lease payments of $657 million and $3.3 billion, that are not yet recorded on our Consolidated Balance Shee
leases will commence between 2024 and 2026 with non-cancelable lease terms of one to 25 years.

For the years ended December 31, 2022 and 2023, our operating lease expenses (including variable lease c
were $3.7 billion and $4.5 billion, respectively. Finance lease costs were not material for the years ended De
2022 and 2023. For additional information, see Note 4 of the Notes to Consolidated Financial Statements inc
8 of this Annual Report on Form 10-K.

Financing

We have a short-term debt financing program of up to $10.0 billion through the issuance of commercial pape
proceeds from this program are used for general corporate purposes. As of December 31, 2023, we had no
paper outstanding.

As of December 31, 2023, we had $10.0 billion of revolving credit facilities, $4.0 billion expiring in April 2024
billion expiring in April 2028. The interest rates for all credit facilities are determined based on a formula usin
market rates, as well as our progress toward the achievement of certain sustainability goals. No amounts ha
borrowed under the credit facilities.

As of December 31, 2023, we had senior unsecured notes outstanding with a total carrying value of $12.9 bi
short-term and long-term future interest payments of $214 million and $3.6 billion, respectively. For additiona
see Note 6 of the Notes to Consolidated Financial Statements included in Item 8 of this Annual Report on Fo

We primarily utilize contract manufacturers for the assembly of our servers used in our technical infrastructur
devices we sell. We have agreements where we may purchase components directly from suppliers and then
components to contract manufacturers for use in the assembly of the servers and devices. Certain of these a
result in a portion of the cash received from and paid to the contract manufacturers to be presented as finan
in the Consolidated Statements of Cash Flows included in Item 8 of this Annual Report on Form 10-K.

Share Repurchase Program

During 2023 we repurchased and subsequently retired 528 million shares for $62.2 billion.

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

For additional information, see Note 11 of the Notes to Consolidated Financial Statements included in Item 8
Annual Report on Form 10-K.

European Commission Fines

In 2017, 2018 and 2019, the EC announced decisions that certain actions taken by Google infringed Europe
competition law and imposed fines of €2.4 billion ($2.7 billion as of June 27, 2017), €4.3 billion ($5.1 billion a
2018), and €1.5 billion ($1.7 billion as of March 20, 2019), respectively. On September 14, 2022, the Genera
reduced the 2018 fine from €4.3 billion to €4.1 billion. We subsequently filed an appeal to the European Cou
While each EC decision is under appeal, we included the fines in accrued expenses and other current liabilit
Consolidated Balance Sheets as we provided bank guarantees (in lieu of a cash payment) for the fines. For
information, see Note 10 of the Notes to Consolidated Financial Statements included in Item 8 of this Annua
Form 10-K.

Taxes

As of December 31, 2023, we had income taxes payable of $4.2 billion, of which $2.1 billion was short-term,
a one-time transition tax payable incurred as a result of the U.S. Tax Cuts and Jobs Act ("Tax Act"). As perm

Act, we will pay the transition tax in annual interest-free installments through 2025. We also have long-term t
of $6.3 billion primarily related to uncertain tax positions as of December 31, 2023.

Purchase Commitments and Other Contractual Obligations

As of December 31, 2023, we had material purchase commitments and other contractual obligations of $45.
of which $31.6 billion was short-term. These amounts primarily consist of purchase orders for certain technic
infrastructure as well as the non-cancelable portion or the minimum cancellation fee in certain agreements re
commitments to purchase licenses, including content licenses, inventory and network capacity. For those ag
variable terms, we do not estimate the non-cancelable obligation beyond any minimum quantities and/or pric
December 31, 2023. In certain instances, the amount of our contractual obligations may change based on th
timing of order fulfillment from our suppliers. For more information related to our content licenses, see Note 1
to Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.

In addition, we regularly enter into multi-year, non-cancellable agreements to purchase renewable energy ar
attributes, such as renewable energy certificates. These agreements do not include a minimum dollar comm
amounts to be paid under these agreements are based on the actual volumes to be generated and are not r
determinable.

Critical Accounting Estimates

We prepare our consolidated financial statements in accordance with GAAP. In doing so, we have to make e
and assumptions. Our critical accounting estimates are those estimates that involve a significant level of unc
time the estimate was made, and changes in them have had or are reasonably likely to have a material effec
financial condition or results of operations. Accordingly, actual results could differ materially from our estimat
our estimates on past experience and other assumptions that we believe are reasonable under the circumsta
evaluate these estimates on an ongoing basis. We have reviewed our critical accounting estimates with the A
Compliance Committee of our Board of Directors.

For a summary of significant accounting policies and the effect on our financial statements, see Note 1 of the
Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.

Fair Value Measurements of Non-Marketable Equity Securities

We measure certain financial instruments at fair value on a nonrecurring basis, consisting primarily of our no
marketable equity securities. These investments are accounted for under the measurement alternative meth
measurement alternative") and are measured at cost, less impairment, subject to upward and downward adj
resulting from observable price changes for identical or similar investments of the same issuer. These adjust
quantitative assessments of the fair value of our securities, which may require the use of unobservable input
are determined primarily based on a market approach as of the transaction date and involve the use of estim
best information available, which may include cash flow projections or other available market data.

Non-marketable equity securities are also evaluated for impairment, based on qualitative factors including th
companies' financial and liquidity position and access to capital resources, among others. When indicators o
exist, we prepare quantitative measurements of the fair value of our equity investments using a market appro
income approach, which requires judgment and the use of unobservable inputs, including discount rates, inv
revenues and costs, and comparable market data of private and public companies, among others.

When the quantitative remeasurements of fair value indicate an impairment exists, we write down the investr
current fair value.

We also have compensation arrangements with payouts based on realized returns from certain investments
performance fees. We record compensation expense based on the estimated payouts on an ongoing basis,
result in expense recognized before investment returns are realized and compensation is paid and may requ
unobservable inputs.

Property and Equipment

We assess the reasonableness of the useful lives of our property and equipment periodically as well as whe
changes occur, such as when there are changes to ongoing business operations, changes in the planned us
utilization of assets, or technological advancements, that could indicate a change in the period over which w

