Item 8. ***Financial Statements and Supplementary Data***

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders
Amazon.com, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Amazon.com, Inc. (the Company) as of December 31, 2021 and 2020, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 3, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

Critical Audit Matter

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

	Income Taxes
Description of the Matter	As discussed in Notes 1 and 9 of the consolidated financial statements, the Company is subject to income taxes in the U.S. and numerous foreign jurisdictions and during the ordinary course of business, there are many tax positions for which the ultimate tax determination is uncertain. As a result, significant judgment is required in evaluating the Company's tax positions and determining its provision for income taxes. The Company uses significant judgment in (1) determining whether a tax position's technical merits are more likely than not to be sustained and (2) measuring the amount of tax benefit that qualifies for recognition. Auditing the recognition and measurement of the Company's tax contingencies was challenging because the evaluation of whether a tax position is more likely than not to be sustained and the measurement of the benefit of various tax positions can be complex and involves significant auditor judgment. Management's evaluation of tax positions may involve the use of valuation methodologies and assumptions, including forecasts of income or loss, and is based on interpretations of tax laws and legal rulings.
How We Addressed the Matter in Our Audit	We tested controls over the Company's process to assess the technical merits of its tax contingencies, including controls over the assessment as to whether a tax position is more likely than not to be sustained; measurement of the benefit of its tax positions, including the selection of valuation methodologies and assumptions; determination of forecasts of income or loss; and development of the related disclosures. We involved our international tax, transfer pricing, and research and development tax professionals in assessing the technical merits of certain of the Company's tax positions. Depending on the nature of the specific tax position and, as applicable, developments with the relevant tax authorities relating thereto, our procedures included obtaining and examining the Company's analysis including the Company's correspondence with such tax authorities and evaluating the underlying facts upon which the tax positions are based. We used our knowledge of and experience with international, transfer pricing, and other income tax laws by the relevant income tax authorities to evaluate the Company's accounting for its tax contingencies. We evaluated developments in the applicable regulatory environments to assess potential effects on the Company's positions, including recent decisions in relevant court cases. We analyzed the appropriateness of the Company's valuation methodologies and assumptions, including the determination of forecasts of income or loss, and the accuracy of the Company's calculations and data used to determine the amount of tax benefits to recognize. We have also evaluated the Company's income tax disclosures in relation to these matters.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1996.
Seattle, Washington
February 3, 2022

AMAZON.COM, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Year Ended December 31,		
	2019	2020	2021
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH, BEGINNING OF PERIOD	$ 32,173	$ 36,410	$ 42,377
OPERATING ACTIVITIES:			
Net income	11,588	21,331	33,364
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization of property and equipment and capitalized content costs, operating lease assets, and other	21,789	25,251	34,296
Stock-based compensation	6,864	9,208	12,757
Other operating expense (income), net	164	(71)	137
Other expense (income), net	(249)	(2,582)	(14,306)
Deferred income taxes	796	(554)	(310)
Changes in operating assets and liabilities:			
Inventories	(3,278)	(2,849)	(9,487)
Accounts receivable, net and other	(7,681)	(8,169)	(18,163)
Accounts payable	8,193	17,480	3,602
Accrued expenses and other	(1,383)	5,754	2,123
Unearned revenue	1,711	1,265	2,314
Net cash provided by (used in) operating activities	38,514	66,064	46,327
INVESTING ACTIVITIES:			
Purchases of property and equipment	(16,861)	(40,140)	(61,053)
Proceeds from property and equipment sales and incentives	4,172	5,096	5,657
Acquisitions, net of cash acquired, and other	(2,461)	(2,325)	(1,985)
Sales and maturities of marketable securities	22,681	50,237	59,384
Purchases of marketable securities	(31,812)	(72,479)	(60,157)
Net cash provided by (used in) investing activities	(24,281)	(59,611)	(58,154)
FINANCING ACTIVITIES:			
Proceeds from short-term debt, and other	1,402	6,796	7,956
Repayments of short-term debt, and other	(1,518)	(6,177)	(7,753)
Proceeds from long-term debt	871	10,525	19,003
Repayments of long-term debt	(1,166)	(1,553)	(1,590)
Principal repayments of finance leases	(9,628)	(10,642)	(11,163)
Principal repayments of financing obligations	(27)	(53)	(162)
Net cash provided by (used in) financing activities	(10,066)	(1,104)	6,291
Foreign currency effect on cash, cash equivalents, and restricted cash	70	618	(364)
Net increase (decrease) in cash, cash equivalents, and restricted cash	4,237	5,967	(5,900)
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH, END OF PERIOD	$ 36,410	$ 42,377	$ 36,477

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per share data)

	Year Ended December 31,		
	2019	2020	2021
Net product sales	$ 160,408	$ 215,915	$ 241,787
Net service sales	120,114	170,149	228,035
Total net sales	280,522	386,064	469,822
Operating expenses:			
Cost of sales	165,536	233,307	272,344
Fulfillment	40,232	58,517	75,111
Technology and content	35,931	42,740	56,052
Marketing	18,878	22,008	32,551
General and administrative	5,203	6,668	8,823
Other operating expense (income), net	201	(75)	62
Total operating expenses	265,981	363,165	444,943
Operating income	14,541	22,899	24,879
Interest income	832	555	448
Interest expense	(1,600)	(1,647)	(1,809)
Other income (expense), net	203	2,371	14,633
Total non-operating income (expense)	(565)	1,279	13,272
Income before income taxes	13,976	24,178	38,151
Provision for income taxes	(2,374)	(2,863)	(4,791)
Equity-method investment activity, net of tax	(14)	16	4
Net income	$ 11,588	$ 21,331	$ 33,364
Basic earnings per share	$ 23.46	$ 42.64	$ 65.96
Diluted earnings per share	$ 23.01	$ 41.83	$ 64.81
Weighted-average shares used in computation of earnings per share:			
Basic	494	500	506
Diluted	504	510	515

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	Year Ended December 31,		
	2019	**2020**	**2021**
Net income	$ 11,588	$ 21,331	$ 33,364
Other comprehensive income (loss):			
Net change in foreign currency translation adjustments:			
Foreign currency translation adjustments, net of tax of $(5), $(36), and $47	78	561	(819)
Reclassification adjustment for foreign currency translation included in “Other operating expense (income), net,” net of tax of $29, $0, and $0	(108)	—	—
Net foreign currency translation adjustments	(30)	561	(819)
Net change in unrealized gains (losses) on available-for-sale debt securities:			
Unrealized gains (losses), net of tax of $(12), $(83), and $72	83	273	(343)
Reclassification adjustment for losses (gains) included in “Other income (expense), net,” net of tax of $0, $8, and $13	(4)	(28)	(34)
Net unrealized gains (losses) on available-for-sale debt securities	79	245	(377)
Total other comprehensive income (loss)	49	806	(1,196)
Comprehensive income	$ 11,637	$ 22,137	$ 32,168

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.
CONSOLIDATED BALANCE SHEETS
(in millions, except per share data)

	December 31,	
	2020	**2021**
ASSETS		
Current assets:		
Cash and cash equivalents	$ 42,122	$ 36,220
Marketable securities	42,274	59,829
Inventories	23,795	32,640
Accounts receivable, net and other	24,542	32,891
Total current assets	132,733	161,580
Property and equipment, net	113,114	160,281
Operating leases	37,553	56,082
Goodwill	15,017	15,371
Other assets	22,778	27,235
Total assets	$ 321,195	$ 420,549
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 72,539	$ 78,664
Accrued expenses and other	44,138	51,775
Unearned revenue	9,708	11,827
Total current liabilities	126,385	142,266
Long-term lease liabilities	52,573	67,651
Long-term debt	31,816	48,744
Other long-term liabilities	17,017	23,643
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock, $0.01 par value:		
Authorized shares — 500		
Issued and outstanding shares — none	—	—
Common stock, $0.01 par value:		
Authorized shares — 5,000		
Issued shares — 527 and 532		
Outstanding shares — 503 and 509	5	5
Treasury stock, at cost	(1,837)	(1,837)
Additional paid-in capital	42,865	55,538
Accumulated other comprehensive income (loss)	(180)	(1,376)
Retained earnings	52,551	85,915
Total stockholders' equity	93,404	138,245
Total liabilities and stockholders' equity	$ 321,195	$ 420,549

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Common Stock						
	Shares	**Amount**	**Treasury Stock**	**Additional Paid-In Capital**	**Accumulated Other Comprehensive Income (Loss)**	**Retained Earnings**	**Total Stockholders' Equity**
Balance as of January 1, 2019	491	$ 5	$ (1,837)	$ 26,791	$ (1,035)	$ 19,625	$ 43,549
Cumulative effect of change in accounting principle related to leases	—	—	—	—	—	7	7
Net income	—	—	—	—	—	11,588	11,588
Other comprehensive income (loss)	—	—	—	—	49	—	49
Stock-based compensation and issuance of employee benefit plan stock	7	—	—	6,867	—	—	6,867
Balance as of December 31, 2019	498	5	(1,837)	33,658	(986)	31,220	62,060
Net income	—	—	—	—	—	21,331	21,331
Other comprehensive income (loss)	—	—	—	—	806	—	806
Stock-based compensation and issuance of employee benefit plan stock	5	—	—	9,207	—	—	9,207
Balance as of December 31, 2020	503	5	(1,837)	42,865	(180)	52,551	93,404
Net income	—	—	—	—	—	33,364	33,364
Other comprehensive income (loss)	—	—	—	—	(1,196)	—	(1,196)
Stock-based compensation and issuance of employee benefit plan stock	6	—	—	12,673	—	—	12,673
Balance as of December 31, 2021	509	$ 5	$ (1,837)	$ 55,538	$ (1,376)	$ 85,915	$ 138,245

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — DESCRIPTION OF BUSINESS, ACCOUNTING POLICIES, AND SUPPLEMENTAL DISCLOSURES

Description of Business

We seek to be Earth's most customer-centric company. In each of our segments, we serve our primary customer sets, consisting of consumers, sellers, developers, enterprises, content creators, advertisers, and employees. We serve consumers through our online and physical stores and focus on selection, price, and convenience. We offer programs that enable sellers to grow their businesses, sell their products in our stores, and fulfill orders through us, and programs that allow authors, musicians, filmmakers, Twitch streamers, skill and app developers, and others to publish and sell content. We serve developers and enterprises of all sizes through AWS, which offers a broad set of on-demand technology services, including compute, storage, database, analytics, and machine learning, and other services. We also manufacture and sell electronic devices. In addition, we provide advertising services to sellers, vendors, publishers, authors, and others, through programs such as sponsored ads, display, and video advertising.

