## Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

### Forward-Looking Statements

*This Annual Report on Form 10-K includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical fact, including statements regarding guidance, industry prospects, or future results of operations or financial position, made in this Annual Report on Form 10-K are forward-looking. We use words such as anticipates, believes, expects, future, intends, and similar expressions to identify forward-looking statements. Forward-looking statements reflect management's current expectations and are inherently uncertain. Actual results and outcomes could differ materially for a variety of reasons, including, among others, fluctuations in foreign exchange rates, changes in global economic conditions and customer demand and spending, inflation, interest rates, regional labor market constraints, world events, the rate of growth of the internet, online commerce, cloud services, and new and emerging technologies, the amount that Amazon.com invests in new business opportunities and the timing of those investments, the mix of products and services sold to customers, the mix of net sales derived from products as compared with services, the extent to which we owe income or other taxes, competition, management of growth, potential fluctuations in operating results, international growth and expansion, the outcomes of claims, litigation, government investigations, and other proceedings, fulfillment, sortation, delivery, and data center optimization, risks of inventory management, variability in demand, the degree to which we enter into, maintain, and develop commercial agreements, proposed and completed acquisitions and strategic transactions, payments risks, and risks of fulfillment throughput and productivity. In addition, global economic and geopolitical conditions and additional or unforeseen circumstances, developments, or events may give rise to or amplify many of these risks. These risks and uncertainties, as well as other risks and uncertainties that could cause our actual results or outcomes to differ significantly from management's expectations, are described in greater detail in Item 1A of Part I, "Risk Factors."*

### Overview

*Our primary source of revenue is the sale of a wide range of products and services to customers.* The products offered through our stores include merchandise and content we have purchased for resale and products offered by third-party sellers, and we also manufacture and sell electronic devices and produce media content. Generally, we recognize gross revenue from items we sell from our inventory as product sales and recognize our net share of revenue of items sold by third-party sellers as service sales. We seek to increase unit sales across our stores, through increased product selection, across numerous product categories. We also offer other services such as compute, storage, and database offerings, fulfillment, advertising, publishing, and digital content subscriptions.

*Our financial focus is on long-term, sustainable growth in free cash flows.* Free cash flows are driven primarily by increasing operating income and efficiently managing accounts receivable, inventory, accounts payable, and cash capital expenditures, including our decision to purchase or lease property and equipment. Increases in operating income primarily result from increases in sales of products and services and efficiently managing our operating costs, partially offset by investments we make in longer-term strategic initiatives, including capital expenditures focused on improving the customer experience. To increase sales of products and services, we focus on improving all aspects of the customer experience, including lowering prices, improving availability, offering faster delivery and performance times, increasing selection, producing original content, increasing product categories and service offerings, expanding product information, improving ease of use, improving reliability, and earning customer trust. See "Results of Operations — Non-GAAP Financial Measures" below for additional information on our non-GAAP free cash flows financial measures.

*We seek to reduce our variable costs per unit and work to leverage our fixed costs.* Our variable costs include product and content costs, payment processing and related transaction costs, picking, packaging, and preparing orders for shipment, transportation, customer service support, costs necessary to run AWS, and a portion of our marketing costs. Our fixed costs include the costs necessary to build and run our technology infrastructure; to build, enhance, and add features to our online stores, web services, electronic devices, and digital offerings; and to build and optimize our fulfillment network. Variable costs generally change directly with sales volume, while fixed costs generally are dependent on the timing of capacity needs, geographic expansion, category expansion, and other factors. To decrease our variable costs on a per unit basis and enable us to lower prices for customers, we seek to increase our direct sourcing, increase discounts from suppliers, and reduce defects in our processes. To minimize unnecessary growth in fixed costs, we seek to improve process efficiencies and maintain a lean culture.

*We seek to turn inventory quickly and collect from consumers before our payments to vendors and sellers become due.* Because consumers primarily use credit cards in our stores, our receivables from consumers settle quickly. We expect variability in inventory turnover over time since it is affected by numerous factors, including our product mix, the mix of sales by us and by third-party sellers, our continuing focus on in-stock inventory availability and selection of product offerings, supply chain disruptions and resulting vendor lead times, our investment in new geographies and product lines, and the extent to which we choose to utilize third-party fulfillment providers. We also expect some variability in accounts payable days over time since they are affected by several factors, including the mix of product sales, the mix of sales by third-party sellers, the mix of suppliers, seasonality, and changes in payment and other terms over time, including the effect of balancing pricing and timing of payment terms with suppliers.