benefit from the assets.
Income Taxes
We are subject to income taxes in the U.S. and foreign jurisdictions. Significant judgment is required in evalu
uncertain tax positions and determining our provision for income taxes.
Recording an uncertain tax position involves various qualitative considerations, including evaluation of comp
and resolved tax exposures, applicability of tax laws, and likelihood of settlement. We evaluate uncertain tax
periodically, considering changes in facts and circumstances, such as new regulations or recent judicial opin
as the status of audit activities by taxing authorities. Although we believe we have adequately reserved for o
tax positions, no assurance can be given that the final tax outcome of these matters will not be different. To t
the final tax outcome of these matters is different than the amounts recorded, such differences will affect the
income taxes and the effective tax rate in the period in which such determination is made.
The provision for income taxes includes the effect of reserve provisions and changes to reserves as well as t
related net interest and penalties. In addition, we are subject to the continuous examination of our income ta
the IRS and other tax authorities which may assert assessments against us. We regularly assess the likeliho
outcomes resulting from these examinations and assessments to determine the adequacy of our provision fo
taxes.
Loss Contingencies
We are regularly subject to claims, lawsuits, regulatory and government investigations, other proceedings, a
consent orders involving competition, intellectual property, privacy, data security, tax and related compliance
employment, commercial disputes, content generated by our users, goods and services offered by advertise
publishers using our platforms, personal injury consumer protection, and other matters. Certain of these mat
speculative claims for substantial or indeterminate amounts of damages. We record a liability when we belie
probable that a loss has been incurred and the amount can be reasonably estimated. If we determine that a
reasonably possible and the loss or range of loss can be estimated, we disclose the possible loss in Note 10
to Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.
We evaluate, on a regular basis, developments in our legal matters that could affect the amount of liability th
been previously accrued, and the matters and related reasonably possible losses disclosed, and make adjus
changes to our disclosures. Significant judgment is required to determine both the likelihood and the estimat
loss related to such matters. Until the final resolution of such matters, there may be an exposure to loss in ex
amount recorded, and such amounts could be material.
Change in Accounting Estimate
In January 2023, we completed an assessment of the useful lives of our servers and network equipment res
change in the estimated useful life of our servers and certain network equipment to six years. This change in
estimate was effective beginning fiscal year 2023. For additional information, see Note 1 of the Notes to Con
Financial Statements included in Item 8 of this Annual Report on Form 10-K.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK
We are exposed to financial market risks, including changes in foreign currency exchange rates, interest rate
equity investment risks.
Foreign Currency Exchange Risk
We transact business globally in multiple currencies. International revenues, as well as costs and expenses
denominated in foreign currencies, expose us to the risk of fluctuations in foreign currency exchange rates a
dollar. As discussed below, we enter into derivative instruments to hedge foreign currency risk. Principal curr
included the Australian dollar, British pound, Canadian dollar, Euro, and Japanese yen. For the purpose of a
foreign currency exchange risk, we considered the historical trends in foreign currency exchange rates and d
it was reasonably possible that adverse changes in exchange rates of 10% could be experienced.
We use foreign currency forward and option contracts to offset the foreign exchange risk on assets and liabil
denominated in currencies other than the functional currency of the subsidiary. These forward and option co
but do not entirely eliminate, the effect of foreign currency exchange rate movements on our assets and liabi

foreign currency gains and losses on these assets and liabilities are recorded in OI&E, which are offset by th losses on the forward and option contracts.

If an adverse 10% foreign currency exchange rate change was applied to total monetary assets, liabilities, ar commitments denominated in currencies other than the functional currencies at the balance sheet date, it wo resulted in an adverse effect on income before income taxes of approximately $136 million and $503 million December 31, 2022 and 2023, respectively, after consideration of the effect of foreign exchange contracts in years ended December 31, 2022 and 2023.

We use foreign currency forward and option contracts, including collars (an option strategy comprised of a combination of purchased and written options) to protect forecasted U.S. dollar-equivalent earnings from cha foreign currency exchange rates. When the U.S. dollar strengthens, gains from foreign currency forward and contacts reduce the foreign currency losses related to our earnings. When the U.S. dollar weakens, losses fr currency forward and option contracts offset the foreign currency gains related to our earnings. These hedgi reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements. We designate contracts as cash flow hedges for accounting purposes. We reflect the gains or losses of foreign currency sp changes as a component of accumulated other comprehensive income (AOCI) and subsequently reclassify t revenues to offset the hedged exposures as they occur.

If the U.S. dollar weakened by 10% as of December 31, 2022 and 2023, the amount recorded in AOCI relate cash flow hedges before tax effect would have been approximately $1.3 billion and $1.5 billion lower as of D 2022 and 2023, respectively. The change in the value recorded in AOCI would be expected to offset a corres foreign currency change in forecasted hedged revenues when recognized.

We use foreign exchange forward contracts designated as net investment hedges to hedge the foreign curre related to investment in foreign subsidiaries. These forward contracts serve to offset the foreign currency tra from our foreign operations.

If the U.S. dollar weakened by 10%, the amount recorded in cumulative translation adjustment (CTA) within related to our net investment hedges before tax effect would have been approximately $903 million and $94 as of December 31, 2022 and 2023, respectively. The change in value recorded in CTA would be expected t corresponding foreign currency translation gain or loss from our investment in foreign subsidiaries.

Interest Rate Risk

Our Corporate Treasury investment strategy is to achieve a return that will allow us to preserve capital and n liquidity. We invest primarily in debt securities, including government bonds, corporate debt securities, mortg and asset-backed securities, money market and other funds, time deposits, and interest rate derivatives. By the amount of credit exposure to any one issuer. Our investments in both fixed rate and floating rate interest securities carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversel to a rise in interest rates, while floating rate securities may produce less income than predicted if interest rat Unrealized gains or losses on our marketable debt securities are primarily due to interest rate fluctuations as interest rates at the time of purchase. For certain fixed and variable rate debt securities, we have elected the option for which changes in fair value are recorded in OI&E. We measure securities for which we have not e value option at fair value with gains and losses recorded in AOCI until the securities are sold, less any expec losses.

We use value-at-risk (VaR) analysis to determine the potential effect of fluctuations in interest rates on the va marketable debt security portfolio. The VaR is the expected loss in fair value, for a given confidence interval, investment portfolio due to adverse movements in interest rates. We use a variance/covariance VaR model v confidence interval. The estimated one-day loss in fair value of marketable debt securities as of December 3 2023 are shown below (in millions):

	12-Month Average			
	As of December 31,		As of December 31,	
	2022	2023	2022	2023
Risk category - interest rate	$ 256	$ 296	$ 198	$ 271

Actual future gains and losses associated with our marketable debt security portfolio may differ materially fro
sensitivity analyses performed as of December 31, 2022 and 2023 due to the inherent limitations associated
the timing and amount of changes in interest rates and our actual exposures and positions. VaR analysis is n
represent actual losses but is used as a risk estimation.

Equity Investment Risk

Our marketable and non-marketable equity securities are subject to a wide variety of market-related risks tha
substantially reduce or increase the fair value of our holdings.

Our marketable equity securities are publicly traded stocks or funds and our non-marketable equity securitie
investments in privately held companies, some of which are in the startup or development stages.

We record marketable equity securities not accounted for under the equity method at fair value based on rea
determinable market values, of which publicly traded stocks and mutual funds are subject to market price vo
represent $5.2 billion and $6.0 billion of our investments as of December 31, 2022 and 2023, respectively. A
adverse price change of 10% on our December 31, 2023 balance would decrease the fair value of marketab
securities by $597 million. From time to time, we may enter into derivatives to hedge the market price risk on
marketable equity securities.

Our non-marketable equity securities not accounted for under the equity method are adjusted to fair value fo
observable transactions for identical or similar investments of the same issuer or impairment (referred to as t
measurement alternative). The fair value measured at the time of the observable transaction is not necessar
indication of the current fair value as of the balance sheet date. These investments, especially those that are
stages, are inherently risky because the technologies or products these companies have under developmen
in the early phases and may never materialize, and they may experience a decline in financial condition, whi
in a loss of a substantial part of our investment in these companies. Valuations of our equity investments in p
companies are inherently more complex due to the lack of readily available market data and observable tran
lower valuations could result in significant losses. In addition, global economic conditions could result in addi
The success of our investment in any private company is also typically dependent on the likelihood of our ab
appreciation in the value of investments through liquidity events such as public offerings, acquisitions, privat
market events. Changes in the valuation of non-marketable equity securities may not directly correlate with c
valuation of marketable equity securities. As of December 31, 2022 and 2023, the carrying value of our non-
equity securities, which were accounted for under the measurement alternative, was $28.5 billion and $28.8
respectively.

The carrying values of our equity method investments, which totaled approximately $1.7 billion as of Decemb
2022 and 2023, generally do not fluctuate based on market price changes. However, these investments cou
if the carrying value exceeds the fair value and is not expected to recover.