We have organized our operations into three segments: North America, International, and AWS. See "Note 10 — Segment Information."

Principles of Consolidation

The consolidated financial statements include the accounts of Amazon.com, Inc. and its consolidated entities (collectively, the "Company"), consisting of its wholly-owned subsidiaries and those entities in which we have a variable interest and of which we are the primary beneficiary, including certain entities in India and certain entities that support our seller lending financing activities. Intercompany balances and transactions between consolidated entities are eliminated.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosures of contingent liabilities in the consolidated financial statements and accompanying notes. Estimates are used for, but not limited to, income taxes, useful lives of equipment, commitments and contingencies, valuation of acquired intangibles and goodwill, stock-based compensation forfeiture rates, vendor funding, inventory valuation, collectability of receivables, and valuation and impairment of investments. Actual results could differ materially from these estimates. For example, in Q4 2021 we completed a useful life study for our servers and networking equipment and are increasing the useful lives from four years to five years for servers and from five years to six years for networking equipment in January 2022, which, based on servers and networking equipment that are included in "Property and equipment, net" as of December 31, 2021, will have an anticipated impact to our 2022 operating income of $3.1 billion. We had previously increased the useful life of our servers from three years to four years in January 2020.

Supplemental Cash Flow Information

The following table shows supplemental cash flow information (in millions):

	Year Ended December 31,		
	2019	2020	2021
SUPPLEMENTAL CASH FLOW INFORMATION:			
Cash paid for interest on debt	$ 875	$ 916	$ 1,098
Cash paid for operating leases	$ 3,361	$ 4,475	$ 6,722
Cash paid for interest on finance leases	$ 647	$ 612	$ 521
Cash paid for interest on financing obligations	$ 39	$ 102	$ 153
Cash paid for income taxes, net of refunds	$ 881	$ 1,713	$ 3,688
Assets acquired under operating leases	$ 7,870	$ 16,217	$ 25,369
Property and equipment acquired under finance leases	$ 13,723	$ 11,588	$ 7,061
Property and equipment acquired under build-to-suit lease arrangements	$ 1,362	$ 2,267	$ 5,616

Earnings Per Share

Basic earnings per share is calculated using our weighted-average outstanding common shares. Diluted earnings per share is calculated using our weighted-average outstanding common shares including the dilutive effect of stock awards as determined under the treasury stock method. In periods when we have a net loss, stock awards are excluded from our calculation of earnings per share as their inclusion would have an antidilutive effect.

The following table shows the calculation of diluted shares (in millions):

	Year Ended December 31,		
	2019	2020	2021
Shares used in computation of basic earnings per share	494	500	506
Total dilutive effect of outstanding stock awards	10	10	9
Shares used in computation of diluted earnings per share	504	510	515

Revenue

Revenue is measured based on the amount of consideration that we expect to receive, reduced by estimates for return allowances, promotional discounts, and rebates. Revenue also excludes any amounts collected on behalf of third parties, including sales and indirect taxes. In arrangements where we have multiple performance obligations, the transaction price is allocated to each performance obligation using the relative stand-alone selling price. We generally determine stand-alone selling prices based on the prices charged to customers or using expected cost plus a margin.

A description of our principal revenue generating activities is as follows:

Retail sales - We offer consumer products through our online and physical stores. Revenue is recognized when control of the goods is transferred to the customer, which generally occurs upon our delivery to a third-party carrier or, in the case of an Amazon delivery, to the customer.

Third-party seller services - We offer programs that enable sellers to sell their products in our stores, and fulfill orders through us. We are not the seller of record in these transactions. The commissions and any related fulfillment and shipping fees we earn from these arrangements are recognized when the services are rendered, which generally occurs upon delivery of the related products to a third-party carrier or, in the case of an Amazon delivery, to the customer.

Subscription services - Our subscription sales include fees associated with Amazon Prime memberships and access to content including digital video, audiobooks, digital music, e-books, and other non-AWS subscription services. Prime memberships provide our customers with access to an evolving suite of benefits that represent a single stand-ready obligation. Subscriptions are paid for at the time of or in advance of delivering the services. Revenue from such arrangements is recognized over the subscription period.

Advertising services - We provide advertising services to sellers, vendors, publishers, authors, and others, through programs such as sponsored ads, display, and video advertising. Revenue is recognized as ads are delivered based on the number of clicks or impressions.

AWS - Our AWS arrangements include global sales of compute, storage, database, and other services. Revenue is allocated to services using stand-alone selling prices and is primarily recognized when the customer uses these services, based on the quantity of services rendered, such as compute or storage capacity delivered on-demand. Certain services, including compute and database, are also offered as a fixed quantity over a specified term, for which revenue is recognized ratably. Sales commissions we pay in connection with contracts that exceed one year are capitalized and amortized over the contract term.

Other - Other revenue includes sales related to various other service offerings, which are recognized as or when those services are performed.

Return Allowances

Return allowances, which reduce revenue and cost of sales, are estimated using historical experience. Liabilities for return allowances are included in “Accrued expenses and other” and were $712 million, $859 million, and $1.0 billion as of December 31, 2019, 2020, and 2021. Additions to the allowance were $2.5 billion, $3.5 billion, and $5.1 billion and deductions from the allowance were $2.5 billion, $3.6 billion, and $4.9 billion in 2019, 2020, and 2021. Included in “Inventories” on our consolidated balance sheets are assets totaling $629 million, $852 million, and $882 million as of December 31, 2019, 2020, and 2021, for the rights to recover products from customers associated with our liabilities for return allowances.

Cost of Sales

Cost of sales primarily consists of the purchase price of consumer products, inbound and outbound shipping costs, including costs related to sortation and delivery centers and where we are the transportation service provider, and digital media content costs where we record revenue gross, including video and music. Shipping costs to receive products from our suppliers are included in our inventory, and recognized as cost of sales upon sale of products to our customers. Payment processing and related transaction costs, including those associated with seller transactions, are classified in “Fulfillment” on our consolidated statements of operations.

Vendor Agreements

We have agreements with our vendors to receive consideration primarily for cooperative marketing efforts, promotions, incentives, and volume rebates. We generally consider these amounts received from vendors to be a reduction of the prices we pay for their goods, including property and equipment, or services, and are recorded as a reduction of the cost of inventory, cost of services, or cost of property and equipment. Volume rebates typically depend on reaching minimum purchase thresholds. We evaluate the likelihood of reaching purchase thresholds using past experience and current year forecasts. When volume rebates can be reasonably estimated, we record a portion of the rebate as we make progress towards the purchase threshold.

Fulfillment

Fulfillment costs primarily consist of those costs incurred in operating and staffing our North America and International segments’ fulfillment centers, physical stores, and customer service centers, including facilities and equipment expenses, such as depreciation and amortization, and rent; costs attributable to buying, receiving, inspecting, and warehousing inventories; picking, packaging, and preparing customer orders for shipment; payment processing and related transaction costs, including costs associated with our guarantee for certain seller transactions; responding to inquiries from customers; and supply chain management for our manufactured electronic devices. Fulfillment costs also include amounts paid to third parties that assist us in fulfillment and customer service operations.

Technology and Content

Technology and content costs include payroll and related expenses for employees involved in the research and development of new and existing products and services, development, design, and maintenance of our stores, curation and display of products and services made available in our online stores, and infrastructure costs. Infrastructure costs include servers, networking equipment, and data center related depreciation and amortization, rent, utilities, and other expenses necessary to support AWS and other Amazon businesses. Collectively, these costs reflect the investments we make in order to offer a wide variety of products and services to our customers. Technology and content costs are generally expensed as incurred.

Marketing

Marketing costs primarily consist of advertising and payroll and related expenses for personnel engaged in marketing and selling activities, including sales commissions related to AWS. We pay commissions to third parties when their customer referrals result in sales. We also participate in cooperative advertising arrangements with certain of our vendors, and other third parties.

Advertising and other promotional costs to market our products and services are expensed as incurred and were $11.0 billion, $10.9 billion, and $16.9 billion in 2019, 2020, and 2021.

General and Administrative

General and administrative expenses primarily consist of costs for corporate functions, including payroll and related expenses; facilities and equipment expenses, such as depreciation and amortization expense and rent; and professional fees.

Stock-Based Compensation

Compensation cost for all equity-classified stock awards expected to vest is measured at fair value on the date of grant and recognized over the service period. The fair value of restricted stock units is determined based on the number of shares granted and the quoted price of our common stock. Such value is recognized as expense over the service period, net of estimated forfeitures, using the accelerated method. The estimated number of stock awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. We consider many factors when estimating expected forfeitures, including historical forfeiture experience and employee level. Additionally, stock-based compensation includes stock appreciation rights that are expected to settle in cash. These liability-classified awards are remeasured to fair value at the end of each reporting period until settlement or expiration.

Other Operating Expense (Income), Net

Other operating expense (income), net, consists primarily of a benefit from accelerated vesting of warrants to acquire equity of a vendor in Q4 2020, offset by a lease impairment in Q2 2020 and the amortization of intangible assets.

Other Income (Expense), Net

Other income (expense), net, is as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
Marketable equity securities valuation gains (losses)	$ 7	$ 525	$ 11,526
Equity warrant valuation gains (losses)	11	1,527	1,315
Upward adjustments relating to equity investments in private companies	328	342	1,866
Foreign currency gains (losses)	(20)	35	(55)
Other, net	(123)	(58)	(19)
Total other income (expense), net	203	2,371	14,633

Included in other income (expense), net in 2021 is a marketable equity securities valuation gain of $11.8 billion from our equity investment in Rivian Automotive, Inc. (“Rivian”). Our investment in Rivian’s preferred stock was accounted for at cost, with adjustments for observable changes in prices or impairments, prior to Rivian’s initial public offering in November 2021, which resulted in the conversion of our preferred stock to Class A common stock. As of December 31, 2021, we held 158 million shares of Rivian’s Class A common stock, representing an approximate 18% ownership interest, and an approximate 16% voting interest. We determined that we have the ability to exercise significant influence over Rivian through our equity investment, our commercial arrangement for the purchase of electric vehicles, and one of our employees serving on Rivian’s board of directors. We elected the fair value option to account for our equity investment in Rivian, and the 2021 valuation gain is primarily comprised of the gain recognized upon the initial public offering, and also includes subsequent changes in fair value through December 31, 2021. As of December 31, 2021, our equity investment in Rivian had a fair value of $15.6 billion, which reflects a discount for lack of marketability until Q1 2022 of approximately $800 million due to regulatory sales restrictions, and is included in “Marketable securities” on our consolidated balance sheets.

