair presentation of our financial position as of March 31, 2021, our results of operations for the three months ended March 31, 2020 and 2021, and our cash flows for the three months ended March 31, 2020 and 2021. The results of operations for the three months ended March 31, 2021 are not necessarily indicative of the results to be expected for the year ending December 31, 2021.

These unaudited interim consolidated financial statements should be read in conjunction with the consolidated financial statements and the related notes included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 filed with the SEC.

Use of Estimates

Preparation of consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported and disclosed in the financial statements and the accompanying notes. Actual results could differ materially from these estimates. On an ongoing basis, we evaluate our estimates, including those related to the allowance for credit losses, fair values of financial instruments, intangible assets and goodwill, useful lives of intangible assets and property and equipment, income taxes, and contingent liabilities, among others. We base our estimates on assumptions, both historical and forward looking, that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities.

The allowance for credit losses on accounts receivable was $789 million and $719 million as of December 31, 2020 and March 31, 2021, respectively.

Change in Accounting Estimate

In January 2021, we completed an assessment of the useful lives of our servers and network equipment and adjusted the estimated useful life of our servers from three years to four years and the estimated useful life of certain network equipment from three years to five years. This change in accounting estimate was effective beginning in fiscal year 2021. Based on the carrying value of servers and certain network equipment as of December 31, 2020, and those acquired during the quarter ended March 31, 2021, the effect of this change in estimate was a reduction in depreciation expense of $835 million and an increase in net income of $650 million, or $0.97 per basic and $0.95 per diluted share, for the three months ended March 31, 2021.

Prior Period Reclassifications

Certain amounts in prior periods have been reclassified to conform with current period presentation.

Note 2. Revenues

Revenue Recognition

The following table presents our revenues disaggregated by type (in millions).

	Three Months Ended March 31,	
	2020	2021
Google Search & other	$ 24,502	$ 31,879
YouTube ads	4,038	6,005
Google Network	5,223	6,800
Google advertising	33,763	44,684
Google other	4,435	6,494
Google Services total	38,198	51,178
Google Cloud	2,777	4,047
Other Bets	135	198
Hedging gains (losses)	49	(109)
Total revenues	$ 41,159	$ 55,314

The following table presents our revenues disaggregated by geography, based on the addresses of our customers (in millions):

	Three Months Ended March 31,			
	2020		2021	
United States	$ 18,870	46 %	$ 25,032	45 %
EMEA[(1)]	12,845	31	17,031	31
APAC[(1)]	7,238	18	10,455	19
Other Americas[(1)]	2,157	5	2,905	5
Hedging gains (losses)	49	0	(109)	0
Total revenues	$ 41,159	100 %	$ 55,314	100 %

(1) Regions represent Europe, the Middle East, and Africa ("EMEA"); Asia-Pacific ("APAC"); and Canada and Latin America ("Other Americas").

Deferred Revenues and Remaining Performance Obligations

We record deferred revenues when cash payments are received or due in advance of our performance, including amounts which are refundable. Deferred revenues primarily relate to Google Cloud and Google other. Our total deferred revenue as of December 31, 2020 was $3.0 billion, of which $1.3 billion was recognized as revenues during the quarter ended March 31, 2021.

Additionally, we have performance obligations associated with commitments in customer contracts, primarily related to Google Cloud, for future services that have not yet been recognized as revenues, also referred to as remaining performance obligations. Remaining performance obligations include related deferred revenue currently recorded as well as amounts that will be invoiced in future periods, and excludes (i) contracts with an original expected term of one year or less, (ii) cancellable contracts, and (iii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed. As of March 31, 2021, the amount not yet recognized as revenues from these commitments was $30.7 billion. We expect to recognize approximately half over the next 24 months with the remaining thereafter. However, the amount and timing of revenue recognition is largely driven by when the customer utilizes the services and our ability to deliver in accordance with relevant contract terms, which could affect our estimate of the remaining performance obligations and when we expect to recognize such as revenues.

Note 3. Financial Instruments

Debt Securities

We classify our marketable debt securities, which are accounted for as available-for-sale, within Level 2 in the fair value hierarchy because we use quoted market prices to the extent available or alternative pricing sources and models utilizing market observable inputs to determine fair value.

For certain marketable debt securities, we have elected the fair value option for which changes in fair value are recorded in other income (expense), net. The fair value option was elected for these securities to align with the unrealized gains and losses from related derivative contracts. Unrealized net gains related to debt securities still held where we have elected the fair value option were $87 million and $30 million as of December 31, 2020 and March 31, 2021, respectively. As of December 31, 2020 and March 31, 2021, the fair value of these debt securities was $2.0 billion for both periods.

The following tables summarize our debt securities, for which we did not elect the fair value option, by significant investment categories (in millions):

	As of December 31, 2020					
	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Cash and Cash Equivalents	Marketable Securities
Level 2:						
Time deposits[1]	$ 3,564	$ 0	$ 0	$ 3,564	$ 3,564	$ 0
Government bonds	55,156	793	(9)	55,940	2,527	53,413
Corporate debt securities	31,521	704	(2)	32,223	8	32,215
Mortgage-backed and asset-backed securities	16,767	364	(7)	17,124	0	17,124
Total	$ 107,008	$ 1,861	$ (18)	$ 108,851	$ 6,099	$ 102,752

	As of March 31, 2021					
	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Cash and Cash Equivalents	Marketable Securities
Level 2:						
Time deposits[1]	$ 3,388	$ 0	$ 0	$ 3,388	$ 3,388	$ 0
Government bonds	50,757	607	(51)	51,313	1,941	49,372
Corporate debt securities	32,702	486	(84)	33,104	1	33,103
Mortgage-backed and asset-backed securities	18,229	265	(49)	18,445	0	18,445
Total	$ 105,076	$ 1,358	$ (184)	$ 106,250	$ 5,330	$ 100,920

(1) The majority of our time deposits are domestic deposits.

We determine realized gains or losses on the sale or extinguishment of debt securities on a specific identification method. We recognized gross realized gains of $257 million and $135 million for the three months ended March 31, 2020 and 2021, respectively. We recognized gross realized losses of $39 million and $136 million for the three months ended March 31, 2020 and 2021, respectively. We reflect these gains and losses as a component of other income (expense), net.

The following table summarizes the estimated fair value of our investments in marketable debt securities by stated contractual maturity dates (in millions):

	As of March 31, 2021
Due in 1 year or less	$ 20,220
Due in 1 year through 5 years	65,995
Due in 5 years through 10 years	2,829
Due after 10 years	13,891
Total	$ 102,935

The following tables present fair values and gross unrealized losses recorded to AOCI, aggregated by investment category and the length of time that individual securities have been in a continuous loss position (in millions):

	As of December 31, 2020					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Government bonds	$ 5,516	$ (9)	$ 3	$ 0	$ 5,519	$ (9)
Corporate debt securities	1,999	(1)	0	0	1,999	(1)
Mortgage-backed and asset-backed securities	929	(5)	242	(2)	1,171	(7)
Total	$ 8,444	$ (15)	$ 245	$ (2)	$ 8,689	$ (17)

	As of March 31, 2021					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Government bonds	$ 14,139	$ (51)	$ 0	$ 0	$ 14,139	$ (51)
Corporate debt securities	11,443	(54)	0	0	11,443	(54)
Mortgage-backed and asset-backed securities	5,897	(48)	154	(1)	6,051	(49)
Total	$ 31,479	$ (153)	$ 154	$ (1)	$ 31,633	$ (154)

During the three months ended March 31, 2020 and 2021, we did not recognize any significant credit losses and the ending allowance balances for credit losses were immaterial as of December 31, 2020 and March 31, 2021. See Note 6 for further details on other income (expense), net.

Equity Investments

The following discusses our marketable equity securities, non-marketable equity securities, gains and losses on marketable and non-marketable equity securities, as well as our equity securities accounted for under the equity method.

Our marketable equity securities are publicly traded stocks or funds measured at fair value and classified within Level 1 and 2 in the fair value hierarchy because we use quoted prices for identical assets in active markets or inputs that are based upon quoted prices for similar instruments in active markets.

Our non-marketable equity securities are investments in privately held companies without readily determinable market values. The carrying value of our non-marketable equity securities is adjusted to fair value upon observable transactions for identical or similar investments of the same issuer or impairment (referred to as the measurement alternative). Non-marketable equity securities that have been remeasured during the period based on observable transactions are classified within Level 2 or Level 3 in the fair value hierarchy because we estimate the value based on valuation methods which may include a combination of the observable transaction price at the transaction date and other unobservable inputs including volatility, rights, and obligations of the securities we hold. The fair value of non-marketable equity securities that have been remeasured due to impairment are classified within Level 3.

Gains and losses on marketable and non-marketable equity securities

Gains and losses reflected in other income (expense), net, for our marketable and non-marketable equity securities are summarized below (in millions):

	Three Months Ended March 31,	
	2020	2021
Net gain (loss) on equity securities sold during the period	$ 171	$ 201
Net unrealized gain (loss) on equity securities held as of the end of the period	(985)	4,636
Total gain (loss) recognized in other income (expense), net	$ (814)	$ 4,837

In the table above, net gain (loss) on equity securities sold during the period reflects the difference between the sale proceeds and the carrying value of the equity securities at the beginning of the period or the purchase date, if later.

Cumulative net gains (losses) on equity securities sold during the period, which is summarized in the following table (in millions), represents the total net gains (losses) recognized after the initial purchase date of the equity security. While these net gains may have been reflected in periods prior to the period of sale, we believe they are important supplemental information as they reflect the economic realized net gains on the securities sold during the period. Cumulative net gains are calculated as the difference between the sale price and the initial purchase price for the equity security sold during the period.

	Equity Securities Sold Three Months Ended March 31,	
	2020	2021
Total sale price	$ 909	$ 725
Total initial cost	261	357
Cumulative net gains	$ 648	$ 368

Carrying value of marketable and non-marketable equity securities

The carrying value is measured as the total initial cost plus the cumulative net gain (loss). The carrying values for our marketable and non-marketable equity securities are summarized below (in millions):

	As of December 31, 2020		
	Marketable Securities	Non-Marketable Securities	Total
Total initial cost	$ 2,227	$ 14,616	$ 16,843
Cumulative net gain (loss)[1]	3,631	4,277	7,908
Carrying value[2]	$ 5,858	$ 18,893	$ 24,751

(1) Non-marketable equity securities cumulative net gain (loss) is comprised of $6.1 billion unrealized gains and $1.9 billion unrealized losses (including impairment).

(2) The long-term portion of marketable equity securities of $429 million is included within other non-current assets.