For additional information about our equity investments, see Note 1 and Note 3 of the Notes to Consolidated
Statements included in Item 8 of this Annual Report on Form 10-K.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Alphabet Inc.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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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 Dece and 2023, the related consolidated statements of income, comprehensive income, stockholders' equity and c each of the three years in the period ended December 31, 2023, and the related notes and financial stateme listed in the Index at Item 15 (collectively referred to as the "consolidated financial statements"). In our opinic consolidated financial statements present fairly, in all material respects, the financial position of the Compan December 31, 2022 and 2023, and the results of its operations and its cash flows for each of the three years 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 Boarc States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2023, based o established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organization Treadway Commission (2013 framework), and our report dated January 30, 2024 expressed an unqualified thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to exp opinion on the Company's financial statements based on our audits. We are a public accounting firm registe PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federa 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 perform the audit to obtain reasonable assurance about whether the financial statements are free of materia whether due to error or fraud. Our audits included performing procedures to assess the risks of material mis the financial statements, whether due to error or fraud, and performing procedures that respond to those risk procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the finar statements. Our audits also included evaluating the accounting principles used and significant estimates ma management, as well as evaluating the overall presentation of the financial statements. We believe that our 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 that was communicated or required to be communicated to the audit committee and that: (1) relates to accou disclosures that are material to the financial statements and (2) involved our especially challenging, subjectiv judgments. The communication of the critical audit matter does not alter in any way our opinion on the conso financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, pro separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Loss Contingencies

Description of the The Company is regularly subject to claims, lawsuits, regulatory and government investiga Matter proceedings, and consent orders involving competition, intellectual property, data privacy and securit 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. 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 We tested relevant controls over the identified risks associated with management's accounting for a
Addressed the disclosure of these matters. This included controls over management's assessment of the pro
Matter in Our incurrence of a loss and whether the loss or range of loss was reasonably estimable and the
Audit development of related disclosures.

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

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

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting assessment of the effectiveness of internal control over financial reporting included in the accompanying Ma Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Comp control over financial reporting based on our audit. We are a public accounting firm registered with the PCAO required to be independent with respect to the Company in accordance with the U.S. federal securities laws 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 p perform the audit to obtain reasonable assurance about whether effective internal control over financial repo maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk t weakness exists, testing and evaluating the design and operating effectiveness of internal control based on t risk, and performing such other procedures as we considered necessary in the circumstances. We believe th 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 reliability of financial reporting and the preparation of financial statements for external purposes in accordanc generally accepted accounting principles. A company's internal control over financial reporting includes thos procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly refle transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactio recorded as necessary to permit preparation of financial statements in accordance with generally accepted a principles, and that receipts and expenditures of the company are being made only in accordance with autho management and directors of the company; and (3) provide reasonable assurance regarding prevention or ti of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on t statements.

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

/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.

our Consolidated Balance Sheets. We determine the appropriate classification of our investments in marketa securities at the time of purchase and reevaluate such designation at each balance sheet date. We have cla accounted for our marketable debt securities as available-for-sale. After consideration of our risk versus rew as well as our liquidity requirements, we may sell these debt securities prior to their effective maturities. As w securities as available to support current operations, we classify highly liquid securities with maturities beyon as current assets under the caption marketable securities on the Consolidated Balance Sheets. We carry the at fair value, and report the unrealized gains and losses, net of taxes, as a component of stockholders' equit the changes in allowance for expected credit losses, which are recorded in OI&E. For certain marketable del have elected the fair value option, for which changes in fair value are recorded in OI&E. We determine any r or losses on the sale of marketable debt securities on a specific identification method, and we record such g losses as a component of OI&E.

Our investments in marketable equity securities are measured at fair value with the related gains and losses unrealized, recognized in OI&E. We classify our marketable equity securities subject to long-term lock-up res 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 secur through which we exercise significant influence but do not have control over the investee under the equity m non-marketable equity securities that we hold are primarily accounted for under the measurement alternative 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 o issuer. Adjustments are determined primarily based on a market approach as of the transaction date and are component of OI&E.

Non-marketable securities that do not have effective contractual maturity dates are classified as other non-cu 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 produc services offered. The term between invoicing and when payment is due is not significant. For certain product and customers, we require payment before the products or services are delivered to the customer. Additiona 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 accour receivable, and changes in such are classified as general and administrative expense in the Consolidated St Income. We assess collectibility by reviewing accounts receivable on a collective basis where similar charac and on an individual basis when we identify specific customers with known disputes or collectibility issues. In the amount of the allowance for credit losses, we consider historical collectibility based on past due status ar judgments about the creditworthiness of customers based on ongoing credit evaluations. We also consider c specific information, current market conditions, and reasonable and supportable forecasts of future economic

Other

Our financial instruments also include debt and equity investments in companies with which we also entered commercial arrangements at or near the same time. For these transactions, judgment is required in assessin

substance of the arrangements, including assessing whether the components of the arrangements should b
as separate transactions under the applicable GAAP, and determining the value of the components of the a
including the fair value of the investments. Additionally, if our investment in such companies becomes impa
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
estimated by considering available information relevant to the collectibility of the security and information ab
events, current conditions, and reasonable and supportable forecasts. Any credit loss is recorded as a charg
to exceed the amount of the unrealized loss. Unrealized losses other than the credit loss are recognized in A
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 unrea
position before recovery of its amortized cost basis, we will write down the security to its fair value and reco
corresponding charge as a component of OI&E.

For non-marketable equity securities, including equity method investments, we consider whether impairmen
indicators exist by evaluating the companies' financial and liquidity position and access to capital resources,
indicators. If the assessment indicates that the investment is impaired, we write down the investment to its fa
recording the corresponding charge as a component of OI&E. We prepare quantitative measurements of the
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. Cos
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 investmen
which we have other variable interests is considered a variable interest entity (VIE). We consolidate VIEs wh
primary beneficiary. We are the primary beneficiary of a VIE when we have the power to direct activities tha
significantly affect the economic performance of the VIE and have the obligation to absorb the majority of th

or benefits. If we are not the primary beneficiary in a VIE, we account for the investment or other variable int
in accordance with applicable GAAP.

Periodically, we assess whether any changes in our interest or relationship with the entity affect our determi
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 lan
centers, and related building improvements. Information technology assets include servers and network equ
Construction in progress is the construction or development of property and equipment that have not yet bee
service.

Property and equipment are stated at cost less accumulated depreciation. Depreciation is recorded using th
line method over the estimated useful lives of the assets, which we regularly evaluate. Land is not depreciat
depreciate buildings over periods of seven to 25 years. We depreciate information technology assets gener
period of six years for servers and network equipment. We depreciate leasehold improvements over the sho
remaining lease term or the estimated useful lives of the assets. Depreciation for buildings, information tech
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 ev
reporting units periodically, as well as when changes in our operating segments occur. For changes in repo
reassign goodwill using a relative fair value allocation approach. We test our goodwill for impairment at least
more frequently if events or changes in circumstances indicate that the asset may be impaired. Goodwill im
not material for the periods presented.

Leases

We determine if an arrangement is a lease at inception. Our lease agreements generally contain lease and n
components. Payments under our lease arrangements are primarily fixed. Non-lease components primarily i
payments for maintenance and utilities. We combine fixed payments for non-lease components with lease pa
account for them together as a single lease component which increases the amount of our lease assets and
Certain lease agreements contain variable payments, which are expensed as incurred and not included in th
assets and liabilities. These amounts primarily include payments affected by the Consumer Price Index, and
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 o
borrowing rate, because the interest rate implicit in our leases is not readily determinable. Our incremental b
is estimated to approximate the interest rate on a collateralized basis with similar terms and payments, and i
environments where the leased asset is located. Our lease terms include periods under options to extend or
lease when it is reasonably certain that we will exercise that option. We generally use the base, non-cancela
when determining the lease assets and liabilities. Lease assets also include any prepaid lease payments and
incentives.

