2018

amazon

ANNUAL REPORT

To our shareowners:

Something strange and remarkable has happened over the last 20 years. Take a look at these numbers:

1999	3%
2000	3%
2001	6%
2002	17%
2003	22%
2004	25%
2005	28%
2006	28%
2007	29%
2008	30%
2009	31%
2010	34%
2011	38%
2012	42%
2013	46%
2014	49%
2015	51%
2016	54%
2017	56%
2018	58%

The percentages represent the share of physical gross merchandise sales sold on Amazon by independent third-party sellers – mostly small- and medium-sized businesses – as opposed to Amazon retail's own first party sales. Third-party sales have grown from 3% of the total to 58%. To put it bluntly:

Third-party sellers are kicking our first party butt. Badly.

And it's a high bar too because our first-party business has grown dramatically over that period, from $1.6 billion in 1999 to $117 billion this past year. The compound annual growth rate for our first-party business in that time period is 25%. But in that same time, third-party sales have grown from $0.1 billion to $160 billion – a compound annual growth rate of 52%. To provide an external benchmark, eBay's gross merchandise sales in that period have grown at a compound rate of 20%, from $2.8 billion to $95 billion.

Why did independent sellers do so much better selling on Amazon than they did on eBay? And why were independent sellers able to grow so much faster than Amazon's own highly organized first-party sales organization? There isn't one answer, but we do know one extremely important part of the answer:

We helped independent sellers compete against our first-party business by investing in and offering them *the very best selling tools we could imagine and build.* There are many such tools, including tools that help sellers manage inventory, process payments, track shipments, create reports, and sell across borders – and we're inventing more every year. But of great importance are Fulfillment by Amazon and the Prime membership program. In combination, these two programs meaningfully improved the customer experience of buying from independent sellers. With the success of these two programs now so well established, it's difficult for most people to fully appreciate today just how radical those two offerings were at the time we launched them. We invested in both of these programs at significant financial risk and after much internal debate. We had to continue investing significantly over time as we experimented with different ideas and iterations. We could not foresee with certainty what those programs would eventually look like, let alone whether they would succeed, but they were pushed forward with intuition and heart, and nourished with optimism.

Intuition, curiosity, and the power of wandering

From very early on in Amazon's life, we knew we wanted to create a culture of builders – people who are curious, explorers. They like to invent. Even when they're experts, they are "fresh" with a beginner's mind. They see the way we do things as just the way we do things *now*. A builder's mentality helps us approach big, hard-to-solve opportunities with a humble conviction that success can come through iteration: invent, launch, reinvent, relaunch, start over, rinse, repeat, again and again. They know the path to success is anything but straight.

Sometimes (often actually) in business, you *do* know where you're going, and when you do, you can be efficient. Put in place a plan and execute. In contrast, wandering in business is not efficient … but it's also not random. It's *guided* – by hunch, gut, intuition, curiosity, and powered by a deep conviction that the prize for customers is big enough that it's worth being a little messy and tangential to find our way there. Wandering is an essential counter-balance to efficiency. You need to employ both. The outsized discoveries – the "non-linear" ones – are highly likely to require wandering.

AWS's millions of customers range from startups to large enterprises, government entities to nonprofits, each looking to build better solutions for their end users. We spend a lot of time thinking about what those organizations want and what the people inside them – developers, dev managers, ops managers, CIOs, chief digital officers, chief information security officers, etc. – want.

Much of what we build at AWS is based on *listening* to customers. It's critical to ask customers what they want, listen carefully to their answers, and figure out a plan to provide it thoughtfully and quickly (speed matters in business!). No business could thrive without that kind of customer obsession. But it's also not enough. The biggest needle movers will be things that customers don't know to ask for. We must invent on their behalf. We have to tap into our own inner imagination about what's possible.

AWS itself – as a whole – is an example. No one asked for AWS. No one. Turns out the world was in fact ready and hungry for an offering like AWS but didn't know it. We had a hunch, followed our curiosity, took the necessary financial risks, and began building – reworking, experimenting, and iterating countless times as we proceeded.

