## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

### Alphabet Inc.

### INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Alphabet Inc.

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Alphabet Inc. (the Company) as of December 31, 2022 and 2023, the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2023, and the related notes and financial statement schedule listed in the Index at Item 15 (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated January 30, 2024 expressed an unqualified opinion thereon.

**Basis for Opinion**

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

**Critical Audit Matter**

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

***Loss Contingencies***

| | |
|---|---|
| *Description of the Matter* | The Company is regularly subject to claims, lawsuits, regulatory and government investigations, other proceedings, and consent orders involving competition, intellectual property, data privacy and security, tax and related compliance, labor and employment, commercial disputes, content generated by its users, goods and services offered by advertisers or publishers using their platforms, personal injury, consumer protection, and other matters. As described in Note 10 to the consolidated financial statements “Commitments and contingencies” such claims, lawsuits, regulatory and government investigations, other proceedings, and consent orders could result in adverse consequences.<br><br>Significant judgment is required to determine both the likelihood, and the estimated amount, of a loss related to such matters. Auditing management’s accounting for and disclosure of loss contingencies from these matters involved challenging and subjective auditor judgment in assessing the Company’s evaluation of the probability of a loss, and the estimated amount or range of loss. |
| *How We Addressed the Matter in Our Audit* | We tested relevant controls over the identified risks associated with management’s accounting for and disclosure of these matters. This included controls over management’s assessment of the probability of incurrence of a loss and whether the loss or range of loss was reasonably estimable and the development of related disclosures.<br><br>Our audit procedures included gaining an understanding of previous rulings and the status of ongoing lawsuits, reviewing letters addressing the matters from internal and external legal counsel, meeting with internal legal counsel to discuss the allegations, and obtaining a representation letter from management on these matters. We also evaluated the Company’s disclosures in relation to these matters. |

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1999.

San Jose, California
January 30, 2024

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Alphabet Inc.

**Opinion on Internal Control Over Financial Reporting**

We have audited Alphabet Inc.'s internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Alphabet Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2023 consolidated financial statements of the Company and our report dated January 30, 2024 expressed an unqualified opinion thereon.

**Basis for Opinion**

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

**Definition and Limitations of Internal Control Over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Jose, California
January 30, 2024

# Alphabet Inc.
## CONSOLIDATED BALANCE SHEETS
### (in millions, except par value per share amounts)

| | As of December 31, | |
|---|---|---|
| | 2022 | 2023 |
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 21,879 | $ 24,048 |
| Marketable securities | 91,883 | 86,868 |
| Total cash, cash equivalents, and marketable securities | 113,762 | 110,916 |
| Accounts receivable, net | 40,258 | 47,964 |
| Other current assets | 10,775 | 12,650 |
| Total current assets | 164,795 | 171,530 |
| Non-marketable securities | 30,492 | 31,008 |
| Deferred income taxes | 5,261 | 12,169 |
| Property and equipment, net | 112,668 | 134,345 |
| Operating lease assets | 14,381 | 14,091 |
| Goodwill | 28,960 | 29,198 |
| Other non-current assets | 8,707 | 10,051 |
| Total assets | $ 365,264 | $ 402,392 |
| **Liabilities and Stockholders' Equity** | | |
| Current liabilities: | | |
| Accounts payable | $ 5,128 | $ 7,493 |
| Accrued compensation and benefits | 14,028 | 15,140 |
| Accrued expenses and other current liabilities | 37,866 | 46,168 |
| Accrued revenue share | 8,370 | 8,876 |
| Deferred revenue | 3,908 | 4,137 |
| Total current liabilities | 69,300 | 81,814 |
| Long-term debt | 14,701 | 13,253 |
| Deferred revenue, non-current | 599 | 911 |
| Income taxes payable, non-current | 9,258 | 8,474 |
| Deferred income taxes | 514 | 485 |
| Operating lease liabilities | 12,501 | 12,460 |
| Other long-term liabilities | 2,247 | 1,616 |
| Total liabilities | 109,120 | 119,013 |
| Commitments and Contingencies (Note 10) | | |
| Stockholders' equity: | | |
| Preferred stock, $0.001 par value per share, 100 shares authorized; no shares issued and outstanding | 0 | 0 |
| Class A, Class B, and Class C stock and additional paid-in capital, $0.001 par value per share: 300,000 shares authorized (Class A 180,000, Class B 60,000, Class C 60,000); 12,849 (Class A 5,964, Class B 883, Class C 6,002) and 12,460 (Class A 5,899, Class B 870, Class C 5,691) shares issued and outstanding | 68,184 | 76,534 |
| Accumulated other comprehensive income (loss) | (7,603) | (4,402) |
| Retained earnings | 195,563 | 211,247 |
| Total stockholders' equity | 256,144 | 283,379 |
| Total liabilities and stockholders' equity | $ 365,264 | $ 402,392 |

See accompanying notes.

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

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Revenues | $ 257,637 | $ 282,836 | $ 307,394 |
| Costs and expenses: | | | |
| Cost of revenues | 110,939 | 126,203 | 133,332 |
| Research and development | 31,562 | 39,500 | 45,427 |
| Sales and marketing | 22,912 | 26,567 | 27,917 |
| General and administrative | 13,510 | 15,724 | 16,425 |
| Total costs and expenses | 178,923 | 207,994 | 223,101 |
| Income from operations | 78,714 | 74,842 | 84,293 |
| Other income (expense), net | 12,020 | (3,514) | 1,424 |
| Income before income taxes | 90,734 | 71,328 | 85,717 |
| Provision for income taxes | 14,701 | 11,356 | 11,922 |
| Net income | $ 76,033 | $ 59,972 | $ 73,795 |
| | | | |
| Basic net income per share of Class A, Class B, and Class C stock | $ 5.69 | $ 4.59 | $ 5.84 |
| Diluted net income per share of Class A, Class B, and Class C stock | $ 5.61 | $ 4.56 | $ 5.80 |

See accompanying notes.

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

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Net income | $ 76,033 | $ 59,972 | $ 73,795 |
| Other comprehensive income (loss): | | | |
| Change in foreign currency translation adjustment | (1,442) | (1,836) | 735 |
| Available-for-sale investments: | | | |
| Change in net unrealized gains (losses) | (1,312) | (4,720) | 1,344 |
| Less: reclassification adjustment for net (gains) losses included in net income | (64) | 1,007 | 1,168 |
| Net change, net of income tax benefit (expense) of $394, $1,056, and $(698) | (1,376) | (3,713) | 2,512 |
| Cash flow hedges: | | | |
| Change in net unrealized gains (losses) | 716 | 1,275 | 168 |
| Less: reclassification adjustment for net (gains) losses included in net income | (154) | (1,706) | (214) |
| Net change, net of income tax benefit (expense) of $(122), $110, and $2 | 562 | (431) | (46) |
| Other comprehensive income (loss) | (2,256) | (5,980) | 3,201 |
| Comprehensive income | $ 73,777 | $ 53,992 | $ 76,996 |

See accompanying notes.

**Alphabet Inc.**
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS’ EQUITY**
**(in millions)**

| | Class A, Class B, Class C Stock and Additional Paid-In Capital | | Accumulated Other Comprehensive Income (Loss) | Retained Earnings | Total Stockholders’ Equity |
|---|---|---|---|---|---|
| | Shares | Amount | | | |
| Balance as of December 31, 2020 | 13,504 | $ 58,510 | $ 633 | $ 163,401 | $ 222,544 |
| Stock issued | 145 | 12 | 0 | 0 | 12 |
| Stock-based compensation expense | 0 | 15,539 | 0 | 0 | 15,539 |
| Tax withholding related to vesting of restricted stock units and other | 0 | (10,273) | 0 | 0 | (10,273) |
| Repurchases of stock | (407) | (2,324) | 0 | (47,950) | (50,274) |
| Sale of interest in consolidated entities | 0 | 310 | 0 | 0 | 310 |
| Net income | 0 | 0 | 0 | 76,033 | 76,033 |
| Other comprehensive income (loss) | 0 | 0 | (2,256) | 0 | (2,256) |
| Balance as of December 31, 2021 | 13,242 | 61,774 | (1,623) | 191,484 | 251,635 |
| Stock issued | 137 | 8 | 0 | 0 | 8 |
| Stock-based compensation expense | 0 | 19,525 | 0 | 0 | 19,525 |
| Tax withholding related to vesting of restricted stock units and other | 0 | (9,754) | 0 | (1) | (9,755) |
| Repurchases of stock | (530) | (3,404) | 0 | (55,892) | (59,296) |
| Sale of interest in consolidated entities | 0 | 35 | 0 | 0 | 35 |
| Net income | 0 | 0 | 0 | 59,972 | 59,972 |
| Other comprehensive income (loss) | 0 | 0 | (5,980) | 0 | (5,980) |
| Balance as of December 31, 2022 | 12,849 | 68,184 | (7,603) | 195,563 | 256,144 |
| Stock issued | 139 | 0 | 0 | 0 | 0 |
| Stock-based compensation expense | 0 | 22,578 | 0 | 0 | 22,578 |
| Tax withholding related to vesting of restricted stock units and other | 0 | (10,164) | 0 | 9 | (10,155) |
| Repurchases of stock | (528) | (4,064) | 0 | (58,120) | (62,184) |
| Net income | 0 | 0 | 0 | 73,795 | 73,795 |
| Other comprehensive income (loss) | 0 | 0 | 3,201 | 0 | 3,201 |
| Balance as of December 31, 2023 | 12,460 | $ 76,534 | $ (4,402) | $ 211,247 | $ 283,379 |

See accompanying notes.

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

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| **Operating activities** | | | |
| Net income | $ 76,033 | $ 59,972 | $ 73,795 |
| Adjustments: | | | |
| Depreciation of property and equipment | 10,273 | 13,475 | 11,946 |
| Stock-based compensation expense | 15,376 | 19,362 | 22,460 |
| Deferred income taxes | 1,808 | (8,081) | (7,763) |
| (Gain) loss on debt and equity securities, net | (12,270) | 5,519 | 823 |
| Other | 1,955 | 3,483 | 4,330 |
| Changes in assets and liabilities, net of effects of acquisitions: | | | |
| Accounts receivable, net | (9,095) | (2,317) | (7,833) |
| Income taxes, net | (625) | 584 | 523 |
| Other assets | (1,846) | (5,046) | (2,143) |
| Accounts payable | 283 | 707 | 664 |
| Accrued expenses and other liabilities | 7,304 | 3,915 | 3,937 |
| Accrued revenue share | 1,682 | (445) | 482 |
| Deferred revenue | 774 | 367 | 525 |
| Net cash provided by operating activities | 91,652 | 91,495 | 101,746 |
| **Investing activities** | | | |
| Purchases of property and equipment | (24,640) | (31,485) | (32,251) |
| Purchases of marketable securities | (135,196) | (78,874) | (77,858) |
| Maturities and sales of marketable securities | 128,294 | 97,822 | 86,672 |
| Purchases of non-marketable securities | (2,838) | (2,531) | (3,027) |
| Maturities and sales of non-marketable securities | 934 | 150 | 947 |
| Acquisitions, net of cash acquired, and purchases of intangible assets | (2,618) | (6,969) | (495) |
| Other investing activities | 541 | 1,589 | (1,051) |
| Net cash used in investing activities | (35,523) | (20,298) | (27,063) |
| **Financing activities** | | | |
| Net payments related to stock-based award activities | (10,162) | (9,300) | (9,837) |
| Repurchases of stock | (50,274) | (59,296) | (61,504) |
| Proceeds from issuance of debt, net of costs | 20,199 | 52,872 | 10,790 |
| Repayments of debt | (21,435) | (54,068) | (11,550) |
| Proceeds from sale of interest in consolidated entities, net | 310 | 35 | 8 |
| Net cash used in financing activities | (61,362) | (69,757) | (72,093) |
| Effect of exchange rate changes on cash and cash equivalents | (287) | (506) | (421) |
| **Net increase (decrease) in cash and cash equivalents** | (5,520) | 934 | 2,169 |
| Cash and cash equivalents at beginning of period | 26,465 | 20,945 | 21,879 |
| **Cash and cash equivalents at end of period** | $ 20,945 | $ 21,879 | $ 24,048 |
| **Supplemental disclosures of cash flow information** | | | |
| Cash paid for income taxes, net of refunds | $ 13,412 | $ 18,892 | $ 19,164 |

See accompanying notes.