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

Impairment of Long-Lived Assets

We review leases, property and equipment, and intangible assets, excluding goodwill, for impairment when e
changes in circumstances indicate the carrying amount may not be recoverable. The evaluation is performed
level of identifiable cash flows independent of other assets. We measure recoverability of these assets by co
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
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 t
payable or refundable for the current year and deferred tax assets and liabilities for the future tax consequen
that have been recognized in our financial statements or tax returns. We measure current and deferred tax a
liabilities based on provisions of enacted tax law. We evaluate the likelihood of future realization of our defer
based on all available evidence and establish a valuation allowance to reduce deferred tax assets when it is
than not that they will not be realized or release a valuation allowance to increase deferred tax assets when
than not that they will be realized. We have elected to account for the tax effects of the global intangible low
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 te
merits, the position will be sustained upon examination. The tax benefits of the position recognized in the fina
statements are then measured based on the largest amount of benefit that is greater than 50% likely to be re
settlement with a taxing authority. In addition, we recognize interest and penalties related to unrecognized ta
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
purchase price of the acquisitions to the assets acquired and liabilities assumed based on their estimated fai
except for revenue contracts acquired, which are recognized in accordance with our revenue recognition pol
excess of the purchase price over the fair values of identifiable assets and liabilities is recorded as goodwill.
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 excha for assets and liabilities, and average rates for the annual period derived from month-end exchange rates fo costs, and expenses. We record translation gains and losses in AOCI as a component of stockholders' equit net foreign exchange transaction gains and losses resulting from the conversion of the transaction currency 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 2023-07 "Segment Reporting (Topic 280):Improvements to Reportable Segment Disclosures" which expand interim disclosure requirements for reportable segments, primarily through enhanced disclosures about signi expenses. ASU 2023-07 is effective for our annual periods beginning January 1, 2024, and for interim perio January 1, 2025, with early adoption permitted. We are currently evaluating the potential effect that the upda will have on our financial statement disclosures.

In December 2023, the FASB issued ASU 2023-09 "Income Taxes (Topics 740): Improvements to Income T Disclosures" to expand the disclosure requirements for income taxes, specifically related to the rate reconcil income taxes paid. ASU 2023-09 is effective for our annual periods beginning January 1, 2025, with early ad permitted. We are currently evaluating the potential effect that the updated standard will have on our financia 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 202 or 2023.

The following table presents revenues disaggregated by geography, based on the addresses of our custome 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 L

Americas").
Revenue Backlog
As of December 31, 2023, we had $74.1 billion of remaining performance obligations (“revenue backlog”), pr
related to Google Cloud. Our revenue backlog represents commitments in customer contracts for future serv
not yet been recognized as revenue. The estimated revenue backlog and timing of revenue recognition for th
commitments is largely driven by our ability to deliver in accordance with relevant contract terms and when c
utilize services. We expect to recognize approximately half of the revenue backlog as revenues over the nex
with the remaining to be recognized thereafter. Revenue backlog includes related deferred revenue currently
well as amounts that will be invoiced in future periods, and excludes contracts with an original expected term
less and cancellable contracts.
Deferred Revenues
We record deferred revenues when cash payments are received or due in advance of our performance, inclu
amounts which are refundable. Deferred revenues primarily relate to Google Cloud and Google subscription
and devices. Total deferred revenue as of December 31, 2022 was $4.5 billion, of which $2.4 billion was rec
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 Le

and Level 2 in the fair value hierarchy, because we use quoted prices for identical assets in active markets o
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 w
quoted market prices to the extent available or alternative pricing sources and models utilizing market obser
determine fair value. For certain marketable debt securities, we have elected the fair value option for which c
value are recorded in OI&E. The fair value option was elected for these securities to align with the unrealized
losses from related derivative contracts.
The following tables summarize our cash, cash equivalents, and marketable securities measured at fair valu
recurring basis (in millions):
As of December 31, 2022
Gross Gross Cash and
Fair Value Adjusted Unrealized Unrealized Cash Marketable
Hierarchy Cost Gains Losses Fair Value Equivalents 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 Level 1
equity securities(2) 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 Level 2
asset-backed securities 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 m
2022 is included within other non-current assets.

As of December 31, 2023
Gross Gross Cash and
Fair Value Adjusted Unrealized Unrealized Cash Marketable
Hierarchy Cost Gains Losses Fair Value Equivalents 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
17,243 88 (634) 16,697 0 16,697
asset-backed securities Level 2
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 Level 2
asset-backed securities 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 bil
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 determinab
values. The carrying value of our non-marketable equity securities is adjusted to fair value upon observable t
identical or similar investments of the same issuer or impairment. Non-marketable equity securities that have
remeasured during the period based on observable transactions are classified within Level 2 or Level 3 in th
hierarchy because we estimate the value based on valuation methods, including option pricing models, mark
approach, and common stock equivalent method, which may include a combination of the observable transa
the transaction date and other unobservable inputs including volatility, expected time to exit, risk free rate, ar
and obligations of the securities we hold. These inputs significantly vary based on investment type. The fair v
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 wh
$13.7 billion were remeasured at fair value during the year ended December 31, 2023, and primarily classifie
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 invest
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
Unrealized Unrealized Unrealized
Fair Value Loss Fair Value Loss Fair Value 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
Unrealized Unrealized Unrealized
Fair Value Loss Fair Value Loss Fair Value 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 identific method.The following table summarizes gains and losses for debt securities, reflected as a component of OI 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) and losses, including impairments, are included as a component of OI&E in the Consolidated Statements of 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 b impairments) as of December 31, 2022 and $18.1 billion gains and $6.9 billion losses (including impairments 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 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 alterna $10.0 billion, $3.3 billion, and $1.8 billion of upward adjustments as of December 31, 2021, 2022, and 2023, $122 million, $3.0 billion, and $2.9 billion of downward adjustments (including impairments) as of December 2023, respectively.

In the table above, realized net gain (loss) on equity securities sold during the period reflects the difference b the sale proceeds and the carrying value of the equity securities at the beginning of the period or the purcha Cumulative net gains (losses) on equity securities sold during the period, which is summarized in the followin (in millions), represents the total net gains (losses) recognized after the initial purchase date of the equity se during the period. While these net gains (losses) may have been reflected in periods prior to the period of sa they are important supplemental information as they reflect the economic net gains (losses) on the securities the period. Cumulative net gains (losses) are calculated as the difference between the sale price and the init 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 approximately $1.5 billion and $1.7 billion, respectively. Our share of gains and losses, including impairment 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, investment in foreign subsidiaries will be adversely affected by foreign currency exchange rate fluctuations. 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 deriva primarily within Level 2 in the fair value hierarchy. We present our collar contracts (an option strategy compri combination of purchased and written options) at net fair values and present all other derivatives at gross fai 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 forecasted revenue transactions denominated in currencies other than the U.S. dollar. These contracts have 24 months or less.

Cash flow hedge amounts included in the assessment of hedge effectiveness are deferred in AOCI and subs reclassified to revenue when the hedged item is recognized in earnings. We exclude forward points and time our assessment of hedge effectiveness and amortize them on a straight-line basis over the life of the hedgin revenues. The difference between fair value changes of the excluded component and the amount amortized recorded in AOCI.

As of December 31, 2023, the net accumulated gain on our foreign currency cash flow hedges before tax eff $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 incluc assessment of hedge effectiveness are recognized in OI&E, along with the offsetting gains and losses of the hedged items. We exclude forward points from the assessment of hedge effectiveness and recognize chang excluded component in OI&E.

Net Investment Hedges

We designate foreign currency forward contracts as net investment hedges to hedge the foreign currency ris related to our investment in foreign subsidiaries. Net investment hedge amounts included in the assessment effectiveness are recognized in AOCI along with the foreign currency translation adjustment. We exclude for 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 intercompany transactions and other monetary assets or liabilities denominated in currencies other than the currency of a subsidiary. Gains and losses on these derivatives that are not designated as accounting hedge 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, co

prices, credit exposures, and to enhance investment returns. From time to time, we enter into derivatives to h
market price risk on certain of our marketable equity securities. Gains and losses arising from other derivativ
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 She
(2) Derivative liabilities are recorded as accrued expenses and other liabilities, current and non-current in the
Sheets.