	As of March 31, 2021		
	Marketable Securities[2]	Non-Marketable Securities	Total
Total initial cost	$ 2,421	$ 14,485	$ 16,906
Cumulative net gain[1]	3,589	8,795	12,384
Carrying value[2]	$ 6,010	$ 23,280	$ 29,290

(1) Non-marketable equity securities cumulative net gain is comprised of $10.6 billion unrealized gains and $1.8 billion unrealized losses (including impairment).

(2) The long-term portion of marketable equity securities of $463 million is included within other non-current assets.

Marketable equity securities

The following table summarizes marketable equity securities measured at fair value by significant investment categories (in millions):

	As of December 31, 2020		As of March 31, 2021	
	Cash and Cash Equivalents	Marketable Securities	Cash and Cash Equivalents	Marketable Securities
Level 1:				
Money market funds	$ 12,210	$ 0	$ 13,679	$ 0
Marketable equity securities[1][2]	0	5,470	0	5,670
	12,210	5,470	13,679	5,670
Level 2:				
Mutual funds	0	388	0	340
Total	$ 12,210	$ 5,858	$ 13,679	$ 6,010

(1) The balance as of December 31, 2020 and March 31, 2021 includes investments that were reclassified from non-marketable equity securities following the commencement of public market trading of the issuers or acquisition by public entities (certain of which are subject to short-term lock-up restrictions).
(2) As of December 31, 2020 and March 31, 2021 the long-term portion of marketable equity securities of $429 million and $463 million, respectively, is included within other non-current assets.

Non-marketable equity securities

The following is a summary of unrealized gains and losses recorded in other income (expense), net, and included as adjustments to the carrying value of non-marketable equity securities (in millions):

	Three Months Ended March 31,	
	2020	2021
Unrealized gains	$ 356	$ 4,678
Unrealized losses (including impairment)	(1,304)	(2)
Total unrealized gain (loss) for non-marketable equity securities	$ (948)	$ 4,676

During the three months ended March 31, 2021, included in the $ 23.3 billion of non-marketable equity securities, $ 10.3 billion were measured at fair value primarily based on observable market transactions, resulting in a net unrealized gain of $4.7 billion.

Equity securities accounted for under the Equity Method

As of December 31, 2020 and March 31, 2021, equity securities accounted for under the equity method had a carrying value of approximately $ 1.4 billion and $1.6 billion, respectively. Our share of gains and losses including impairment are included as a component of other income (expense), net, in the Consolidated Statements of Income. See Note 6 for further details on other income (expense), net.

Derivative Financial Instruments

We enter into derivative instruments to manage risks relating to our ongoing business operations. The primary risk managed with derivative instruments is foreign exchange risk. We use foreign currency contracts to reduce the risk that our cash flows, earnings, and investment in foreign subsidiaries will be adversely affected by foreign currency exchange rate fluctuations. We also enter into derivative instruments to partially offset our exposure to other risks and enhance investment returns.

We recognize derivative instruments as either assets or liabilities in the Consolidated Balance Sheets at fair value and classify the derivatives primarily within Level 2 in the fair value hierarchy. We present our collar contracts (an option strategy comprised of a combination of purchased and written options) at net fair values where both the purchased and written options are with the same counterparty. For other derivative contracts, we present at gross fair values. We primarily record changes in the fair value in the Consolidated Statements of Income as either other income (expense), net, or revenues, or in the Consolidated Balance Sheets in AOCI, as discussed below.

We enter into master netting arrangements, which reduce credit risk by permitting net settlement of transactions with the same counterparty. Further, we enter into collateral security arrangements that provide for collateral to be received or pledged when the net fair value of certain financial instruments fluctuates from contractually established thresholds. Cash collateral received related to derivative instruments under our collateral security arrangements are included in other current assets with a corresponding liability. Cash and non-cash collateral pledged related to derivative instruments under our collateral security arrangements are included in other current assets.

Cash Flow Hedges

We designate foreign currency forward and option contracts (including collars) as cash flow hedges to hedge certain forecasted revenue transactions denominated in currencies other than the U.S. dollar. These contracts have maturities of 24 months or less.

Cash flow hedge amounts included in the assessment of hedge effectiveness are deferred in AOCI and subsequently reclassified to revenue when the hedged item is recognized in earnings. We exclude the change in forward points and time value from our assessment of hedge effectiveness. The initial value of the excluded component is amortized on a straight-line basis over the life of the hedging instrument and recognized in revenues. The difference between fair value changes of the excluded component and the amount amortized to revenues is recorded in AOCI. If the hedged transactions become probable of not occurring, the corresponding amounts in AOCI are reclassified to other income (expense), net in the period of de-designation.

As of March 31, 2021, the net accumulated gain on our foreign currency cash flow hedges before tax effect was $ 143 million, which is expected to be reclassified from AOCI into earnings within the next 12 months.

Fair Value Hedges

We designate foreign currency forward contracts as fair value hedges to hedge foreign currency risks for our investments denominated in currencies other than the U.S. dollar. Fair value hedge amounts included in the assessment of hedge effectiveness are recognized in other income (expense), net, along with the offsetting gains and losses of the related hedged items. We exclude changes in forward points from the assessment of hedge effectiveness and recognize changes in the excluded component in other income (expense), net.

Net Investment Hedges

We designate foreign currency forward contracts as net investment hedges to hedge the foreign currency risks related to our investment in foreign subsidiaries. Net investment hedge amounts included in the assessment of hedge effectiveness are recognized in AOCI along with the foreign currency translation adjustment. We exclude changes in forward points from the assessment of hedge effectiveness and recognize changes in the excluded component in other income (expense), net.

Other Derivatives

Other derivatives not designated as hedging instruments consist primarily of foreign currency forward contracts that we use to hedge intercompany transactions and other monetary assets or liabilities denominated in currencies other than the functional currency of a subsidiary. Gains and losses on these contracts, as well as the related costs, are recognized in other income (expense), net, along with the foreign currency gains and losses on monetary assets and liabilities.

We also use derivatives not designated as hedging instruments to manage risks relating to interest rates, commodity prices, credit exposures and to enhance investment returns. Additionally, from time to time, we enter into derivatives to hedge the market price risk on certain of our marketable equity securities. Gains (losses) arising from these derivatives are reflected within the "other" component of other income (expense), net and the offsetting recognized gains (losses) on the marketable equity securities are reflected within the gain (loss) on equity securities, net component of other income (expense), net. See Note 6 for further details on other income (expense), net.

The gross notional amounts of our outstanding derivative instruments were as follows (in millions):

	As of December 31, 2020	As of March 31, 2021
Derivatives Designated as Hedging Instruments:		
Foreign exchange contracts		
Cash flow hedges	$ 10,187	$ 13,824
Fair value hedges	$ 1,569	$ 2,548
Net investment hedges	$ 9,965	$ 12,473
Derivatives Not Designated as Hedging Instruments:		
Foreign exchange contracts	$ 39,861	$ 40,326
Other contracts	$ 2,399	$ 2,931

The fair values of our outstanding derivative instruments were as follows (in millions):

		As of December 31, 2020		
	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
Derivative Assets:				
Level 2:				
Foreign exchange contracts	Other current and non-current assets	$ 33	$ 316	$ 349
Other contracts	Other current and non-current assets	0	16	16
Total		$ 33	$ 332	$ 365
Derivative Liabilities:				
Level 2:				
Foreign exchange contracts	Accrued expenses and other liabilities, current and non-current	$ 395	$ 185	$ 580
Other contracts	Accrued expenses and other liabilities, current and non-current	0	942	942
Total		$ 395	$ 1,127	$ 1,522

		As of March 31, 2021		
	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
Derivative Assets:				
Level 2:				
Foreign exchange contracts	Other current and non-current assets	$ 482	$ 162	$ 644
Other contracts	Other current and non-current assets	0	27	27
Total		$ 482	$ 189	$ 671
Derivative Liabilities:				
Level 2:				
Foreign exchange contracts	Accrued expenses and other liabilities, current and non-current	$ 57	$ 268	$ 325
Other contracts	Accrued expenses and other liabilities, current and non-current	0	654	654
Total		$ 57	$ 922	$ 979

The gains (losses) on derivatives in cash flow hedging and net investment hedging relationships recognized in other comprehensive income ("OCI") are summarized below (in millions):

	Gains (Losses) Recognized in OCI on Derivatives Before Tax Effect	
	Three Months Ended March 31,	
	2020	2021
Derivatives in Cash Flow Hedging Relationship:		
Foreign exchange contracts		
Amount included in the assessment of effectiveness	$ 412	$ 162
Amount excluded from the assessment of effectiveness	52	49
Derivatives in Net Investment Hedging Relationship:		
Foreign exchange contracts		
Amount included in the assessment of effectiveness	80	378
Total	$ 544	$ 589

The effect of derivative instruments on income is summarized below (in millions):

	Gains (Losses) Recognized in Income			
	Three Months Ended March 31,			
	2020		2021	
	Revenues	Other income (expense), net	Revenues	Other income (expense), net
Total amounts presented in the Consolidated Statements of Income in which the effects of cash flow and fair value hedges are recorded	$ 41,159	$ (220)	$ 55,314	$ 4,846
Gains (Losses) on Derivatives in Cash Flow Hedging Relationship:				
Foreign exchange contracts				
Amount of gains (losses) reclassified from AOCI to income	$ 26	$ 0	$ (105)	$ 0
Amount excluded from the assessment of effectiveness recognized in earnings based on an amortization approach	23	0	(4)	0
Gains (Losses) on Derivatives in Fair Value Hedging Relationship:				
Foreign exchange contracts				
Hedged items	0	(17)	0	0
Derivatives designated as hedging instruments	0	17	0	0
Amount excluded from the assessment of effectiveness	0	1	0	2
Gains (Losses) on Derivatives in Net Investment Hedging Relationship:				
Foreign exchange contracts				
Amount excluded from the assessment of effectiveness	0	78	0	20
Gains (Losses) on Derivatives Not Designated as Hedging Instruments:				
Foreign exchange contracts	0	229	0	(340)
Other Contracts	0	(28)	0	323
Total gains (losses)	$ 49	$ 280	$ (109)	$ 5

Offsetting of Derivatives

The gross amounts of our derivative instruments subject to master netting arrangements with various counterparties, and cash and non-cash collateral received and pledged under such agreements were as follows (in millions):

Offsetting of Assets

	As of December 31, 2020						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Non-Cash Collateral Received	Net Assets Exposed
Derivatives	$ 397	$ (32)	$ 365	$ (295) [(1)]	$ (16)	$ 0	$ 54

	As of March 31, 2021						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Non-Cash Collateral Received	Net Assets Exposed
Derivatives	$ 724	$ (53)	$ 671	$ (299) [(1)]	$ (218)	$ 0	$ 154

(1) The balances as of December 31, 2020 and March 31, 2021 were related to derivative liabilities which are allowed to be net settled against derivative assets in accordance with our master netting agreements.