# Alphabet Inc.
# NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Note 1. 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 Inc. ("Alphabet") became the successor issuer to Google.

We generate revenues by delivering relevant, cost-effective online advertising; cloud-based solutions that provide enterprise customers with infrastructure and platform services as well as communication and collaboration tools; sales of other products and services, such as fees received for consumer subscription-based products, apps and in-app purchases, and devices.

### Basis of Consolidation

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

### 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 due to uncertainties. On an ongoing basis, we evaluate our estimates, including those related to the allowance for credit losses; content licenses; contingent liabilities; fair values of financial instruments and goodwill; income taxes; inventory; and useful lives of property and equipment, among others. We base our estimates on assumptions, both historical and forward looking, that are believed to be reasonable, and the results of which form the basis for making judgments about the carrying values of assets and liabilities.

In January 2023, we completed an assessment of the useful lives of our servers and network equipment and adjusted the estimated useful life of our servers from four years to six years and the estimated useful life of certain network equipment from five years to six years. This change in accounting estimate was effective beginning in fiscal year 2023. Based on the carrying value of servers and certain network equipment as of December 31, 2022, and those placed in service during the year ended December 31, 2023, the effect of this change in estimate was a reduction in depreciation expense of $3.9 billion and an increase in net income of $3.0 billion, or $0.24 per basic and $0.24 per diluted share, for the year ended December 31, 2023.

### Revenue Recognition

Revenues are recognized when control of the promised goods or services is transferred to our customers, and the collectibility of an amount that we expect in exchange for those goods or services is probable. Sales and other similar taxes are excluded from revenues.

***Advertising Revenues***

We generate advertising revenues primarily by delivering advertising on:

- Google Search and other 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 properties; and
- Google Network properties, including revenues from Google Network properties participating in AdMob, AdSense, and Google Ad Manager.

Our customers generally purchase advertising inventory through Google Ads, Google Ad Manager, Google Display & Video 360, and Google Marketing Platform, among others.

We offer advertising by delivering both performance and brand advertising. We recognize revenues for performance advertising when a user engages with the advertisement. For brand advertising, we recognize revenues when the ad is displayed, or a user views the ad.

For ads placed on Google Network properties, we evaluate whether we are the principal (i.e., report revenues on a gross basis) or agent (i.e., report revenues on a net basis). Generally, we report advertising revenues for ads placed on Google Network properties on a gross basis, that is, the amounts billed to our customers are recorded as revenues, and amounts paid to Google Network partners are recorded as cost of revenues. Where we are the principal, we control the advertising inventory before it is transferred to our customers. Our control is evidenced by our sole ability to monetize the advertising inventory before it is transferred to our customers and is further supported by us being primarily responsible to our customers and having a level of discretion in establishing pricing.

***Google Subscriptions, Platforms, and Devices***

Google subscriptions, platforms, and devices revenues consist of revenues from:

- consumer subscriptions, which primarily include revenues from YouTube services, such YouTube TV, YouTube Music and Premium, and NFL Sunday Ticket, as well as Google One;
- platforms, which primarily include revenues from Google Play from the sales of apps and in-app purchases;
- devices, which primarily include sales of the Pixel family of devices; and
- other products and services.

Subscription revenues are recognized ratably over the period of the subscription, primarily monthly. We report revenues from Google Play app sales and in-app purchases on a net basis, because our performance obligation is to facilitate a transaction between app developers and end users, for which we earn a service fee.

***Google Cloud Revenues***

Google Cloud revenues consist of revenues from:

- Google Cloud Platform, which generates consumption-based fees and subscriptions for infrastructure, platform, and other services. These services provide access to solutions such as cybersecurity, databases, analytics, and AI offerings including our AI infrastructure, Vertex AI platform, and Duet AI for Google Cloud;
- Google Workspace, which includes subscriptions for cloud-based communication and collaboration tools for enterprises, such as Calendar, Gmail, Docs, Drive, and Meet, with integrated features like Duet AI in Google Workspace; and
- other enterprise services.

Our cloud services are generally provided on either a consumption or subscription basis and may have contract terms longer than a year. Revenues related to cloud services provided on a consumption basis are recognized when the customer utilizes the services, based on the quantity of services consumed. Revenues related to cloud services provided on a subscription basis are recognized ratably over the contract term as the customer receives and consumes the benefits of the cloud services.

***Arrangements with Multiple Performance Obligations***

Our contracts with customers may include multiple performance obligations. For such arrangements, we allocate revenues to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers.

***Customer Incentives and Credits***

Certain customers receive cash-based incentives or credits, which are accounted for as variable consideration. We estimate these amounts based on the expected amount to be provided to customers and reduce revenues. We believe that there will not be significant changes to our estimates of variable consideration.

***Sales Commissions***

We expense sales commissions when incurred when the period of the expected benefit is one year or less. We recognize an asset for certain sales commissions and amortize if the expected benefit period is greater than one year. These costs are recorded within sales and marketing expenses.

**Cost of Revenues**

Cost of revenues consists of TAC and other costs of revenues.

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

- Other cost of revenues includes:
    - compensation expense related to our data centers and other operations such as content review and customer and product support;
    - content acquisition costs, which are payments to content providers from whom we license video and other content for distribution on YouTube and Google Play (we pay fees to these content providers based on revenues generated or a flat fee);
    - depreciation expense related to our technical infrastructure; and
    - inventory and other costs related to the devices we sell.

**Software Development Costs**

We expense software development costs, including costs to develop software products or the software component of products to be sold, leased, or marketed to external users, before technological feasibility is reached. Technological feasibility is typically reached shortly before the release of such products. As a result, development costs that meet the criteria for capitalization were not material for the periods presented.

Software development costs also include costs to develop software to be used solely to meet internal needs and cloud-based applications used to deliver our services. We capitalize development costs related to these software applications once the preliminary project stage is complete and it is probable that the project will be completed and the software will be used to perform the function intended. Costs capitalized for developing such software applications were not material for the periods presented.

**Stock-based Compensation**

Stock-based compensation (SBC) primarily consists of Alphabet restricted stock units (RSUs). RSUs are equity classified and measured at the fair market value of the underlying stock at the grant date. We recognize RSU expense using the straight-line attribution method over the requisite service period and account for forfeitures as they occur.

For RSUs, shares are issued on the vesting dates net of the applicable statutory income tax withholding to be paid by us on behalf of our employees. As a result, fewer shares are issued than the number of RSUs outstanding, and the income tax withholding is recorded as a reduction to additional paid-in capital.

Additionally, SBC includes other stock-based awards, such as performance stock units (PSUs) that include market conditions and awards that may be settled in cash or the stock of certain Other Bet companies. PSUs and certain awards granted by Other Bet companies are equity classified and expense is recognized over the requisite service period. Certain awards granted by Other Bet companies are liability classified and remeasured at fair value through settlement. The fair value of awards granted by Other Bet companies is based on the equity valuation of the respective Other Bet company.

**Advertising and Promotional Expenses**

We expense advertising and promotional costs in the period in which they are incurred. For the years ended December 31, 2021, 2022, and 2023, advertising and promotional expenses totaled approximately $7.9 billion, $9.2 billion, and $8.7 billion, respectively.

**Performance Fees**

Performance fees refer to compensation arrangements with payouts based on realized returns from certain investments. We record compensation expense based on the estimated payouts on an ongoing basis, which may result in expense recognized before investment returns are realized and compensation is paid and may require the use of unobservable inputs. Performance fees are recorded as a component of OI&E.

**Fair Value Measurements**

Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or a liability. Assets and liabilities recorded at fair value are measured and classified in accordance with a three-tier fair value hierarchy based on the observability of the inputs available in the market used to measure fair value:

Level 1 - Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 - Inputs that are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be derived from observable market data. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including interest rate curves, foreign exchange rates, and credit ratings.

Level 3 - Unobservable inputs that are supported by little or no market activities.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The determination of fair value involves the use of appropriate valuation methods and relevant inputs into valuation models.

Our financial assets and liabilities that are measured at fair value on a recurring basis include cash equivalents, marketable securities, derivative financial instruments, and certain non-marketable debt securities. Our financial assets measured at fair value on a nonrecurring basis include non-marketable equity securities. Other financial assets and liabilities are carried at cost with fair value disclosed, if required.

We measure certain other instruments, including SBC awards settled in the stock of Other Bet companies, and certain assets and liabilities acquired in a business combination, also at fair value on a nonrecurring basis.

**Financial Instruments**

Our financial instruments include cash, cash equivalents, marketable and non-marketable securities, derivative financial instruments and accounts receivable.

***Credit Risks***

We are subject to credit risk primarily from cash equivalents, marketable debt securities, derivative financial instruments, including foreign exchange contracts, and accounts receivable. We manage our credit risk exposure through timely assessment of our counterparty creditworthiness, credit limits and use of collateral management. Foreign exchange contracts are transacted with various financial institutions with high credit standing. Accounts receivable are typically unsecured and are derived from revenues earned from customers located around the world. We manage our credit risk exposure by performing ongoing evaluations to determine customer credit and we limit the amount of credit we extend. We generally do not require collateral from our customers.

***Cash Equivalents***

We invest excess cash primarily in government bonds, corporate debt securities, mortgage-backed and asset-backed securities, time deposits, and money market funds.

***Marketable Securities***

We classify all marketable debt securities that have effective maturities of three months or less from the date of purchase as cash equivalents and those with effective maturities of greater than three months as marketable securities on our Consolidated Balance Sheets. We determine the appropriate classification of our investments in marketable debt securities at the time of purchase and reevaluate such designation at each balance sheet date. We have classified and accounted for our marketable debt securities as available-for-sale. After consideration of our risk versus reward objectives, as well as our liquidity requirements, we may sell these debt securities prior to their effective maturities. As we view these securities as available to support current operations, we classify highly liquid securities with maturities beyond 12 months as current assets under the caption marketable securities on the Consolidated Balance Sheets. We carry these securities at fair value, and report the unrealized gains and losses, net of taxes, as a component of stockholders' equity, except for the changes in allowance for expected credit losses, which are recorded in OI&E. For certain marketable debt securities we have elected the fair value option, for which changes in fair value are recorded in OI&E. We determine any realized gains or losses on the sale of marketable debt securities on a specific identification method, and we record such gains and losses as a component of OI&E.

Our investments in marketable equity securities are measured at fair value with the related gains and losses, including unrealized, recognized in OI&E. We classify our marketable equity securities subject to long-term lock-up restrictions beyond 12 months as other non-current assets on the Consolidated Balance Sheets.

***Non-Marketable Securities***

Non-marketable securities primarily consist of equity securities. We account for non-marketable equity securities through which we exercise significant influence but do not have control over the investee under the equity method. All other non-marketable equity securities that we hold are primarily accounted for under the measurement alternative. Under the measurement alternative, the carrying value is measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Adjustments are determined primarily based on a market approach as of the transaction date and are recorded as a component of OI&E.

Non-marketable securities that do not have effective contractual maturity dates are classified as other non-current assets on the Consolidated Balance Sheets.

***Derivative Financial Instruments***

See Note 3 for the accounting policy pertaining to derivative financial instruments.

***Accounts Receivable***

Our payment terms for accounts receivable vary by the types and locations of our customers and the products or services offered. The term between invoicing and when payment is due is not significant. For certain products or services and customers, we require payment before the products or services are delivered to the customer. Additionally, accounts receivable includes amounts for services performed in advance of the right to invoice the customer.

We maintain an allowance for credit losses for accounts receivable, which is recorded as an offset to accounts receivable, and changes in such are classified as general and administrative expense in the Consolidated Statements of Income. We assess collectibility by reviewing accounts receivable on a collective basis where similar characteristics exist and on an individual basis when we identify specific customers with known disputes or collectibility issues. In determining the amount of the allowance for credit losses, we consider historical collectibility based on past due status and make judgments about the creditworthiness of customers based on ongoing credit evaluations. We also consider customer-specific information, current market conditions, and reasonable and supportable forecasts of future economic conditions.

***Other***

Our financial instruments also include debt and equity investments in companies with which we also entered into commercial arrangements at or near the same time. For these transactions, judgment is required in assessing the substance of the arrangements, including assessing whether the components of the arrangements should be accounted for as separate transactions under the applicable GAAP, and determining the value of the components of the arrangements, including the fair value of the investments. Additionally, if our investment in such companies becomes impaired, any remaining performance obligations would be reassessed and may be reduced.

***Impairment of Investments***

We periodically review our debt and non-marketable equity securities for impairment.