The gains (losses) on derivatives in cash flow hedging and net investment hedging relationships recognized
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
Other income	Other income	Other income

Revenues (expense), net Revenues (expense), net Revenues (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 i
current assets with a corresponding liability. Cash and non-cash collateral pledged related to derivative instru
our collateral security arrangements are included in other current assets.

The gross amounts of derivative instruments subject to master netting arrangements with various counterpar
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
Net Amounts Cash and Non-
Gross Amounts Presented in Cash
Offset in the the Collateral
Gross Amounts Consolidated Consolidated Financial Received or
Recognized Balance Sheets Balance Sheets Instruments(1) 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
Net Amounts Cash and Non-
Gross Amounts Presented in Cash
Offset in the the Collateral

Gross Amounts Recognized	Consolidated Balance Sheets	Consolidated Balance Sheets	Financial Instruments(1)	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
netting agreements.

Note 4. Leases

We have entered into operating lease agreements primarily for data centers, land, and offices throughout the
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 a
weighted average discount rate of 3.1%. Future lease payments under operating leases as of December 31,
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 lo
future lease payments of $657 million and $3.3 billion that are not yet recorded on our Consolidated Balance
These leases will commence between 2024 and 2026 with non-cancelable lease terms between one and 25

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 ope
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
December 31, 2022 and 2023, assets that can only be used to settle obligations of these VIEs were $4.1 bill
billion, respectively, and the liabilities for which creditors only have recourse to the VIEs were $2.6 billion an
respectively. We may continue to fund ongoing operations of certain VIEs that are included within Other Bet

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 (RNC
periods. NCI and RNCI are included within additional paid-in capital. Net loss attributable to noncontrolling in
not material for any period presented and is included within the "other" component of OI&E. See Note 7 for f

on OI&E.

Unconsolidated Variable Interest Entities

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

We have determined that the governance structures of these entities do not allow us to direct the activities th significantly affect their economic performance. Therefore, we are not the primary beneficiary, and the result and financial position of these VIEs are not included in our consolidated financial statements. We account fo 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 unco VIEs were $2.8 billion and $2.7 billion, respectively, as of December 31, 2022 and $5.7 billion and $4.0 billio as of December 31, 2023. The difference between the maximum exposure and the carrying value relates pri 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 proc this program are used for general corporate purposes. We had no commercial paper outstanding as of Dece 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	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. S details.

The notes in the table above are fixed-rate senior unsecured obligations and generally rank equally with eac We may redeem the notes at any time in whole or in part at specified redemption prices. The effective intere 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 observa prices of identical instruments in less active markets and is categorized accordingly as Level 2 in the fair valu

As of December 31, 2023, the aggregate future principal payments for long-term debt, including finance leas 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 Ap and $6.0 billion expires in April 2028. The interest rates for all credit facilities are determined based on a forn certain market rates, as well as our progress toward the achievement of certain sustainability goals. No amo 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 3 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 lia Balance Sheets, as we provided bank guarantees (in lieu of a cash payment) for the fines. Amounts include 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):
Unrealized Gains
Foreign Currency (Losses) on Unrealized Gains
Translation Available-for-Sale (Losses) on Cash
Adjustments Investments 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
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
announced a reduction of our workforce. As a result, total employee severance and related charges recorde
year ended December 31, 2023 were $2.1 billion. Substantially all of the employees affected were no longer
headcount as of December 31, 2023.
In addition, we are taking actions to optimize our global office space. As a result, exit charges recorded durin
year ended December 31, 2023, were $1.8 billion as reflected in the table below. In addition to these exit cha
year ended December 31, 2023, we incurred $269 million in accelerated rent and accelerated depreciation,
included in the table below.
Severance and office space exit charges are included within our consolidated statements of income as follow
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 term
For segment reporting, the substantial majority of these charges are included within Alphabet-level activities
segment results.
For the year ended December 31, 2023, changes in liabilities resulting from the severance charges and rela
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 follow
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 billio
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 corpora
activities, we indemnify certain parties, including advertisers, Google Network partners, distribution partners,
Google Cloud offerings, lessors, and service providers with respect to certain matters. We have agreed to de
hold certain parties harmless against losses arising from a breach of representations or covenants, or out of
property infringement or other claims made against certain parties. Several of these agreements limit the tim
an indemnification claim can be made and the amount of the claim. In addition, we have entered into indemn
agreements with our officers and directors, and our bylaws contain similar indemnification obligations to our
It is not possible to make a reasonable estimate of the maximum potential amount under these indemnificati
agreements due to the unique facts and circumstances involved in each particular agreement. Additionally, t
we have made under such agreements have not had a material adverse effect on our results of operations, c
financial position. However, to the extent that valid indemnification claims arise in the future, future payments
be significant and could have a material adverse effect on our results of operations or cash flows in a particu
As of December 31, 2023, we did not have any material indemnification claims that were probable or reason
possible.

Legal Matters

We record a liability when we believe that it is probable that a loss has been incurred, and the amount can b
reasonably estimated. If we determine that a loss is reasonably possible and the loss or range of loss can be
disclose the reasonably possible loss. We evaluate developments in our legal matters that could affect the a
liability that has been previously accrued, and the matters and related reasonably possible losses disclosed,
adjustments as appropriate.

Certain outstanding matters seek speculative, substantial or indeterminate monetary amounts, substantial ch
our business practices and products, or structural remedies. Significant judgment is required to determine bo
likelihood of there being a loss and the estimated amount of a loss related to such matters, and we may be u
estimate the reasonably possible loss or range of losses. The outcomes of outstanding legal matters are inh
unpredictable and subject to significant uncertainties, and could, either individually or in aggregate, have a m
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 a
related complaints against us.

On June 27, 2017, the EC announced its decision that certain actions taken by Google regarding its display
ranking of shopping search results and ads infringed European competition law. The EC decision imposed a
($2.7 billion as of June 27, 2017) fine. On September 11, 2017, we appealed the EC decision to the General
September 27, 2017, we implemented product changes to bring shopping ads into compliance with the EC's
recognized a charge of $2.7 billion for the fine in the second quarter of 2017. On November 10, 2021, the Ge
rejected our appeal, and we subsequently filed an appeal with the European Court of Justice on January 20,

On July 18, 2018, the EC announced its decision that certain provisions in Google's Android-related distribut
agreements infringed European competition law. The EC decision imposed a €4.3 billion ($5.1 billion as of J
fine and directed the termination of the conduct at issue. On October 9, 2018, we appealed the EC decision,
October 29, 2018, we implemented changes to certain of our Android distribution practices. On September 1
General Court reduced the fine from €4.3 billion to €4.1 billion. We subsequently filed an appeal with the Eur
Justice. In 2018, we recognized a charge of $5.1 billion for the fine, which we reduced by $217 million in 202
On March 20, 2019, the EC announced its decision that certain contractual provisions in agreements that Go
with AdSense for Search partners infringed European competition law. The EC decision imposed a fine of €1
billion as of March 20, 2019) and directed actions related to AdSense for Search partners' agreements, whic
implemented prior to the decision. On June 4, 2019, we appealed the EC decision. We recognized a charge
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 r
regulatory authorities in the U.S., Europe, and other jurisdictions globally. Examples, for which given their na
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 D
of Columbia on October 20, 2020 alleging that Google violated U.S. antitrust laws relating to Search and Sea
advertising. The trial ended on November 16, 2023, and we expect a decision in 2024. Further, in June 2022
Australian Competition and Consumer Commission (ACCC) and the United Kingdom's Competition and Mar
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. Distric
for the Eastern District of Texas, alleging that Google violated U.S. antitrust laws as well as state deceptive t
laws relating to its advertising technology, and a trial is scheduled for March 2025. Additionally, on January 2
2023, the DOJ, along with a number of state Attorneys General, filed an antitrust complaint in the U.S. Distri
Court for the Eastern District of Virginia alleging that Google's digital advertising technology products violate
antitrust laws, and on April 17, 2023, a number of additional state Attorneys General joined the complaint. Th
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 issue
Statement of Objections (SO) informing Google of its preliminary view that Google violated European antitru
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 f
Northern District of California, alleging that Google's operation of Android and Google Play violated U.S. anti
laws and state antitrust and consumer protection laws. In September 2023, we reached a settlement in princ
with 50 state Attorneys General and three territories. The U.S. District Court subsequently vacated the trial d
with the states, and any final approval of the settlement is expected to occur in 2024. In May 2022, the EC a
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 a
store billing regulations.