Offsetting of Liabilities

	As of December 31, 2020						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Pledged	Non-Cash Collateral Pledged	Net Liabilities
Derivatives	$ 1,554	$ (32)	$ 1,522	$ (295) [(2)]	$ (1)	$ (943)	$ 283

	As of March 31, 2021						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Pledged	Non-Cash Collateral Pledged	Net Liabilities
Derivatives	$ 1,032	$ (53)	$ 979	$ (299) [(2)]	$ 0	$ (649)	$ 31

(2) The balances as of December 31, 2020 and March 31, 2021 were related to derivative assets which are allowed to be net settled against derivative liabilities in accordance with our master netting agreements.

Note 4. Variable Interest Entities

Consolidated VIEs

We consolidate VIEs in which we hold a variable interest and are the primary beneficiary. The results of operations and financial position of these VIEs are included in our consolidated financial statements.

For certain consolidated VIEs, their assets are not available to us and their creditors do not have recourse to us. As of December 31, 2020 and March 31, 2021, assets that can only be used to settle obligations of these VIEs were $5.7 billion and $5.4 billion, respectively, and the liabilities for which creditors only have recourse to the VIEs were $2.3 billion and $2.2 billion, respectively.

Total noncontrolling interests ("NCI"), including redeemable noncontrolling interests ("RNCI"), in our consolidated subsidiaries was $ 3.9 billion and $3.8 billion as of December 31, 2020 to March 31, 2021, respectively.

NCI and RNCI are included within additional paid-in capital. Net loss attributable to noncontrolling interests was not material for any period presented and is included within the "other" component of other income (expense), net. See Note 6 for further details on other income (expense), net.

Unconsolidated VIEs

We have investments in some VIEs in which we are not the primary beneficiary. These VIEs include private companies that are primarily early stage companies and certain renewable energy entities in which activities involve power generation using renewable sources.

We have determined that the governance structures of these entities do not allow us to direct the activities that would significantly affect their economic performance. Therefore, we are not the primary beneficiary, and the results of operations and financial position of these VIEs are not included in our consolidated financial statements. We account for these investments as non-marketable equity investments or equity method investments.

VIEs are generally based on the current carrying value of the investments and any future funding commitments. We have determined that the single source of our exposure to these VIEs is our capital investments in them. The carrying value and maximum exposure of these unconsolidated VIEs were not material as of December 31, 2020 and March 31, 2021.

Note 5. Debt

Short-Term Debt

We have a debt financing program of up to $5.0 billion through the issuance of commercial paper. Net proceeds from this program are used for general corporate purposes. We had no commercial paper outstanding as of December 31, 2020 and March 31, 2021.

Our short-term debt balance also includes the current portion of certain long-term debt.

Long-Term Debt

The total outstanding debt is summarized below (in millions, except percentages):

	Maturity	Coupon Rate	Effective Interest Rate	As of December 31, 2020	As of March 31, 2021
Debt					
2011-2020 Notes Issuances	2021 - 2060	0.45% - 3.63%	0.57% - 3.73%	$ 14,000	$ 14,000
Future finance lease payments, net [1]				1,201	1,142
Total debt				15,201	15,142
Unamortized discount and debt issuance costs				(169)	(165)
Less: Current portion of Notes [2]				(999)	(1,000)
Less: Current portion future finance lease payments, net[1][2]				(101)	(90)
Total long-term debt				$ 13,932	$ 13,887

(1) Net of imputed interest.
(2) Total current portion of long-term debt is included within other accrued expenses and current liabilities. See Note 6.

The notes in the table above are comprised of fixed-rate senior unsecured obligations and generally rank equally with each other. We may redeem the notes at any time in whole or in part at specified redemption prices. The effective interest rates are based on proceeds received with interest payable semi-annually.

The total estimated fair value of the outstanding notes, including the current portion, was approximately $ 14.0 billion and $13.0 billion as of December 31, 2020 and March 31, 2021, respectively. The fair value was determined based on observable market prices of identical instruments in less active markets and is categorized accordingly as Level 2 in the fair value hierarchy.

Credit Facility

As of March 31, 2021, we have $4.0 billion of revolving credit facilities. No amounts were outstanding under the credit facilities as of December 31, 2020 and March 31, 2021.

In April 2021, we terminated the existing revolving credit facilities, which were scheduled to expire in July 2023, and entered into two new revolving credit facilities in the amounts of $4.0 billion and $6.0 billion, which will expire in April 2022 and April 2026, respectively. The interest rates for the new credit facilities are determined based on a formula using certain market rates, as well as our progress toward the achievement of certain sustainability goals. No amounts have been borrowed under the new credit facilities.

Note 6. Supplemental Financial Statement Information

Property and Equipment, Net

Property and equipment, net, consisted of the following (in millions):

	As of December 31, 2020	As of March 31, 2021
Land and buildings	$ 49,732	$ 52,522
Information technology assets	45,906	47,893
Construction in progress	23,111	22,556
Leasehold improvements	7,516	7,789
Furniture and fixtures	197	198
Property and equipment, gross	126,462	130,958
Less: accumulated depreciation	(41,713)	(43,352)
Property and equipment, net	$ 84,749	$ 87,606

Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following (in millions):

	As of December 31, 2020	As of March 31, 2021
European Commission fines[(1)]	$ 10,409	$ 10,099
Payables to brokers for unsettled investment trades	754	3,345
Accrued customer liabilities	3,118	2,991
Accrued purchases of property and equipment	2,197	2,107
Current operating lease liabilities	1,694	1,888
Other accrued expenses and current liabilities	10,459	10,302
Accrued expenses and other current liabilities	$ 28,631	$ 30,732

(1) Includes the effects of foreign exchange and interest. See Note 9 for further details.

Accumulated Other Comprehensive Income (Loss)

The components of AOCI, net of income tax, were as follows (in millions):

	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Available-for-Sale Investments	Unrealized Gains (Losses) on Cash Flow Hedges	Total
Balance as of December 31, 2019	$ (2,003)	$ 812	$ (41)	$ (1,232)
Other comprehensive income (loss) before reclassifications	(550)	498	326	274
Amounts excluded from the assessment of hedge effectiveness recorded in AOCI	0	0	52	52
Amounts reclassified from AOCI	0	(169)	(22)	(191)
Other comprehensive income (loss)	(550)	329	356	135
Balance as of March 31, 2020	$ (2,553)	$ 1,141	$ 315	$ (1,097)

	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Available-for-Sale Investments	Unrealized Gains (Losses) on Cash Flow Hedges	Total
Balance as of December 31, 2020	$ (864)	$ 1,612	$ (115)	$ 633
Other comprehensive income (loss) before reclassifications	(423)	(488)	130	(781)
Amounts excluded from the assessment of hedge effectiveness recorded in AOCI	0	0	49	49
Amounts reclassified from AOCI	0	11	85	96
Other comprehensive income (loss)	(423)	(477)	264	(636)
Balance as of March 31, 2021	$ (1,287)	$ 1,135	$ 149	$ (3)

The effects on net income of amounts reclassified from AOCI were as follows (in millions):

		Gains (Losses) Reclassified from AOCI to the Consolidated Statements of Income	
		Three Months Ended March 31,	
AOCI Components	Location	2020	2021
Unrealized gains (losses) on available-for-sale investments			
	Other income (expense), net	$ 214	$ (14)
	Benefit (provision) for income taxes	(45)	3
	Net of income tax	169	(11)
Unrealized gains (losses) on cash flow hedges			
Foreign exchange contracts	Revenue	26	(105)
Interest rate contracts	Other income (expense), net	1	1
	Benefit (provision) for income taxes	(5)	19
	Net of income tax	22	(85)
Total amount reclassified, net of income tax		$ 191	$ (96)

Other Income (Expense), Net

The components of other income (expense), net, were as follows (in millions):

	Three Months Ended March 31,	
	2020	2021
Interest income	$ 586	$ 345
Interest expense[(1)]	(21)	(76)
Foreign currency exchange gain (loss), net	(81)	113
Gain (loss) on debt securities, net	12	(86)
Gain (loss) on equity securities, net	(814)	4,837
Performance fees	6	(665)
Income and impairment from equity method investments, net	74	5
Other	18	373
Other income (expense), net	$ (220)	$ 4,846

(1) Interest expense is net of interest capitalized of $52 million and $47 million for the three months ended March 31, 2020 and 2021, respectively.

Note 7. Acquisitions

Fitbit

In January 2021, we closed the acquisition of Fitbit, Inc. for $ 2.1 billion. The addition of Fitbit to Google Services is expected to help spur innovation in wearable devices.

The assets acquired and liabilities assumed were recorded at fair value. The purchase price excludes post acquisition compensation arrangements. The purchase price was attributed to $440 million cash acquired, $590 million of intangible assets, $ 1.2 billion of goodwill and $ 110 million of net liabilities assumed. Goodwill was recorded in the Google Services segment and primarily attributable to synergies expected to arise after the acquisition. Goodwill is not expected to be deductible for tax purposes.

Note 8. Goodwill and Other Intangible Assets

Goodwill

Changes in the carrying amount of goodwill for the three months ended March 31, 2021 were as follows (in millions):

	Google Services	Google Cloud	Other Bets	Total
Balance as of December 31, 2020	$ 18,517	$ 1,957	$ 701	$ 21,175
Acquisitions	1,191	0	0	1,191
Foreign currency translation and other adjustments	(13)	(1)	(11)	(25)
Balance as of March 31, 2021	$ 19,695	$ 1,956	$ 690	$ 22,341

Other Intangible Assets

Information regarding purchased intangible assets were as follows (in millions):

	As of December 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patents and developed technology	$ 4,639	$ 3,649	$ 990
Customer relationships	266	49	217
Trade names and other	699	461	238
Total	$ 5,604	$ 4,159	$ 1,445

	As of March 31, 2021		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patents and developed technology	$ 4,811	$ 3,774	$ 1,037
Customer relationships	468	72	396
Trade names and other	864	474	390
Total	$ 6,143	$ 4,320	$ 1,823

For all intangible assets acquired and purchased during the three months ended March 31, 2021, patents and developed technology have a weighted-average useful life of 4.0 years, customer relationships have a weighted-average useful life of 3.8 years, and trade names and other have a weighted-average useful life of 10.0 years.