Summarized financial information of Rivian as disclosed in its SEC filings is as follows (in millions):

	Year Ended December 31, 2019	Year Ended December 31, 2020	Nine Months Ended September 30, 2021
Revenues	$ —	$ —	$ 1
Gross profit	—	—	(82)
Loss from operations	(409)	(1,021)	(1,766)
Net loss	(426)	(1,018)	(2,227)

	December 31, 2020	September 30, 2021
Total current assets	$ 3,016	$ 5,345
Total assets	4,602	8,488
Total current liabilities	611	1,047
Total liabilities	742	4,201
Contingently redeemable convertible preferred stock	5,244	7,894

Income Taxes

Income tax expense includes U.S. (federal and state) and foreign income taxes. Certain foreign subsidiary earnings and losses are subject to current U.S. taxation and the subsequent repatriation of those earnings is not subject to tax in the U.S. We intend to invest substantially all of our foreign subsidiary earnings, as well as our capital in our foreign subsidiaries, indefinitely outside of the U.S. in those jurisdictions in which we would incur significant, additional costs upon repatriation of such amounts.

Deferred income tax balances reflect the effects of temporary differences between the carrying amounts of assets and liabilities and their tax bases, as well as net operating loss and tax credit carryforwards, and are stated at enacted tax rates expected to be in effect when taxes are actually paid or recovered.

Deferred tax assets represent amounts available to reduce income taxes payable in future periods. Deferred tax assets are evaluated for future realization and reduced by a valuation allowance to the extent we believe they will not be realized. We consider many factors when assessing the likelihood of future realization of our deferred tax assets, including our recent cumulative loss experience and expectations of future earnings, capital gains and investment in such jurisdiction, the carry-forward periods available to us for tax reporting purposes, and other relevant factors.

We utilize a two-step approach to recognizing and measuring uncertain income tax positions (tax contingencies). The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not the position will be sustained on audit, including resolution of related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement. We consider many factors when evaluating our tax positions and estimating our tax benefits, which may require periodic adjustments and which may not accurately forecast actual outcomes. We include interest and penalties related to our tax contingencies in income tax expense.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. To increase the comparability of fair value measures, the following hierarchy prioritizes the inputs to valuation methodologies used to measure fair value:

Level 1 — Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 — Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 — Valuations based on unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

We measure the fair value of money market funds and certain marketable equity securities based on quoted prices in active markets for identical assets or liabilities. Other marketable securities were valued either based on recent trades of securities in inactive markets or based on quoted market prices of similar instruments and other significant inputs derived from or corroborated by observable market data. We did not hold significant amounts of marketable securities categorized as Level 3 assets as of December 31, 2020 and 2021.

We hold equity warrants giving us the right to acquire stock of other companies. As of December 31, 2020 and 2021, these warrants had a fair value of $3.0 billion and $3.4 billion, and are recorded within “Other assets” on our consolidated balance sheets with gains and losses recognized in “Other income (expense), net” on our consolidated statements of operations. These warrants are primarily classified as Level 2 assets.

Cash and Cash Equivalents

We classify all highly liquid instruments with an original maturity of three months or less as cash equivalents.

Inventories

Inventories, consisting of products available for sale, are primarily accounted for using the first-in, first-out method, and are valued at the lower of cost and net realizable value. This valuation requires us to make judgments, based on currently available information, about the likely method of disposition, such as through sales to individual customers, returns to product vendors, or liquidations, and expected recoverable values of each disposition category. The inventory valuation allowance, representing a write-down of inventory, was $2.3 billion and $2.6 billion as of December 31, 2020 and 2021.

We provide Fulfillment by Amazon services in connection with certain of our sellers' programs. Third-party sellers maintain ownership of their inventory, regardless of whether fulfillment is provided by us or the third-party sellers, and therefore these products are not included in our inventories.

We also purchase electronic device components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. During the normal course of business, in order to manage manufacturing lead times and help ensure adequate supply, we enter into agreements with contract manufacturers and suppliers for certain electronic device components. A portion of our reported purchase commitments arising from these agreements consists of firm, non-cancellable commitments. These commitments are based on forecasted customer demand. If we reduce these commitments, we may incur additional costs. We also have firm, non-cancellable commitments for certain products offered in our Whole Foods Market stores.

Accounts Receivable, Net and Other

Included in "Accounts receivable, net and other" on our consolidated balance sheets are amounts primarily related to customers, vendors, and sellers. As of December 31, 2020 and 2021, customer receivables, net, were $14.8 billion and $20.2 billion, vendor receivables, net, were $4.8 billion and $5.3 billion, and seller receivables, net, were $381 million and $1.0 billion. Seller receivables are amounts due from sellers related to our seller lending program, which provides funding to sellers primarily to procure inventory.

We estimate losses on receivables based on expected losses, including our historical experience of actual losses. Receivables are considered impaired and written-off when it is probable that all contractual payments due will not be collected in accordance with the terms of the agreement. The allowance for doubtful accounts was $718 million, $1.1 billion, and $1.1 billion as of December 31, 2019, 2020, and 2021. Additions to the allowance were $1.0 billion, $1.4 billion, and $1.0 billion, and deductions to the allowance were $793 million, $1.0 billion, and $1.1 billion in 2019, 2020, and 2021.

Software Development Costs

We incur software development costs related to products to be sold, leased, or marketed to external users, internal-use software, and our websites. Software development costs capitalized were not significant for the years presented. All other costs, including those related to design or maintenance, are expensed as incurred.

Property and Equipment, Net

Property and equipment are stated at cost less accumulated depreciation and amortization. Incentives that we receive from property and equipment vendors are recorded as a reduction to our costs. Property includes buildings and land that we own, along with property we have acquired under build-to-suit lease arrangements when we have control over the building during the construction period and finance lease arrangements. Equipment includes assets such as servers and networking equipment, heavy equipment, and other fulfillment equipment. Depreciation and amortization is recorded on a straight-line basis over the estimated useful lives of the assets (generally the lesser of 40 years or the remaining life of the underlying building, three years prior to January 1, 2020 and four years subsequent to January 1, 2020 for our servers, five years for networking equipment, ten years for heavy equipment, and three to ten years for other fulfillment equipment). Depreciation and amortization expense is classified within the corresponding operating expense categories on our consolidated statements of operations.

Leases

We categorize leases with contractual terms longer than twelve months as either operating or finance. Finance leases are generally those leases that allow us to substantially utilize or pay for the entire asset over its estimated life. Assets acquired under finance leases are recorded in "Property and equipment, net." All other leases are categorized as operating leases. Our leases generally have terms that range from one to ten years for equipment and one to twenty years for property.

Certain lease contracts include obligations to pay for other services, such as operations and maintenance. For leases of property, we account for these other services as a component of the lease. For substantially all other leases, the services are accounted for separately and we allocate payments to the lease and other services components based on estimated stand-alone prices.

Lease liabilities are recognized at the present value of the fixed lease payments, reduced by landlord incentives using a discount rate based on similarly secured borrowings available to us. Lease assets are recognized based on the initial present value of the fixed lease payments, reduced by landlord incentives, plus any direct costs from executing the leases or lease prepayments reclassified from "Other assets" upon lease commencement. Leasehold improvements are capitalized at cost and amortized over the lesser of their expected useful life or the lease term.

When we have the option to extend the lease term, terminate the lease before the contractual expiration date, or purchase the leased asset, and it is reasonably certain that we will exercise the option, we consider the option in determining the classification and measurement of the lease. Our leases may include variable payments based on measures that include changes in price indices, market interest rates, or the level of sales at a physical store, which are expensed as incurred.

Costs associated with operating lease assets are recognized on a straight-line basis within operating expenses over the term of the lease. Finance lease assets are amortized within operating expenses on a straight-line basis over the shorter of the estimated useful lives of the assets or, in the instance where title does not transfer at the end of the lease term, the lease term. The interest component of a finance lease is included in interest expense and recognized using the effective interest method over the lease term.

We establish assets and liabilities for the present value of estimated future costs to retire long-lived assets at the termination or expiration of a lease. Such assets are amortized over the lease period into operating expense, and the recorded liabilities are accreted to the future value of the estimated retirement costs.

Financing Obligations

We record assets and liabilities for estimated construction costs under build-to-suit lease arrangements when we have control over the building during the construction period. If we continue to control the building after the construction period, the arrangement is classified as a financing obligation instead of a lease. The building is depreciated over the shorter of its useful life or the term of the obligation.

If we do not control the building after the construction period ends, the assets and liabilities for construction costs are derecognized, and we classify the lease as operating.

Goodwill and Indefinite-Lived Intangible Assets

We evaluate goodwill and indefinite-lived intangible assets for impairment annually or more frequently when an event occurs or circumstances change that indicate the carrying value may not be recoverable. We may elect to utilize a qualitative assessment to evaluate whether it is more likely than not that the fair value of a reporting unit or indefinite-lived intangible asset is less than its carrying value and if so, we perform a quantitative test. We compare the carrying value of each reporting unit and indefinite-lived intangible asset to its estimated fair value and if the fair value is determined to be less than the carrying value, we recognize an impairment loss for the difference. We estimate the fair value of the reporting units using discounted cash flows. Forecasts of future cash flows are based on our best estimate of future net sales and operating expenses, based primarily on expected category expansion, pricing, market segment share, and general economic conditions.

We completed the required annual impairment test of goodwill for all reporting units and indefinite-lived intangible assets as of April 1, 2021, resulting in no impairments. The fair value of our reporting units substantially exceeded their carrying value. There were no events that caused us to update our annual impairment test. See “Note 5 — Acquisitions, Goodwill, and Acquired Intangible Assets.”

Other Assets

Included in “Other assets” on our consolidated balance sheets are amounts primarily related to video and music content, net of accumulated amortization; acquired intangible assets, net of accumulated amortization; equity warrant assets; long-term deferred tax assets; and certain equity investments.