For debt securities in an unrealized loss position, we determine whether a credit loss exists. The credit loss is estimated by considering available information relevant to the collectibility of the security and information about past events, current conditions, and reasonable and supportable forecasts. Any credit loss is recorded as a charge to OI&E, not to exceed the amount of the unrealized loss. Unrealized losses other than the credit loss are recognized in AOCI. If we have an intent to sell, or if it is more likely than not that we will be required to sell a debt security in an unrealized loss position before recovery of its amortized cost basis, we will write down the security to its fair value and record the corresponding charge as a component of OI&E.

For non-marketable equity securities, including equity method investments, we consider whether impairment indicators exist by evaluating the companies' financial and liquidity position and access to capital resources, among other indicators. If the assessment indicates that the investment is impaired, we write down the investment to its fair value by recording the corresponding charge as a component of OI&E. We prepare quantitative measurements of the fair value of our equity investments using a market approach or an income approach.

**Inventory**

Inventory consists primarily of finished goods and is stated at the lower of cost and net realizable value. Cost is computed using the first-in, first-out method.

**Variable Interest Entities**

We determine at the inception of each arrangement whether an entity in which we have made an investment or in which we have other variable interests is considered a variable interest entity (VIE). We consolidate VIEs when we are the primary beneficiary. We are the primary beneficiary of a VIE when we have the power to direct activities that most significantly affect the economic performance of the VIE and have the obligation to absorb the majority of their losses or benefits. If we are not the primary beneficiary in a VIE, we account for the investment or other variable interests in a VIE in accordance with applicable GAAP.

Periodically, we assess whether any changes in our interest or relationship with the entity affect our determination of whether the entity is a VIE and, if so, whether we are the primary beneficiary.

**Property and Equipment**

Property and equipment includes the following categories: land and buildings, information technology assets, construction in progress, leasehold improvements, and furniture and fixtures. Land and buildings include land, offices, data centers, and related building improvements. Information technology assets include servers and network equipment. Construction in progress is the construction or development of property and equipment that have not yet been placed in service.

Property and equipment are stated at cost less accumulated depreciation. Depreciation is recorded using the straight-line method over the estimated useful lives of the assets, which we regularly evaluate. Land is not depreciated. We depreciate buildings over periods of seven to 25 years. We depreciate information technology assets generally over a period of six years for servers and network equipment. We depreciate leasehold improvements over the shorter of the remaining lease term or the estimated useful lives of the assets. Depreciation for buildings, information technology assets, leasehold improvements, and furniture and fixtures commences once they are ready for our intended use.

**Goodwill**

We allocate goodwill to reporting units based on the expected benefit from the business combination. We evaluate our reporting units periodically, as well as when changes in our operating segments occur. For changes in reporting units, we reassign goodwill using a relative fair value allocation approach. We test our goodwill for impairment at least annually, or more frequently if events or changes in circumstances indicate that the asset may be impaired. Goodwill impairments were not material for the periods presented.

**Leases**

We determine if an arrangement is a lease at inception. Our lease agreements generally contain lease and non-lease components. Payments under our lease arrangements are primarily fixed. Non-lease components primarily include payments for maintenance and utilities. We combine fixed payments for non-lease components with lease payments and account for them together as a single lease component which increases the amount of our lease assets and liabilities.

Certain lease agreements contain variable payments, which are expensed as incurred and not included in the lease assets and liabilities. These amounts primarily include payments affected by the Consumer Price Index, and payments for maintenance and utilities.

Lease assets and liabilities are recognized at the present value of the future lease payments at the lease commencement date. The interest rate used to determine the present value of the future lease payments is our incremental borrowing rate, because the interest rate implicit in our leases is not readily determinable. Our incremental borrowing rate is estimated to approximate the interest rate on a collateralized basis with similar terms and payments, and in economic environments where the leased asset is located. Our lease terms include periods under options to extend or terminate the lease when it is reasonably certain that we will exercise that option. We generally use the base, non-cancelable, lease term when determining the lease assets and liabilities. Lease assets also include any prepaid lease payments and lease incentives.

Operating lease assets and liabilities are included on our Consolidated Balance Sheets. The current portion of our operating lease liabilities is included in accrued expenses and other current liabilities, and the long-term portion is included in operating lease liabilities. Finance lease assets are included in property and equipment, net. Finance lease liabilities are included in accrued expenses and other current liabilities or long-term debt.

Operating lease expense (excluding variable lease costs) is recognized on a straight-line basis over the lease term.

**Impairment of Long-Lived Assets**

We review leases, property and equipment, and intangible assets, excluding goodwill, for impairment when events or changes in circumstances indicate the carrying amount may not be recoverable. The evaluation is performed at the lowest level of identifiable cash flows independent of other assets. We measure recoverability of these assets by comparing the carrying amounts to the future undiscounted cash flows that the assets or the asset group are expected to generate. If the carrying value of the assets or asset group is not recoverable, the impairment recognized is measured as the amount by which the carrying value exceeds its fair value.

**Income Taxes**

We account for income taxes using the asset and liability method, under which we recognize the amount of taxes payable or refundable for the current year and deferred tax assets and liabilities for the future tax consequences of events that have been recognized in our financial statements or tax returns. We measure current and deferred tax assets and liabilities based on provisions of enacted tax law. We evaluate the likelihood of future realization of our deferred tax assets based on all available evidence and establish a valuation allowance to reduce deferred tax assets when it is more likely than not that they will not be realized or release a valuation allowance to increase deferred tax assets when it is more likely than not that they will be realized. We have elected to account for the tax effects of the global intangible low tax Income provision as a current period expense.

We recognize the financial statement effects of a tax position when it is more likely than not that, based on technical merits, the position will be sustained upon examination. The tax benefits of the position recognized in the financial statements are then measured based on the largest amount of benefit that is greater than 50% likely to be realized upon settlement with a taxing authority. In addition, we recognize interest and penalties related to unrecognized tax benefits as a component of the income tax provision.

**Business Combinations**

We include the results of operations of the businesses that we acquire as of the acquisition date. We allocate the purchase price of the acquisitions to the assets acquired and liabilities assumed based on their estimated fair values, except for revenue contracts acquired, which are recognized in accordance with our revenue recognition policy. The excess of the purchase price over the fair values of identifiable assets and liabilities is recorded as goodwill. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

**Foreign Currency**

We translate the financial statements of our international subsidiaries to U.S. dollars using month-end exchange rates for assets and liabilities, and average rates for the annual period derived from month-end exchange rates for revenues, costs, and expenses. We record translation gains and losses in AOCI as a component of stockholders' equity. We reflect net foreign exchange transaction gains and losses resulting from the conversion of the transaction currency to functional currency as a component of foreign currency exchange gain (loss) in OI&E.

**Recent Accounting Pronouncements**

In November 2023, the Financial Standards Accounting Board (FASB) issued Accounting Standards Update (ASU) 2023-07 "Segment Reporting (Topic 280):Improvements to Reportable Segment Disclosures" which expands annual and interim disclosure requirements for reportable segments, primarily through enhanced disclosures about significant segment expenses. ASU 2023-07 is effective for our annual periods beginning January 1, 2024, and for interim periods beginning January 1, 2025, with early adoption permitted. We are currently evaluating the potential effect that the updated standard will have on our financial statement disclosures.

In December 2023, the FASB issued ASU 2023-09 "Income Taxes (Topics 740): Improvements to Income Tax Disclosures" to expand the disclosure requirements for income taxes, specifically related to the rate reconciliation and income taxes paid. ASU 2023-09 is effective for our annual periods beginning January 1, 2025, with early adoption permitted. We are currently evaluating the potential effect that the updated standard will have on our financial statement disclosures.

**Prior Period Reclassifications**

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

## Note 2. Revenues

### Disaggregated Revenues

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

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Google Search & other | $ 148,951 | $ 162,450 | $ 175,033 |
| YouTube ads | 28,845 | 29,243 | 31,510 |
| Google Network | 31,701 | 32,780 | 31,312 |
| Google advertising | 209,497 | 224,473 | 237,855 |
| Google subscriptions, platforms, and devices | 28,032 | 29,055 | 34,688 |
| Google Services total | 237,529 | 253,528 | 272,543 |
| Google Cloud | 19,206 | 26,280 | 33,088 |
| Other Bets | 753 | 1,068 | 1,527 |
| Hedging gains (losses) | 149 | 1,960 | 236 |
| Total revenues | $ 257,637 | $ 282,836 | $ 307,394 |

No individual customer or groups of affiliated customers represented more than 10% of our revenues in 2021, 2022, or 2023.

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

| | Year Ended December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2021 | | 2022 | | 2023 | |
| United States | $ 117,854 | 46 % | $ 134,814 | 48 % | $ 146,286 | 47 % |
| EMEA[(1)] | 79,107 | 31 | 82,062 | 29 | 91,038 | 30 |
| APAC[(1)] | 46,123 | 18 | 47,024 | 16 | 51,514 | 17 |
| Other Americas[(1)] | 14,404 | 5 | 16,976 | 6 | 18,320 | 6 |
| Hedging gains (losses) | 149 | 0 | 1,960 | 1 | 236 | 0 |
| Total revenues | $ 257,637 | 100 % | $ 282,836 | 100 % | $ 307,394 | 100 % |

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

### Revenue Backlog

As of December 31, 2023, we had $74.1 billion of remaining performance obligations (“revenue backlog”), primarily related to Google Cloud. Our revenue backlog represents commitments in customer contracts for future services that have not yet been recognized as revenue. The estimated revenue backlog and timing of revenue recognition for these commitments is largely driven by our ability to deliver in accordance with relevant contract terms and when our customers utilize services. We expect to recognize approximately half of the revenue backlog as revenues over the next 24 months with the remaining to be recognized thereafter. Revenue backlog includes related deferred revenue currently recorded as well as amounts that will be invoiced in future periods, and excludes contracts with an original expected term of one year or less and cancellable contracts.

### Deferred Revenues

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 subscriptions, platforms, and devices. Total deferred revenue as of December 31, 2022 was $4.5 billion, of which $2.4 billion was recognized as revenues for the year ended December 31, 2023.

## Note 3. Financial Instruments

### Fair Value Measurements

#### *Investments Measured at Fair Value on a Recurring Basis*

Cash, cash equivalents, and marketable equity securities are measured at fair value and classified within Level 1 and Level 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.

Debt securities are measured at fair value and classified 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 OI&E. The fair value option was elected for these securities to align with the unrealized gains and losses from related derivative contracts.

The following tables summarize our cash, cash equivalents, and marketable securities measured at fair value on a recurring basis (in millions):

| | | As of December 31, 2022 | | | | | |
|---|---|---|---|---|---|---|---|
| | Fair Value Hierarchy | Adjusted Cost | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value | Cash and Cash Equivalents | Marketable Securities |
| **Fair value changes recorded in other comprehensive income** | | | | | | | |
| Time deposits | Level 2 | $ 5,297 | $ 0 | $ 0 | $ 5,297 | $ 5,293 | $ 4 |
| Government bonds | Level 2 | 41,036 | 64 | (2,045) | 39,055 | 283 | 38,772 |
| Corporate debt securities | Level 2 | 28,578 | 8 | (1,569) | 27,017 | 1 | 27,016 |
| Mortgage-backed and asset-backed securities | Level 2 | 16,176 | 5 | (1,242) | 14,939 | 0 | 14,939 |
| Total investments with fair value change reflected in other comprehensive income[1] | | $ 91,087 | $ 77 | $ (4,856) | $ 86,308 | $ 5,577 | $ 80,731 |
| **Fair value adjustments recorded in net income** | | | | | | | |
| Money market funds | Level 1 | | | | $ 7,234 | $ 7,234 | $ 0 |
| Current marketable equity securities[2] | Level 1 | | | | 4,013 | 0 | 4,013 |
| Mutual funds | Level 2 | | | | 339 | 0 | 339 |
| Government bonds | Level 2 | | | | 1,877 | 440 | 1,437 |
| Corporate debt securities | Level 2 | | | | 3,744 | 65 | 3,679 |
| Mortgage-backed and asset-backed securities | Level 2 | | | | 1,686 | 2 | 1,684 |
| Total investments with fair value change recorded in net income | | | | | $ 18,893 | $ 7,741 | $ 11,152 |
| Cash | | | | | 0 | 8,561 | 0 |
| Total | | $ 91,087 | $ 77 | $ (4,856) | $ 105,201 | $ 21,879 | $ 91,883 |