Within AWS, that same pattern has recurred many times. For example, we invented DynamoDB, a highly scalable, low latency key-value database now used by thousands of AWS customers. And on the listening-carefully-to-customers side, we heard loudly that companies felt constrained by their commercial database options and had been unhappy with their database providers for decades – these offerings are expensive, proprietary, have high-lock-in and punitive licensing terms. We spent several years building our own database engine, Amazon Aurora, a fully-managed MySQL and PostgreSQL-compatible service with the same or better durability and availability as the commercial engines, but at one-tenth of the cost. We were *not* surprised when this worked.

But we're also optimistic about specialized databases for specialized workloads. Over the past 20 to 30 years, companies ran most of their workloads using relational databases. The broad familiarity with relational databases among developers made this technology the go-to even when it wasn't ideal. Though sub-optimal, the data set sizes were often small enough and the acceptable query latencies long enough that you could make it work. But today, many applications are storing very large amounts of data – terabytes and petabytes. And the requirements for apps have changed. Modern applications are driving the need for low latencies, real-time processing, and the ability to process millions of requests per second. It's not just key-value stores like DynamoDB, but also in-memory databases like Amazon ElastiCache, time series databases like Amazon Timestream, and ledger solutions like Amazon Quantum Ledger Database – the right tool for the right job saves money and gets your product to market faster.

We’re also plunging into helping companies harness Machine Learning. We’ve been working on this for a long time, and, as with other important advances, our initial attempts to externalize some of our early internal Machine Learning tools were failures. It took years of wandering – experimentation, iteration, and refinement, as well as valuable insights from our customers – to enable us to find SageMaker, which launched just 18 months ago. SageMaker removes the heavy lifting, complexity, and guesswork from each step of the machine learning process – democratizing AI. Today, thousands of customers are building machine learning models on top of AWS with SageMaker. We continue to enhance the service, including by adding new reinforcement learning capabilities. Reinforcement learning has a steep learning curve and many moving parts, which has largely put it out of reach of all but the most well-funded and technical organizations, until now. None of this would be possible without a culture of curiosity and a willingness to try totally new things on behalf of customers. And customers are responding to our customer-centric wandering and listening – AWS is now a $30 billion annual run rate business and growing fast.

Imagining the impossible

Amazon today remains a small player in global retail. We represent a low single-digit percentage of the retail market, and there are much larger retailers in every country where we operate. And that’s largely because nearly 90% of retail remains offline, in brick and mortar stores. For many years, we considered how we might serve customers in physical stores, but felt we needed first to invent something that would really delight customers in that environment. With Amazon Go, we had a clear vision. Get rid of the worst thing about physical retail: checkout lines. No one likes to wait in line. Instead, we imagined a store where you could walk in, pick up what you wanted, and leave.

Getting there was hard. Technically hard. It required the efforts of hundreds of smart, dedicated computer scientists and engineers around the world. We had to design and build our own proprietary cameras and shelves and invent new computer vision algorithms, including the ability to stitch together imagery from hundreds of cooperating cameras. And we had to do it in a way where the technology worked so well that it simply receded into the background, invisible. The reward has been the response from customers, who’ve described the experience of shopping at Amazon Go as “magical.” We now have 10 stores in Chicago, San Francisco, and Seattle, and are excited about the future.

Failure needs to scale too

As a company grows, *everything* needs to scale, including the size of your failed experiments. If the size of your failures isn’t growing, you’re not going to be inventing at a size that can actually move the needle. Amazon will be experimenting at the right scale for a company of our size if we occasionally have multibillion-dollar failures. Of course, we won’t undertake such experiments cavalierly. We will work hard to make them good bets, but not all good bets will ultimately pay out. This kind of large-scale risk taking is part of the service we as a large company can provide to our customers and to society. The good news for shareowners is that a single big winning bet can more than cover the cost of many losers.

Development of the Fire phone and Echo was started around the same time. While the Fire phone was a failure, we were able to take our learnings (as well as the developers) and accelerate our efforts building Echo and Alexa. The vision for Echo and Alexa was inspired by the Star Trek computer. The idea also had origins in two other arenas where we’d been building and wandering for years: machine learning and the cloud. From Amazon’s early days, machine learning was an essential part of our product recommendations, and AWS gave us a front row seat to the capabilities of the cloud. After many years of development, Echo debuted in 2014, powered by Alexa, who lives in the AWS cloud.