Digital Video and Music Content

We obtain video content, inclusive of episodic television and movies, and music content for customers through licensing agreements that have a wide range of licensing provisions including both fixed and variable payment schedules. When the license fee for a specific video or music title is determinable or reasonably estimable and the content is available to us, we recognize an asset and a corresponding liability for the amounts owed. We reduce the liability as payments are made and we amortize the asset to “Cost of sales” on an accelerated basis, based on estimated usage or viewing patterns, or on a straight-line basis. If the licensing fee is not determinable or reasonably estimable, no asset or liability is recorded and licensing costs are expensed as incurred. We also develop original video content for which the production costs are capitalized and amortized to “Cost of sales” predominantly on an accelerated basis that follows the viewing patterns associated with the content. The weighted average remaining life of our capitalized video content is 2.6 years.

Our produced and licensed video content is primarily monetized together as a unit, referred to as a film group, in each major geography where we offer Amazon Prime memberships. These film groups are evaluated for impairment whenever an event occurs or circumstances change indicating the fair value is less than the carrying value. The total capitalized costs of video, which is primarily released content, and music as of December 31, 2020 and 2021 were $6.8 billion and $10.7 billion.

Total video and music expense was $11.0 billion and $13.0 billion for the year ended December 31, 2020 and 2021. Total video and music expense includes licensing and production costs associated with content offered within Amazon Prime memberships, and costs associated with digital subscriptions and sold or rented content.

Investments

We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term fixed income securities. Such investments are included in “Cash and cash equivalents” or “Marketable securities” on the accompanying consolidated balance sheets.

Marketable fixed income securities are classified as available-for-sale and reported at fair value with unrealized gains and losses included in “Accumulated other comprehensive income (loss).” Each reporting period, we evaluate whether declines in fair value below carrying value are due to expected credit losses, as well as our ability and intent to hold the investment until a forecasted recovery occurs. Expected credit losses are recorded as an allowance through “Other income (expense), net” on our consolidated statements of operations.

Equity investments in private companies for which we do not have the ability to exercise significant influence are accounted for at cost, with adjustments for observable changes in prices or impairments, and are classified as “Other assets” on our consolidated balance sheets with adjustments recognized in “Other income (expense), net” on our consolidated statements of operations. Each reporting period, we perform a qualitative assessment to evaluate whether the investment is impaired. Our assessment includes a review of recent operating results and trends, recent sales/acquisitions of the investee securities, and other publicly available data. If the investment is impaired, we write it down to its estimated fair value. As of December 31, 2020 and 2021, these investments had a carrying value of $2.7 billion and $603 million.

Equity investments are accounted for using the equity method of accounting, or at fair value if we elect the fair value option, if the investment gives us the ability to exercise significant influence, but not control, over an investee. Equity-method investments are included within “Other assets” on our consolidated balance sheets. Our share of the earnings or losses as reported by equity-method investees, amortization of basis differences, related gains or losses, and impairments, if any, are recognized in “Equity-method investment activity, net of tax” on our consolidated statements of operations. Each reporting period, we evaluate whether declines in fair value below carrying value are other-than-temporary and if so, we write down the investment to its estimated fair value.

Equity investments that have readily determinable fair values, including investments for which we have elected the fair value option, are included in “Marketable securities” on our consolidated balance sheets and measured at fair value with changes recognized in “Other income (expense), net” on our consolidated statements of operations.

Long-Lived Assets

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets might not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or any other significant adverse change that would indicate that the carrying amount of an asset or group of assets may not be recoverable.

For long-lived assets used in operations, including lease assets, impairment losses are only recorded if the asset’s carrying amount is not recoverable through its undiscounted, probability-weighted future cash flows. We measure the impairment loss based on the difference between the carrying amount and estimated fair value. Long-lived assets are considered held for sale when certain criteria are met, including when management has committed to a plan to sell the asset, the asset is available for sale in its immediate condition, and the sale is probable within one year of the reporting date. Assets held for sale are reported at the lower of cost or fair value less costs to sell. Assets held for sale were not significant as of December 31, 2020 and 2021.

Accrued Expenses and Other

Included in “Accrued expenses and other” on our consolidated balance sheets are liabilities primarily related to leases and asset retirement obligations, tax-related liabilities, payroll and related expenses, unredeemed gift cards, customer liabilities, marketing liabilities, current debt, acquired digital media content, and other operating expenses.

As of December 31, 2020 and 2021, our liabilities for payroll related expenses were $7.6 billion and $9.1 billion and our liabilities for unredeemed gift cards were $4.7 billion and $5.2 billion. We reduce the liability for a gift card when redeemed by a customer. The portion of gift cards that we do not expect to be redeemed is recognized based on customer usage patterns.

Unearned Revenue

Unearned revenue is recorded when payments are received or due in advance of performing our service obligations and is recognized over the service period. Unearned revenue primarily relates to prepayments of AWS services and Amazon Prime memberships. Our total unearned revenue as of December 31, 2020 was $11.6 billion, of which $9.3 billion was recognized as revenue during the year ended December 31, 2021 and our total unearned revenue as of December 31, 2021 was $14.0 billion. Included in "Other long-term liabilities" on our consolidated balance sheets was $1.9 billion and $2.2 billion of unearned revenue as of December 31, 2020 and 2021.

Additionally, we have performance obligations, primarily related to AWS, associated with commitments in customer contracts for future services that have not yet been recognized in our financial statements. For contracts with original terms that exceed one year, those commitments not yet recognized were $80.4 billion as of December 31, 2021. The weighted average remaining life of our long-term contracts is 3.8 years. However, the amount and timing of revenue recognition is largely driven by customer usage, which can extend beyond the original contractual term.

Other Long-Term Liabilities

Included in "Other long-term liabilities" on our consolidated balance sheets are liabilities primarily related to financing obligations, asset retirement obligations, deferred tax liabilities, unearned revenue, tax contingencies, and digital video and music content.

Foreign Currency

We have internationally-focused stores for which the net sales generated, as well as most of the related expenses directly incurred from those operations, are denominated in local functional currencies. The functional currency of our subsidiaries that either operate or support these stores is generally the same as the local currency. Assets and liabilities of these subsidiaries are translated into U.S. Dollars at period-end foreign exchange rates, and revenues and expenses are translated at average rates prevailing throughout the period. Translation adjustments are included in "Accumulated other comprehensive income (loss)," a separate component of stockholders' equity, and in the "Foreign currency effect on cash, cash equivalents, and restricted cash," on our consolidated statements of cash flows. Transaction gains and losses including intercompany transactions denominated in a currency other than the functional currency of the entity involved are included in "Other income (expense), net" on our consolidated statements of operations. In connection with the settlement and remeasurement of intercompany balances, we recorded gains (losses) of $(95) million, $(118) million, and $19 million in 2019, 2020, and 2021.

Note 2 — FINANCIAL INSTRUMENTS

Cash, Cash Equivalents, Restricted Cash, and Marketable Securities

As of December 31, 2020 and 2021, our cash, cash equivalents, restricted cash, and marketable securities primarily consisted of cash, AAA-rated money market funds, U.S. and foreign government and agency securities, other investment grade securities, and marketable equity securities. Cash equivalents and marketable securities are recorded at fair value. The following table summarizes, by major security type, our cash, cash equivalents, restricted cash, and marketable securities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy (in millions):

	December 31, 2020			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Estimated Fair Value
Cash	$ 10,063	$ —	$ —	$ 10,063
Level 1 securities:				
Money market funds	27,430	—	—	27,430
Equity securities (1)				617
Level 2 securities:				
Foreign government and agency securities	5,130	1	—	5,131
U.S. government and agency securities	7,410	30	(1)	7,439
Corporate debt securities	29,684	305	(1)	29,988
Asset-backed securities	3,206	32	(3)	3,235
Other fixed income securities	701	9	—	710
Equity securities (1)				40
	$ 83,624	$ 377	$ (5)	$ 84,653
Less: Restricted cash, cash equivalents, and marketable securities (2)				(257)
Total cash, cash equivalents, and marketable securities				$ 84,396

	December 31, 2021			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Estimated Fair Value
Cash	$ 10,942	$ —	$ —	$ 10,942
Level 1 securities:				
Money market funds	20,312	—	—	20,312
Equity securities (1)				1,646
Level 2 securities:				
Foreign government and agency securities	181	—	—	181
U.S. government and agency securities	4,316	9	(25)	4,300
Corporate debt securities	35,810	75	(121)	35,764
Asset-backed securities	6,763	7	(32)	6,738
Other fixed income securities	688	2	(4)	686
Equity securities (1)(3)				15,740
	$ 79,012	$ 93	$ (182)	$ 96,309
Less: Restricted cash, cash equivalents, and marketable securities (2)				(260)
Total cash, cash equivalents, and marketable securities				$ 96,049

(1) The related unrealized gain (loss) recorded in “Other income (expense), net” was $4 million, $448 million, and $11.6 billion for the years ended December 31, 2019, 2020, and 2021.

(2) We are required to pledge or otherwise restrict a portion of our cash, cash equivalents, and marketable fixed income securities primarily as collateral for real estate, amounts due to third-party sellers in certain jurisdictions, debt, and standby and trade letters of credit. We classify cash, cash equivalents, and marketable fixed income securities with use restrictions of less than twelve months as “Accounts receivable, net and other” and of twelve months or longer as non-current “Other assets” on our consolidated balance sheets. See “Note 7 — Commitments and Contingencies.”

(3) Our equity investment in Rivian of $15.6 billion reflects a discount for lack of marketability until Q1 2022 due to regulatory sales restrictions. In addition, we are subject to contractual sales restrictions until Q2 2022.

The following table summarizes gross gains and gross losses realized on sales of marketable fixed income securities (in millions):

	Year Ended December 31,		
	2019	2020	2021
Realized gains	$ 11	$ 92	$ 85
Realized losses	7	56	38

The following table summarizes the remaining contractual maturities of our cash equivalents and marketable fixed income securities as of December 31, 2021 (in millions):

	Amortized Cost	Estimated Fair Value
Due within one year	$ 39,070	$ 39,075
Due after one year through five years	22,790	22,712
Due after five years through ten years	2,124	2,121
Due after ten years	4,086	4,073
Total	$ 68,070	$ 67,981

Actual maturities may differ from the contractual maturities because borrowers may have certain prepayment conditions.