We believe we have strong arguments against these claims and will defend ourselves vigorously. We contin
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
investigations and lawsuits ongoing in multiple jurisdictions. For example, there are ongoing investigations a
the U.S. and the EU, including those relating to our collection and use of location information and advertising
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 th

of our products, services, and technologies infringe others' intellectual property rights. Adverse results in the
may include awards of substantial monetary damages, costly royalty or licensing agreements, or orders prev
offering certain features, functionalities, products, or services. As a result, we may have to change our busin
and develop non-infringing products or technologies, which could result in a loss of revenues for us and othe
our business. In addition, the U.S. International Trade Commission (ITC) has increasingly become an import
litigate intellectual property disputes because an ultimate loss in an ITC action can result in a prohibition on i
infringing products into the U.S. Because the U.S. is an important market, a prohibition on importation could
adverse effect on us, including preventing us from importing many important products into the U.S. or neces
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
intellectual property infringement claims, which would increase our costs as a result of defending such claim
require that we pay significant damages if there were an adverse ruling in any such claims. In addition, our c
partners may discontinue the use of our products, services, and technologies, as a result of injunctions or ot
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 conse
involving competition, intellectual property, data security, tax and related compliance, labor and employment
disputes, content generated by our users, goods and services offered by advertisers or publishers using our
personal injury, consumer protection, and other matters. For example, in December 2023, a California jury d
verdict in Epic Games v. Google finding that Google violated antitrust laws related to Google Play's business
judge will determine remedies in 2024, and the range of potential remedies vary widely. We plan to appeal. V
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 co
in substantial fines and penalties, injunctive relief, ongoing monitoring and auditing obligations, changes to o
and services, alterations to our business models and operations, and collateral related civil litigation or other
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 pe
have been imposed upon us in connection with disputes regarding the termination of accounts, including tho
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. T
subject matter of non-income tax audits primarily arises from disputes on the tax treatment and tax rate appl
of our products and services in these jurisdictions and the tax treatment of certain employee benefits. We ac
income taxes that may result from examinations by, or any negotiated agreements with, these tax authoritie
probable and reasonably estimable. If we determine that a loss is reasonably possible and the loss or range
estimated, we disclose the reasonably possible loss. Due to the inherent complexity and uncertainty of these
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 Clas
capital stock. The rights of the holders of each class of our common and capital stock are identical, except w
voting. Each share of Class A common stock is entitled to one vote per share. Each share of Class B comm
entitled to 10 votes per share. Class C capital stock has no voting rights, except as required by applicable la
Class B common stock may be converted at any time at the option of the stockholder and automatically conv
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 $6 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 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 it stockholders, taking into account the economic cost and prevailing market conditions, including the relative t and volumes of the Class A and Class C shares. Repurchases are executed from time to time, subject to ge and market conditions and other investment opportunities, through open market purchases or privately nego transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration dat

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. Basi income per share is computed using the weighted-average number of shares outstanding during the period. income per share is computed using the weighted-average number of shares and the effect of potentially dilu outstanding during the period. Potentially dilutive securities consist of RSUs and other contingently issuable dilutive effect of outstanding RSUs and other contingently issuable shares is reflected in diluted earnings per application of the treasury stock method. The computation of the diluted net income per share of Class A sto the conversion of Class B stock, while the diluted net income per share of Class B stock does not assume th of those shares.

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

In the years ended December 31, 2021, 2022, and 2023, the net income per share amounts are the same fo Class A, Class B, and Class C stock because the holders of each class are entitled to equal per share divide distributions in liquidation in accordance with the Amended and Restated Certificate of Incorporation of Alpha

The following table sets forth the computation of basic and diluted net income per share of Class A, Class B, 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")
Other Bets stock-based plans. Under our stock plans, RSUs and other types of awards may be granted. Und
Alphabet 2021 Stock Plan, an RSU award is an agreement to issue shares of our Class C stock at the time t
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 unde
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
$22.1 billion, including amounts associated with awards we expect to settle in Alphabet stock of $15.0 billion
and $21.7 billion, respectively.
During the year ended December 31, 2023, total SBC expense includes $432 million associated with workfo
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
are reflected in the provision for income taxes in the Consolidated Statements of Income, of $3.1 billion, $3.9
$4.5 billion, respectively.
For the years ended December 31, 2021, 2022, and 2023, tax benefit realized related to awards vested or e
during the period was $5.9 billion, $4.7 billion, and $5.6 billion, respectively. These amounts do not include t
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,
millions, except per share amounts):
Unvested Restricted Stock Units
Weighted-
Average
Number of Grant-Date
Shares 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 an
was $97.46 and $127.22, respectively. Total fair value of RSUs, as of their respective vesting dates, during t
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 R
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
capitalization and amortization of R&D expenses starting in 2022 as required by the 2017 Tax Cuts and Jobs
In 2023, the IRS issued a rule change allowing taxpayers to temporarily apply the regulations in effect prior t
related to U.S. federal foreign tax credits as well as a separate rule change with interim guidance on the cap
amortization of R&D expenses. A cumulative one-time adjustment applicable to the prior period for these tax
was recorded in 2023.

Deferred Income Taxes

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of asse
liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant compor

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 developmen capitalized and amortized which resulted in substantially higher cash taxes starting in 2022 with an equal am benefit.

As of December 31, 2023, our federal, state, and foreign net operating loss carryforwards for income tax pur 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 t 2025 and the state net operating loss carryforwards will begin to expire in 2029. It is more likely than not that the net operating loss carryforwards will not be realized; therefore, we have recorded a valuation allowance a The net operating loss carryforwards are subject to various annual limitations under the tax laws of the differ jurisdictions.