No customer was asking for Echo. This was definitely us wandering. Market research doesn’t help. If you had gone to a customer in 2013 and said “Would you like a black, always-on cylinder in your kitchen about the size of a Pringles can that you can talk to and ask questions, that also turns on your lights and plays music?” I guarantee you they’d have looked at you strangely and said “No, thank you.”

Since that first-generation Echo, customers have purchased more than 100 million Alexa-enabled devices. Last year, we improved Alexa's ability to understand requests and answer questions by more than 20%, while adding billions of facts to make Alexa more knowledgeable than ever. Developers doubled the number of Alexa skills to over 80,000, and customers spoke to Alexa tens of billions more times in 2018 compared to 2017. The number of devices with Alexa built-in more than doubled in 2018. There are now more than 150 different products available with Alexa built-in, from headphones and PCs to cars and smart home devices. Much more to come!

One last thing before closing. As I said in the first shareholder letter more than 20 years ago, our focus is on hiring and retaining versatile and talented employees who can think like owners. Achieving that requires investing in our employees, and, as with so many other things at Amazon, we use not just analysis but also intuition and heart to find our way forward.

Last year, we raised our minimum wage to $15-an-hour for all full-time, part-time, temporary, and seasonal employees across the U.S. This wage hike benefitted more than 250,000 Amazon employees, as well as over 100,000 seasonal employees who worked at Amazon sites across the country last holiday. We strongly believe that this will benefit our business as we invest in our employees. But that is not what drove the decision. We had always offered competitive wages. But we decided it was time to lead – to offer wages that went beyond competitive. We did it because it seemed like the right thing to do.

Today I challenge our top retail competitors (you know who you are!) to match our employee benefits and our $15 minimum wage. Do it! Better yet, go to $16 and throw the gauntlet back at us. It's a kind of competition that will benefit everyone.

Many of the other programs we have introduced for our employees came as much from the heart as the head. I've mentioned before the Career Choice program, which pays up to 95% of tuition and fees towards a certificate or diploma in qualified fields of study, leading to in-demand careers for our associates, even if those careers take them away from Amazon. More than 16,000 employees have now taken advantage of the program, which continues to grow. Similarly, our Career Skills program trains hourly associates in critical job skills like resume writing, how to communicate effectively, and computer basics. In October of last year, in continuation of these commitments, we signed the President's Pledge to America's Workers and announced we will be upskilling 50,000 U.S. employees through our range of innovative training programs.

Our investments are not limited to our current employees or even to the present. To train tomorrow's workforce, we have pledged $50 million, including through our recently announced Amazon Future Engineer program, to support STEM and CS education around the country for elementary, high school, and university students, with a particular focus on attracting more girls and minorities to these professions. We also continue to take advantage of the incredible talents of our veterans. We are well on our way to meeting our pledge to hire 25,000 veterans and military spouses by 2021. And through the Amazon Technical Veterans Apprenticeship program, we are providing veterans on-the-job training in fields like cloud computing.

A huge thank you to our customers for allowing us to serve you while always challenging us to do even better, to our shareowners for your continuing support, and to all our employees worldwide for your hard work and pioneering spirit. Teams all across Amazon are *listening* to customers and *wandering* on their behalf!

As always, I attach a copy of our original 1997 letter. It remains Day 1.

Sincerely,

Jeffrey P. Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.

amazon.com

1997 LETTER TO SHAREHOLDERS

(Reprinted from the 1997 Annual Report)

To our shareholders:

Amazon.com passed many milestones in 1997: by year-end, we had served more than 1.5 million customers, yielding 838% revenue growth to $147.8 million, and extended our market leadership despite aggressive competitive entry.

But this is Day 1 for the Internet and, if we execute well, for Amazon.com. Today, online commerce saves customers money and precious time. Tomorrow, through personalization, online commerce will accelerate the very process of discovery. Amazon.com uses the Internet to create real value for its customers and, by doing so, hopes to create an enduring franchise, even in established and large markets.