(1) Represents gross unrealized gains and losses for debt securities recorded to AOCI.
(2) The long-term portion of marketable equity securities (subject to long-term lock-up restrictions) of $803 million as of December 31, 2022 is included within other non-current assets.

| | | As of December 31, 2023 | | | | | |
|---|---|---|---|---|---|---|---|
| | Fair Value Hierarchy | Adjusted Cost | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value | Cash and Cash Equivalents | Marketable Securities |
| **Fair value changes recorded in other comprehensive income** | | | | | | | |
| Time deposits | Level 2 | $ 2,628 | $ 0 | $ 0 | $ 2,628 | $ 2,628 | $ 0 |
| Government bonds | Level 2 | 38,106 | 233 | (679) | 37,660 | 1,993 | 35,667 |
| Corporate debt securities | Level 2 | 22,457 | 112 | (637) | 21,932 | 0 | 21,932 |
| Mortgage-backed and asset-backed securities | Level 2 | 17,243 | 88 | (634) | 16,697 | 0 | 16,697 |
| Total investments with fair value change reflected in other comprehensive income[1] | | $ 80,434 | $ 433 | $ (1,950) | $ 78,917 | $ 4,621 | $ 74,296 |
| **Fair value adjustments recorded in net income** | | | | | | | |
| Money market funds | Level 1 | | | | $ 6,480 | $ 6,480 | $ 0 |
| Current marketable equity securities[2] | Level 1 | | | | 4,282 | 0 | 4,282 |
| Mutual funds | Level 2 | | | | 311 | 0 | 311 |
| Government bonds | Level 2 | | | | 1,952 | 347 | 1,605 |
| Corporate debt securities | Level 2 | | | | 3,782 | 91 | 3,691 |
| Mortgage-backed and asset-backed securities | Level 2 | | | | 2,683 | 0 | 2,683 |
| Total investments with fair value change recorded in net income | | | | | $ 19,490 | $ 6,918 | $ 12,572 |
| Cash | | | | | 0 | 12,509 | 0 |
| Total | | $ 80,434 | $ 433 | $ (1,950) | $ 98,407 | $ 24,048 | $ 86,868 |

(1) Represents gross unrealized gains and losses for debt securities recorded to AOCI.
(2) The long-term portion of marketable equity securities (subject to long-term lock-up restrictions) of $1.4 billion as of December 31, 2023 is included within other non-current assets.

***Investments Measured at Fair Value on a Nonrecurring Basis***

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. 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, including option pricing models, market comparable approach, and common stock equivalent method, which may include a combination of the observable transaction price at the transaction date and other unobservable inputs including volatility, expected time to exit, risk free rate, and the rights, and obligations of the securities we hold. These inputs significantly vary based on investment type. The fair value of non-marketable equity securities that have been remeasured due to impairment are classified within Level 3.

As of December 31, 2023, the carrying value of our non-marketable equity securities was $28.8 billion, of which $13.7 billion were remeasured at fair value during the year ended December 31, 2023, and primarily classified within Level 2 of the fair value hierarchy at the time of measurement.

**Debt Securities**

The following table summarizes the estimated fair value of investments in available-for-sale marketable debt securities by effective contractual maturity dates (in millions):

| | As of December 31, 2023 |
|---|---|
| Due in one year or less | $ 11,231 |
| Due in one year through five years | 41,477 |
| Due in five years through 10 years | 15,351 |
| Due after 10 years | 14,216 |
| Total | $ 82,275 |

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, 2022 | | | | | |
|---|---|---|---|---|---|---|
| | Less than 12 Months | | 12 Months or Greater | | Total | |
| | Fair Value | Unrealized Loss | Fair Value | Unrealized Loss | Fair Value | Unrealized Loss |
| Government bonds | $ 21,039 | $ (1,004) | $ 13,438 | $ (1,041) | $ 34,477 | $ (2,045) |
| Corporate debt securities | 11,228 | (440) | 15,125 | (1,052) | 26,353 | (1,492) |
| Mortgage-backed and asset-backed securities | 7,725 | (585) | 6,964 | (657) | 14,689 | (1,242) |
| Total | $ 39,992 | $ (2,029) | $ 35,527 | $ (2,750) | $ 75,519 | $ (4,779) |

| | As of December 31, 2023 | | | | | |
|---|---|---|---|---|---|---|
| | Less than 12 Months | | 12 Months or Greater | | Total | |
| | Fair Value | Unrealized Loss | Fair Value | Unrealized Loss | Fair Value | Unrealized Loss |
| Government bonds | $ 1,456 | $ (22) | $ 13,897 | $ (657) | $ 15,353 | $ (679) |
| Corporate debt securities | 827 | (5) | 15,367 | (592) | 16,194 | (597) |
| Mortgage-backed and asset-backed securities | 2,945 | (26) | 7,916 | (608) | 10,861 | (634) |
| Total | $ 5,228 | $ (53) | $ 37,180 | $ (1,857) | $ 42,408 | $ (1,910) |

We determine realized gains or losses on the sale or extinguishment of debt securities on a specific identification method.The following table summarizes gains and losses for debt securities, reflected as a component of OI&E (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Unrealized gain (loss) on fair value option debt securities | $ (122) | $ (557) | $ 386 |
| Gross realized gain on debt securities | 432 | 103 | 182 |
| Gross realized loss on debt securities | (329) | (1,588) | (1,833) |
| (Increase) decrease in allowance for credit losses | (91) | (22) | 50 |
| Total gain (loss) on debt securities recognized in other income (expense), net | $ (110) | $ (2,064) | $ (1,215) |

## Equity Investments

The carrying value of equity securities is measured as the total initial cost plus the cumulative net gain (loss). Gains and losses, including impairments, are included as a component of OI&E in the Consolidated Statements of Income. See Note 7 for further details on OI&E.

The carrying values for marketable and non-marketable equity securities are summarized below (in millions):

| | As of December 31, 2022 | | | As of December 31, 2023 | | |
|---|---|---|---|---|---|---|
| | Marketable Equity Securities | Non-Marketable Equity Securities | Total | Marketable Equity Securities | Non-Marketable Equity Securities | Total |
| Total initial cost | $ 5,764 | $ 16,157 | $ 21,921 | $ 5,418 | $ 17,616 | $ 23,034 |
| Cumulative net gain (loss)[1] | (608) | 12,372 | 11,764 | 555 | 11,150 | 11,705 |
| Carrying value | $ 5,156 | $ 28,529 | $ 33,685 | $ 5,973 | $ 28,766 | $ 34,739 |

(1) Non-marketable equity securities cumulative net gain (loss) is comprised of $16.8 billion gains and $4.5 billion losses (including impairments) as of December 31, 2022 and $18.1 billion gains and $6.9 billion losses (including impairments) as of December 31, 2023.

### *Gains and Losses on Marketable and Non-marketable Equity Securities*

Gains and losses (including impairments), net, for marketable and non-marketable equity securities included in OI&E are summarized below (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Realized net gain (loss) on equity securities sold during the period | $ 1,196 | $ (442) | $ 690 |
| Unrealized net gain (loss) on marketable equity securities | 1,335 | (3,242) | 790 |
| Unrealized net gain (loss) on non-marketable equity securities[1] | 9,849 | 229 | (1,088) |
| Total gain (loss) on equity securities in other income (expense), net | $ 12,380 | $ (3,455) | $ 392 |

(1) Unrealized gain (loss) on non-marketable equity securities accounted for under the measurement alternative is comprised of $10.0 billion, $3.3 billion, and $1.8 billion of upward adjustments as of December 31, 2021, 2022, and 2023, respectively, and $122 million, $3.0 billion, and $2.9 billion of downward adjustments (including impairments) as of December 31, 2021, 2022, and 2023, respectively.

In the table above, realized 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 sold during the period. While these net gains (losses) may have been reflected in periods prior to the period of sale, we believe they are important supplemental information as they reflect the economic net gains (losses) on the securities sold during the period. Cumulative net gains (losses) 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 During the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Total sale price | $ 1,784 | $ 1,981 |
| Total initial cost | 937 | 1,512 |
| Cumulative net gains (losses) | $ 847 | $ 469 |

### *Equity Securities Accounted for Under the Equity Method*

As of December 31, 2022 and 2023, equity securities accounted for under the equity method had a carrying value of approximately $1.5 billion and $1.7 billion, respectively. Our share of gains and losses, including impairments, are included as a component of OI&E, in the Consolidated Statements of Income. See Note 7 for further details on OI&E.

**Derivative Financial Instruments**

We use derivative instruments to manage risks relating to our ongoing business operations. The primary risk managed 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 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 and present all other derivatives at gross fair values. The accounting treatment for derivatives is based on the intended use and hedge designation.

***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 forward points and time value from our assessment of hedge effectiveness and amortize them on a straight-line basis over the life of the hedging instrument in revenues. The difference between fair value changes of the excluded component and the amount amortized to revenues is recorded in AOCI.

As of December 31, 2023, the net accumulated gain on our foreign currency cash flow hedges before tax effect was $47 million, which is expected to be reclassified from AOCI into revenues 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 marketable securities denominated in currencies other than the U.S. dollar. Fair value hedge amounts included in the assessment of hedge effectiveness are recognized in OI&E, along with the offsetting gains and losses of the related hedged items. We exclude forward points from the assessment of hedge effectiveness and recognize changes in the excluded component in OI&E.

***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 forward points from the assessment of hedge effectiveness and recognize changes in the excluded component in OI&E.

***Other Derivatives***

We enter into foreign currency forward and option contracts that are not designated as hedging instruments 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 derivatives that are not designated as accounting hedges are primarily recorded in OI&E 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. From time to time, we enter into derivatives to hedge the market price risk on certain of our marketable equity securities. Gains and losses arising from other derivatives are primarily reflected within the “other” component of OI&E. See Note 7 for further details.

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

| | As of December 31, | |
|---|---|---|
| | 2022 | 2023 |
| **Derivatives designated as hedging instruments:** | | |
| Foreign exchange contracts | | |
| Cash flow hedges | $ 15,972 | $ 18,039 |
| Fair value hedges | $ 2,117 | $ 2,065 |
| Net investment hedges | $ 8,751 | $ 9,472 |
| **Derivatives not designated as hedging instruments:** | | |
| Foreign exchange contracts | $ 34,979 | $ 39,722 |
| Other contracts | $ 7,932 | $ 10,818 |

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

| | As of December 31, 2022 | | As of December 31, 2023 | |
|---|---|---|---|---|
| | Assets[1] | Liabilities[2] | Assets[1] | Liabilities[2] |
| **Derivatives designated as hedging instruments:** | | | | |
| Foreign exchange contracts | $ 271 | $ 556 | $ 205 | $ 242 |
| **Derivatives not designated as hedging instruments:** | | | | |
| Foreign exchange contracts | 365 | 207 | 134 | 156 |
| Other contracts | 40 | 47 | 114 | 47 |
| Total derivatives not designated as hedging instruments | 405 | 254 | 248 | 203 |
| Total | $ 676 | $ 810 | $ 453 | $ 445 |

(1) Derivative assets are recorded as other current and non-current assets in the Consolidated Balance Sheets.

(2) Derivative liabilities are recorded as accrued expenses and other liabilities, current and non-current in the Consolidated Balance Sheets.

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):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| **Derivatives in cash flow hedging relationship:** | | | |
| Foreign exchange contracts | | | |
| Amount included in the assessment of effectiveness | $ 806 | $ 1,699 | $ 90 |
| Amount excluded from the assessment of effectiveness | 48 | (188) | 84 |
| **Derivatives in net investment hedging relationship:** | | | |
| Foreign exchange contracts | | | |
| Amount included in the assessment of effectiveness | 754 | 608 | (287) |
| Total | $ 1,608 | $ 2,119 | $ (113) |

The table below presents the gains (losses) of our derivatives on the Consolidated Statements of Income: (in millions):

| | Year Ended December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2021 | | 2022 | | 2023 | |
| | Revenues | Other income (expense), net | Revenues | Other income (expense), net | Revenues | Other income (expense), net |
| Total amounts in the Consolidated Statements of Income | $ 257,637 | $ 12,020 | $ 282,836 | $ (3,514) | $ 307,394 | $ 1,424 |
| **Effect of cash flow hedges:** | | | | | | |
| Foreign exchange contracts | | | | | | |
| Amount reclassified from AOCI to income | $ 165 | $ 0 | $ 2,046 | $ 0 | $ 213 | $ 0 |
| Amount excluded from the assessment of effectiveness (amortized) | (16) | 0 | (85) | 0 | 24 | 0 |
| **Effect of fair value hedges:** | | | | | | |
| Foreign exchange contracts | | | | | | |
| Hedged items | 0 | (95) | 0 | (162) | 0 | 59 |
| Derivatives designated as hedging instruments | 0 | 95 | 0 | 163 | 0 | (59) |
| Amount excluded from the assessment of effectiveness | 0 | 8 | 0 | 16 | 0 | 15 |
| **Effect of net investment hedges:** | | | | | | |
| Foreign exchange contracts | | | | | | |
| Amount excluded from the assessment of effectiveness | 0 | 82 | 0 | 171 | 0 | 187 |
| **Effect of non designated hedges:** | | | | | | |
| Foreign exchange contracts | 0 | (860) | 0 | (395) | 0 | 7 |
| Other contracts | 0 | 101 | 0 | 144 | 0 | 53 |
| Total gains (losses) | $ 149 | $ (669) | $ 1,961 | $ (63) | $ 237 | $ 262 |

### Offsetting of Derivatives

We enter into master netting arrangements and collateral security arrangements to reduce credit risk. 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.