*We expect spending in technology and infrastructure will increase over time as we add computer scientists, designers, software and hardware engineers, and merchandising employees. Our technology and infrastructure investment and capital spending projects often support a variety of product and service offerings due to geographic expansion and the cross-functionality of our systems and operations. We seek to invest efficiently in several areas of technology and infrastructure, including AWS, and expansion of new and existing product categories and service offerings, as well as in infrastructure to enhance the customer experience and improve our process efficiencies.* We believe that advances in technology, specifically the speed and reduced cost of processing power, data storage and analytics, improved wireless connectivity, and the practical applications of artificial intelligence and machine learning, will continue to improve users' experience on the internet and increase its ubiquity in people's lives. To best take advantage of these continued advances in technology, we are investing in AWS, which offers a broad set of on-demand technology services, including compute, storage, database, analytics, and machine learning, and other services to developers and enterprises of all sizes. We are also investing in initiatives to build and deploy innovative and efficient software and electronic devices as well as other initiatives including the development of a satellite network for global broadband service and autonomous vehicles for ride-hailing services.

*We seek to efficiently manage shareholder dilution while maintaining the flexibility to issue shares for strategic purposes, such as financings, acquisitions, and aligning employee compensation with shareholders' interests.* We utilize restricted stock units as our primary vehicle for equity compensation because we believe this compensation model aligns the long-term interests of our shareholders and employees. In measuring shareholder dilution, we include all vested and unvested stock awards outstanding, without regard to estimated forfeitures. Total shares outstanding plus outstanding stock awards were 10.6 billion and 10.8 billion as of December 31, 2022 and 2023.

*Our financial reporting currency is the U.S. Dollar and changes in foreign exchange rates significantly affect our reported results and consolidated trends.* For example, if the U.S. Dollar weakens year-over-year relative to currencies in our international locations, our consolidated net sales and operating expenses will be higher than if currencies had remained constant. Likewise, if the U.S. Dollar strengthens year-over-year relative to currencies in our international locations, our consolidated net sales and operating expenses will be lower than if currencies had remained constant. We believe that our increasing diversification beyond the U.S. economy through our growing international businesses benefits our shareholders over the long-term. We also believe it is useful to evaluate our operating results and growth rates before and after the effect of currency changes.

In addition, the remeasurement of our intercompany balances can result in significant gains and losses associated with the effect of movements in foreign exchange rates. Currency volatilities may continue, which may significantly impact (either positively or negatively) our reported results and consolidated trends and comparisons.

For additional information about each line item addressed above, refer to Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business, Accounting Policies, and Supplemental Disclosures."

Our Annual Report on Form 10-K for the year ended December 31, 2022 includes a discussion and analysis of our financial condition and results of operations for the year ended December 31, 2021 in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

**Critical Accounting Estimates**

The preparation of financial statements in conformity with generally accepted accounting principles of the United States ("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. Critical accounting estimates are those estimates made in accordance with GAAP that involve a significant level of estimation uncertainty and have had or are reasonably likely to have a material impact on the financial condition or results of operations of the Company. Based on this definition, we have identified the critical accounting estimates addressed below. We also have other key accounting policies, which involve the use of estimates, judgments, and assumptions that are significant to understanding our results. For additional information, see Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business, Accounting Policies, and Supplemental Disclosures." Although we believe that our estimates, assumptions, and judgments are reasonable, they are based upon information presently available. Actual results may differ significantly from these estimates under different assumptions, judgments, or conditions.

*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. These assumptions about future disposition of inventory are inherently uncertain and changes in our estimates and assumptions may cause us to realize material write-downs in the future. As a measure of sensitivity, for every 1% of additional inventory valuation allowance as of December 31, 2023, we would have recorded an additional cost of sales of approximately $355 million.

In addition, we enter into supplier commitments for certain electronic device components and certain products. These commitments are based on forecasted customer demand. If we reduce these commitments, we may incur additional costs.

*Income Taxes*

We are subject to income taxes in the U.S. (federal and state) and numerous foreign jurisdictions. Tax laws, regulations, administrative practices, principles, and interpretations in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating our provision and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. In addition, our actual and forecasted earnings are subject to change due to economic, political, and other conditions and significant judgment is required in determining our ability to use our deferred tax assets.