Amortization expense relating to purchased intangible assets was $ 204 million and $217 million for the three months ended March 31, 2020 and 2021, respectively.

As of March 31, 2021, expected amortization expense relating to purchased intangible assets for each of the next five years and thereafter was as follows (in millions):

Remainder of 2021	$ 630
2022	504
2023	223
2024	196
2025	74
Thereafter	196
Total	$ 1,823

Note 9. Contingencies

Indemnifications

In the normal course of business, to facilitate transactions in our services and products, we indemnify certain parties, including advertisers, Google Network partners, customers of Google Cloud offerings, and lessors with respect to certain matters. We have agreed to hold certain parties harmless against losses arising from a breach of representations or covenants, or out of intellectual property infringement or other claims made against certain parties. Several of these agreements limit the time within which an indemnification claim can be made and the amount of the claim. In addition, we have entered into indemnification agreements with our officers and directors, and our bylaws contain similar indemnification obligations to our agents.

It is not possible to make a reasonable estimate of the maximum potential amount under these indemnification agreements due to the unique facts and circumstances involved in each particular agreement. Additionally, we have a limited history of prior indemnification claims and the payments we have made under such agreements have not had a material adverse effect on our results of operations, cash flows, or financial position. However, to the extent that valid indemnification claims arise in the future, future payments by us could be significant and could have a material adverse effect on our results of operations or cash flows in a particular period.

As of March 31, 2021, we did not have any material indemnification claims that were probable or reasonably possible.

Legal Matters

Antitrust Investigations

On November 30, 2010, the EC's Directorate General for Competition opened an investigation into various antitrust-related complaints against us.

On June 27, 2017, the EC announced its decision that certain actions taken by Google regarding its display and ranking of shopping search results and ads infringed European competition law. The EC decision imposed a €2.4 billion ($2.7 billion as of June 27, 2017) fine. On September 11, 2017, we appealed the EC decision and on September 27, 2017, we implemented product changes to bring shopping ads into compliance with the EC's decision. We recognized a charge of $2.7 billion for the fine in the second quarter of 2017.

On July 18, 2018, the EC announced its decision that certain provisions in Google’s Android-related distribution agreements infringed European competition law. The EC decision imposed a €4.3 billion ($5.1 billion as of June 30, 2018) fine and directed the termination of the conduct at issue. On October 9, 2018, we appealed the EC decision. On October 29, 2018, we implemented changes to certain of our Android distribution practices. We recognized a charge of $5.1 billion for the fine in the second quarter of 2018.

On March 20, 2019, the EC announced its decision that certain contractual provisions in agreements that Google had with AdSense for Search partners infringed European competition law. The EC decision imposed a fine of €1.5 billion ($1.7 billion as of March 20, 2019) and directed actions related to AdSense for Search partners' agreements, which we implemented prior to the decision. On June 4, 2019, we appealed the EC decision. We recognized a charge of $1.7 billion for the fine in the first quarter of 2019.

While each EC decision is under appeal, we included the fines in accrued expenses and other current liabilities on our Consolidated Balance Sheets as we provided bank guarantees (in lieu of a cash payment) for the fines.

From time to time we are subject to formal and informal inquiries and investigations on competition matters by regulatory authorities in the United States, Europe, and other jurisdictions. For example, in August 2019, we began receiving civil investigative demands from the U.S. Department of Justice ("DOJ") requesting information and documents relating to our prior antitrust investigations and certain aspects of our business. The DOJ and a number of state Attorneys General filed a lawsuit on October 20, 2020 alleging that Google violated U.S. antitrust laws relating to Search and Search advertising. Separately, on December 16, 2020, a number of state Attorneys General filed an antitrust complaint against Google in the United States District Court for the Eastern District of Texas, alleging that Google violated U.S. antitrust laws as well as state deceptive trade laws relating to its advertising technology. We believe these complaints are without merit and will defend ourselves vigorously. The DOJ and state Attorneys General continue their investigations into certain aspects of our business. We continue to cooperate with federal and state regulators in the United States, and other regulators around the world.

Patent and Intellectual Property Claims

We have had patent, copyright, trade secret, and trademark infringement lawsuits filed against us claiming that certain of our products, services, and technologies infringe others' intellectual property rights. Adverse results in these lawsuits may include awards of substantial monetary damages, costly royalty or licensing agreements, or orders preventing us from offering certain features, functionalities, products, or services. As a result, we may have to change our business practices, and develop non-infringing products or technologies, which could result in a loss of revenues for us and otherwise harm our business. In addition, the U.S. International Trade Commission ("ITC") has increasingly become an important forum to litigate intellectual property disputes because an ultimate loss in an ITC action can result in a prohibition on importing infringing products into the U.S. Because the U.S. is an important market, a prohibition on importation could have an adverse effect on us, including preventing us from importing many important products into the U.S. or necessitating workarounds that may limit certain features of our products.

Furthermore, many of our agreements with our customers and partners require us to indemnify them against certain intellectual property infringement claims, which would increase our costs as a result of defending such claims, and may require that we pay significant damages if there were an adverse ruling in any such claims. In addition, our customers and partners may discontinue the use of our products, services, and technologies, as a result of injunctions or otherwise, which could result in loss of revenues and adversely affect our business.

In 2010, Oracle America, Inc. ("Oracle") brought a copyright lawsuit against Google in the Northern District of California, alleging that Google's Android operating system infringes Oracle's copyrights related to certain Java application programming interfaces (“Java APIs”). After trial, final judgment was entered by the district court in favor of Google on June 8, 2016, and the court decided post-trial motions in favor of Google. Oracle appealed and on March 27, 2018, the Federal Circuit Court of Appeals reversed and remanded the case for a trial on damages. On May 29, 2018, we filed a petition for a rehearing at the Federal Circuit, and on August 28, 2018, the Federal Circuit denied the petition. On January 24, 2019, we filed a petition to the Supreme Court of the United States to review the case. On April 29, 2019, the Supreme Court requested the views of the Solicitor General regarding our petition. On September 27, 2019, the Solicitor General recommended denying our petition, and we provided our response on October 16, 2019. On November 15, 2019, the Supreme Court granted our petition and made a decision to review the case. The Supreme Court heard oral arguments in our case on October 7, 2020. On April 5, 2021, the Supreme Court reversed the Federal Circuit's ruling and found that Google’s use of the Java APIs was a fair use as a matter of law. The Supreme Court remanded the case to the Federal Circuit for further proceedings in conformity with the Supreme Court opinion.

Other

We are also regularly subject to claims, suits, regulatory and government investigations, and other proceedings involving competition, intellectual property, privacy, tax and related compliance, labor and employment, commercial disputes, content generated by our users, goods and services offered by advertisers or publishers using our platforms, personal injury, consumer protection, and other matters. Such claims, suits, regulatory and government investigations, and other proceedings could result in substantial fines and penalties, injunctive relief, ongoing auditing and monitoring obligations, changes to our products and services, alterations to our business models and operations, and collateral related civil litigation or other adverse consequences, all of which could harm our business, reputation, financial condition, and operating results.

Certain of these outstanding matters include speculative, substantial or indeterminate monetary amounts. We record a liability when we believe that it is probable that a loss has been incurred and the amount can be reasonably estimated. If we determine that a loss is reasonably possible and the loss or range of loss can be estimated, we disclose the reasonably possible loss. We evaluate developments in our legal matters that could affect the amount of liability that has been previously accrued, and the matters and related reasonably possible losses disclosed, and make adjustments as appropriate. Significant judgment is required to determine both likelihood of there being and the estimated amount of a loss related to such matters.

With respect to our outstanding matters, based on our current knowledge, we believe that the amount or range of reasonably possible loss will not, either individually or in aggregate, have a material adverse effect on our business, consolidated financial position, results of operations, or cash flows. However, the outcome of such matters is inherently unpredictable and subject to significant uncertainties.

We expense legal fees in the period in which they are incurred.

Non-Income Taxes

We are under audit by various domestic and foreign tax authorities with regards to non-income tax matters. The subject matter of non-income tax audits primarily arises from disputes on the tax treatment and tax rate applied to the sale of our products and services in these jurisdictions and the tax treatment of certain employee benefits. We accrue non-income taxes that may result from examinations by, or any negotiated agreements with, these tax authorities when a loss is probable and reasonably estimable. If we determine that a loss is reasonably possible and the loss or range of loss can be estimated, we disclose the reasonably possible loss. Due to the inherent complexity and uncertainty of these matters and judicial process in certain jurisdictions, the final outcome may be materially different from our expectations.

For information regarding income tax contingencies, see Note 13.

Note 10. Stockholders' Equity

Share Repurchases

In July 2020, the Board of Directors of Alphabet authorized the company to repurchase up to $ 28.0 billion of its Class C capital stock. As of March 31, 2021, $6.3 billion remains available for repurchase. In April 2021, the Board of Directors of Alphabet authorized the company to repurchase up to an additional $50.0 billion of its Class C capital stock. The repurchases are being executed from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration date.

During the three months ended March 31, 2021, we repurchased and subsequently retired 5.7 million shares of Alphabet Class C capital stock for an aggregate amount of $11.4 billion.

Note 11. Net Income Per Share

The following table sets forth the computation of basic and diluted net income per share of Class A and Class B common stock and Class C capital stock (in millions, except share amounts which are reflected in thousands, and per share amounts):

	Three Months Ended March 31,					
	2020			2021		
	Class A	Class B	Class C	Class A	Class B	Class C
Basic net income per share:						
Numerator						
Allocation of undistributed earnings	$ 2,990	$ 462	$ 3,384	$ 8,011	$ 1,221	$ 8,698
Denominator						
Number of shares used in per share computation	300,249	46,424	339,792	300,800	45,840	326,580
Basic net income per share	$ 9.96	$ 9.96	$ 9.96	$ 26.63	$ 26.63	$ 26.63
Diluted net income per share:						
Numerator						
Allocation of undistributed earnings for basic computation	$ 2,990	$ 462	$ 3,384	$ 8,011	$ 1,221	$ 8,698
Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares	462	0	0	1,221	0	0
Reallocation of undistributed earnings	(27)	(4)	27	(119)	(16)	119
Allocation of undistributed earnings	$ 3,425	$ 458	$ 3,411	$ 9,113	$ 1,205	$ 8,817
Denominator						
Number of shares used in basic computation	300,249	46,424	339,792	300,800	45,840	326,580
Weighted-average effect of dilutive securities						
Add:						
Conversion of Class B to Class A common shares outstanding	46,424	0	0	45,840	0	0
Restricted stock units and other contingently issuable shares	180	0	5,622	18	0	8,833
Number of shares used in per share computation	346,853	46,424	345,414	346,658	45,840	335,413
Diluted net income per share	$ 9.87	$ 9.87	$ 9.87	$ 26.29	$ 26.29	$ 26.29

For the periods presented above, the net income per share amounts are the same for Class A and Class B common stock and Class C capital stock because the holders of each class are entitled to equal per share dividends or distributions in liquidation in accordance with the Amended and Restated Certificate of Incorporation of Alphabet Inc.