Consolidated Statements of Cash Flows Reconciliation

The following table provides a reconciliation of the amount of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets to the total of the same such amounts shown in the consolidated statements of cash flows (in millions):

	December 31, 2020	December 31, 2021
Cash and cash equivalents	$ 42,122	$ 36,220
Restricted cash included in accounts receivable, net and other	233	242
Restricted cash included in other assets	22	15
Total cash, cash equivalents, and restricted cash shown in the consolidated statements of cash flows	$ 42,377	$ 36,477

Note 3 — PROPERTY AND EQUIPMENT

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

	December 31,	
	2020	2021
Gross property and equipment (1):		
Land and buildings	$ 57,324	$ 81,104
Equipment	97,224	128,683
Other assets	3,772	4,118
Construction in progress	15,228	24,895
Gross property and equipment	173,548	238,800
Total accumulated depreciation and amortization (1)	60,434	78,519
Total property and equipment, net	$ 113,114	$ 160,281

(1) Includes the original cost and accumulated depreciation of fully-depreciated assets.

Depreciation and amortization expense on property and equipment was $15.1 billion, $16.2 billion, and $22.9 billion which includes amortization of property and equipment acquired under finance leases of $10.1 billion, $8.5 billion, and $9.9 billion for 2019, 2020, and 2021.

Note 4 — LEASES

We have entered into non-cancellable operating and finance leases for fulfillment, delivery, office, physical store, data center, and sortation facilities as well as server and networking equipment, vehicles, and aircraft. Gross assets acquired under finance leases, inclusive of those where title transfers at the end of the lease, are recorded in “Property and equipment, net” and were $68.1 billion and $72.2 billion as of December 31, 2020 and 2021. Accumulated amortization associated with finance leases was $36.5 billion and $43.4 billion as of December 31, 2020 and 2021.

Lease cost recognized in our consolidated statements of operations is summarized as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
Operating lease cost	$ 3,669	$ 5,019	$ 7,199
Finance lease cost:			
Amortization of lease assets	10,094	8,452	9,857
Interest on lease liabilities	695	617	473
Finance lease cost	10,789	9,069	10,330
Variable lease cost	966	1,238	1,556
Total lease cost	$ 15,424	$ 15,326	$ 19,085

Other information about lease amounts recognized in our consolidated financial statements is as follows:

	December 31, 2020	December 31, 2021
Weighted-average remaining lease term – operating leases	10.7 years	11.3 years
Weighted-average remaining lease term – finance leases	6.2 years	8.1 years
Weighted-average discount rate – operating leases	2.5 %	2.2 %
Weighted-average discount rate – finance leases	2.1 %	2.0 %

Our lease liabilities were as follows (in millions):

	December 31, 2020		
	Operating Leases	Finance Leases	Total
Gross lease liabilities	$ 44,833	$ 30,437	$ 75,270
Less: imputed interest	(5,734)	(2,003)	(7,737)
Present value of lease liabilities	39,099	28,434	67,533
Less: current portion of lease liabilities	(4,586)	(10,374)	(14,960)
Total long-term lease liabilities	$ 34,513	$ 18,060	$ 52,573

	December 31, 2021		
	Operating Leases	Finance Leases	Total
Gross lease liabilities	$ 66,269	$ 25,866	$ 92,1
Less: imputed interest	(7,939)	(2,113)	(10,0
Present value of lease liabilities	58,330	23,753	82,0
Less: current portion of lease liabilities	(6,349)	(8,083)	(14,4
Total long-term lease liabilities	$ 51,981	$ 15,670	$ 67,6

Note 5 — ACQUISITIONS, GOODWILL, AND ACQUIRED INTANGIBLE ASSETS

2019 Acquisition Activity

During 2019, we acquired certain companies for an aggregate purchase price of $315 million, net of cash acquired.

2020 Acquisition Activity

During 2020, we acquired certain companies for an aggregate purchase price of $1.2 billion, net of cash acquired, of which $1.1 billion was capitalized to in-process research and development intangible assets ("IPR&D").

2021 Acquisition Activity

During 2021, we acquired certain companies for an aggregate purchase price of $496 million, net of cash acquired.

The primary reason for all acquisitions was to acquire technologies and know-how to enable Amazon to serve customers more effectively. Acquisition-related costs were expensed as incurred.

Pro forma results of operations have not been presented because the effects of 2021 acquisitions, individually and in the aggregate, were not material to our consolidated results of operations.

Goodwill

The goodwill of the acquired companies is primarily related to expected improvements in technology performance and functionality, as well as sales growth from future product and service offerings and new customers, together with certain intangible assets that do not qualify for separate recognition. The goodwill of the acquired companies is generally not deductible for tax purposes. The following summarizes our goodwill activity in 2020 and 2021 by segment (in millions):

	North America	International	AWS	Consolidated
Goodwill - January 1, 2020	$ 12,264	$ 1,300	$ 1,190	$ 14,754
New acquisitions	204	6	2	212
Other adjustments (1)	59	(18)	10	51
Goodwill - December 31, 2020	12,527	1,288	1,202	15,017
New acquisitions	230	60	76	366
Other adjustments (1)	1	(21)	8	(12)
Goodwill - December 31, 2021	$ 12,758	$ 1,327	$ 1,286	$ 15,371

(1) Primarily includes changes in foreign exchange rates.

Intangible Assets

Acquired identifiable intangible assets are valued primarily by using discounted cash flows. These assets are included within "Other assets" on our consolidated balance sheets and consist of the following (in millions):

	December 31,						
	2020			2021			
	Acquired Intangibles, Gross (1)	Accumulated Amortization (1)	Acquired Intangibles, Net	Acquired Intangibles, Gross (1)	Accumulated Amortization (1)	Acquired Intangibles, Net	Weighted Average Life Remaining
Finite-lived intangible assets (2):							
Marketing-related	$ 2,289	$ (445)	$ 1,844	$ 2,286	$ (548)	$ 1,738	19.3
Contract-based	1,917	(418)	1,499	2,327	(565)	1,762	8.9
Technology- and content-based	948	(555)	393	976	(610)	366	3.1
Customer-related	179	(77)	102	197	(103)	94	2.9
Total finite-lived intangible assets	$ 5,333	$ (1,495)	$ 3,838	$ 5,786	$ (1,826)	$ 3,960	12.8
IPR&D and other (3)	$ 1,143		$ 1,143	$ 1,147		$ 1,147	
Total acquired intangibles	$ 6,476	$ (1,495)	$ 4,981	$ 6,933	$ (1,826)	$ 5,107	

(1) Excludes the original cost and accumulated amortization of fully-amortized intangibles.
(2) Finite-lived intangible assets have estimated useful lives of between one and twenty-five years, and are being amortized to operating expenses on a straight-line basis.
(3) Intangible assets acquired in a business combination that are in-process and used in research and development activities are considered indefinite-lived until the completion or abandonment of the research and development efforts. Once the research and development efforts are completed, we determine the useful life and begin amortizing the assets.

Amortization expense for acquired finite-lived intangibles was $565 million, $509 million, and $512 million in 2019, 2020, and 2021. Expected future amortization expense of acquired finite-lived intangible assets as of December 31, 2021 is as follows (in millions):

Year Ended December 31,	
2022	$ 528
2023	452
2024	378
2025	318
2026	290
Thereafter	1,994
	$ 3,960

Note 6 — DEBT

As of December 31, 2021, we had $49.7 billion of unsecured senior notes outstanding (the “Notes”). We issued $18.5 billion of Notes in May 2021, of which $1.0 billion was issued for green or social projects, such as projects related to clean transportation, renewable energy, sustainable buildings, affordable housing, or socioeconomic advancement and empowerment, and the remainder for general corporate purposes. We also had other long-term debt and borrowings under our credit facility of $924 million and $803 million as of December 31, 2020 and 2021. Our total long-term debt obligations are as follows (in millions):

	Maturities (1)	Stated Interest Rates	Effective Interest Rates	December 31, 2020	December 31, 2021
2012 Notes issuance of $3.0 billion	2022	2.50%	2.66%	1,250	1,250
2014 Notes issuance of $6.0 billion	2024 - 2044	3.80% - 4.95%	3.90% - 5.11%	5,000	4,000
2017 Notes issuance of $17.0 billion	2023 - 2057	2.40% - 5.20%	2.56% - 4.33%	16,000	16,000
2020 Notes issuance of $10.0 billion	2023 - 2060	0.40% - 2.70%	0.56% - 2.77%	10,000	10,000
2021 Notes issuance of $18.5 billion	2023 - 2061	0.25% - 3.25%	0.35% - 3.31%	—	18,500
Credit Facility				338	803
Other long-term debt				586	—
Total face value of long-term debt				33,174	50,553
Unamortized discount and issuance costs, net				(203)	(318)
Less current portion of long-term debt				(1,155)	(1,491)
Long-term debt				$ 31,816	$ 48,744

(1) The weighted-average remaining lives of the 2012, 2014, 2017, 2020 and 2021 Notes were 0.9, 13.6, 15.2, 17.7 and 14.3 years as of December 31, 2021. The combined weighted-average remaining life of the Notes was 14.9 years as of December 31, 2021.

Interest on the Notes is payable semi-annually in arrears. We may redeem the Notes at any time in whole, or from time to time, in part at specified redemption prices. We are not subject to any financial covenants under the Notes. The estimated fair value of the Notes was approximately $37.7 billion and $53.3 billion as of December 31, 2020 and 2021, which is based on quoted prices for our debt as of those dates.

We have a $1.0 billion secured revolving credit facility with a lender that is secured by certain seller receivables, which we increased from $740 million in November 2021 and may from time to time increase in the future subject to lender approval (the “Credit Facility”). The Credit Facility is available until October 2022, bears interest at the London interbank offered rate (“LIBOR”) plus 1.40%, and has a commitment fee of 0.50% on the undrawn portion. There were $338 million and $803 million of borrowings outstanding under the Credit Facility as of December 31, 2020 and 2021, which had a weighted-average interest rate of 3.0% and 2.7%, respectively. As of December 31, 2020 and 2021, we have pledged $398 million and $918 million of our cash and seller receivables as collateral for debt related to our Credit Facility. The estimated fair value of the Credit Facility, which is based on Level 2 inputs, approximated its carrying value as of December 31, 2020 and 2021.

As of December 31, 2021, future principal payments for our total long-term debt were as follows (in millions):

Year Ended December 31,	
2022	$ 1,493
2023	3,560
2024	5,750
2025	2,250
2026	2,750
Thereafter	34,750
	$ 50,553

We have U.S. Dollar and Euro commercial paper programs (the “Commercial Paper Programs”) under which we may from time to time issue unsecured commercial paper up to a total of $10.0 billion (including up to €3.0 billion) at the date of issue, with individual maturities that may vary but will not exceed 397 days from the date of issue. There were $725 million of borrowings outstanding under the Commercial Paper Programs as of December 31, 2020 and 2021, which were included in “Accrued expenses and other” on our consolidated balance sheets and had a weighted-average effective interest rate, including issuance costs, of 0.11% and 0.08%, respectively. We use the net proceeds from the issuance of commercial paper for general corporate purposes.