Our effective tax rates could be affected by numerous factors, such as changes in our business operations, acquisitions, investments, entry into new businesses and geographies, intercompany transactions, the relative amount of our foreign earnings, including earnings being lower than anticipated in jurisdictions where we have lower statutory rates and higher than anticipated in jurisdictions where we have higher statutory rates, losses incurred in jurisdictions for which we are not able to realize related tax benefits, the applicability of special tax regimes, changes in foreign exchange rates, changes in our stock price, changes to our forecasts of income and loss and the mix of jurisdictions to which they relate, changes in our deferred tax assets and liabilities and their valuation, changes in the laws, regulations, administrative practices, principles, and interpretations related to tax, including changes to the global tax framework, competition, and other laws and accounting rules in various jurisdictions. In addition, a number of countries have enacted or are actively pursuing changes to their tax laws applicable to corporate multinationals.

We are also currently subject to tax controversies in various jurisdictions, and these jurisdictions may assess additional income tax liabilities against us. Developments in an audit, investigation, or other tax controversy could have a material effect on our operating results or cash flows in the period or periods for which that development occurs, as well as for prior and subsequent periods. We regularly assess the likelihood of an adverse outcome resulting from these proceedings to determine the adequacy of our tax accruals. Although we believe our tax estimates are reasonable, the final outcome of audits, investigations, and any other tax controversies could be materially different from our historical income tax provisions and accruals.

**Liquidity and Capital Resources**

Cash flow information is as follows (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | **2022** | **2023** |
| Cash provided by (used in): | | |
| Operating activities | $ 46,752 | $ 84,946 |
| Investing activities | (37,601) | (49,833) |
| Financing activities | 9,718 | (15,879) |

Our principal sources of liquidity are cash flows generated from operations and our cash, cash equivalents, and marketable securities balances, which, at fair value, were $70.0 billion and $86.8 billion as of December 31, 2022 and 2023. Amounts held in foreign currencies were $18.3 billion and $23.5 billion as of December 31, 2022 and 2023. Our foreign currency balances include British Pounds, Canadian Dollars, Euros, Indian Rupees, and Japanese Yen.

Cash provided by (used in) operating activities was $46.8 billion and $84.9 billion in 2022 and 2023. Our operating cash flows result primarily from cash received from our consumer, seller, developer, enterprise, and content creator customers, and advertisers, offset by cash payments we make for products and services, employee compensation, payment processing and related transaction costs, operating leases, and interest payments. Cash received from our customers and other activities generally corresponds to our net sales. The increase in operating cash flow in 2023, compared to the prior year, was due to an increase in net income (loss), excluding non-cash expenses, and changes in working capital. Working capital at any specific point in time is subject to many variables, including variability in demand, inventory management and category expansion, the timing of cash receipts and payments, customer and vendor payment terms, and fluctuations in foreign exchange rates.

Cash provided by (used in) investing activities corresponds with cash capital expenditures, including leasehold improvements, incentives received from property and equipment vendors, proceeds from asset sales, cash outlays for acquisitions, investments in other companies and intellectual property rights, and purchases, sales, and maturities of marketable securities. Cash provided by (used in) investing activities was $(37.6) billion and $(49.8) billion in 2022 and 2023, with the variability caused primarily by purchases, sales, and maturities of marketable securities and cash capital expenditures. Cash capital expenditures were $58.3 billion, and $48.1 billion in 2022 and 2023, which primarily reflect investments in technology infrastructure (the majority of which is to support AWS business growth) and in additional capacity to support our fulfillment network, which investments we expect to increase in 2024. We made cash payments, net of acquired cash, related to acquisition and other investment activity of $8.3 billion and $5.8 billion in 2022 and 2023. We funded the acquisitions of MGM Holdings Inc. in 2022 and 1Life Healthcare, Inc. (One Medical) in 2023 with cash on hand. In 2023, we invested $1.25 billion in a note from Anthropic, PBC, which is convertible into equity. We have an agreement that expires in Q1 2024 to invest up to an additional $2.75 billion in a second convertible note.

Cash provided by (used in) financing activities was $9.7 billion and $(15.9) billion in 2022 and 2023. Cash inflows from financing activities resulted from proceeds from short-term debt, and other and long-term-debt of $62.7 billion and $18.1 billion in 2022 and 2023. Cash outflows from financing activities resulted from repurchases of common stock in 2022, payments of short-term debt, and other, long-term debt, finance leases, and financing obligations of $53.0 billion and $34.0 billion in 2022 and 2023. Property and equipment acquired under finance leases was $675 million and $642 million in 2022 and 2023.