The gross amounts of 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):

| | As of December 31, 2022 | | | | | |
|---|---|---|---|---|---|---|
| | | | | Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset | | |
| | Gross Amounts Recognized | Gross Amounts Offset in the Consolidated Balance Sheets | Net Amounts Presented in the Consolidated Balance Sheets | Financial Instruments[1] | Cash and Non-Cash Collateral Received or Pledged | Net Amounts |
| Derivatives assets | $ 760 | $ (84) | $ 676 | $ (463) | $ (132) | $ 81 |
| Derivatives liabilities | $ 894 | $ (84) | $ 810 | $ (463) | $ (28) | $ 319 |

| | As of December 31, 2023 | | | | | |
|---|---|---|---|---|---|---|
| | | | | Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset | | |
| | Gross Amounts Recognized | Gross Amounts Offset in the Consolidated Balance Sheets | Net Amounts Presented in the Consolidated Balance Sheets | Financial Instruments[1] | Cash and Non-Cash Collateral Received or Pledged | Net Amounts |
| Derivatives assets | $ 535 | $ (82) | $ 453 | $ (213) | $ (75) | $ 165 |
| Derivatives liabilities | $ 527 | $ (82) | $ 445 | $ (213) | $ (16) | $ 216 |

(1) The balances as of December 31, 2022 and 2023 were related to derivatives allowed to be net settled in accordance with our master netting agreements.

## Note 4. Leases

We have entered into operating lease agreements primarily for data centers, land, and offices throughout the world with lease periods expiring between 2024 and 2063.

Components of operating lease expense were as follows (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Operating lease cost | $ 2,699 | $ 2,900 | $ 3,362 |
| Variable lease cost | 726 | 838 | 1,182 |
| Total operating lease cost | $ 3,425 | $ 3,738 | $ 4,544 |

Supplemental information related to operating leases was as follows (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Cash payments for operating leases | $ 2,489 | $ 2,722 | $ 3,173 |
| New operating lease assets obtained in exchange for operating lease liabilities | $ 2,951 | $ 4,383 | $ 2,877 |

As of December 31, 2023, our operating leases had a weighted average remaining lease term of 8.1 years and a weighted average discount rate of 3.1%. Future lease payments under operating leases as of December 31, 2023 were as follows (in millions):

| | |
|---|---|
| 2024 | $ 3,179 |
| 2025 | 2,929 |
| 2026 | 2,450 |
| 2027 | 1,951 |
| 2028 | 1,488 |
| Thereafter | 5,685 |
| Total future lease payments | 17,682 |
| Less imputed interest | (2,431) |
| Total lease liability balance | $ 15,251 |

As of December 31, 2023, we have entered into leases that have not yet commenced with short-term and long-term future lease payments of $657 million and $3.3 billion that are not yet recorded on our Consolidated Balance Sheets. These leases will commence between 2024 and 2026 with non-cancelable lease terms between one and 25 years.

**Note 5. Variable Interest Entities**

**Consolidated Variable Interest Entities**

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, 2022 and 2023, assets that can only be used to settle obligations of these VIEs were $4.1 billion and $4.9 billion, respectively, and the liabilities for which creditors only have recourse to the VIEs were $2.6 billion and $2.5 billion, respectively. We may continue to fund ongoing operations of certain VIEs that are included within Other Bets.

Total noncontrolling interests (NCI) in our consolidated subsidiaries were $3.8 billion and $3.4 billion as of December 31, 2022 and 2023, respectively, of which $1.1 billion is redeemable noncontrolling interest (RNCI) for both periods. 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 OI&E. See Note 7 for further details on OI&E.

**Unconsolidated Variable Interest Entities**

We have investments in 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 primarily as non-marketable equity securities or equity method investments.

The maximum exposure of these unconsolidated VIEs is generally based on the current carrying value of the investments and any future funding commitments. The maximum exposure and carrying value of these unconsolidated VIEs were $2.8 billion and $2.7 billion, respectively, as of December 31, 2022 and $5.7 billion and $4.0 billion, respectively, as of December 31, 2023. The difference between the maximum exposure and the carrying value relates primarily to future funding commitments.

**Note 6. Debt**

**Short-Term Debt**

We have a debt financing program of up to $10.0 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, 2022 and 2023.

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

### Long-Term Debt

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

| | Maturity | Coupon Rate | Effective Interest Rate | As of December 31, 2022 | As of December 31, 2023 |
|---|---|---|---|---|---|
| **Debt** | | | | | |
| 2014-2020 Notes issuances | 2024 - 2060 | 0.45% - 3.38% | 0.57% - 3.38% | $ 13,000 | $ 13,000 |
| Future finance lease payments, net and other [1] | | | | 2,142 | 1,746 |
| **Total debt** | | | | 15,142 | 14,746 |
| Unamortized discount and debt issuance costs | | | | (143) | (130) |
| Less: Current portion of long-term notes[2] | | | | 0 | (1,000) |
| Less: Current portion of future finance lease payments, net and other current debt[1][2] | | | | (298) | (363) |
| **Total long-term debt** | | | | $ 14,701 | $ 13,253 |

(1) Future finance lease payments are net of imputed interest.
(2) Total current portion of long-term debt is included within other accrued expenses and current liabilities. See Note 7 for further details.

The notes in the table above are 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 was approximately $9.9 billion and $10.3 billion as of December 31, 2022 and December 31, 2023, 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.

As of December 31, 2023, the aggregate future principal payments for long-term debt, including finance lease liabilities, for each of the next five years and thereafter were as follows (in millions):

| | |
|---|---|
| 2024 | $ 1,299 |
| 2025 | 1,163 |
| 2026 | 2,165 |
| 2027 | 1,143 |
| 2028 | 132 |
| Thereafter | 8,960 |
| Total | $ 14,862 |

### Credit Facility

As of December 31, 2023, we had $10.0 billion of revolving credit facilities, of which $4.0 billion expires in April 2024 and $6.0 billion expires in April 2028. The interest rates for all 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 were outstanding under the credit facilities as of December 31, 2022 and 2023.

### Note 7. Supplemental Financial Statement Information

### Accounts Receivable

The allowance for credit losses on accounts receivable was $754 million and $771 million as of December 31, 2022 and 2023, respectively.

### Property and Equipment, Net

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

| | As of December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Land and buildings | $ 66,897 | $ 74,083 |
| Information technology assets | 66,267 | 80,594 |
| Construction in progress | 27,657 | 35,229 |
| Leasehold improvements | 10,575 | 11,425 |
| Furniture and fixtures | 314 | 472 |
| Property and equipment, gross | 171,710 | 201,803 |
| Less: accumulated depreciation | (59,042) | (67,458) |
| Property and equipment, net | $ 112,668 | $ 134,345 |

Our technical infrastructure is comprised of information technology assets, including servers and networking equipment, and data center land and buildings.

### Accrued Expenses and Other Current Liabilities

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

| | As of December 31, | |
|---|---|---|
| | 2022 | 2023 |
| European Commission fines[(1)] | $ 9,106 | $ 9,525 |
| Accrued purchases of property and equipment | 3,019 | 4,679 |
| Accrued customer liabilities | 3,619 | 4,140 |
| Current operating lease liabilities | 2,477 | 2,791 |
| Income taxes payable, net | 1,632 | 2,748 |
| Other accrued expenses and current liabilities | 18,013 | 22,285 |
| Accrued expenses and other current liabilities | $ 37,866 | $ 46,168 |

(1) While each EC decision is under appeal, the fines are included 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. Amounts include the effects of foreign exchange and interest. See Note 10 for further details.

### Accumulated Other Comprehensive Income (Loss)

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, 2020 | $ (864) | $ 1,612 | $ (115) | $ 633 |
| Other comprehensive income (loss) before reclassifications | (1,442) | (1,312) | 668 | (2,086) |
| Amounts excluded from the assessment of hedge effectiveness recorded in AOCI | 0 | 0 | 48 | 48 |
| Amounts reclassified from AOCI | 0 | (64) | (154) | (218) |
| Other comprehensive income (loss) | (1,442) | (1,376) | 562 | (2,256) |
| Balance as of December 31, 2021 | (2,306) | 236 | 447 | (1,623) |
| Other comprehensive income (loss) before reclassifications | (1,836) | (4,720) | 1,463 | (5,093) |
| Amounts excluded from the assessment of hedge effectiveness recorded in AOCI | 0 | 0 | (188) | (188) |
| Amounts reclassified from AOCI | 0 | 1,007 | (1,706) | (699) |
| Other comprehensive income (loss) | (1,836) | (3,713) | (431) | (5,980) |
| Balance as of December 31, 2022 | (4,142) | (3,477) | 16 | (7,603) |
| Other comprehensive income (loss) before reclassifications | 735 | 1,344 | 84 | 2,163 |
| Amounts excluded from the assessment of hedge effectiveness recorded in AOCI | 0 | 0 | 84 | 84 |
| Amounts reclassified from AOCI | 0 | 1,168 | (214) | 954 |
| Other comprehensive income (loss) | 735 | 2,512 | (46) | 3,201 |
| Balance as of December 31, 2023 | $ (3,407) | $ (965) | $ (30) | $ (4,402) |

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 | | |
|---|---|---|---|---|
| | | Year Ended December 31, | | |
| AOCI Components | Location | 2021 | 2022 | 2023 |
| Unrealized gains (losses) on available-for-sale investments | | | | |
| | Other income (expense), net | $ 82 | $ (1,291) | $ (1,497) |
| | Benefit (provision) for income taxes | (18) | 284 | 329 |
| | Net of income tax | 64 | (1,007) | (1,168) |
| Unrealized gains (losses) on cash flow hedges | | | | |
| Foreign exchange contracts | Revenue | 165 | 2,046 | 213 |
| Interest rate contracts | Other income (expense), net | 6 | 6 | 6 |
| | Benefit (provision) for income taxes | (17) | (346) | (5) |
| | Net of income tax | 154 | 1,706 | 214 |
| Total amount reclassified, net of income tax | | $ 218 | $ 699 | $ (954) |

### Other Income (Expense), Net

Components of OI&E were as follows (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Interest income | $ 1,499 | $ 2,174 | $ 3,865 |
| Interest expense[1] | (346) | (357) | (308) |
| Foreign currency exchange gain (loss), net | (240) | (654) | (1,238) |
| Gain (loss) on debt securities, net | (110) | (2,064) | (1,215) |
| Gain (loss) on equity securities, net | 12,380 | (3,455) | 392 |
| Performance fees | (1,908) | 798 | 257 |
| Income (loss) and impairment from equity method investments, net | 334 | (337) | (628) |
| Other | 411 | 381 | 299 |
| Other income (expense), net | $ 12,020 | $ (3,514) | $ 1,424 |

(1) Interest expense is net of interest capitalized of $163 million, $128 million, and $181 million for the years ended December 31, 2021, 2022, and 2023, respectively.

### Note 8. Workforce Reduction and Other Initiatives

We have a company-wide effort underway to re-engineer our cost base. As part of this program, in January 2023, we announced a reduction of our workforce. As a result, total employee severance and related charges recorded during the year ended December 31, 2023 were $2.1 billion. Substantially all of the employees affected were no longer included in our headcount as of December 31, 2023.

In addition, we are taking actions to optimize our global office space. As a result, exit charges recorded during the year ended December 31, 2023, were $1.8 billion as reflected in the table below. In addition to these exit charges, for the year ended December 31, 2023, we incurred $269 million in accelerated rent and accelerated depreciation, which are not included in the table below.