Note 12. Compensation Plans

Stock-Based Compensation

For the three months ended March 31, 2020 and 2021, total stock-based compensation ("SBC") expense was $ 3.4 billion and $3.8 billion, including amounts associated with awards we expect to settle in Alphabet stock of $ 3.2 billion and $3.7 billion, respectively.

Stock-Based Award Activities

The following table summarizes the activities for our unvested restricted stock units ("RSUs") in Alphabet stock for the three months ended March 31, 2021:

	Unvested Restricted Stock Units	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2020	19,288,793	$ 1,262.13
Granted	8,307,146	$ 1,757.60
Vested	(2,545,630)	$ 1,304.28
Forfeited/canceled	(476,857)	$ 1,366.45
Unvested as of March 31, 2021	24,573,452	$ 1,427.60

As of March 31, 2021, there was $ 33.1 billion of unrecognized compensation cost related to unvested employee RSUs. This amount is expected to be recognized over a weighted-average period of 2.8 years.

Note 13. Income Taxes

Our effective tax rate for the three months ended March 31, 2021 was lower than the U.S. federal statutory rate, primarily due to the Foreign-Derived Intangible Income tax benefit, the U.S. Research and Development Tax Credit, and stock-based compensation related tax benefits. Our effective tax rate is based on forecasted annual income before income taxes ("pre-tax earnings") which may fluctuate through the rest of the year.

Our effective tax rate for the three months ended March 31, 2020 was lower than the U.S. federal statutory rate primarily due to the U.S. Research and Development Tax Credit, the Foreign-Derived Intangible Income tax benefit, and stock-based compensation related tax benefits.

We are subject to income taxes in the U.S. and foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes. Our total gross unrecognized tax benefits were $3.8 billion and $4.3 billion as of December 31, 2020 and March 31, 2021. Our total unrecognized tax benefits that, if recognized, would affect our effective tax rate were $2.6 billion and $3.0 billion as of December 31, 2020 and March 31, 2021. Although the timing of the resolution, settlement, and closure of audits is not certain, we do not believe it is reasonably possible that our unrecognized tax benefits will materially change in the next 12 months.

For information regarding non-income taxes, see Note 9.

Note 14. Information about Segments and Geographic Areas

Beginning in the fourth quarter of 2020, we report our segment results as Google Services, Google Cloud, and Other Bets:

- Google Services includes products and services such as ads, Android, Chrome, hardware, Google Maps, Google Play, Search, and YouTube. Google Services generates revenues primarily from advertising; sales of apps, in-app purchases, digital content products, and hardware; and fees received for subscription-based products such as YouTube Premium and YouTube TV.
- Google Cloud includes Google's infrastructure and data analytics platforms, collaboration tools, and other services for enterprise customers. Google Cloud generates revenues primarily from fees received for Google Cloud Platform services and Google Workspace collaboration tools.
- Other Bets is a combination of multiple operating segments that are not individually material. Revenues from the Other Bets are derived primarily through the sale of internet services as well as licensing and R&D services.

Revenues and certain costs, such as costs associated with content and traffic acquisition, certain engineering, and hardware costs and other operating expenses, are directly attributable to our segments. Due to the integrated nature of Alphabet, other costs and expenses, such as technical infrastructure and office facilities, are managed centrally at a consolidated level. The associated costs, including depreciation and impairment, are allocated to operating segments as a service cost generally based on usage or headcount.

Unallocated corporate costs primarily include corporate initiatives, corporate shared costs, such as finance and legal, including fines and settlements, as well as costs associated with certain shared research and development activities. Additionally, hedging gains (losses) related to revenue are included in corporate costs.

Our Chief Operating Decision Maker does not evaluate operating segments using asset information.

Information about segments during the periods presented were as follows (in millions). For comparative purposes, amounts in prior periods have been recast:

	Three Months Ended March 31,	
	2020	2021
Revenues:		
Google Services	$ 38,198	$ 51,178
Google Cloud	2,777	4,047
Other Bets	135	198
Hedging gains (losses)	49	(109)
Total revenues	$ 41,159	$ 55,314

	Three Months Ended March 31,	
	2020	2021
Operating income (loss):		
Google Services	$ 11,548	$ 19,546
Google Cloud	(1,730)	(974)
Other Bets	(1,121)	(1,145)
Corporate costs, unallocated	(720)	(990)
Total income from operations	$ 7,977	$ 16,437

For revenues by geography, see Note 2.

The following table presents our long-lived assets by geographic area, which includes property and equipment, net and operating lease assets (in millions):

	As of December 31, 2020	As of March 31, 2021
Long-lived assets:		
United States	$ 69,315	$ 71,972
International	27,645	28,232
Total long-lived assets	$ 96,960	$ 100,204

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

Please read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and related notes included under Part I, Item 1 of this Quarterly Report on Form 10-Q.

The Impact of COVID-19 on our Results and Operations

We began to observe the impact of COVID-19 on our financial results in March 2020 when, despite an increase in users' search activity, our advertising revenues declined compared to the prior year due to a shift of user search activity to less commercial topics and reduced spending by our advertisers. For the quarter ended June 30, 2020, our advertising revenues declined due to the continued impacts of COVID-19 and the related reductions in global economic activity. During the course of the quarter ended June 30, 2020, we observed a gradual return in user search activity to more commercial topics, followed by increased spending by our advertisers that continued throughout the second half of 2020. Additionally, over the course of 2020, we experienced variability in our margins as many of our expenses are less variable in nature and/or may not correlate to changes in revenues. Market volatility contributed to fluctuations in the valuation of our equity investments. Further, our assessment of the credit deterioration of our customers due to changes in the macroeconomic environment during the period was reflected in our allowance for credit losses for accounts receivable.

During the first quarter of 2021, we continued to benefit from elevated consumer activity online and broad-based increases in advertiser spending. We remain focused on innovating and investing in the services we offer to consumers and businesses to support our long-term growth. For example, we continue to invest in our technical infrastructure and data centers. Additionally, certain expenses continued to be lower due to the ongoing pandemic, such as advertising and promotional, and travel and entertainment. These factors, combined with the adverse impact of COVID-19 on the first quarter of 2020, positively affected year-on-year growth trends in our financial results. Further, year-on-year trends benefited from a reduction in depreciation expense due to the change in the estimated useful life of our servers and certain network equipment beginning in the first quarter of 2021; we expect the effect of this change in estimate to decline through the remainder of the year (for further details see Note 1 of the Notes to Consolidated Financial Statements included in Part 1, Item 1 of this Quarterly Report on Form 10-Q). The COVID-19 pandemic continues to evolve, be unpredictable and affect our business and financial results. Our past results may not be indicative of our future performance, and historical trends in our financial results may differ materially.

See Part II Item 7, "Impact of COVID-19" in our Annual Report on Form 10-K for the year ended December 31, 2020 for more information.

Executive Overview

The following table summarizes our consolidated financial results (in millions, except for per share information and percentages).

	Three Months Ended March 31,	
	2020	2021
Revenues	$41,159	$55,314
Increase in revenues year over year	13 %	34 %
Increase in constant currency revenues year over year	15 %	32 %
Operating income	$ 7,977	$ 16,437
Operating margin	19 %	30 %
Other income (expense), net	$ (220)	$ 4,846
Net Income	$ 6,836	$ 17,930
Diluted EPS	$ 9.87	$ 26.29

- Total revenues were $55.3 billion, an increase of 34% year over year, primarily driven by an increase in Google Services segment revenues of $13.0 billion or 34% and an increase in Google Cloud segment revenues of $1.3 billion or 46%. The adverse effect of COVID-19 on prior period revenues positively affected our revenue growth. Revenues from the United States, EMEA, APAC, and Other Americas were $25.0 billion, $17.0 billion, $10.5 billion, and $2.9 billion, respectively.

- Total cost of revenues was $24.1 billion, an increase of 27% year over year. TAC was $9.7 billion, an increase of 30% year over year, primarily driven by an increase in revenues subject to TAC. Other cost of revenues were $14.4 billion, an increase of 25% year over year.
- Operating expenses (excluding cost of revenues) were $14.8 billion, an increase of 4% year over year primarily driven by headcount growth and partially offset by a decline in our allowance for credit losses for accounts receivable.

Other information:

- Operating cash flow was $19.3 billion.
- Capital expenditures, which primarily included investments in technical infrastructure, were $5.9 billion.
- Number of employees was 139,995 as of March 31, 2021. The majority of new hires during the quarter were engineers and product managers.

Our Segments

Beginning in the fourth quarter of 2020, we report our segment results as Google Services, Google Cloud, and Other Bets:

- Google Services includes products and services such as ads, Android, Chrome, hardware, Google Maps, Google Play, Search, and YouTube. Google Services generates revenues primarily from advertising; sales of apps, in-app purchases, digital content products, and hardware; and fees received for subscription-based products such as YouTube Premium and YouTube TV.
- Google Cloud includes Google’s infrastructure and data analytics platforms, collaboration tools, and other services for enterprise customers. Google Cloud generates revenues primarily from fees received for Google Cloud Platform ("GCP") services and Google Workspace collaboration tools.
- Other Bets is a combination of multiple operating segments that are not individually material. Revenues from the Other Bets are derived primarily through the sale of internet services as well as licensing and R&D services.

Unallocated corporate costs primarily include corporate initiatives, corporate shared costs, such as finance and legal, including fines and settlements, as well as costs associated with certain shared research and development activities. Additionally, hedging gains (losses) related to revenue are included in corporate costs.

Financial Results

Revenues

The following table presents our revenues by type (in millions).

	Three Months Ended March 31, 2020	Three Months Ended March 31, 2021
Google Search & other	$ 24,502	$ 31,879
YouTube ads	4,038	6,005
Google Network	5,223	6,800
Google advertising	33,763	44,684
Google other	4,435	6,494
Google Services total	38,198	51,178
Google Cloud	2,777	4,047
Other Bets	135	198
Hedging gains (losses)	49	(109)
Total revenues	$ 41,159	$ 55,314

Google Services

Google advertising revenues

Our advertising revenue growth, as well as the change in paid clicks and cost-per-click on Google Search & other properties and the change in impressions and cost-per-impression on Google Network partners' properties ("Google Network properties") and the correlation between these items, have been affected and may continue to be affected by various factors, including:

- advertiser competition for keywords;
- changes in advertising quality, formats, delivery or policy;
- changes in device mix;
- changes in foreign currency exchange rates;
- fees advertisers are willing to pay based on how they manage their advertising costs;
- general economic conditions including the impact of COVID-19;
- seasonality; and
- traffic growth in emerging markets compared to more mature markets and across various advertising verticals and channels.