We also have a $7.0 billion unsecured revolving credit facility with a syndicate of lenders with a term that extends to June 2023, which was amended in November 2021 to replace LIBOR as the applicable benchmark rate for loans denominated in certain foreign currencies (the "Credit Agreement"). It may be extended for up to three additional one-year terms if approved by the lenders. The interest rate applicable to outstanding balances under the Credit Agreement is the applicable benchmark rate specified in the Credit Agreement plus 0.50%, with a commitment fee of 0.04% on the undrawn portion of the credit facility. There were no borrowings outstanding under the Credit Agreement as of December 31, 2020 and 2021.

We also utilize other short-term credit facilities for working capital purposes. These amounts are included in "Accrued expenses and other" on our consolidated balance sheets. In addition, we had $7.2 billion of unused letters of credit as of December 31, 2021.

Note 7 — COMMITMENTS AND CONTINGENCIES

Commitments

The following summarizes our principal contractual commitments, excluding open orders for purchases that support normal operations and are generally cancellable, as of December 31, 2021 (in millions):

	Year Ended December 31,						
	2022	2023	2024	2025	2026	Thereafter	Total
Long-term debt principal and interest	$ 2,841	$ 4,852	$ 7,014	$ 3,400	$ 3,829	$ 52,784	$ 74,720
Operating lease liabilities	7,838	7,178	6,649	6,128	5,574	32,902	66,269
Finance lease liabilities, including interest	8,278	4,772	2,278	1,355	1,220	7,963	25,866
Financing obligations, including interest (1)	423	422	419	410	417	6,404	8,495
Leases not yet commenced	1,206	1,902	2,094	2,145	2,237	21,571	31,155
Unconditional purchase obligations (2)	5,969	5,910	5,158	4,213	4,159	9,493	34,902
Other commitments (3)(4)	2,905	1,620	1,290	1,006	1,137	11,325	19,283
Total commitments	$ 29,460	$ 26,656	$ 24,902	$ 18,657	$ 18,573	$ 142,442	$ 260,690

(1) Includes non-cancellable financing obligations for fulfillment, sortation, and data center facilities. Excluding interest, current financing obligations of $111 million and $196 million are recorded within "Accrued expenses and other" and $3.4 billion and $6.2 billion are recorded within "Other long-term liabilities" as of December 31, 2020 and 2021. The weighted-average remaining term of the financing obligations was 19.0 and 18.8 years and the weighted-average imputed interest rate was 3.8% and 3.2% as of December 31, 2020 and 2021.

(2) Includes unconditional purchase obligations related to long-term agreements to acquire and license digital media content that are not reflected on the consolidated balance sheets and certain products offered in our Whole Foods Market stores. For those digital media content agreements with variable terms, we do not estimate the total obligation beyond any minimum quantities and/or pricing as of the reporting date. Purchase obligations associated with renewal provisions solely at the option of the content provider are included to the extent such commitments are fixed or a minimum amount is specified.

(3) Includes the estimated timing and amounts of payments for rent and tenant improvements associated with build-to-suit lease arrangements that are under construction, asset retirement obligations, and liabilities associated with digital media content agreements with initial terms greater than one year.

(4) Excludes approximately $3.2 billion of accrued tax contingencies for which we cannot make a reasonably reliable estimate of the amount and period of payment, if any.

In addition, in May 2021, we entered into an agreement to acquire MGM Holdings Inc. ("MGM") for approximately $8.5 billion, including MGM's debt, subject to customary closing conditions. We expect to fund this acquisition with cash on hand.

Suppliers

During 2021, no vendor accounted for 10% or more of our purchases. We generally do not have long-term contracts or arrangements with our vendors to guarantee the availability of merchandise, particular payment terms, or the extension of credit limits.

Other Contingencies

We are disputing claims and denials of refunds or credits related to various non-income taxes (such as sales, value added, consumption, service, and similar taxes), including in jurisdictions in which we already collect and remit these taxes. These non-income tax controversies typically relate to (i) the taxability of products and services, including cross-border intercompany transactions, (ii) collection and withholding on transactions with third parties, and (iii) the adequacy of compliance with reporting obligations, including evolving documentation requirements. Due to the inherent complexity and uncertainty of these matters and the judicial and regulatory processes in certain jurisdictions, the final outcome of any such controversies may be materially different from our expectations.

Legal Proceedings

The Company is involved from time to time in claims, proceedings, and litigation, including the following:

In November 2015, Eolas Technologies, Inc. filed a complaint against Amazon.com, Inc. in the United States District Court for the Eastern District of Texas. The complaint alleges, among other things, that the use of “interactive features” on www.amazon.com, including “search suggestions and search results,” infringes U.S. Patent No. 9,195,507, entitled “Distributed Hypermedia Method and System for Automatically Invoking External Application Providing Interaction and Display of Embedded Objects Within A Hypermedia Document.” The complaint sought a judgment of infringement together with costs and attorneys’ fees. In February 2016, Eolas filed an amended complaint seeking, among other things, an unspecified amount of damages. In February 2017, Eolas alleged in its damages report that in the event of a finding of liability Amazon could be subject to $130-$250 million in damages. In April 2017, the case was transferred to the United States District Court for the Northern District of California. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In May 2018, Rensselaer Polytechnic Institute and CF Dynamic Advances LLC filed a complaint against Amazon.com, Inc. in the United States District Court for the Northern District of New York. The complaint alleges, among other things, that “Alexa Voice Software and Alexa enabled devices” infringe U.S. Patent No. 7,177,798, entitled “Natural Language Interface Using Constrained Intermediate Dictionary of Results.” The complaint seeks an injunction, an unspecified amount of damages, enhanced damages, an ongoing royalty, pre- and post-judgment interest, attorneys’ fees, and costs. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In December 2018, Kove IO, Inc. filed a complaint against Amazon Web Services, Inc. in the United States District Court for the Northern District of Illinois. The complaint alleges, among other things, that Amazon S3 and DynamoDB infringe U.S. Patent Nos. 7,814,170 and 7,103,640, both entitled “Network Distributed Tracking Wire Transfer Protocol,” and 7,233,978, entitled “Method And Apparatus For Managing Location Information In A Network Separate From The Data To Which The Location Information Pertains.” The complaint seeks an unspecified amount of damages, enhanced damages, attorneys’ fees, costs, interest, and injunctive relief. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

Beginning in March 2020, with Frame-Wilson v. Amazon.com, Inc. filed in the United States District Court for the Western District of Washington, a number of cases have been filed in the U.S. and Canada alleging, among other things, price fixing arrangements between Amazon.com, Inc. and third-party sellers in Amazon’s stores, monopolization and attempted monopolization, and consumer protection and unjust enrichment claims. Some of the cases include allegations of several distinct purported classes, including consumers who purchased a product through Amazon’s stores and consumers who purchased a product offered by Amazon through another e-commerce retailer. The complaints seek billions of dollars of alleged actual damages, treble damages, punitive damages, and injunctive relief. Individuals have also initiated arbitrations based on substantially similar allegations. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in these matters.

In November 2020, the European Commission issued a Statement of Objections alleging that Amazon uses data relating to our marketplace sellers in a manner that infringes EU competition rules. The Statement of Objections seeks to impose unspecified fines and remedial actions. We disagree with the preliminary assertions of the European Commission and intend to defend ourselves vigorously in this matter.

In July 2021, the Luxembourg National Commission for Data Protection (the “CNPD”) issued a decision against Amazon Europe Core S.à r.l. claiming that Amazon’s processing of personal data did not comply with the EU General Data Protection Regulation. The decision imposes a fine of €746 million and corresponding practice revisions. We believe the CNPD’s decision to be without merit and intend to defend ourselves vigorously in this matter.

In November 2021, Jawbone Innovations, LLC filed a complaint against Amazon.com, Inc. and Amazon.com Services, Inc. in the United States District Court for the Eastern District of Texas. The complaint alleges, among other things, that Amazon Echo smart speakers and displays, Fire TV Cube, and Echo Buds infringe U.S. Patent Nos. 7,246,058, entitled “Detecting Voiced and Unvoiced Speech Using Both Acoustic and Nonacoustic Sensors”; 8,019,091, entitled “Voice Activity

Detector (VAD)-Based Multiple-Microphone Acoustic Noise Suppression”; 8,280,072, entitled “Microphone Array with Rear Venting”; 8,321,213 and 8,326,611, both entitled “Acoustic Voice Activity Detection (AVAD) for Electronic Systems”; 8,467,543, entitled “Microphone and Voice Activity Detection (VAD) Configurations for Use with Communications Systems”; 10,779,080, entitled “Dual Omnidirectional Microphone Array (DOMA)”; and 11,122,357, entitled “Forming Virtual Microphone Arrays Using Dual Omnidirectional Microphone Array (DOMA).” The complaint seeks an unspecified amount of damages, enhanced damages, attorneys’ fees, costs, interest, and injunctive relief. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In December 2021, the Italian Competition Authority (the “ICA”) issued a decision against Amazon Services Europe S.à r.l., Amazon Europe Core S.à r.l., Amazon EU S.à r.l., Amazon Italia Services S.r.l., and Amazon Italia Logistica S.r.l. claiming that certain of our marketplace and logistics practices in Italy infringed EU competition rules. The decision imposes a fine of €1.13 billion and remedial actions. We believe the ICA’s decision to be without merit and intend to defend ourselves vigorously in this matter.