We had no borrowings outstanding under the two unsecured revolving credit facilities or the commercial paper programs, we had $682 million of borrowings outstanding under the secured revolving credit facility, and the entire amount of the term loan has been repaid as of December 31, 2023. See Item 8 of Part II, “Financial Statements and Supplementary Data — Note 6 — Debt” for additional information.

As of December 31, 2023, cash, cash equivalents, and marketable securities held by foreign subsidiaries were $4.7 billion. 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.

Our U.S. taxable income is reduced by accelerated depreciation deductions and increased by the impact of capitalized research and development expenses. U.S. tax rules provide for enhanced accelerated depreciation deductions by allowing us to expense a portion of qualified property, primarily equipment. These enhanced deductions are scheduled to phase out annually from 2023 through 2026. Our federal tax provision included a partial accelerated depreciation deduction election for 2021, and a full election for 2022 and 2023. Additionally, effective January 1, 2022, research and development expenses are required to be capitalized and amortized for U.S. tax purposes, which delays the deductibility of these expenses. Cash paid for U.S. (federal and state) and foreign income taxes (net of refunds) totaled $6.0 billion and $11.2 billion for 2022 and 2023.

As of December 31, 2022 and 2023, restricted cash, cash equivalents, and marketable securities were $365 million and $503 million. See Item 8 of Part II, “Financial Statements and Supplementary Data — Note 6 — Debt” and “Financial Statements and Supplementary Data — Note 7 — Commitments and Contingencies” for additional discussion of our principal contractual commitments, as well as our pledged assets. Additionally, we have purchase obligations and open purchase orders, including for inventory and capital expenditures, that support normal operations and are primarily due in the next twelve months. These purchase obligations and open purchase orders are generally cancellable in full or in part through the contractual provisions.

We believe that cash flows generated from operations and our cash, cash equivalents, and marketable securities balances, as well as our borrowing arrangements, will be sufficient to meet our anticipated operating cash needs for at least the next twelve months. However, any projections of future cash needs and cash flows are subject to substantial uncertainty. See Item 1A of Part I, “Risk Factors.” We continually evaluate opportunities to sell additional equity or debt securities, obtain credit facilities, obtain finance and operating lease arrangements, enter into financing obligations, repurchase common stock, pay dividends, or repurchase, refinance, or otherwise restructure our debt for strategic reasons or to further strengthen our financial position.

The sale of additional equity or convertible debt securities would be dilutive to our shareholders. In addition, we will, from time to time, consider the acquisition of, or investment in, complementary businesses, products, services, capital infrastructure, and technologies, which might affect our liquidity requirements or cause us to secure additional financing, or issue additional equity or debt securities. There can be no assurance that additional credit lines or financing instruments will be available in amounts or on terms acceptable to us, if at all. In addition, economic conditions and actions by policymaking bodies are contributing to changing interest rates and significant capital market volatility, which, along with any increases in our borrowing levels, could increase our future borrowing costs.

**Results of Operations**

We have organized our operations into three segments: North America, International, and AWS. These segments reflect the way the Company evaluates its business performance and manages its operations. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 10 — Segment Information."

*Overview*

Macroeconomic factors, including inflation, increased interest rates, significant capital market and supply chain volatility, and global economic and geopolitical developments, have direct and indirect impacts on our results of operations that are difficult to isolate and quantify. In addition, changes in fuel, utility, and food costs, interest rates, and economic outlook may impact customer demand and our ability to forecast consumer spending patterns. We also expect the current macroeconomic environment and enterprise customer cost optimization efforts to impact our AWS revenue growth rates. We expect some or all of these factors to continue to impact our operations into Q1 2024.

*Net Sales*

Net sales include product and service sales. Product sales represent revenue from the sale of products and related shipping fees and digital media content where we record revenue gross. Service sales primarily represent third-party seller fees, which includes commissions and any related fulfillment and shipping fees, AWS sales, advertising services, Amazon Prime membership fees, and certain digital media content subscriptions. Net sales information is as follows (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Net Sales: | | |
| North America | $ 315,880 | $ 352,828 |
| International | 118,007 | 131,200 |
| AWS | 80,096 | 90,757 |
| Consolidated | $ 513,983 | $ 574,785 |
| Year-over-year Percentage Growth (Decline): | | |
| North America | 13 % | 12 % |
| International | (8) | 11 |
| AWS | 29 | 13 |
| Consolidated | 9 | 12 |
| Year-over-year Percentage Growth, excluding the effect of foreign exchange rates: | | |
| North America | 13 % | 12 % |
| International | 4 | 11 |
| AWS | 29 | 13 |
| Consolidated | 13 | 12 |
| Net Sales Mix: | | |
| North America | 61 % | 61 % |
| International | 23 | 23 |
| AWS | 16 | 16 |
| Consolidated | 100 % | 100 % |

Sales increased 12% in 2023, compared to the prior year. Changes in foreign exchange rates reduced net sales by $71 million in 2023. For a discussion of the effect of foreign exchange rates on sales growth, see "Effect of Foreign Exchange Rates" below.