Severance and office space exit charges are included within our consolidated statements of income as follows (in millions):

| | Year Ended December 31, 2023 | | |
|---|---|---|---|
| | Severance and Related [1] | Office Space | Total |
| Cost of revenues | $ 479 | $ 481 | $ 960 |
| Research and development | 848 | 870 | 1,718 |
| Sales and marketing | 497 | 257 | 754 |
| General and administrative | 264 | 237 | 501 |
| Total charges | $ 2,088 | $ 1,845 | $ 3,933 |

(1) Severance includes amounts to be settled in cash, accounted for as one-time involuntary employee termination benefits, and SBC.

For segment reporting, the substantial majority of these charges are included within Alphabet-level activities in our segment results.

For the year ended December 31, 2023, changes in liabilities resulting from the severance charges and related accruals were as follows (in millions):

| | Severance and Related |
|---|---|
| Balance as of December 31, 2022 | $ 0 |
| Charges[1] | 1,656 |
| Cash payments | (1,579) |
| Balance as of December 31, 2023[2] | $ 77 |

(1) Excludes non-cash SBC of $432 million.
(2) Included in accrued compensation and benefits on the Consolidated Balance Sheets.

## Note 9. Goodwill

Changes in the carrying amount of goodwill for the years ended December 31, 2022 and 2023 were as follows (in millions):

| | Google Services | Google Cloud | Other Bets | Total |
|---|---|---|---|---|
| Balance as of December 31, 2021 | $ 19,826 | $ 2,337 | $ 793 | $ 22,956 |
| Acquisitions | 1,176 | 4,876 | 119 | 6,171 |
| Foreign currency translation and other adjustments | (155) | (8) | (4) | (167) |
| Balance as of December 31, 2022 | 20,847 | 7,205 | 908 | 28,960 |
| Acquisitions | 240 | 3 | 0 | 243 |
| Foreign currency translation and other adjustments | 31 | (9) | (27) | (5) |
| Balance as of December 31, 2023 | $ 21,118 | $ 7,199 | $ 881 | $ 29,198 |

## Note 10. Commitments and Contingencies

### Commitments

We have content licensing agreements with future fixed or minimum guaranteed commitments of $10.6 billion as of December 31, 2023, of which the majority is paid over seven years ending in the first quarter of 2030.

### Indemnifications

In the normal course of business, including to facilitate transactions in our services and products and corporate activities, we indemnify certain parties, including advertisers, Google Network partners, distribution partners, customers of Google Cloud offerings, lessors, and service providers with respect to certain matters. We have agreed to defend and/or 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, 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 December 31, 2023, we did not have any material indemnification claims that were probable or reasonably possible.

### Legal Matters

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.

Certain outstanding matters seek speculative, substantial or indeterminate monetary amounts, substantial changes to our business practices and products, or structural remedies. Significant judgment is required to determine both the likelihood of there being a loss and the estimated amount of a loss related to such matters, and we may be unable to estimate the reasonably possible loss or range of losses. The outcomes of outstanding legal matters are inherently unpredictable and subject to significant uncertainties, and could, either individually or in aggregate, have a material adverse effect.

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

***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 to the General Court, 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 November 10, 2021, the General Court rejected our appeal, and we subsequently filed an appeal with the European Court of Justice on January 20, 2022.

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, and on October 29, 2018, we implemented changes to certain of our Android distribution practices. On September 14, 2022, the General Court reduced the fine from €4.3 billion to €4.1 billion. We subsequently filed an appeal with the European Court of Justice. In 2018, we recognized a charge of $5.1 billion for the fine, which we reduced by $217 million in 2022.

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.

From time to time we are subject to formal and informal inquiries and investigations on various competition matters by regulatory authorities in the U.S., Europe, and other jurisdictions globally. Examples, for which given their nature we cannot estimate a possible loss, include:

- 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 in the U.S. District Court for the District of Columbia on October 20, 2020 alleging that Google violated U.S. antitrust laws relating to Search and Search advertising. The trial ended on November 16, 2023, and we expect a decision in 2024. Further, in June 2022, the Australian Competition and Consumer Commission (ACCC) and the United Kingdom's Competition and Markets Authority (CMA) each opened an investigation into Search distribution practices.

- On December 16, 2020, a number of state Attorneys General filed an antitrust complaint in the U.S. 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, and a trial is scheduled for March 2025. Additionally, on January 24, 2023, the DOJ, along with a number of state Attorneys General, filed an antitrust complaint in the U.S. District Court for the Eastern District of Virginia alleging that Google's digital advertising technology products violate U.S. antitrust laws, and on April 17, 2023, a number of additional state Attorneys General joined the complaint. The EC, the CMA, and the ACCC each opened a formal investigation into Google's advertising technology business practices on June 22, 2021, May 25, 2022, and June 29, 2022, respectively. On June 14, 2023, the EC issued a Statement of Objections (SO) informing Google of its preliminary view that Google violated European antitrust laws relating to its advertising technology. We responded to the SO on December 1, 2023.

- On July 7, 2021, a number of state Attorneys General filed an antitrust complaint in the U.S. District Court for the Northern District of California, alleging that Google's operation of Android and Google Play violated U.S. antitrust laws and state antitrust and consumer protection laws. In September 2023, we reached a settlement in principle with 50 state Attorneys General and three territories. The U.S. District Court subsequently vacated the trial date with the states, and any final approval of the settlement is expected to occur in 2024. In May 2022, the EC and the CMA each opened investigations into Google Play's business practices. Korean regulators are investigating Google Play's billing practices, including a formal review in May 2022 of Google's compliance with the new app store billing regulations.

We believe we have strong arguments against these claims and will defend ourselves vigorously. We continue to cooperate with federal and state regulators in the U.S., the EC, and other regulators around the world.

***Privacy Matters***

We are subject to a number of privacy-related laws and regulations, and we currently are party to a number of privacy investigations and lawsuits ongoing in multiple jurisdictions. For example, there are ongoing investigations and litigation in the U.S. and the EU, including those relating to our collection and use of location information and advertising practices, which could result in significant fines, judgments, and product changes.

***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.

***Other***

We are subject to claims, lawsuits, regulatory and government investigations, other proceedings, and consent orders involving competition, intellectual property, data security, 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. For example, in December 2023, a California jury delivered a verdict in *Epic Games v. Google* finding that Google violated antitrust laws related to Google Play's business. The presiding judge will determine remedies in 2024, and the range of potential remedies vary widely. We plan to appeal. We also periodically have data incidents that we report to relevant regulators as required by law.

These claims, consent orders, lawsuits, regulatory and government investigations, and other proceedings could result in substantial fines and penalties, injunctive relief, ongoing monitoring and auditing 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.

We have ongoing legal matters relating to Russia. For example, civil judgments that include compounding penalties have been imposed upon us in connection with disputes regarding the termination of accounts, including those of sanctioned parties. We do not believe these ongoing legal matters will have a material adverse effect.

**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.

See, Note 14 for information regarding income tax contingencies.

## Note 11. Stockholders' Equity

### Class A and Class B Common Stock and Class C Capital Stock

Our Board of Directors has authorized three classes of stock, Class A and Class B common stock, and Class C capital stock. The rights of the holders of each class of our common and capital stock are identical, except with respect to voting. Each share of Class A common stock is entitled to one vote per share. Each share of Class B common stock is entitled to 10 votes per share. Class C capital stock has no voting rights, except as required by applicable law. Shares of Class B common stock may be converted at any time at the option of the stockholder and automatically convert upon sale or transfer to Class A common stock.

### Share Repurchases

In the years ended December 31, 2021, 2022, and 2023, we repurchased $50.3 billion, $59.3 billion, and $62.2 billion, respectively, of Alphabet's Class A and Class C shares.

In April 2023, the Board of Directors of Alphabet authorized the company to repurchase up to an additional $70.0 billion of its Class A and Class C shares. As of December 31, 2023, $36.3 billion remains available for Class A and Class C share repurchases.

The following table presents Class A and Class C shares repurchased and subsequently retired (in millions):

| | Year Ended December 31, 2022 | | Year Ended December 31, 2023 | |
|---|---|---|---|---|
| | Shares | Amount | Shares | Amount |
| Class A share repurchases | 61 | $ 6,719 | 78 | $ 9,316 |
| Class C share repurchases | 469 | 52,577 | 450 | 52,868 |
| Total share repurchases[1] | 530 | $ 59,296 | 528 | $ 62,184 |

[1] Shares repurchased include unsettled repurchases as of December 31, 2023.

Class A and Class C shares are repurchased in a manner deemed in the best interest of the company and its stockholders, taking into account the economic cost and prevailing market conditions, including the relative trading prices and volumes of the Class A and Class C shares. Repurchases are 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.

## Note 12. Net Income Per Share

We compute net income per share of Class A, Class B, and Class C stock using the two-class method. Basic net income per share is computed using the weighted-average number of shares outstanding during the period. Diluted net income per share is computed using the weighted-average number of shares and the effect of potentially dilutive securities outstanding during the period. Potentially dilutive securities consist of RSUs and other contingently issuable shares. The dilutive effect of outstanding RSUs and other contingently issuable shares is reflected in diluted earnings per share by application of the treasury stock method. The computation of the diluted net income per share of Class A stock assumes the conversion of Class B stock, while the diluted net income per share of Class B stock does not assume the conversion of those shares.

The rights, including the liquidation and dividend rights, of the holders of our Class A, Class B, and Class C stock are identical, except with respect to voting. Furthermore, there are a number of safeguards built into our certificate of incorporation, as well as Delaware law, which preclude our Board of Directors from declaring or paying unequal per share dividends on our Class A, Class B, and Class C stock. Specifically, Delaware law provides that amendments to our certificate of incorporation which would have the effect of adversely altering the rights, powers, or preferences of a given class of stock must be approved by the class of stock adversely affected by the proposed amendment. In addition, our certificate of incorporation provides that before any such amendment may be put to a stockholder vote, it must be approved by the unanimous consent of our Board of Directors. As a result, the undistributed earnings for each year are allocated based on the contractual participation rights of the Class A, Class B, and Class C stock as if the earnings for the year had been distributed. As the liquidation and dividend rights are identical, the undistributed earnings are allocated on a proportionate basis.

In the years ended December 31, 2021, 2022, and 2023, the net income per share amounts are the same for Class A, Class B, and Class C 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.

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

| | Year Ended December 31, 2021 | | |
|---|---|---|---|
| | Class A | Class B | Class C |
| Basic net income per share: | | | |
| Numerator | | | |
| Allocation of undistributed earnings | $ 34,200 | $ 5,174 | $ 36,659 |
| Denominator | | | |
| Number of shares used in per share computation | 6,006 | 909 | 6,438 |
| Basic net income per share | $ 5.69 | $ 5.69 | $ 5.69 |
| Diluted net income per share: | | | |
| Numerator | | | |
| Allocation of undistributed earnings for basic computation | $ 34,200 | $ 5,174 | $ 36,659 |
| Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares | 5,174 | 0 | 0 |
| Reallocation of undistributed earnings | (581) | (77) | 581 |
| Allocation of undistributed earnings | $ 38,793 | $ 5,097 | $ 37,240 |
| Denominator | | | |
| Number of shares used in basic computation | 6,006 | 909 | 6,438 |
| Weighted-average effect of dilutive securities | | | |
| Add: | | | |
| Conversion of Class B to Class A shares outstanding | 909 | 0 | 0 |
| Restricted stock units and other contingently issuable shares | 0 | 0 | 200 |
| Number of shares used in per share computation | 6,915 | 909 | 6,638 |
| Diluted net income per share | $ 5.61 | $ 5.61 | $ 5.61 |

| | Year Ended December 31, 2022 | | |
|---|---|---|---|
| | Class A | Class B | Class C |
| Basic net income per share: | | | |
| Numerator | | | |
| Allocation of undistributed earnings | $ 27,518 | $ 4,072 | $ 28,382 |
| Denominator | | | |
| Number of shares used in per share computation | 5,994 | 887 | 6,182 |
| Basic net income per share | $ 4.59 | $ 4.59 | $ 4.59 |
| Diluted net income per share: | | | |
| Numerator | | | |
| Allocation of undistributed earnings for basic computation | $ 27,518 | $ 4,072 | $ 28,382 |
| Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares | 4,072 | 0 | 0 |
| Reallocation of undistributed earnings | (230) | (30) | 230 |
| Allocation of undistributed earnings | $ 31,360 | $ 4,042 | $ 28,612 |
| Denominator | | | |
| Number of shares used in basic computation | 5,994 | 887 | 6,182 |
| Weighted-average effect of dilutive securities | | | |
| Add: | | | |
| Conversion of Class B to Class A shares outstanding | 887 | 0 | 0 |
| Restricted stock units and other contingently issuable shares | 0 | 0 | 96 |
| Number of shares used in per share computation | 6,881 | 887 | 6,278 |
| Diluted net income per share | $ 4.56 | $ 4.56 | $ 4.56 |