In January 2022, VideoLabs, Inc. and VL Collective IP LLC filed a complaint against Amazon.com, Inc. and Amazon Web Services, Inc. in the United States District Court for the Western District of Texas. The complaint alleges, among other things, that Amazon Prime Video, Amazon Glow, Amazon Echo Show, Fire TV, Fire TV Cube, Fire TV Stick, Fire Tablets, AWS Elemental MediaConvert, AWS Elemental Live, AWS Elemental Server, AWS Elemental MediaPackage, AWS Elemental MediaLive, and Amazon Elastic Transcoder infringe U.S. Patent Nos. 7,769,238 and 8,139,878, both entitled “Picture Coding Method and Picture Decoding Method”; and 7,970,059, entitled “Variable Length Coding Method and Variable Length Decoding Method”; that Amazon Prime Video, AWS Elemental MediaConvert, AWS Elemental Live, AWS Elemental Server, AWS Elemental MediaPackage, AWS Elemental MediaLive, Amazon Elastic Transcoder, and Amazon Kinesis Video Streams infringe U.S. Patent No. 8,605,794, entitled “Method for Synchronizing Content-Dependent Data Segments of Files”; that Amazon Echo Show, Amazon Echo Spot, Amazon Connect, Amazon Chime, and Amazon Kinesis Video Streams infringe U.S. Patent No. 7,266,682, entitled “Method and System for Transmitting Data from a Transmitter to a Receiver and Transmitter and Receiver Therefore”; that AWS Auto Scaling and Amazon EC2 Auto Scaling infringe U.S. Patent No. 6,880,156, entitled “Demand Responsive Method and Apparatus to Automatically Activate Spare Servers”; and that Amazon Prime Video infringes U.S. Patent No. 7,440,559, entitled “System and Associated Terminal, Method and Computer Program Product for Controlling the Flow of Content.” The complaint seeks an unspecified amount of damages, enhanced damages, attorneys’ fees, costs, interest, and injunctive relief. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In addition, we are regularly subject to claims, litigation, and other proceedings, including potential regulatory proceedings, involving patent and other intellectual property matters, taxes, labor and employment, competition and antitrust, privacy and data protection, consumer protection, commercial disputes, goods and services offered by us and by third parties, and other matters.

The outcomes of our legal proceedings and other contingencies are inherently unpredictable, subject to significant uncertainties, and could be material to our operating results and cash flows for a particular period. We evaluate, on a regular basis, developments in our legal proceedings and other contingencies that could affect the amount of liability, including amounts in excess of any previous accruals and reasonably possible losses disclosed, and make adjustments and changes to our accruals and disclosures as appropriate. For the matters we disclose that do not include an estimate of the amount of loss or range of losses, such an estimate is not possible or is immaterial, and we may be unable to estimate the possible loss or range of losses that could potentially result from the application of non-monetary remedies. Until the final resolution of such matters, if any of our estimates and assumptions change or prove to have been incorrect, we may experience losses in excess of the amounts recorded, which could have a material effect on our business, consolidated financial position, results of operations, or cash flows.

See also “Note 9 — Income Taxes.”

Note 8 — STOCKHOLDERS’ EQUITY

Preferred Stock

We have authorized 500 million shares of $0.01 par value preferred stock. No preferred stock was outstanding for any year presented.

Common Stock

Common shares outstanding plus shares underlying outstanding stock awards totaled 512 million, 518 million, and 523 million, as of December 31, 2019, 2020, and 2021. These totals include all vested and unvested stock awards outstanding, including those awards we estimate will be forfeited.

Stock Repurchase Activity

In February 2016, the Board of Directors authorized a program to repurchase up to $5.0 billion of our common stock, with no fixed expiration. There were no repurchases of common stock in 2019, 2020, or 2021. During the period from January 1, 2022 through February 2, 2022, we repurchased 0.5 million shares of our common stock for $1.3 billion.

Stock Award Plans

Employees vest in restricted stock unit awards over the corresponding service term, generally between two and five years.

Stock Award Activity

Stock-based compensation expense is as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
Cost of sales	$ 149	$ 283	$ 540
Fulfillment	1,182	1,357	1,946
Technology and content	3,725	5,061	6,645
Marketing	1,135	1,710	2,530
General and administrative	673	797	1,096
Total stock-based compensation expense (1)	$ 6,864	$ 9,208	$ 12,757

(1) The related tax benefits were $1.4 billion, $1.9 billion, and $2.7 billion for 2019, 2020, and 2021.

The following table summarizes our restricted stock unit activity (in millions):

	Number of Units	Weighted Average Grant-Date Fair Value
Outstanding as of January 1, 2019	15.9	$ 1,024
Units granted	6.7	1,808
Units vested	(6.6)	827
Units forfeited	(1.7)	1,223
Outstanding as of December 31, 2019	14.3	1,458
Units granted	8.0	2,373
Units vested	(5.8)	1,239
Units forfeited	(1.3)	1,642
Outstanding as of December 31, 2020	15.2	2,004
Units granted	6.3	3,348
Units vested	(5.4)	1,704
Units forfeited	(2.1)	2,314
Outstanding as of December 31, 2021	14.0	2,684

Scheduled vesting for outstanding restricted stock units as of December 31, 2021, is as follows (in millions):

	Year Ended						
	2022	2023	2024	2025	2026	Thereafter	Total
Scheduled vesting — restricted stock units	5.4	5.2	2.2	0.9	0.1	0.2	14.0

As of December 31, 2021, there was $16.6 billion of net unrecognized compensation cost related to unvested stock-based compensation arrangements. This compensation is recognized on an accelerated basis with approximately half of the compensation expected to be expensed in the next twelve months, and has a remaining weighted-average recognition period of 1.1 years. The estimated forfeiture rate as of December 31, 2019, 2020, and 2021 was 27%. Changes in our estimates and assumptions relating to forfeitures may cause us to realize material changes in stock-based compensation expense in the future.

During 2019, 2020, and 2021, the fair value of restricted stock units that vested was $11.7 billion, $15.5 billion, and $18.2 billion.

Common Stock Available for Future Issuance

As of December 31, 2021, common stock available for future issuance to employees is 97 million shares.

Note 9 — INCOME TAXES

In 2019, 2020, and 2021, we recorded net tax provisions of $2.4 billion, $2.9 billion, and $4.8 billion. Tax benefits relating to excess stock-based compensation deductions and accelerated depreciation deductions are reducing our U.S. taxable income. Cash taxes paid, net of refunds, were $881 million, $1.7 billion, and $3.7 billion for 2019, 2020, and 2021.

Certain foreign subsidiary earnings and losses are subject to current U.S. taxation and the subsequent repatriation of those earnings is not subject to tax in the U.S. The U.S. tax rules also provide for enhanced accelerated depreciation deductions by allowing the election of full expensing of qualified property, primarily equipment, through 2022. Our federal tax provision included the election of full expensing of qualified property for 2019 and a partial election for 2020 and 2021.

The components of the provision for income taxes, net are as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
U.S. Federal:			
Current	$ 162	$ 1,835	$ 2,129
Deferred	914	(151)	155
Total	1,076	1,684	2,284
U.S. State:			
Current	276	626	763
Deferred	8	(190)	(178)
Total	284	436	585
International:			
Current	1,140	956	2,209
Deferred	(126)	(213)	(287)
Total	1,014	743	1,922
Provision for income taxes, net	$ 2,374	$ 2,863	$ 4,791

U.S. and international components of income before income taxes are as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
U.S.	$ 13,285	$ 20,219	$ 35,879
International	691	3,959	2,272
Income before income taxes	$ 13,976	$ 24,178	$ 38,151

The items accounting for differences between income taxes computed at the federal statutory rate and the provision recorded for income taxes are as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
Income taxes computed at the federal statutory rate	$ 2,935	$ 5,078	$ 8,012
Effect of:			
Tax impact of foreign earnings and losses	453	(538)	(1,349)
State taxes, net of federal benefits	221	343	465
Tax credits	(466)	(639)	(1,136)
Stock-based compensation (1)	(850)	(1,107)	(1,094)
Foreign income deduction (2)	(72)	(372)	(301)
Other, net	153	98	194
Total	$ 2,374	$ 2,863	$ 4,791

(1) Includes non-deductible stock-based compensation and excess tax benefits from stock-based compensation. Our tax provision includes $1.4 billion, $1.8 billion, and $1.9 billion of excess tax benefits from stock-based compensation for 2019, 2020, and 2021.

(2) U.S. companies are eligible for a deduction that lowers the effective tax rate on certain foreign income. This regime is referred to as the Foreign-Derived Intangible Income deduction (“FDII”).

Our provision for income taxes in 2020 was higher than in 2019 primarily due to an increase in pretax income. This was partially offset by the impact of developments in our ongoing global tax controversies on taxes related to our foreign earnings and losses, an increase in excess tax benefits from stock-based compensation, and an increase in our foreign income deduction under FDII. In addition, our Luxembourg operations generated earnings in 2020 and utilized deferred tax assets previously subject to valuation allowances.

Our provision for income taxes in 2021 was higher than in 2020 primarily due to an increase in pretax income. This was partially offset by an increase in U.S. federal research and development credits and the impact of the distribution of certain intangible assets from Luxembourg to the U.S. in Q4 2021, resulting in the utilization of $2.6 billion of Luxembourg deferred tax assets previously subject to a valuation allowance.

We intend to invest substantially all of our foreign subsidiary earnings, as well as our capital in our foreign subsidiaries, indefinitely outside of the U.S. in those jurisdictions in which we would incur significant, additional costs upon repatriation of such amounts.

Deferred income tax assets and liabilities are as follows (in millions):

	December 31, 2020	December 31, 2021
Deferred tax assets (1):		
Loss carryforwards U.S. - Federal/States	245	228
Loss carryforwards - Foreign	3,876	2,417
Accrued liabilities, reserves, and other expenses	2,457	2,821
Stock-based compensation	2,033	2,738
Depreciation and amortization	1,886	941
Operating lease liabilities	10,183	15,399
Other items	559	603
Tax credits	207	626
Total gross deferred tax assets	21,446	25,773
Less valuation allowances (2)	(5,803)	(3,596)
Deferred tax assets, net of valuation allowances	15,643	22,177
Deferred tax liabilities:		
Depreciation and amortization	(5,508)	(3,562)
Operating lease assets	(9,539)	(14,422)
Assets held for investment	(569)	(4,019)
Other items	(893)	(668)
Net deferred tax assets (liabilities), net of valuation allowances	$ (866)	$ (494)

(1) Deferred tax assets are presented after tax effects and net of tax contingencies.
(2) Relates primarily to deferred tax assets that would only be realizable upon the generation of net income in certain foreign taxing jurisdictions.

Our valuation allowances primarily relate to foreign deferred tax assets, including substantially all of our foreign net operating loss carryforwards as of December 31, 2021. Our foreign net operating loss carryforwards for income tax purposes as of December 31, 2021 were approximately $9.2 billion before tax effects and certain of these amounts are subject to annual limitations under applicable tax law. If not utilized, a portion of these losses will begin to expire in 2022.