Our advertising revenue growth rate has been affected over time as a result of a number of factors, including challenges in maintaining our growth rate as revenues increase to higher levels; changes in our product mix; changes in advertising quality or formats and delivery; the evolution of the online advertising market; increasing competition; our investments in new business strategies; query growth rates; and shifts in the geographic mix of our revenues. We also expect that our revenue growth rate will continue to be affected by evolving user preferences, the acceptance by users of our products and services as they are delivered on diverse devices and modalities, our ability to create a seamless experience for both users and advertisers, and movements in foreign currency exchange rates.

Google advertising revenues consist primarily of the following:

- Google Search & other consists of revenues generated on Google search properties (including revenues from traffic generated by search distribution partners who use Google.com as their default search in browsers, toolbars, etc.) and other Google owned and operated properties like Gmail, Google Maps, and Google Play;
- YouTube ads consists of revenues generated on YouTube properties; and
- Google Network consists of revenues generated on Google Network properties participating in AdMob, AdSense, and Google Ad Manager.

Google Search & other

Google Search & other revenues increased $7,377 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The overall growth was primarily driven by interrelated factors including increases in search queries resulting from growth in user adoption and usage, primarily on mobile devices, growth in advertiser spending, and improvements we have made in ad formats and delivery. The adverse effect of COVID-19 on prior period revenues also contributed to the year-over-year increase.

YouTube ads

YouTube ads revenues increased $1,967 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. Growth was primarily driven by our direct response products followed by our brand advertising products, both of which benefited from improvements to ad formats and delivery and increased advertiser spending. The adverse effect of COVID-19 on prior period revenues also contributed to the year-over-year increase.

Google Network

Google Network revenues increased $1,577 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The growth was primarily driven by strength in AdMob and Google Ad Manager. The adverse effect of COVID-19 on prior period revenues also contributed to the year-over-year increase.

Use of Monetization Metrics

Paid clicks for our Google Search & other properties represent engagement by users and include clicks on advertisements by end-users on Google search properties and other owned and operated properties including Gmail, Google Maps, and Google Play. Historically, we included certain viewed YouTube engagement ads and the related revenues in our paid clicks and cost-per-click monetization metrics. Over time, advertising on YouTube has expanded to multiple advertising formats and the type of viewed engagement ads historically included in paid clicks and cost-per-click metrics have increasingly covered a smaller portion of YouTube advertising revenues. As a result, beginning in the fourth quarter of 2020, we removed these ads and the related revenues from the paid clicks and cost-per-click metrics. The revised metrics presented below provide a better understanding of monetization trends on the properties included within Google Search & other, as they now more closely correlate with the related changes in revenues.

Impressions for Google Network properties include impressions displayed to users served on Google Network properties participating primarily in AdMob, AdSense and Google Ad Manager.

Cost-per-click is defined as click-driven revenues divided by our total number of paid clicks and represents the average amount we charge advertisers for each engagement by users.

Cost-per-impression is defined as impression-based and click-based revenues divided by our total number of impressions and represents the average amount we charge advertisers for each impression displayed to users.

As our business evolves, we periodically review, refine and update our methodologies for monitoring, gathering, and counting the number of paid clicks on our Google Search & other properties and the number of impressions on Google Network properties and for identifying the revenues generated by click activity on our Google Search & other properties and the revenues generated by impression activity on Google Network properties.

Paid clicks and cost-per-click

The following table presents changes in our paid clicks and cost-per-click (expressed as a percentage):

	Three Months Ended March 31,
	2021
Paid clicks change	25 %
Cost-per-click change	3 %

Paid clicks increased from the three months ended March 31, 2020 to the three months ended March 31, 2021 primarily driven by interrelated factors, including an increase in search queries resulting from growth in user adoption and usage, primarily on mobile devices; continued growth in advertiser activity; improvements we have made in ad formats and delivery; and the adverse effect of COVID-19 on the prior period. Growth was also driven by an increase in clicks relating to ads on Google Play. The increase in cost-per click was primarily driven by the adverse effect of COVID-19 on the prior period as well as the effect of a combination of factors including changes in device mix, geographic mix, ongoing product changes, product mix, property mix, and fluctuations of the U.S. dollar compared to certain foreign currencies.

Impressions and cost-per-impression

The following table presents changes in our impressions and cost-per-impression (expressed as a percentage):

	Three Months Ended March 31,
	2021
Impressions change	7 %
Cost-per-impression change	19 %

Impressions increased from the three months ended March 31, 2020 to the three months ended March 31, 2021 primarily driven by growth in Google Ad Manager and AdMob. The increase in cost-per-impression was primarily driven by the adverse effect of COVID-19 on the prior period, as well as the effect of a combination of factors including ongoing product and policy changes and improvements we have made in ad formats and delivery, changes in device mix, geographic mix, product mix, property mix, and fluctuations of the U.S. dollar compared to certain foreign currencies.

Google other revenues

Google other revenues consist primarily of revenues from:

- Google Play, which includes revenues from sales of apps and in-app purchases (which we recognize net of payout to developers) and digital content sold in the Google Play store;
- Devices and Services which includes hardware, such as Fitbit wearable devices, Google Nest home products, Pixelbooks, Pixel phones and other devices;
- YouTube non-advertising, including YouTube Premium and YouTube TV subscriptions and other services; and
- other products and services.

Google other revenues increased $2,059 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The growth was primarily driven by Google Play and YouTube non-advertising. Growth for Google Play was primarily driven by sales of apps and in-app purchases, which benefited from elevated user engagement partially due to the impact of COVID-19. Growth for YouTube non-advertising was primarily driven by an increase in paid subscribers. In addition, for the three months ended March 31, 2021 Google other revenues include Fitbit revenues as the acquisition closed in January 2021.

Over time, our growth rate for Google other revenues may be affected by the seasonality associated with new product and service launches as well as market dynamics.

Google Cloud

Our Google Cloud revenues increased $1,270 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The growth was primarily driven by GCP followed by Google Workspace offerings. Google Cloud's infrastructure and platform products were the largest drivers of growth in GCP.

Over time, our growth rate for Google Cloud revenues may be affected by customer usage, market dynamics, as well as new product and service launches.

Revenues by Geography

The following table presents our revenues by geography as a percentage of revenues, determined based on the addresses of our customers:

	Three Months Ended March 31,	
	2020	2021
United States	46 %	45 %
EMEA	31 %	31 %
APAC	18 %	19 %
Other Americas	5 %	5 %

For further details on revenues by geography, see Note 2 of the Notes to Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Use of Constant Currency Revenues and Constant Currency Revenue Percentage Change

The effect of currency exchange rates on our business is an important factor in understanding period to period comparisons. Our international revenues are favorably affected as the U.S. dollar weakens relative to other foreign currencies, and unfavorably affected as the U.S. dollar strengthens relative to other foreign currencies. Our revenues are also favorably affected by net hedging gains and unfavorably affected by net hedging losses.

We use non-GAAP constant currency revenues and non-GAAP percentage change in constant currency revenues for financial and operational decision-making and as a means to evaluate period-to-period comparisons. We believe the presentation of results on a constant currency basis in addition to GAAP results helps improve the ability to understand our performance because they exclude the effects of foreign currency volatility that are not indicative of our core operating results.

Constant currency information compares results between periods as if exchange rates had remained constant period over period. We define constant currency revenues as total revenues excluding the effect of foreign exchange rate movements and hedging activities, and use it to determine the constant currency revenue percentage change on a year-on-year basis. Constant currency revenues are calculated by translating current period revenues using prior period exchange rates, as well as excluding any hedging effects realized in the current period.

Constant currency revenue percentage change is calculated by determining the change in period revenues over prior period revenues where current period foreign currency revenues are translated using prior period exchange rates and hedging effects are excluded from revenues of both periods.

These results should be considered in addition to, not as a substitute for, results reported in accordance with GAAP. Results on a constant currency basis, as we present them, may not be comparable to similarly titled measures used by other companies and are not a measure of performance presented in accordance with GAAP.

The following table presents the foreign exchange effect on our international revenues and total revenues (in millions, except percentages):

	Three Months Ended March 31, 2020	Three Months Ended March 31, 2021
EMEA revenues	$ 12,845	$ 17,031
Exclude foreign exchange effect on current period revenues using prior year rates	235	(929)
EMEA constant currency revenues	$ 13,080	$ 16,102
Prior period EMEA revenues	$ 11,668	$ 12,845
EMEA revenue percentage change	10 %	33 %
EMEA constant currency revenue percentage change	12 %	25 %
APAC revenues	$ 7,238	$ 10,455
Exclude foreign exchange effect on current period revenues using prior year rates	61	(363)
APAC constant currency revenues	$ 7,299	$ 10,092
Prior period APAC revenues	$ 6,096	$ 7,238
APAC revenue percentage change	19 %	44 %
APAC constant currency revenue percentage change	20 %	39 %
Other Americas revenues	$ 2,157	$ 2,905
Exclude foreign exchange effect on current period revenues using prior year rates	96	191
Other Americas constant currency revenues	$ 2,253	$ 3,096
Prior period Other Americas revenues	$ 1,906	$ 2,157
Other Americas revenue percentage change	13 %	35 %
Other Americas constant currency revenue percentage change	18 %	44 %
United States revenues	$ 18,870	$ 25,032
United States revenue percentage change	14 %	33 %
Hedging gains (losses)	$ 49	$ (109)
Total revenues	$ 41,159	$ 55,314
Total constant currency revenues	$ 41,502	$ 54,322
Prior period revenues, excluding hedging effect [1]	$ 36,202	$ 41,110
Total revenue percentage change	13 %	34 %
Total constant currency revenue percentage change	15 %	32 %

(1) Total revenues and hedging gains (losses) were $36,339 million and $137 million for the three months ended March 31, 2019, respectively.

EMEA revenue percentage change from the three months ended March 31, 2020 to the three months ended March 31, 2021 was favorably affected by foreign currency exchange rates, primarily due to the U.S. dollar weakening relative to the Euro and British pound.