| | Year Ended December 31, 2023 | | |
|---|---|---|---|
| | Class A | Class B | Class C |
| Basic net income per share: | | | |
| Numerator | | | |
| Allocation of undistributed earnings | $ 34,601 | $ 5,124 | $ 34,070 |
| Denominator | | | |
| Number of shares used in per share computation | 5,922 | 877 | 5,831 |
| Basic net income per share | $ 5.84 | $ 5.84 | $ 5.84 |
| Diluted net income per share: | | | |
| Numerator | | | |
| Allocation of undistributed earnings for basic computation | $ 34,601 | $ 5,124 | $ 34,070 |
| Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares | 5,124 | 0 | 0 |
| Reallocation of undistributed earnings | (287) | (37) | 287 |
| Allocation of undistributed earnings | $ 39,438 | $ 5,087 | $ 34,357 |
| Denominator | | | |
| Number of shares used in basic computation | 5,922 | 877 | 5,831 |
| Weighted-average effect of dilutive securities | | | |
| Add: | | | |
| Conversion of Class B to Class A shares outstanding | 877 | 0 | 0 |
| Restricted stock units and other contingently issuable shares | 0 | 0 | 92 |
| Number of shares used in per share computation | 6,799 | 877 | 5,923 |
| Diluted net income per share | $ 5.80 | $ 5.80 | $ 5.80 |

## Note 13. Compensation Plans

### Stock Plans

Our stock plans include the Alphabet Amended and Restated 2021 Stock Plan ("Alphabet 2021 Stock Plan") and Other Bets stock-based plans. Under our stock plans, RSUs and other types of awards may be granted. Under the Alphabet 2021 Stock Plan, an RSU award is an agreement to issue shares of our Class C stock at the time the award vests. RSUs generally vest over four years contingent upon employment on the vesting date.

As of December 31, 2023, there were 723 million shares of Class C stock reserved for future issuance under the Alphabet 2021 Stock Plan.

### Stock-Based Compensation

For the years ended December 31, 2021, 2022, and 2023, total SBC expense was $15.7 billion, $19.5 billion, and $22.1 billion, including amounts associated with awards we expect to settle in Alphabet stock of $15.0 billion, $18.8 billion, and $21.7 billion, respectively.

During the year ended December 31, 2023, total SBC expense includes $432 million associated with workforce reduction costs. See Note 8 for further details.

For the years ended December 31, 2021, 2022, and 2023, we recognized tax benefits on total SBC expense, which are reflected in the provision for income taxes in the Consolidated Statements of Income, of $3.1 billion, $3.9 billion, and $4.5 billion, respectively.

For the years ended December 31, 2021, 2022, and 2023, tax benefit realized related to awards vested or exercised during the period was $5.9 billion, $4.7 billion, and $5.6 billion, respectively. These amounts do not include the indirect effects of stock-based awards, which primarily relate to the R&D tax credit.

### Stock-Based Award Activities

The following table summarizes the activities for unvested Alphabet RSUs for the year ended December 31, 2023 (in millions, except per share amounts):

| | Unvested Restricted Stock Units | |
|---|---|---|
| | Number of Shares | Weighted-Average Grant-Date Fair Value |
| Unvested as of December 31, 2022 | 324 | $ 107.98 |
| Granted | 263 | $ 97.59 |
| Vested | (217) | $ 100.36 |
| Forfeited/canceled | (32) | $ 106.56 |
| Unvested as of December 31, 2023 | 338 | $ 104.93 |

The weighted-average grant-date fair value of RSUs granted during the years ended December 31, 2021 and 2022 was $97.46 and $127.22, respectively. Total fair value of RSUs, as of their respective vesting dates, during the years ended December 31, 2021, 2022, and 2023, were $28.8 billion, $23.9 billion, and $26.6 billion, respectively.

As of December 31, 2023, there was $33.5 billion of unrecognized compensation cost related to unvested RSUs. This amount is expected to be recognized over a weighted-average period of 2.5 years.

**Note 14. Income Taxes**

Income from continuing operations before income taxes consisted of the following (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Domestic operations | $ 77,016 | $ 61,307 | $ 73,600 |
| Foreign operations | 13,718 | 10,021 | 12,117 |
| Total | $ 90,734 | $ 71,328 | $ 85,717 |

Provision for income taxes consisted of the following (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Current: | | | |
| Federal and state | $ 10,126 | $ 17,120 | $ 17,125 |
| Foreign | 2,692 | 2,434 | 2,526 |
| Total | 12,818 | 19,554 | 19,651 |
| Deferred: | | | |
| Federal and state | 2,018 | (8,052) | (7,482) |
| Foreign | (135) | (146) | (247) |
| Total | 1,883 | (8,198) | (7,729) |
| Provision for income taxes | $ 14,701 | $ 11,356 | $ 11,922 |

The reconciliation of federal statutory income tax rate to our effective income tax rate was as follows:

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| U.S. federal statutory tax rate | 21.0 % | 21.0 % | 21.0 % |
| Foreign income taxed at different rates | 0.2 | 3.0 | 0.3 |
| Foreign-derived intangible income deduction | (2.5) | (5.4) | (4.6) |
| Stock-based compensation expense | (2.5) | (1.2) | (0.8) |
| Federal research credit | (1.6) | (2.2) | (1.8) |
| Deferred tax asset valuation allowance | 0.6 | 0.9 | 0.6 |
| State and local income taxes | 1.0 | 0.8 | 1.0 |
| Effect of tax law change | 0.0 | 0.0 | (1.4) |
| Other | 0.0 | (1.0) | (0.4) |
| Effective tax rate | 16.2 % | 15.9 % | 13.9 % |

In 2022, there was an increase in the U.S. Foreign Derived Intangible Income tax deduction from the effects of capitalization and amortization of R&D expenses starting in 2022 as required by the 2017 Tax Cuts and Jobs Act.

In 2023, the IRS issued a rule change allowing taxpayers to temporarily apply the regulations in effect prior to 2022 related to U.S. federal foreign tax credits as well as a separate rule change with interim guidance on the capitalization and amortization of R&D expenses. A cumulative one-time adjustment applicable to the prior period for these tax rule changes was recorded in 2023.

### Deferred Income Taxes

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities were as follows (in millions):

| | As of December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Deferred tax assets: | | |
| Accrued employee benefits | $ 955 | $ 1,855 |
| Accruals and reserves not currently deductible | 1,956 | 2,481 |
| Tax credits | 6,002 | 6,609 |
| Net operating losses | 2,557 | 2,965 |
| Operating leases | 2,711 | 3,526 |
| Capitalized research and development[1] | 10,381 | 17,757 |
| Other | 2,289 | 1,951 |
| Total deferred tax assets | 26,851 | 37,144 |
| Valuation allowance | (9,553) | (10,999) |
| Total deferred tax assets net of valuation allowance | 17,298 | 26,145 |
| Deferred tax liabilities: | | |
| Property and equipment, net | (6,607) | (8,189) |
| Net investment gains | (2,361) | (2,405) |
| Operating leases | (2,491) | (2,965) |
| Other | (1,092) | (902) |
| Total deferred tax liabilities | (12,551) | (14,461) |
| Net deferred tax assets (liabilities) | $ 4,747 | $ 11,684 |

(1) As required by the 2017 Tax Cuts and Jobs Act, effective January 1, 2022, our research and development expenditures were capitalized and amortized which resulted in substantially higher cash taxes starting in 2022 with an equal amount of deferred tax benefit.

As of December 31, 2023, our federal, state, and foreign net operating loss carryforwards for income tax purposes were approximately $7.1 billion, $18.6 billion, and $1.8 billion respectively. If not utilized, the federal net operating loss carryforwards will begin to expire in 2024, foreign net operating loss carryforwards will begin to expire in 2025 and the state net operating loss carryforwards will begin to expire in 2029. It is more likely than not that the majority of the net operating loss carryforwards will not be realized; therefore, we have recorded a valuation allowance against them. The net operating loss carryforwards are subject to various annual limitations under the tax laws of the different jurisdictions.

As of December 31, 2023, our Federal and California research and development credit carryforwards for income tax purposes were approximately $600 million and $6.3 billion, respectively. If not utilized, the Federal R&D credit will begin to expire in 2037 and the California R&D credit can be carried over indefinitely. We believe the majority of the federal tax credit and state tax credit is not likely to be realized.

As of December 31, 2023, our investment tax credit carryforwards for state income tax purposes were approximately $1.0 billion and will begin to expire in 2029. We use the flow-through method of accounting for investment tax credits. We believe this tax credit is not likely to be realized.

As of December 31, 2023, we maintained a valuation allowance with respect to California deferred tax assets, certain federal net operating losses, certain state net operating losses and tax credits, net deferred tax assets relating to Other Bet companies, and certain foreign net operating losses that we believe are not likely to be realized. We continue to reassess the remaining valuation allowance quarterly, and if future evidence allows for a partial or full release of the valuation allowance, a tax benefit will be recorded accordingly.

**Uncertain Tax Positions**

The following table summarizes the activity related to our gross unrecognized tax benefits (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Beginning gross unrecognized tax benefits | $ 3,837 | $ 5,158 | $ 7,055 |
| Increases related to prior year tax positions | 529 | 253 | 740 |
| Decreases related to prior year tax positions | (263) | (437) | (682) |
| Decreases related to settlement with tax authorities | (329) | (140) | (21) |
| Increases related to current year tax positions | 1,384 | 2,221 | 2,346 |
| Ending gross unrecognized tax benefits | $ 5,158 | $ 7,055 | $ 9,438 |

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. The total amount of gross unrecognized tax benefits was $5.2 billion, $7.1 billion, and $9.4 billion as of December 31, 2021, 2022, and 2023, respectively, of which $3.7 billion, $5.3 billion, and $7.4 billion, if recognized, would affect our effective tax rate, respectively.

As of December 31, 2022 and 2023, we accrued $346 million and $622 million in interest and penalties in provision for income taxes, respectively.

We file income tax returns in the U.S. federal jurisdiction and in many state and foreign jurisdictions. Our two major tax jurisdictions are the U.S. federal and Ireland. We are subject to the continuous examination of our income tax returns by the IRS and other tax authorities. The IRS is currently examining our 2016 through 2021 tax returns. We have also received tax assessments in multiple foreign jurisdictions asserting transfer pricing adjustments or permanent establishment. We continue to defend such claims as presented.

The tax years 2016 through 2022 remain subject to examination by the appropriate governmental agencies for Irish tax purposes. There are other ongoing audits in various other jurisdictions that are not material to our financial statements.

We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. We continue to monitor the progress of ongoing discussions with tax authorities and the effect, if any, of the expected expiration of the statute of limitations in various taxing jurisdictions.

We believe that an adequate provision has been made for any adjustments that may result from tax examinations. However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in our tax audits are resolved in a manner not consistent with management's expectations, we could be required to adjust our provision for income taxes in the period such resolutions occur. Although the timing of resolution, settlement, and closure of audits is not certain, it is reasonably possible that our unrecognized tax benefits from certain U.S. federal, state, and non U.S. tax positions could decrease by approximately $700 million in the next 12 months. Positions that may be resolved include various U.S. and non-U.S. matters.

**Note 15. Information about Segments and Geographic Areas**

We report our segment results as Google Services, Google Cloud, and Other Bets:

- Google Services includes products and services such as ads, Android, Chrome, devices, Google Maps, Google Play, Search, and YouTube. Google Services generates revenues primarily from advertising; fees received for consumer subscription-based products such as YouTube TV, YouTube Music and Premium, and NFL Sunday Ticket; the sale of apps and in-app purchases and devices.
- Google Cloud includes infrastructure and platform services, collaboration tools, and other services for enterprise customers. Google Cloud generates revenues primarily from consumption-based fees and subscriptions received for Google Cloud Platform services, Google Workspace communication and collaboration tools, and other enterprise services.
- Other Bets is a combination of multiple operating segments that are not individually material. Revenues from Other Bets are generated primarily from the sale of healthcare-related services and internet services.