As of December 31, 2023, our Federal and California research and development credit carryforwards for inc purposes were approximately $600 million and $6.3 billion, respectively. If not utilized, the Federal R&D cred expire in 2037 and the California R&D credit can be carried over indefinitely. We believe the majority of the f 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 appro $1.0 billion and will begin to expire in 2029. We use the flow-through method of accounting for investment ta 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 asset federal net operating losses, certain state net operating losses and tax credits, net deferred tax assets relatin companies, and certain foreign net operating losses that we believe are not likely to be realized. We continu the remaining valuation allowance quarterly, and if future evidence allows for a partial or full release of the va 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 evalu uncertain tax positions and determining our provision for income taxes. The total amount of gross unrecogni benefits was $5.2 billion, $7.1 billion, and $9.4 billion as of December 31, 2021, 2022, and 2023, respectivel 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 pr for income taxes, respectively.
We file income tax returns in the U.S. federal jurisdiction and in many state and foreign jurisdictions. Our two tax jurisdictions are the U.S. federal and Ireland. We are subject to the continuous examination of our incom by the IRS and other tax authorities. The IRS is currently examining our 2016 through 2021 tax returns. We received tax assessments in multiple foreign jurisdictions asserting transfer pricing adjustments or permaner establishment. We continue to defend such claims as presented.
The tax years 2016 through 2022 remain subject to examination by the appropriate governmental agencies tax purposes. There are other ongoing audits in various other jurisdictions that are not material to our financi
We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the of our provision for income taxes. We continue to monitor the progress of ongoing discussions with tax autho 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 examina However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in our tax au resolved in a manner not consistent with management's expectations, we could be required to adjust our pro income taxes in the period such resolutions occur. Although the timing of resolution, settlement, and closure certain, it is reasonably possible that our unrecognized tax benefits from certain U.S. federal, state, and non positions could decrease by approximately $700 million in the next 12 months. Positions that may be resolve 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, Go Play, Search, and YouTube. Google Services generates revenues primarily from advertising; fees received f consumer subscription-based products such as YouTube TV, YouTube Music and Premium, and NFL Sunda Ticket; the sale of apps and in-app purchases and devices.
- Google Cloud includes infrastructure and platform services, collaboration tools, and other services for ente customers. Google Cloud generates revenues primarily from consumption-based fees and subscriptions rec 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 fro 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 ac and devices, as well as certain operating expenses are directly attributable to our segments. Due to the integ of Alphabet, other costs and expenses, such as technical infrastructure and office facilities, are managed ce consolidated level. These costs, including the associated depreciation and impairment, are allocated to oper as a service cost generally based on usage, headcount, or revenue.
Reflecting DeepMind's increasing collaboration with Google Services, Google Cloud, and Other Bets, beginn first quarter of 2023 DeepMind is reported as part of Alphabet-level activities instead of within Other Bets. Ad beginning in the first quarter of 2023, we updated and simplified our cost allocation methodologies to provide

leaders with increased transparency for decision-making. Prior periods have been recast to conform to the c
presentation.

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

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

2023, our disclosure controls and procedures are designed at a reasonable assurance level and are effectiv
reasonable assurance that information we are required to disclose in reports that we file or submit under the
is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and f
such information is accumulated and communicated to our management, including our chief executive office
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
December 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal co
financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial rep
defined in Rule 13a-15(f) of the Exchange Act. Our management conducted an evaluation of the effectivenes
internal control over financial reporting based on the framework in Internal Control—Integrated Framework is
Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this eval
management concluded that our internal control over financial reporting was effective as of December 31, 2
Management reviewed the results of its assessment with our Audit and Compliance Committee. The effectiv
internal control over financial reporting as of December 31, 2023 has been audited by Ernst & Young LLP, a
registered public accounting firm, as stated in its report which is included in Item 8 of this Annual Report on

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any contr
procedures, no matter how well designed and operated, can provide only reasonable assurance of achievin
control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that the
constraints and that management is required to apply its judgment in evaluating the benefits of possible con
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,
or terminated a "Rule 10b5-1 trading arrangement" (as defined in Item 408 of Regulation S-K of the Exchan

• John Hennessy, Chair of the Board of Directors, through the John L. Hennessy & Andrea J. Hennessy Re
Trust, adopted a new trading plan on November 1, 2023 (with the first trade under the new plan scheduled f
February 12, 2024). The trading plan will be effective until March 12, 2025 to sell 6,664 shares of Class C C
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 1
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
November 30, 2023 (with the first trade under the new plan scheduled for March 8, 2024). The trading plan
effective until March 8, 2025 to sell all of the (net) shares of up to 82,900 (gross) Class C Capital Stock issu
upon the vesting of her Alphabet 2021 Performance Stock Units, as adjusted based on performance (net sh
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 Ex
Act) adopted, modified or terminated during the fiscal quarter ended December 31, 2023 by our directors an
officers. Each of the Rule 10b5-1 trading arrangements are in accordance with our Policy Against Insider Tr
actual sale transactions made pursuant to such trading arrangements will be disclosed publicly in Section 1
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 S
Service pursuant to Russian encryption control requirements, which must be complied with prior to the impo

items. The information provided pursuant to Section 13(r) of the Exchange Act in Part II, Item 5 of our Quarte
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 C
Governance" in our Proxy Statement for the 2024 Annual Meeting of Stockholders to be filed with the SEC w
of the fiscal year ended December 31, 2023 (2024 Proxy Statement) and is incorporated herein by reference
information required by this item regarding delinquent filers pursuant to Item 405 of Regulation S-K will be in
the caption "Delinquent Section 16(a) Reports" in the 2024 Proxy Statement and is incorporated herein by re

ITEM 11. EXECUTIVE COMPENSATION

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

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

The information required by this item will be included under the captions "Common Stock Ownership of Certa
Beneficial Owners and Management" and "Equity Compensation Plan Information" in the 2024 Proxy Statem
incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENC

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 B
—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 Acco
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

Reports of Independent Registered Public Accounting Firm 48
Financial Statements:
Consolidated Balance Sheets 51
Consolidated Statements of Income 52
Consolidated Statements of Comprehensive Income 53
Consolidated Statements of Stockholders' Equity 54
Consolidated Statements of Cash Flows 55
Notes to Consolidated Financial Statements 56

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 D
31, 2021, 2022, and 2023 (in millions):

Balance at Balance at

Beginning of Year Additions Usage 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 sal
revenues.
All other schedules have been omitted because they are not required, not applicable, or the required informa
otherwise included.
3. Exhibits
Incorporated by reference herein
Exhibit
Number Description Form Date
2.01 Agreement and Plan of Merger, dated October Current Report on Form 8-K October 2, 2015
2, 2015, by and among Google Inc., the (File No. 001-37580)
Registrant and Maple Technologies Inc.
3.01 Amended and Restated Certificate of Current Report on Form 8-K June 3, 2022
Incorporation of the Registrant (File No. 001-37580)
3.02 Amended and Restated Bylaws of the Current Report on Form 8-K October 25, 2022
Registrant, dated October 19, 2022 (File No. 001-37580)
4.01 Specimen Class A Common Stock certificate Current Report on Form 8-K October 2, 2015
(File No. 001-37580)
4.02 Specimen Class C Capital Stock certificate Current Report on Form 8-K October 2, 2015
(File No. 001-37580)
4.03 Alphabet Inc. Deferred Compensation Plan Current Report on Form 8-K October 2, 2015
(File No. 001-37580)
4.04 Transfer Restriction Agreement, dated October Current Report on Form 8-K October 2, 2015
2, 2015, between the Registrant and Larry (File No. 001-37580)
Page and certain of his affiliates
4.05 Transfer Restriction Agreement, dated October Current Report on Form 8-K October 2, 2015
2, 2015, between the Registrant and Sergey (File No. 001-37580)
Brin and certain of his affiliates
4.06 Joinder Agreement, dated December 31, 2021, Annual Report on Form 10-K February 2, 2022
among the Registrant, Sergey Brin and certain (File No. 001-37580)
of his affiliates

Incorporated by reference herein
Exhibit
Number Description Form Date
4.07 Transfer Restriction Agreement, dated October Current Report on Form 8-K October 2, 2015
2, 2015, between the Registrant and Eric E. (File No. 001-37580)
Schmidt and certain of its affiliates
4.08 Class C Undertaking, dated October 2, 2015, Current Report on Form 8-K October 2, 2015
executed by the Registrant (File No. 001-37580)
4.09 Indenture, dated February 12, 2016, between Registration Statement on Form February 12, 2016
the Registrant and The Bank of New York S-3
Mellon Trust Company, N.A., as Trustee (File No. 333-209510)
4.10 Registrant Registration Rights Agreement Registration Statement on Form February 12, 2016
dated December 14, 2015 S-3
(File No. 333-209518)