North America sales increased 12% in 2023, compared to the prior year. The sales growth primarily reflects increased unit sales, primarily by third-party sellers, advertising sales, and subscription services. Increased unit sales were driven largely by our continued focus on price, selection, and convenience for our customers, including from our shipping offers.

International sales increased 11% in 2023, compared to the prior year. The sales growth primarily reflects increased unit sales, primarily by third-party sellers, advertising sales, and subscription services. Increased unit sales were driven largely by our continued focus on price, selection, and convenience for our customers, including from our shipping offers. Changes in foreign exchange rates increased International net sales by $88 million in 2023.

AWS sales increased 13% in 2023, compared to the prior year. The sales growth primarily reflects increased customer usage, partially offset by pricing changes, primarily driven by long-term customer contracts.

*Operating Income (Loss)*

Operating income (loss) by segment is as follows (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | **2022** | **2023** |
| Operating Income (Loss) | | |
| North America | $ (2,847) | $ 14,877 |
| International | (7,746) | (2,656) |
| AWS | 22,841 | 24,631 |
| Consolidated | $ 12,248 | $ 36,852 |

Operating income was $12.2 billion and $36.9 billion for 2022 and 2023. We believe that operating income is a more meaningful measure than gross profit and gross margin due to the diversity of our product categories and services.

The North America operating income in 2023, as compared to the operating loss in the prior year, is primarily due to increased unit sales and increased advertising sales, partially offset by increased shipping and fulfillment costs and increased technology and infrastructure costs.

The decrease in International operating loss in absolute dollars in 2023, compared to the prior year, is primarily due to increased unit sales and increased advertising sales, partially offset by increased fulfillment and shipping costs and increased technology and infrastructure costs. Changes in foreign exchange rates positively impacted operating loss by $246 million in 2023.

The increase in AWS operating income in absolute dollars in 2023, compared to the prior year, is primarily due to increased sales, partially offset by increased payroll and related expenses and spending on technology infrastructure, both of which were primarily driven by additional investments to support AWS business growth. Changes in foreign exchange rates positively impacted operating income by $220 million in 2023.

*Operating Expenses*

Information about operating expenses is as follows (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Operating Expenses: | | |
| Cost of sales | $ 288,831 | $ 304,739 |
| Fulfillment | 84,299 | 90,619 |
| Technology and infrastructure | 73,213 | 85,622 |
| Sales and marketing | 42,238 | 44,370 |
| General and administrative | 11,891 | 11,816 |
| Other operating expense (income), net | 1,263 | 767 |
| Total operating expenses | $ 501,735 | $ 537,933 |
| Year-over-year Percentage Growth (Decline): | | |
| Cost of sales | 6 % | 6 % |
| Fulfillment | 12 | 7 |
| Technology and infrastructure | 31 | 17 |
| Sales and marketing | 30 | 5 |
| General and administrative | 35 | (1) |
| Other operating expense (income), net | 1,936 | (39) |
| Percent of Net Sales: | | |
| Cost of sales | 56.2 % | 53.0 % |
| Fulfillment | 16.4 | 15.8 |
| Technology and infrastructure | 14.2 | 14.9 |
| Sales and marketing | 8.2 | 7.7 |
| General and administrative | 2.3 | 2.1 |
| Other operating expense (income), net | 0.2 | 0.1 |

*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.

The increase in cost of sales in absolute dollars in 2023, compared to the prior year, is primarily due to increased product and shipping costs resulting from increased sales, partially offset by fulfillment network efficiencies and lower transportation rates. Changes in foreign exchange rates reduced cost of sales by $254 million in 2023.