Revenues, certain costs, such as costs associated with content and traffic acquisition, certain engineering activities, and devices, as well as certain 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. These costs, including the associated depreciation and impairment, are allocated to operating segments as a service cost generally based on usage, headcount, or revenue.

Reflecting DeepMind's increasing collaboration with Google Services, Google Cloud, and Other Bets, beginning in the first quarter of 2023 DeepMind is reported as part of Alphabet-level activities instead of within Other Bets. Additionally, beginning in the first quarter of 2023, we updated and simplified our cost allocation methodologies to provide our business leaders with increased transparency for decision-making. Prior periods have been recast to conform to the current presentation.

As announced on April 20, 2023, we brought together part of Google Research (the Brain team) and DeepMind to significantly accelerate our progress in artificial intelligence (AI). The group, called Google DeepMind, is reported within Alphabet-level activities prospectively beginning in the second quarter of 2023. Previously, the Brain team was included within Google Services.

Certain costs are not allocated to our segments because they represent Alphabet-level activities. These costs primarily include AI-focused shared R&D activities, including development costs of our general AI models; corporate initiatives such as our philanthropic activities; corporate shared costs such as certain finance, human resource, and legal costs, including certain fines and settlements. Charges associated with reductions in our workforce and office space during 2023 were not allocated to our segments. Additionally, hedging gains (losses) related to revenue are not allocated to our segments.

Our operating segments are not evaluated using asset information.

The following table presents information about our segments (in millions):

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2021 | 2022 | 2023 |
| Revenues: | | | |
| Google Services | $ 237,529 | $ 253,528 | $ 272,543 |
| Google Cloud | 19,206 | 26,280 | 33,088 |
| Other Bets | 753 | 1,068 | 1,527 |
| Hedging gains (losses) | 149 | 1,960 | 236 |
| Total revenues | $ 257,637 | $ 282,836 | $ 307,394 |
| Operating income (loss): | | | |
| Google Services | $ 88,132 | $ 82,699 | $ 95,858 |
| Google Cloud | (2,282) | (1,922) | 1,716 |
| Other Bets | (4,051) | (4,636) | (4,095) |
| Alphabet-level activities | (3,085) | (1,299) | (9,186) |
| Total income from operations | $ 78,714 | $ 74,842 | $ 84,293 |

See Note 2 for information relating to revenues by geography.

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

| | As of December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Long-lived assets: | | |
| United States | $ 93,565 | $ 110,053 |
| International | 33,484 | 38,383 |
| Total long-lived assets | $ 127,049 | $ 148,436 |

## ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

## ITEM 9A. 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 Annual Report on Form 10-K.

Based on this evaluation, our chief executive officer and chief financial officer concluded that, as of December 31, 2023, 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

There have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

### Management’s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) of the Exchange Act. Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2023. Management reviewed the results of its assessment with our Audit and Compliance Committee. The effectiveness of our internal control over financial reporting as of December 31, 2023 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in its report which is included in Item 8 of this Annual Report on Form 10-K.

### 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.

## ITEM 9B. OTHER INFORMATION

### 10b5-1 Trading Plans

During the fiscal quarter ended December 31, 2023, the following Section 16 officer and directors adopted, modified or terminated a “Rule 10b5-1 trading arrangement” (as defined in Item 408 of Regulation S-K of the Exchange Act):

- John Hennessy, Chair of the Board of Directors, through the John L. Hennessy & Andrea J. Hennessy Revocable Trust, adopted a new trading plan on November 1, 2023 (with the first trade under the new plan scheduled for February 12, 2024). The trading plan will be effective until March 12, 2025 to sell 6,664 shares of Class C Capital Stock and 11,336 shares of Class A Common Stock.
- Ann Mather, former member of the Board of Directors, terminated her trading plan on October 30, 2023, effective with her resignation from the Board of Directors. The trading plan previously permitted the sale of 12,580 shares of Class C Capital Stock and would have been effective until June 2, 2024.
- Ruth M. Porat, President and Chief Investment Officer; Chief Financial Officer, adopted a new trading plan on November 30, 2023 (with the first trade under the new plan scheduled for March 8, 2024). The trading plan will be effective until March 8, 2025 to sell all of the (net) shares of up to 82,900 (gross) Class C Capital Stock issued upon the vesting of her Alphabet 2021 Performance Stock Units, as adjusted based on performance (net shares are net of tax withholding).

There were no “non-Rule 10b5-1 trading arrangements” (as defined in Item 408 of Regulation S-K of the Exchange Act) adopted, modified or terminated during the fiscal quarter ended December 31, 2023 by our directors and Section 16 officers. Each of the Rule 10b5-1 trading arrangements are in accordance with our Policy Against Insider Trading and actual sale transactions made pursuant to such trading arrangements will be disclosed publicly in Section 16 filings with the SEC in accordance with applicable securities laws, rules and regulations.

### Required Disclosure Pursuant to Section 13(r) of the Exchange Act

As previously disclosed, Google LLC, a subsidiary of Alphabet, filed notifications with the Russian Federal Security Service pursuant to Russian encryption control requirements, which must be complied with prior to the import of covered items. The information provided pursuant to Section 13(r) of the Exchange Act in Part II, Item 5 of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2023 is incorporated herein by reference.

## ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

## PART III

### ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

The information required by this item will be included under the caption “Directors, Executive Officers, and Corporate Governance” in our Proxy Statement for the 2024 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2023 (2024 Proxy Statement) and is incorporated herein by reference. The information required by this item regarding delinquent filers pursuant to Item 405 of Regulation S-K will be included under the caption “Delinquent Section 16(a) Reports” in the 2024 Proxy Statement and is incorporated herein by reference.

### ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be included under the captions “Director Compensation,” “Executive Compensation” and “Directors, Executive Officers, and Corporate Governance—Corporate Governance and Board Matters—Compensation Committee Interlocks and Insider Participation” in the 2024 Proxy Statement and is incorporated herein by reference, except as to information disclosed therein pursuant to Item 402(v) of Regulation S-K relating to pay versus performance.

### ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be included under the captions “Common Stock Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in the 2024 Proxy Statement and is incorporated herein by reference.

### ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be included under the captions “Certain Relationships and Related Transactions” and “Directors, Executive Officers, and Corporate Governance—Corporate Governance and Board Matters—Director Independence” in the 2024 Proxy Statement and is incorporated herein by reference.

### ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be included under the caption “Independent Registered Public Accounting Firm” in the 2024 Proxy Statement and is incorporated herein by reference.

## PART IV

### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

We have filed the following documents as part of this Annual Report on Form 10-K:

### 1. Consolidated Financial Statements



### 2. Financial Statement Schedules

### Schedule II: Valuation and Qualifying Accounts

The table below details the activity of the allowance for credit losses and sales credits for the years ended December 31, 2021, 2022, and 2023 (in millions):

| | Balance at Beginning of Year | Additions | Usage | Balance at End of Year |
|---|---|---|---|---|
| Year ended December 31, 2021 | $ 1,344 | $ 2,092 | $ (2,047) | $ 1,389 |
| Year ended December 31, 2022 | $ 1,389 | $ 2,125 | $ (2,301) | $ 1,213 |
| Year ended December 31, 2023 | $ 1,213 | $ 3,115 | $ (2,737) | $ 1,591 |

Note: Additions to the allowance for credit losses are charged to expense. Additions to the allowance for sales credits are charged against revenues.

All other schedules have been omitted because they are not required, not applicable, or the required information is otherwise included.

### 3. Exhibits

| Exhibit Number | Description | Incorporated by reference herein — Form | Date |
|---|---|---|---|
| 2.01 | Agreement and Plan of Merger, dated October 2, 2015, by and among Google Inc., the Registrant and Maple Technologies Inc. | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 3.01 | Amended and Restated Certificate of Incorporation of the Registrant | Current Report on Form 8-K (File No. 001-37580) | June 3, 2022 |
| 3.02 | Amended and Restated Bylaws of the Registrant, dated October 19, 2022 | Current Report on Form 8-K (File No. 001-37580) | October 25, 2022 |
| 4.01 | Specimen Class A Common Stock certificate | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.02 | Specimen Class C Capital Stock certificate | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.03 | Alphabet Inc. Deferred Compensation Plan | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.04 | Transfer Restriction Agreement, dated October 2, 2015, between the Registrant and Larry Page and certain of his affiliates | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.05 | Transfer Restriction Agreement, dated October 2, 2015, between the Registrant and Sergey Brin and certain of his affiliates | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.06 | Joinder Agreement, dated December 31, 2021, among the Registrant, Sergey Brin and certain of his affiliates | Annual Report on Form 10-K (File No. 001-37580) | February 2, 2022 |

| Exhibit Number | | | Description | Incorporated by reference herein Form | Date |
|---|---|---|---|---|---|
| 4.07 | | | Transfer Restriction Agreement, dated October 2, 2015, between the Registrant and Eric E. Schmidt and certain of its affiliates | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.08 | | | Class C Undertaking, dated October 2, 2015, executed by the Registrant | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 4.09 | | | Indenture, dated February 12, 2016, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as Trustee | Registration Statement on Form S-3 (File No. 333-209510) | February 12, 2016 |
| 4.10 | | | Registrant Registration Rights Agreement dated December 14, 2015 | Registration Statement on Form S-3 (File No. 333-209518) | February 12, 2016 |
| 4.11 | | | First Supplemental Indenture, dated April 27, 2016, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as trustee | Current Report on Form 8-K (File No. 001-37580) | April 27, 2016 |
| 4.12 | | | Form of the Registrant's 3.375% Notes due 2024 (included in Exhibit 4.11) | | |
| 4.13 | | | Form of the Registrant's 1.998% Note due 2026 | Current Report on Form 8-K (File No. 001-37580) | August 9, 2016 |
| 4.14 | | | Form of Global Note representing the Registrant's 0.450% notes due 2025 | Current Report on Form 8-K (File No. 001-37580) | August 5, 2020 |
| 4.15 | | | Form of Global Note representing the Registrant's 0.800% notes due 2027 | Current Report on Form 8-K (File No. 001-37580) | August 5, 2020 |
| 4.16 | | | Form of Global Note representing the Registrant's 1.100% notes due 2030 | Current Report on Form 8-K (File No. 001-37580) | August 5, 2020 |
| 4.17 | | | Form of Global Note representing the Registrant's 1.900% notes due 2040 | Current Report on Form 8-K (File No. 001-37580) | August 5, 2020 |
| 4.18 | | | Form of Global Note representing the Registrant's 2.050% notes due 2050 | Current Report on Form 8-K (File No. 001-37580) | August 5, 2020 |
| 4.19 | | | Form of Global Note representing the Registrant's 2.250% notes due 2060 | Current Report on Form 8-K (File No. 001-37580) | August 5, 2020 |
| 4.20 | | | Description of Registrant's Securities | Annual Report on Form 10-K (File No. 001-37580) | February 3, 2023 |
| 10.01 | u | | Form of Indemnification Agreement entered into between the Registrant, its affiliates and its directors and officers | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 10.02 | u | * | Form of Offer Letter for Directors | | |
| 10.03 | u | | Offer Letter, dated March 20, 2015, between Ruth Porat and Google Inc., as assumed by the Registrant on October 2, 2015 | Current Report on Form 8-K (File No. 001-36380) | March 26, 2015 |
| 10.04 | u | | Compensation Plan Agreement, dated October 2, 2015, between Google Inc. and the Registrant | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 10.05 | u | | Director Arrangements Agreement, dated October 2, 2015, between Google Inc. and the Registrant | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 10.06 | u | | Alphabet Inc. Deferred Compensation Plan | Current Report on Form 8-K (File No. 001-37580) | October 2, 2015 |
| 10.07 | u | | Alphabet Inc. Amended and Restated 2012 Stock Plan | Current Report on Form 8-K (File No. 001-37580) | June 5, 2020 |
| 10.07.1 | u | | Alphabet Inc. Amended and Restated 2012 Stock Plan - Form of Alphabet Restricted Stock Unit Agreement | Annual Report on Form 10-K (File No. 001-37580) | February 4, 2020 |
| 10.07.2 | u | | Alphabet Inc. 2012 Stock Plan - Form of Alphabet Restricted Stock Unit Agreement | Quarterly Report on Form 10-Q (File No. 001-37580) | November 3, 2016 |