4.11 First Supplemental Indenture, dated April 27, Current Report on Form 8-K April 27, 2016
2016, between the Registrant and The Bank of (File No. 001-37580)
New York Mellon Trust Company, N.A., as
trustee
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 Current Report on Form 8-K August 9, 2016
2026 (File No. 001-37580)
4.14 Form of Global Note representing the Current Report on Form 8-K August 5, 2020
Registrant’s 0.450% notes due 2025 (File No. 001-37580)
4.15 Form of Global Note representing the Current Report on Form 8-K August 5, 2020
Registrant’s 0.800% notes due 2027 (File No. 001-37580)
4.16 Form of Global Note representing the Current Report on Form 8-K August 5, 2020
Registrant’s 1.100% notes due 2030 (File No. 001-37580)
4.17 Form of Global Note representing the Current Report on Form 8-K August 5, 2020
Registrant’s 1.900% notes due 2040 (File No. 001-37580)
4.18 Form of Global Note representing the Current Report on Form 8-K August 5, 2020
Registrant’s 2.050% notes due 2050 (File No. 001-37580)
4.19 Form of Global Note representing the Current Report on Form 8-K August 5, 2020
Registrant’s 2.250% notes due 2060 (File No. 001-37580)
4.20 Description of Registrant’s Securities Annual Report on Form 10-K February 3, 2023
(File No. 001-37580)
10.01 u Form of Indemnification Agreement entered Current Report on Form 8-K October 2, 2015
into between the Registrant, its affiliates and (File No. 001-37580)
its directors and officers
10.02 u * Form of Offer Letter for Directors
10.03 u Offer Letter, dated March 20, 2015, between Current Report on Form 8-K March 26, 2015
Ruth Porat and Google Inc., as assumed by (File No. 001-36380)
the Registrant on October 2, 2015
10.04 u Compensation Plan Agreement, dated October Current Report on Form 8-K October 2, 2015
2, 2015, between Google Inc. and the (File No. 001-37580)
Registrant
10.05 u Director Arrangements Agreement, dated Current Report on Form 8-K October 2, 2015
October 2, 2015, between Google Inc. and the (File No. 001-37580)
Registrant
10.06 u Alphabet Inc. Deferred Compensation Plan Current Report on Form 8-K October 2, 2015
(File No. 001-37580)
10.07 u Alphabet Inc. Amended and Restated 2012 Current Report on Form 8-K June 5, 2020
Stock Plan (File No. 001-37580)
10.07.1 u Alphabet Inc. Amended and Restated 2012 Annual Report on Form 10-K February 4, 2020
Stock Plan - Form of Alphabet Restricted (File No. 001-37580)
Stock Unit Agreement
10.07.2 u Alphabet Inc. 2012 Stock Plan - Form of Quarterly Report on Form 10-Q November 3, 2016
Alphabet Restricted Stock Unit Agreement (File No. 001-37580)

Incorporated by reference herein
Exhibit
Number Description Form Date
10.08 u Alphabet Inc. Amended and Restated 2021 Current Report on Form 8-K June 3, 2022

Stock Plan (file No. 001-37580)
10.08.1 u Alphabet Inc. Amended and Restated 2021 Quarterly Report on Form 10-Q July 28, 2021
Stock Plan - Form of Alphabet Restricted (file No. 001-37580)
Stock Unit Agreement
10.08.2 u Alphabet Inc. Amended and Restated 2021 Quarterly Report on Form 10-Q July 26, 2023
Stock Plan - Form of Alphabet Restricted (File No. 001-37580)
Stock Unit Agreement
10.08.3 u Alphabet Inc. Amended and Restated 2021 Annual Report on Form 10-K February 3, 2023
Stock Plan - Form of Alphabet 2022 CEO (File No. 001-37580)
Performance Stock Unit Agreement
10.08.4 u Alphabet Inc. Amended and Restated 2021 Annual Report on Form 10-K February 4, 2020
Stock Plan - Form of Alphabet 2022 Non-CEO (File No. 001-37580)
Performance Stock Unit Agreement
10.08.5 u Alphabet Inc. Amended and Restated 2021 Quarterly Report on Form 10-Q July 26, 2023
Stock Plan - Form of Alphabet 2023 Non-CEO (File No. 001-37580)
Performance Stock Unit Agreement
10.09 u Alphabet Inc. Company Bonus Plan, as Annual Report on Form 10-K February 2, 2023
amended (File No. 001-37350)
21.01 * Subsidiaries of the Registrant
23.01 * Consent of Independent Registered Public
Accounting Firm
24.01 * Power of Attorney (incorporated by reference
to the signature page of this Annual Report on
Form 10-K)
31.01 * Certification of Chief Executive Officer
pursuant to Exchange Act Rules 13a-14(a) and
15d-14(a), as adopted pursuant to Section 302
of the Sarbanes-Oxley Act of 2002
31.02 * Certification of Chief Financial Officer pursuant
to Exchange Act Rules 13a-14(a) and 15d-
14(a), as adopted pursuant to Section 302 of
the Sarbanes-Oxley Act of 2002
32.01 ‡ Certifications of Chief Executive Officer and
Chief Financial Officer pursuant to 18 U.S.C.
Section 1350, as adopted pursuant to Section
906 of the Sarbanes-Oxley Act of 2002
97.01 * Clawback Policy
101.INS * Inline XBRL Instance Document - the instance
document does not appear in the Interactive
Data File because its XBRL tags are
embedded within the Inline XBRL document
101.SCH * Inline XBRL Taxonomy Extension Schema
Document
101.CAL * Inline XBRL Taxonomy Extension Calculation
Linkbase Document
101.DEF * Inline XBRL Taxonomy Extension Definition
Linkbase Document
101.LAB * Inline XBRL Taxonomy Extension Label
Linkbase Document

Incorporated by reference herein
Exhibit
Number Description Form Date
101.PRE * Inline XBRL Taxonomy Extension Presentation
Linkbase Document
104 Cover Page Interactive Data File (embedded
within the Inline XBRL document and
contained in Exhibit 101)

u Indicates management compensatory plan, contract, or arrangement.
* Filed herewith.
‡ Furnished herewith.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant h
caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly autho
Date: January 30, 2024
ALPHABET INC.
By: /S/ SUNDAR PICHAI
Sundar Pichai
Chief Executive Officer
(Principal Executive Officer of the Registrant)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitut
appoints Sundar Pichai and Ruth M. Porat, jointly and severally, his or her attorney-in-fact, with the power of
for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to
with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commi
ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do
done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has
signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indi

Signature Title Date
Chief Executive Officer and Director (Principal
/S/ SUNDAR PICHAI Executive Officer) January 30, 2024
Sundar Pichai
President and Chief Investment Officer; Chief
/S/ RUTH M. PORAT Financial Officer (Principal Financial Officer) January 30, 2024
Ruth M. Porat
Vice President, Corporate Controller and
/S/ AMIE THUENER O'TOOLE Principal Accounting Officer January 30, 2024
Amie Thuener O'Toole
/S/ FRANCES H. ARNOLD Director January 30, 2024
Frances H. Arnold
/S/ SERGEY BRIN Co-Founder and Director January 30, 2024

Sergey Brin
/S/ R. MARTIN CHAVEZ Director January 30, 2024
R. Martin Chávez
/S/ L. JOHN DOERR Director January 30, 2024
L. John Doerr
/S/ ROGER W. FERGUSON JR. Director January 30, 2024
Roger W. Ferguson Jr.
/S/ JOHN L. HENNESSY Director, Chair January 30, 2024
John L. Hennessy
/S/ LARRY PAGE Co-Founder and Director January 30, 2024
Larry Page
/S/ K. RAM SHRIRAM Director January 30, 2024
K. Ram Shriram
/S/ ROBIN L. WASHINGTON Director January 30, 2024
Robin L. Washington