Tax Contingencies

We are subject to income taxes in the U.S. (federal and state) and numerous foreign jurisdictions. Significant judgment is required in evaluating our tax positions and determining our provision for income taxes. During the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. We establish reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. These reserves are established when we believe that certain positions might be challenged despite our belief that our tax return positions are fully supportable. We adjust these reserves in light of changing facts and circumstances, such as the outcome of tax audits. The provision for income taxes includes the impact of reserve provisions and changes to reserves that are considered appropriate.

The reconciliation of our tax contingencies is as follows (in millions):

	December 31, 2019	December 31, 2020	December 31, 2021
Gross tax contingencies – January 1	$ 3,414	$ 3,923	$ 2,820
Gross increases to tax positions in prior periods	216	88	403
Gross decreases to tax positions in prior periods	(181)	(465)	(354)
Gross increases to current period tax positions	707	507	507
Settlements with tax authorities	(207)	(1,207)	(60)
Lapse of statute of limitations	(26)	(26)	(74)
Gross tax contingencies – December 31 (1)	$ 3,923	$ 2,820	$ 3,242

(1) As of December 31, 2021, we had approximately $3.2 billion of accrued tax contingencies of which $1.6 billion, if fully recognized, would decrease our effective tax rate.

As of December 31, 2020 and 2021, we had accrued interest and penalties, net of federal income tax benefit, related to tax contingencies of $83 million and $110 million. Interest and penalties, net of federal income tax benefit, recognized for the years ended December 31, 2019, 2020, and 2021 was $4 million, $(48) million, and $28 million.

We are under examination, or may be subject to examination, by the Internal Revenue Service ("IRS") for the calendar year 2016 and thereafter. These examinations may lead to ordinary course adjustments or proposed adjustments to our taxes or our net operating losses with respect to years under examination as well as subsequent periods. We resolved the audits of tax years 2007 through 2015 with the IRS for amounts that were materially consistent with our accrual.

In October 2014, the European Commission opened a formal investigation to examine whether decisions by the tax authorities in Luxembourg with regard to the corporate income tax paid by certain of our subsidiaries comply with European Union rules on state aid. On October 4, 2017, the European Commission announced its decision that determinations by the tax authorities in Luxembourg did not comply with European Union rules on state aid. Based on that decision the European Commission announced an estimated recovery amount of approximately €250 million, plus interest, for the period May 2006 through June 2014, and ordered Luxembourg tax authorities to calculate the actual amount of additional taxes subject to recovery. Luxembourg computed an initial recovery amount, consistent with the European Commission's decision, which we deposited into escrow in March 2018, subject to adjustment pending conclusion of all appeals. In December 2017, Luxembourg appealed the European Commission's decision. In May 2018, we appealed. On May 12, 2021, the European Union General Court annulled the European Commission's state aid decision. In July 2021, the European Commission appealed the decision to the European Court of Justice. We will continue to defend ourselves vigorously in this matter. We are also subject to taxation in various states and other foreign jurisdictions including China, France, Germany, India, Japan, Luxembourg, and the United Kingdom. We are under, or may be subject to, audit or examination and additional assessments by the relevant authorities in respect of these particular jurisdictions primarily for 2009 and thereafter.

Changes in tax laws, regulations, administrative practices, principles, and interpretations may impact our tax contingencies. The timing of the resolution of income tax controversies is highly uncertain, and the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ from the amounts accrued. It is reasonably possible that within the next twelve months we will receive additional assessments by various tax authorities or possibly reach resolution of income tax controversies in one or more jurisdictions. These assessments or settlements could result in changes to our contingencies related to positions on prior years' tax filings. The actual amount of any change could vary significantly depending on the ultimate timing and nature of any settlements. We cannot currently provide an estimate of the range of possible outcomes.

Note 10 — SEGMENT INFORMATION

We have organized our operations into three segments: North America, International, and AWS. We allocate to segment results the operating expenses "Fulfillment," "Technology and content," "Marketing," and "General and administrative" based on usage, which is generally reflected in the segment in which the costs are incurred. The majority of technology infrastructure costs are allocated to the AWS segment based on usage. The majority of the remaining non-infrastructure technology costs are incurred in the U.S. and are allocated to our North America segment. There are no internal revenue transactions between our reportable segments. These segments reflect the way our chief operating decision maker evaluates the Company's business performance and manages its operations.

North America

The North America segment primarily consists of amounts earned from retail sales of consumer products (including from sellers) and subscriptions through North America-focused online and physical stores. This segment includes export sales from these online stores.

International

The International segment primarily consists of amounts earned from retail sales of consumer products (including from sellers) and subscriptions through internationally-focused online stores. This segment includes export sales from these internationally-focused online stores (including export sales from these online stores to customers in the U.S., Mexico, and Canada), but excludes export sales from our North America-focused online stores.

AWS

The AWS segment consists of amounts earned from global sales of compute, storage, database, and other services for start-ups, enterprises, government agencies, and academic institutions.

Information on reportable segments and reconciliation to consolidated net income (loss) is as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
North America			
Net sales	$ 170,773	$ 236,282	$ 279,833
Operating expenses	163,740	227,631	272,562
Operating income	$ 7,033	$ 8,651	$ 7,271
International			
Net sales	$ 74,723	$ 104,412	$ 127,787
Operating expenses	76,416	103,695	128,711
Operating income (loss)	$ (1,693)	$ 717	$ (924)
AWS			
Net sales	$ 35,026	$ 45,370	$ 62,202
Operating expenses	25,825	31,839	43,670
Operating income	$ 9,201	$ 13,531	$ 18,532
Consolidated			
Net sales	$ 280,522	$ 386,064	$ 469,822
Operating expenses	265,981	363,165	444,943
Operating income	14,541	22,899	24,879
Total non-operating income (expense)	(565)	1,279	13,272
Provision for income taxes	(2,374)	(2,863)	(4,791)
Equity-method investment activity, net of tax	(14)	16	4
Net income	$ 11,588	$ 21,331	$ 33,364

Net sales by groups of similar products and services, which also have similar economic characteristics, is as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
Net Sales:			
Online stores (1)	$ 141,247	$ 197,346	$ 222,075
Physical stores (2)	17,192	16,227	17,075
Third-party seller services (3)	53,762	80,461	103,366
Subscription services (4)	19,210	25,207	31,768
Advertising services (5)	12,625	19,773	31,160
AWS	35,026	45,370	62,202
Other (6)	1,460	1,680	2,176
Consolidated	$ 280,522	$ 386,064	$ 469,822

(1) Includes product sales and digital media content where we record revenue gross. We leverage our retail infrastructure to offer a wide selection of consumable and durable goods that includes media products available in both a physical and digital format, such as books, videos, games, music, and software. These product sales include digital products sold on a transactional basis. Digital product subscriptions that provide unlimited viewing or usage rights are included in “Subscription services.”

(2) Includes product sales where our customers physically select items in a store. Sales to customers who order goods online for delivery or pickup at our physical stores are included in “Online stores.”

(3) Includes commissions and any related fulfillment and shipping fees, and other third-party seller services.

(4) Includes annual and monthly fees associated with Amazon Prime memberships, as well as digital video, audiobook, digital music, e-book, and other non-AWS subscription services.

(5) Includes sales of advertising services to sellers, vendors, publishers, authors, and others, through programs such as sponsored ads, display, and video advertising.

(6) Includes sales related to various other service offerings.

Net sales are attributed to countries primarily based on country-focused online and physical stores or, for AWS purposes, the selling entity. Net sales attributed to countries that represent a significant portion of consolidated net sales are as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
United States	$ 193,636	$ 263,520	$ 314,006
Germany	22,232	29,565	37,326
United Kingdom	17,527	26,483	31,914
Japan	16,002	20,461	23,071
Rest of world	31,125	46,035	63,505
Consolidated	$ 280,522	$ 386,064	$ 469,822

Total segment assets exclude corporate assets, such as cash and cash equivalents, marketable securities, other long-term investments, corporate facilities, goodwill and other acquired intangible assets, and tax assets. Technology infrastructure assets are allocated among the segments based on usage, with the majority allocated to the AWS segment. Total segment assets reconciled to consolidated amounts are as follows (in millions):

	December 31,		
	2019	2020	2021
North America (1)	$ 72,277	$ 108,405	$ 161,255
International (1)	30,709	42,212	57,983
AWS (2)	36,500	47,574	63,835
Corporate	85,762	123,004	137,476
Consolidated	$ 225,248	$ 321,195	$ 420,549

(1) North America and International segment assets primarily consist of property and equipment, operating leases, inventory, and accounts receivable.
(2) AWS segment assets primarily consist of property and equipment and accounts receivable.

Property and equipment, net by segment is as follows (in millions):

	December 31,		
	2019	2020	2021
North America	$ 31,719	$ 54,912	$ 83,640
International	9,566	15,375	21,718
AWS	23,481	32,151	43,245
Corporate	7,939	10,676	11,678
Consolidated	$ 72,705	$ 113,114	$ 160,281

Total net additions to property and equipment by segment are as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
North America (1)	$ 11,752	$ 29,889	$ 37,397
International (1)	3,298	8,072	10,259
AWS (2)	13,058	16,530	22,047
Corporate	1,910	3,485	2,622
Consolidated	$ 30,018	$ 57,976	$ 72,325

(1) Includes property and equipment added under finance leases of $3.8 billion, $5.6 billion, and $3.6 billion in 2019, 2020, and 2021, and under build-to-suit lease arrangements of $1.3 billion, $2.7 billion, and $5.6 billion in 2019, 2020, and 2021.
(2) Includes property and equipment added under finance leases of $10.6 billion, $7.7 billion, and $3.5 billion in 2019, 2020, and 2021, and under build-to-suit lease arrangements of $0 million, $130 million, and $51 million in 2019, 2020, and 2021.

U.S. property and equipment, net and operating leases were $69.8 billion, $109.5 billion, and $155.0 billion, in 2019, 2020, and 2021, and non-U.S. property and equipment, net and operating leases were $28.0 billion, $41.2 billion, and $61.3 billion in 2019, 2020, and 2021. Except for the U.S., property and equipment, net and operating leases in any single country were less than 10% of consolidated property and equipment, net and operating leases.

Depreciation and amortization expense on property and equipment, including corporate property and equipment, are allocated to all segments based on usage. Total depreciation and amortization expense, by segment, is as follows (in millions):

	Year Ended December 31,		
	2019	2020	2021
North America	$ 5,106	$ 6,421	$ 9,234
International	1,886	2,215	3,022
AWS	8,158	7,603	10,653
Consolidated	$ 15,150	$ 16,239	$ 22,909