Shipping costs were $83.5 billion and $89.5 billion in 2022 and 2023. 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. We expect our cost of shipping to continue to increase to the extent our customers accept and use our shipping offers at an increasing rate, we use more expensive shipping methods, and we offer additional services. We seek to mitigate costs of shipping over time in part through achieving higher sales volumes, optimizing our fulfillment network, negotiating better terms with our suppliers, and achieving better operating efficiencies. We believe that offering low prices to our customers is fundamental to our future success, and one way we offer lower prices is through shipping offers.

Costs to operate our AWS segment are primarily classified as "Technology and infrastructure" as we leverage a shared infrastructure that supports both our internal technology requirements and external sales to AWS customers.

*Fulfillment*

Fulfillment costs primarily consist of those costs incurred in operating and staffing our North America and International fulfillment centers, physical stores, and customer service centers and payment processing costs. While AWS payment processing and related transaction costs are included in "Fulfillment," AWS costs are primarily classified as "Technology and infrastructure." Fulfillment costs as a percentage of net sales may vary due to several factors, such as payment processing and related transaction costs, our level of productivity and accuracy, changes in volume, size, and weight of units received and fulfilled, the extent to which third-party sellers utilize Fulfillment by Amazon services, timing of fulfillment network and physical store expansion, the extent we utilize fulfillment services provided by third parties, mix of products and services sold, and our ability to affect customer service contacts per unit by implementing improvements in our operations and enhancements to our customer self-service features. Additionally, sales by our sellers have higher payment processing and related transaction costs as a percentage of net sales compared to our retail sales because payment processing costs are based on the gross purchase price of underlying transactions.

The increase in fulfillment costs in absolute dollars in 2023, compared to the prior year, is primarily due to increased sales and investments in our fulfillment network, partially offset by fulfillment network efficiencies. Changes in foreign exchange rates increased fulfillment costs by $52 million in 2023.

We seek to expand our fulfillment network to accommodate a greater selection and in-stock inventory levels and to meet anticipated shipment volumes from sales of our own products as well as sales by third parties for which we provide the fulfillment services. We regularly evaluate our facility requirements.

*Technology and Infrastructure*

Technology and infrastructure 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, including expenditures related to initiatives to build and deploy innovative and efficient software and electronic devices and the development of a satellite network for global broadband service and autonomous vehicles for ride-hailing services.

We seek to invest efficiently in numerous areas of technology and infrastructure so we may continue to enhance the customer experience and improve our process efficiency through rapid technology developments, while operating at an ever increasing scale. Our technology and infrastructure investment and capital spending projects often support a variety of product and service offerings due to geographic expansion and the cross-functionality of our systems and operations. We expect spending in technology and infrastructure to increase over time as we continue to add employees and infrastructure. These costs are allocated to segments based on usage. The increase in technology and infrastructure costs in absolute dollars in 2023, compared to the prior year, is primarily due to an increase in spending on infrastructure and increased payroll and related costs associated with technical teams responsible for expanding our existing products and services and initiatives to introduce new products and service offerings.

*Sales and Marketing*

Sales and marketing costs include advertising and payroll and related expenses for personnel engaged in marketing and selling activities, including sales commissions related to AWS. We direct customers to our stores primarily through a number of marketing channels, such as our sponsored search, social and online advertising, third-party customer referrals, television advertising, and other initiatives. Our marketing costs are largely variable, based on growth in sales and changes in rates. To the extent there is increased or decreased competition for these traffic sources, or to the extent our mix of these channels shifts, we would expect to see a corresponding change in our marketing costs.

The increase in sales and marketing costs in absolute dollars in 2023, compared to the prior year, is primarily due to increased payroll and related expenses for personnel engaged in marketing and selling activities.

While costs associated with Amazon Prime membership benefits and other shipping offers are not included in sales and marketing expense, we view these offers as effective worldwide marketing tools, and intend to continue offering them indefinitely.

*General and Administrative*

General and administrative costs were $11.9 billion and $11.8 billion during 2022 and 2023, and were primarily related to payroll and related expenses and professional fees.

*Other Operating Expense (Income), Net*

Other operating expense (income), net was $1.3 billion and $767 million during 2022 and 2023, and was primarily related to asset impairments for physical store closures in 2022 and for fulfillment network facilities and physical store closures in 2023, and the amortization of intangible assets.

*Interest Income and Expense*

Our interest income was $989 million and $2.9 billion during 2022 and 2023, primarily due to an increase in prevailing rates. We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term marketable debt securities. Our interest income corresponds with the average balance of invested funds based on the prevailing rates, which vary depending on the geographies and currencies in which they are invested.