APAC revenue percentage change from the three months ended March 31, 2020 to the three months ended March 31, 2021 was favorably affected by foreign currency exchange rates, primarily due to the U.S. dollar weakening relative to the Japanese yen and Australian dollar.

Other Americas revenue percentage change from the three months ended March 31, 2020 to the three months ended March 31, 2021 was unfavorably affected by changes in foreign currency exchange rates, primarily due to the U.S. dollar strengthening relative to the Brazilian real.

Costs and Operating Expenses

Cost of Revenues

Cost of revenues includes TAC which are paid to our distribution partners, who make available our search access points and services, and amounts paid to Google Network partners primarily for ads displayed on their properties. Our distribution partners include browser providers, mobile carriers, original equipment manufacturers, and software developers.

The cost of revenues as a percentage of revenues generated from ads placed on Google Network properties are significantly higher than the cost of revenues as a percentage of revenues generated from ads placed on Google properties (which includes Google Search & other and YouTube ads), because most of the advertiser revenues from ads served on Google Network properties are paid as TAC to our Google Network partners.

Additionally, other cost of revenues (which is the cost of revenues excluding TAC) includes the following:

- Content acquisition costs primarily related to payments to content providers from whom we license video and other content for distribution on YouTube advertising and subscription services and Google Play (we pay fees to these content providers based on revenues generated or a flat fee);
- Expenses associated with our data centers (including bandwidth, compensation expenses including SBC, depreciation, energy, and other equipment costs) as well as other operations costs (such as content review and customer support costs). These costs are generally less variable in nature and may not correlate with related changes in revenues; and
- Inventory related costs for hardware we sell.

The following tables present our cost of revenues, including TAC (in millions, except percentages):

	Three Months Ended March 31,	
	2020	2021
TAC	$ 7,452	$ 9,712
Other cost of revenues	11,530	14,391
Total cost of revenues	$ 18,982	$ 24,103
Total cost of revenues as a percentage of revenues	46.1 %	43.6 %

Cost of revenues increased $5,121 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The increase was due to increases in other cost of revenues and TAC of $2,861 million and $2,260 million, respectively.

The increase in other cost of revenues from the three months ended March 31, 2020 to the three months ended March 31, 2021 was primarily due to increases in content acquisition costs primarily for YouTube as well as data center and other operations costs. The increase in data center and other operations costs was partially offset by a reduction in depreciation expense due to the change in the estimated useful life of our servers and certain network equipment beginning in the first quarter of 2021.

The increase in TAC from the three months ended March 31, 2020 to the three months ended March 31, 2021 was due to increases in TAC paid to distribution partners and to Google Network partners, primarily driven by growth in revenues subject to TAC. The TAC rate decreased from 22.1% to 21.7% from the three months ended March 31, 2020 to the three months ended March 31, 2021 due to a combination of factors none of which were individually significant. The TAC rate on Google properties revenues and the TAC rate on Google Network properties revenues were both substantially consistent from the three months ended March 31, 2020 to the three months ended March 31, 2021.

Over time, cost of revenues as a percentage of total revenues may be affected by a number of factors, including the following:

- The amount of TAC paid to distribution partners, which is affected by changes in device mix, geographic mix, partner mix, partner agreement terms such as revenue share arrangements, and the percentage of queries channeled through paid access points;
- The amount of TAC paid to Google Network partners, which is affected by a combination of factors such as geographic mix, product mix, and revenue share terms;
- Relative revenue growth rates of Google properties and Google Network properties;
- Certain costs that are less variable in nature and may not correlate with the related revenues;

- Costs associated with our data centers and other operations to support ads, Google Cloud, Search, YouTube and other products;
- Content acquisition costs, which are primarily affected by the relative growth rates in our YouTube advertising and subscription revenues;
- Costs related to hardware sales; and
- Increased proportion of non-advertising revenues, which generally have higher costs of revenues, relative to our advertising revenues.

Research and Development

The following table presents our R&D expenses (in millions, except percentages):

	Three Months Ended March 31,	
	2020	2021
Research and development expenses	$ 6,820	$ 7,485
Research and development expenses as a percentage of revenues	16.6 %	13.5 %

R&D expenses consist primarily of:

- Compensation expenses (including SBC) for engineering and technical employees responsible for R&D of our existing and new products and services;
- Depreciation;
- Equipment-related expenses; and
- Professional services fees primarily related to consulting and outsourcing services.

R&D expenses increased $665 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The increase was primarily due to an increase in compensation expenses of $861 million, largely resulting from a 10% increase in headcount. This increase was partially offset by a reduction in depreciation expense of $161 million including the effect of our change in the estimated useful life of our servers and certain network equipment.

Over time, R&D expenses as a percentage of revenues may fluctuate due to certain expenses that are generally less variable in nature and may not correlate to the changes in revenues. In addition, R&D expenses may be affected by a number of factors including continued investment in ads, Android, Chrome, Google Cloud, Google Play, hardware, machine learning, Other Bets, Search and YouTube.

Sales and Marketing

The following table presents our sales and marketing expenses (in millions, except percentages):

	Three Months Ended March 31,	
	2020	2021
Sales and marketing expenses	$ 4,500	$ 4,516
Sales and marketing expenses as a percentage of revenues	10.9 %	8.2 %

Sales and marketing expenses consist primarily of:

- Advertising and promotional expenditures related to our products and services; and
- Compensation expenses (including SBC) for employees engaged in sales and marketing, sales support, and certain customer service functions.

Sales and marketing expenses increased $16 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The increase was primarily due to an increase in compensation expenses of $368 million, largely resulting from an 8% increase in headcount. This increase was largely offset by decreases in advertising and promotional as well as travel and entertainment expenses totaling $268 million, primarily as a result of COVID-19.

Over time, sales and marketing expenses as a percentage of revenues may fluctuate due to certain expenses that are generally less variable in nature and may not correlate to the changes in revenues. In addition, sales and marketing expenses may be affected by a number of factors including the seasonality associated with new product and service launches and strategic decisions regarding the timing and extent of our spending.

General and Administrative

The following table presents our general and administrative expenses (in millions, except percentages):

	Three Months Ended March 31,	
	2020	2021
General and administrative expenses	$ 2,880	$ 2,773
General and administrative expenses as a percentage of revenues	7.0 %	5.0 %

General and administrative expenses consist primarily of:

- Compensation expenses (including SBC) for employees in our finance, human resources, information technology, and legal organizations;
- Depreciation;
- Equipment-related expenses;
- Legal-related expenses; and
- Professional services fees primarily related to audit, information technology consulting, outside legal, and outsourcing services.

General and administrative expenses decreased $107 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The decrease was primarily driven by a $493 million decline in allowance for credit losses for accounts receivable, as the prior year period reflected a higher allowance related to the economic impact of COVID-19. The decrease was partially offset by $236 million in charges relating to certain legal matters.

Over time, general and administrative expenses as a percentage of revenues may fluctuate due to certain expenses that are generally less variable in nature and may not correlate to the changes in revenues, the effect of discrete items such as legal settlements, or allowances for credit losses for accounts receivable.

Segment Profitability

The following table presents our segment operating income (loss) (in millions). For comparative purposes, amounts in prior periods have been recast.

	Three Months Ended March 31,	
	2020	2021
Operating income (loss):		
Google Services	$ 11,548	$ 19,546
Google Cloud	(1,730)	(974)
Other Bets	(1,121)	(1,145)
Corporate costs, unallocated	(720)	(990)
Total income from operations	$ 7,977	$ 16,437

Google Services

Google services operating income increased $7,998 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The increase was due to growth in revenues partially offset by increases in TAC, content acquisition costs and compensation expenses. The increase in expenses was partially offset by a reduction in costs driven by the change in the estimated useful life of our servers and certain network equipment. The adverse effect of COVID-19 on prior period results also positively affected the year-over-year increase in operating income.

Google Cloud

Google Cloud operating loss decreased $756 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The decrease in operating loss was primarily driven by growth in revenues, partially offset by an increase in expenses, primarily driven by compensation expenses. The increase in expenses was partially offset by a reduction in costs driven by the change in the estimated useful life of our servers and certain network equipment.

Other Bets

Other Bets operating loss increased $24 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The increase in operating loss was due to a combination of factors none of which were individually significant.

Other Income (Expense), Net

The following table presents other income (expense), net (in millions):

	Three Months Ended March 31,	
	2020	2021
Other income (expense), net	$ (220)	$ 4,846

Other income (expense), net, increased $5,066 million from the three months ended March 31, 2020 to the three months ended March 31, 2021. The change was primarily driven by an increase in unrealized gains recognized for certain of our non-marketable equity securities of $5,624 million during the three months ended March 31, 2021, partially offset by an increase in accrued performance fees of $671 million.

Over time, other income (expense), net, may be affected by market dynamics and other factors. Equity values generally change daily for marketable equity securities and upon the occurrence of observable price changes or upon impairment of non-marketable equity securities. In addition, volatility in the global economic climate and financial markets could result in a significant change in the value of our investments. Fluctuations in the value of these investments has, and we expect will continue to, contribute to volatility of OI&E in future periods. For additional information about our investments, see Note 3 of the Notes to Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Provision for Income Taxes

The following table presents our provision for income taxes (in millions, except for effective tax rate):

	Three Months Ended March 31,	
	2020	2021
Provision for income taxes	$ 921	$ 3,353
Effective tax rate	11.9 %	15.8 %

Our provision for income taxes and our effective tax rate increased from the three months ended March 31, 2020 to the three months ended March 31, 2021. The increase in the provision for income taxes and our effective tax rate is primarily due to an increase in pre-tax earnings, including in countries that have higher statutory rates, partially offset by an increase in the U.S. federal Foreign-Derived Intangible Income tax deduction benefit and stock-based compensation related tax benefit.

We expect our future effective tax rate to be affected by changes in pre-tax earnings, including the effect of countries with different statutory rates. Additionally, our future effective tax rate may be affected by changes in the valuation of our deferred tax assets or liabilities, or changes in tax laws, regulations, as well as certain discrete items.

Financial Condition

Cash, Cash Equivalents, and Marketable Securities

As of March 31, 2021, we had $135.1 billion in cash, cash equivalents, and short-term marketable securities. Ca sh equivalents and marketable securities are comprised of time deposits, money market funds, highly liquid government bonds, corporate debt securities, mortgage-backed and asset-backed securities and marketable equity securities.

Sources, Uses of Cash and Related Trends

Our principal sources of liquidity are our cash, cash equivalents, and marketable securities, as well as the cash flow that we generate from our operations. The primary use of capital continues to be to invest for the long term growth of the business. We regularly evaluate our cash and capital structure, including the size, pace and form of capital return to stockholders.