Interest expense was $2.4 billion and $3.2 billion in 2022 and 2023 and was primarily related to debt and finance leases. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 4 — Leases and Note 6 — Debt" for additional information.

Our long-term lease liabilities were $73.0 billion and $77.3 billion as of December 31, 2022 and 2023. Our long-term debt was $67.1 billion and $58.3 billion as of December 31, 2022 and 2023. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 4 — Leases and Note 6 — Debt" for additional information.

*Other Income (Expense), Net*

Other income (expense), net was $(16.8) billion and $938 million during 2022 and 2023. The primary components of other income (expense), net are related to equity securities valuations and adjustments, equity warrant valuations, and foreign currency. Included in other income (expense), net in 2022 and 2023 is a marketable equity securities valuation gain (loss) of $(12.7) billion and $797 million from our equity investment in Rivian.

*Income Taxes*

Our effective tax rate is subject to significant variation due to several factors, including variability in our pre-tax and taxable income and loss and the mix of jurisdictions to which they relate, intercompany transactions, the applicability of special tax regimes, changes in how we do business, acquisitions, investments, developments in tax controversies, changes in our stock price, changes in our deferred tax assets and liabilities and their valuation, foreign currency gains (losses), changes in statutes, regulations, case law, and administrative practices, principles, and interpretations related to tax, including changes to the global tax framework, competition, and other laws and accounting rules in various jurisdictions, and relative changes of expenses or losses for which tax benefits are not recognized. Our effective tax rate can be more or less volatile based on the amount of pre-tax income or loss. For example, the impact of discrete items and non-deductible expenses on our effective tax rate is greater when our pre-tax income is lower. In addition, we record valuation allowances against deferred tax assets when there is uncertainty about our ability to generate future income in relevant jurisdictions.

We recorded a provision (benefit) for income taxes of $(3.2) billion and $7.1 billion in 2022 and 2023. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 9 — Income Taxes" for additional information.

***Non-GAAP Financial Measures***

Regulation G, Conditions for Use of Non-GAAP Financial Measures, and other SEC regulations define and prescribe the conditions for use of certain non-GAAP financial information. Our measures of free cash flows and the effect of foreign exchange rates on our consolidated statements of operations meet the definition of non-GAAP financial measures.

We provide multiple measures of free cash flows because we believe these measures provide additional perspective on the impact of acquiring property and equipment with cash and through finance leases and financing obligations.

*Free Cash Flow*

Free cash flow is cash flow from operations reduced by "Purchases of property and equipment, net of proceeds from sales and incentives." The following is a reconciliation of free cash flow to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2022 and 2023 (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Net cash provided by (used in) operating activities | $ 46,752 | $ 84,946 |
| Purchases of property and equipment, net of proceeds from sales and incentives | (58,321) | (48,133) |
| Free cash flow | $ (11,569) | $ 36,813 |
| Net cash provided by (used in) investing activities | $ (37,601) | $ (49,833) |
| Net cash provided by (used in) financing activities | $ 9,718 | $ (15,879) |

*Free Cash Flow Less Principal Repayments of Finance Leases and Financing Obligations*

Free cash flow less principal repayments of finance leases and financing obligations is free cash flow reduced by "Principal repayments of finance leases" and "Principal repayments of financing obligations." Principal repayments of finance leases and financing obligations approximates the actual payments of cash for our finance leases and financing obligations. The following is a reconciliation of free cash flow less principal repayments of finance leases and financing obligations to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2022 and 2023 (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Net cash provided by (used in) operating activities | $ 46,752 | $ 84,946 |
| Purchases of property and equipment, net of proceeds from sales and incentives | (58,321) | (48,133) |
| Free cash flow | (11,569) | 36,813 |
| Principal repayments of finance leases | (7,941) | (4,384) |
| Principal repayments of financing obligations | (248) | (271) |
| Free cash flow less principal repayments of finance leases and financing obligations | $ (19,758) | $ 32,158 |
| | | |
| Net cash provided by (used in) investing activities | $ (37,601) | $ (49,833) |
| Net cash provided by (used in) financing activities | $ 9,718 | $ (15,879) |

*Free Cash Flow Less Equipment Finance Leases and Principal Repayments of All Other Finance Leases and Financing Obligations*

Free cash flow less equipment finance leases and principal repayments of all other finance leases and financing obligations is free cash flow reduced by equipment acquired under finance leases, which is included in "Property and equipment acquired under finance leases, net of remeasurements and modifications," principal repayments of all other finance lease liabilities, which is included in "Principal repayments of finance leases," and "Principal repayments of financing obligations." All other finance lease liabilities and financing obligations consists of property. In this measure, equipment acquired under finance leases is reflected as if these assets had been purchased with cash, which is not the case as these assets have been leased. The following is a reconciliation of free cash flow less equipment finance leases and principal repayments of all other finance leases and financing obligations to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2022 and 2023 (in millions):

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2023 |
| Net cash provided by (used in) operating activities | $ 46,752 | $ 84,946 |
| Purchases of property and equipment, net of proceeds from sales and incentives | (58,321) | (48,133) |
| Free cash flow | (11,569) | 36,813 |
| Equipment acquired under finance leases (1) | (299) | (310) |
| Principal repayments of all other finance leases (2) | (670) | (683) |
| Principal repayments of financing obligations | (248) | (271) |
| Free cash flow less equipment finance leases and principal repayments of all other finance leases and financing obligations | $ (12,786) | $ 35,549 |
| | | |
| Net cash provided by (used in) investing activities | $ (37,601) | $ (49,833) |
| Net cash provided by (used in) financing activities | $ 9,718 | $ (15,879) |

(1) For the year ended December 31, 2022 and 2023, this amount relates to equipment included in "Property and equipment acquired under finance leases, net of remeasurements and modifications" of $675 million and $642 million.

(2) For the year ended December 31, 2022 and 2023, this amount relates to property included in "Principal repayments of finance leases" of $7,941 million and $4,384 million.

All of these free cash flows measures have limitations as they omit certain components of the overall cash flow statement and do not represent the residual cash flow available for discretionary expenditures. For example, these measures of free cash flows do not incorporate the portion of payments representing principal reductions of debt or cash payments for business acquisitions. Additionally, our mix of property and equipment acquisitions with cash or other financing options may change over time. Therefore, we believe it is important to view free cash flows measures only as a complement to our entire consolidated statements of cash flows.

*Effect of Foreign Exchange Rates*

Information regarding the effect of foreign exchange rates, versus the U.S. Dollar, on our net sales, operating expenses, and operating income is provided to show reported period operating results had the foreign exchange rates remained the same as those in effect in the comparable prior year period. The effect on our net sales, operating expenses, and operating income from changes in our foreign exchange rates versus the U.S. Dollar is as follows (in millions):

| | Year Ended December 31, 2022 | | | Year Ended December 31, 2023 | | |
|---|---|---|---|---|---|---|
| | As Reported | Exchange Rate Effect (1) | At Prior Year Rates (2) | As Reported | Exchange Rate Effect (1) | At Prior Year Rates (2) |
| Net sales | $ 513,983 | $ 15,495 | $ 529,478 | $ 574,785 | $ 71 | $ 574,856 |
| Operating expenses | 501,735 | 16,356 | 518,091 | 537,933 | 531 | 538,464 |
| Operating income | 12,248 | (861) | 11,387 | 36,852 | (460) | 36,392 |

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(1) Represents the change in reported amounts resulting from changes in foreign exchange rates from those in effect in the comparable prior year period for operating results.

(2) Represents the outcome that would have resulted had foreign exchange rates in the reported period been the same as those in effect in the comparable prior year period for operating results.

***Guidance***

We provided guidance on February 1, 2024, in our earnings release furnished on Form 8-K as set forth below. These forward-looking statements reflect Amazon.com's expectations as of February 1, 2024, and are subject to substantial uncertainty. Our results are inherently unpredictable and may be materially affected by many factors, such as fluctuations in foreign exchange rates, changes in global economic and geopolitical conditions and customer demand and spending (including the impact of recessionary fears), inflation, interest rates, regional labor market constraints, world events, the rate of growth of the internet, online commerce, cloud services, and new and emerging technologies, as well as those outlined in Item 1A of Part I, "Risk Factors."

First Quarter 2024 Guidance

- Net sales are expected to be between $138.0 billion and $143.5 billion, or to grow between 8% and 13% compared with first quarter 2023. This guidance anticipates a favorable impact of approximately 40 basis points from foreign exchange rates.
- Operating income is expected to be between $8.0 billion and $12.0 billion, compared with $4.8 billion in first quarter 2023. This guidance includes approximately $0.9 billion lower depreciation expense due to an increase in the estimated useful life of our servers beginning on January 1, 2024.
- This guidance assumes, among other things, that no additional business acquisitions, restructurings, or legal settlements are concluded.