The following table presents our cash flows (in millions):

	Three Months Ended March 31,	
	2020	2021
Net cash provided by operating activities	$ 11,451	$ 19,289
Net cash used in investing activities	$ (1,847)	$ (5,383)
Net cash used in financing activities	$ (8,186)	$ (13,606)

Cash Provided by Operating Activities

Our largest source of cash provided by our operations are advertising revenues generated by Google Search & other properties, Google Network properties and YouTube ads. Additionally, we generate cash through sales of apps, in-app purchases, digital content products, and hardware; and licensing and service fees including fees received for Google Cloud offerings and subscription-based products.

Our primary uses of cash from our operating activities include payments to our distribution and Google Network partners, for compensation and related costs, and for content acquisition costs. In addition, uses of cash from operating activities include hardware inventory costs, income taxes, and other general corporate expenditures.

Net cash provided by operating activities increased from the three months ended March 31, 2020 to the three months ended March 31, 2021 primarily due to the net effect of increases in cash received from revenues and cash paid for cost of revenues and operating expenses, and changes in operating assets and liabilities.

Cash Used in Investing Activities

Cash provided by investing activities consists primarily of maturities and sales of our investments in marketable and non-marketable securities. Cash used in investing activities consists primarily of purchases of marketable and non-marketable securities, purchases of property and equipment, and payments for acquisitions.

Net cash used in investing activities increased from the three months ended March 31, 2020 to the three months ended March 31, 2021 primarily due to a net decrease in maturities and sales of securities and increase in payments for acquisitions.

Cash Used in Financing Activities

Cash provided by financing activities consists primarily of proceeds from issuance of debt and proceeds from the sale of interest in consolidated entities. Cash used in financing activities consists primarily of repurchases of capital stock, net payments related to stock-based award activities, and repayments of debt.

Net cash used in financing activities increased from the three months ended March 31, 2020 to the three months ended March 31, 2021 primarily due to increases in cash payments for repurchases of capital stock and net payments related to stock-based award activities, and a decrease in proceeds from the sale of interest in consolidated entities.

Liquidity and Material Cash Requirements

We expect existing cash, cash equivalents, short-term marketable securities, cash flows from operations and financing activities to continue to be sufficient to fund our operating activities and cash commitments for investing and financing activities for at least the next 12 months and thereafter for the foreseeable future.

As of March 31, 2021, we had long-term taxes payable of $6.5 billion related to a one-time transition tax payable incurred as a result of the U.S. Tax Cuts and Jobs Act ("Tax Act"). As permitted by the Tax Act, we will pay the transition tax in annual interest-free installments through 2025.

In 2017, 2018 and 2019, the EC announced decisions that certain actions taken by Google infringed European competition law and imposed fines of €2.4 billion ($2.7 billion as of June 27, 2017), €4.3 billion ($5.1 billion as of June 30, 2018), and €1.5 billion ($1.7 billion as of March 20, 2019), respectively. While each EC decision is under appeal, we included the fines in accrued expenses and other current liabilities on our Consolidated Balance Sheets as we provided bank guarantees (in lieu of a cash payment) for the fines.

We have a short-term debt financing program of up to $5.0 billion through the issuance of commercial paper. Net proceeds from this program are used for general corporate purposes. As of March 31, 2021, we had no commercial paper outstanding. As of March 31, 2021, we had $4 billion of revolving credit facilities with no amounts outstanding. In April 2021, we terminated the existing revolving credit facilities, which were scheduled to expire in July 2023, and entered into two new revolving credit facilities in the amounts of $4.0 billion and $6.0 billion, which will expire in April 2022 and April 2026, respectively. The interest rates for the new credit facilities are determined based on a formula using certain market rates, as well as our progress toward the achievement of certain sustainability goals. No amounts have been borrowed under the new credit facilities.

As of March 31, 2021, we have senior unsecured notes outstanding due from 2021 through 2060 with a total carrying value of $13.8 billion. Refer to Note 5 of the Notes to Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for further information on the notes.

In accordance with the authorizations of the Board of Directors of Alphabet, during the three months ended March 31, 2021 we repurchased and subsequently retired 5.7 million shares of Alphabet Class C capital stock for an aggregate amount of $11.4 billion. As of March 31, 2021, $6.3 billion remains authorized and available for repurchase. In April 2021, the Board of Directors of Alphabet authorized the company to repurchase up to an additional $50.0 billion of its Class C capital stock. The repurchases are being executed from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration date. Refer to Note 10 of the Notes to Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Capital Expenditures and Leases

We make investments in land and buildings for data centers and offices and information technology assets through purchases of property and equipment and lease arrangements to provide capacity for the growth of our services and products.

During the three months ended March 31, 2020 and 2021, we spent $6.0 billion and $5.9 billion on capital expenditures and recognized total operating lease assets of $770 million and $769 million, respectively. As of March 31, 2021, the amount of total future lease payments under operating leases, which had a weighted average remaining lease term of 9 years, was $15.6 billion. As of March 31, 2021, we have entered into leases that have not yet commenced with future lease payments of $8.0 billion, excluding purchase options, that are not yet recorded on our Consolidated Balance Sheets. These leases will commence between 2021 and 2026 with non-cancelable lease terms of 1 to 25 years.

For the three months ended March 31, 2020 and 2021, our depreciation and impairment expenses on property and equipment were $2.9 billion and $2.5 billion, respectively. The change in estimated useful life of our servers and certain network equipment was effective beginning in fiscal year 2021. The effect of this change in accounting estimate was a reduction in depreciation expense of $835 million for the three months ended March 31, 2021. For the three months ended March 31, 2020 and 2021, our operating lease expenses (including variable lease costs), were $663 million and $794 million, respectively. Finance leases were not material for the three months ended March 31, 2020 and 2021.

Critical Accounting Policies and Estimates

See Part II, Item 7, "Critical Accounting Policies and Estimates" in our Annual Report on Form 10-K for the year ended December 31, 2020. There have been no material changes to our critical accounting policies and estimates since our Annual Report on Form 10-K for the year ended December 31, 2020.

Available Information

Our website is located at www.abc.xyz, and our investor relations website is located at www.abc.xyz/investor. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and our Proxy Statements, and any amendments to these reports, are available through our investor relations website, free of charge, after we file them with the SEC. We also provide a link to the section of the SEC's website at www.sec.gov that has all of the reports that we file or furnish with the SEC.

We webcast via our investor relations website our earnings calls and certain events we participate in or host with members of the investment community. Our investor relations website also provides notifications of news or announcements regarding our financial performance and other items of interest to our investors, including SEC filings, investor events, press and earnings releases, and blogs. We also share Google news and product updates on Google’s Keyword blog at https://www.blog.google/, which may be of interest or material to our investors. Further, corporate governance information, including our certificate of incorporation, bylaws, governance guidelines, board committee charters, and code of conduct, is also available on our investor relations website under the heading "Other." The content of our websites are not incorporated by reference into this Quarterly Report on Form 10-Q or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, including changes in foreign currency exchange rates, interest rates and equity investment risks. Our exposure to market risk has not changed materially since December 31, 2020. For quantitative and qualitative disclosures about market risk, refer to Part II, Item 7A, Quantitative and Qualitative Disclosures About Market Risk, in our Annual Report on Form 10-K for the year ended December 31, 2020.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Exchange Act, as of the end of the period covered by this Quarterly Report on Form 10-Q.

Based on this evaluation, our chief executive officer and chief financial officer concluded that, as of March 31, 2021, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

We rely extensively on information systems to manage our business and summarize and report operating results. In 2019, we began a multi-year implementation of a new global ERP system, which will replace much of our existing core financial systems. The ERP system is designed to accurately maintain our financial records, enhance the flow of financial information, improve data management and provide timely information to our management team. The implementation is expected to occur in phases over the next several years. There have been no changes in our internal control over financial reporting that occurred during the quarter ended March 31, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. However, as the phased implementation of the new ERP system continues, we will change our processes and procedures, which in turn, could result in changes to our internal control over financial reporting. As such changes occur, we will evaluate quarterly whether such changes materially affect our internal control over financial reporting.

As a result of COVID-19, our global workforce continued to operate primarily in a work from home environment for the quarter ended March 31, 2021. While we continue to evolve our work model in response to the uneven effects of the ongoing pandemic around the world, we believe that our internal controls over financial reporting continue to be effective. We have continued to re-evaluate and refine our financial reporting process to provide reasonable assurance that we could report our financial results accurately and timely.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a description of our material pending legal proceedings, see Note 9 “Contingencies - Legal Matters” of the Notes to Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q, which is incorporated herein by reference.

ITEM 1A. RISK FACTORS

Our operations and financial results are subject to various risks and uncertainties, including those described in Part I, Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2020, which could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our common and capital stock. There have been no material changes to our risk factors since our Annual Report on Form 10-K for the year ended December 31, 2020.

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

Issuer Purchases of Equity Securities

The following table presents information with respect to Alphabet's repurchases of Class C capital stock during the quarter ended March 31, 2021.

Period	Total Number of Shares Purchased (in thousands) (1)	Average Price Paid per Share (2)	Total Number of Shares Purchased as Part of Publicly Announced Programs (in thousands) (1)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (in millions)
January 1 - 31	1,482	$ 1,805.11	1,482	$ 15,251
February 1 - 28	1,701	$ 2,078.47	1,701	$ 11,940
March 1 - 31	2,514	$ 2,062.45	2,514	$ 6,250
Total	5,697		5,697	

(1) The repurchases are being executed from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration date. See Note 10 in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information related to share repurchases.

(2) Average price paid per share includes costs associated with the repurchases.

ITEM 6. EXHIBITS

Exhibit Number		Description	Incorporated by reference herein	
			Form	Date
31.01	*	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		
31.02	*	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		
32.01	‡	Certifications 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	*	Inline 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	*	Inline XBRL Taxonomy Extension Schema Document		
101.CAL	*	Inline XBRL Taxonomy Extension Calculation Linkbase Document		
101.DEF	*	Inline XBRL Taxonomy Extension Definition Linkbase Document		
101.LAB	*	Inline XBRL Taxonomy Extension Label Linkbase Document		
101.PRE	*	Inline XBRL Taxonomy Extension Presentation Linkbase Document		
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)		

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* Filed herewith.

‡ Furnished herewith.

SIGNATURE

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.

	ALPHABET INC.
April 27, 2021	By: /s/ RUTH M. PORAT
	Ruth M. Porat
	Senior Vice President and Chief Financial Officer
	ALPHABET INC.
April 27, 2021	By: /s/ AMIE THUENER O'TOOLE
	Amie Thuener O'Toole
	Vice President and Chief Accounting Officer