We have a window of opportunity as larger players marshal the resources to pursue the online opportunity and as customers, new to purchasing online, are receptive to forming new relationships. The competitive landscape has continued to evolve at a fast pace. Many large players have moved online with credible offerings and have devoted substantial energy and resources to building awareness, traffic, and sales. Our goal is to move quickly to solidify and extend our current position while we begin to pursue the online commerce opportunities in other areas. We see substantial opportunity in the large markets we are targeting. This strategy is not without risk: it requires serious investment and crisp execution against established franchise leaders.

It's All About the Long Term

We believe that a fundamental measure of our success will be the shareholder value we create over the *long term*. This value will be a direct result of our ability to extend and solidify our current market leadership position. The stronger our market leadership, the more powerful our economic model. Market leadership can translate directly to higher revenue, higher profitability, greater capital velocity, and correspondingly stronger returns on invested capital.

Our decisions have consistently reflected this focus. We first measure ourselves in terms of the metrics most indicative of our market leadership: customer and revenue growth, the degree to which our customers continue to purchase from us on a repeat basis, and the strength of our brand. We have invested and will continue to invest aggressively to expand and leverage our customer base, brand, and infrastructure as we move to establish an enduring franchise.

Because of our emphasis on the long term, we may make decisions and weigh tradeoffs differently than some companies. Accordingly, we want to share with you our fundamental management and decision-making approach so that you, our shareholders, may confirm that it is consistent with your investment philosophy:

- We will continue to focus relentlessly on our customers.
- We will continue to make investment decisions in light of long-term market leadership considerations rather than short-term profitability considerations or short-term Wall Street reactions.
- We will continue to measure our programs and the effectiveness of our investments analytically, to jettison those that do not provide acceptable returns, and to step up our investment in those that work best. We will continue to learn from both our successes and our failures.

- We will make bold rather than timid investment decisions where we see a sufficient probability of gaining market leadership advantages. Some of these investments will pay off, others will not, and we will have learned another valuable lesson in either case.
- When forced to choose between optimizing the appearance of our GAAP accounting and maximizing the present value of future cash flows, we'll take the cash flows.
- We will share our strategic thought processes with you when we make bold choices (to the extent competitive pressures allow), so that you may evaluate for yourselves whether we are making rational long-term leadership investments.
- We will work hard to spend wisely and maintain our lean culture. We understand the importance of continually reinforcing a cost-conscious culture, particularly in a business incurring net losses.
- We will balance our focus on growth with emphasis on long-term profitability and capital management. At this stage, we choose to prioritize growth because we believe that scale is central to achieving the potential of our business model.
- We will continue to focus on hiring and retaining versatile and talented employees, and continue to weight their compensation to stock options rather than cash. We know our success will be largely affected by our ability to attract and retain a motivated employee base, each of whom must think like, and therefore must actually be, an owner.

We aren't so bold as to claim that the above is the "right" investment philosophy, but it's ours, and we would be remiss if we weren't clear in the approach we have taken and will continue to take.

With this foundation, we would like to turn to a review of our business focus, our progress in 1997, and our outlook for the future.

Obsess Over Customers

From the beginning, our focus has been on offering our customers compelling value. We realized that the Web was, and still is, the World Wide Wait. Therefore, we set out to offer customers something they simply could not get any other way, and began serving them with books. We brought them much more selection than was possible in a physical store (our store would now occupy 6 football fields), and presented it in a useful, easy-to-search, and easy-to-browse format in a store open 365 days a year, 24 hours a day. We maintained a dogged focus on improving the shopping experience, and in 1997 substantially enhanced our store. We now offer customers gift certificates, 1-Click℠ shopping, and vastly more reviews, content, browsing options, and recommendation features. We dramatically lowered prices, further increasing customer value. Word of mouth remains the most powerful customer acquisition tool we have, and we are grateful for the trust our customers have placed in us. Repeat purchases and word of mouth have combined to make Amazon.com the market leader in online bookselling.

By many measures, Amazon.com came a long way in 1997:

- Sales grew from $15.7 million in 1996 to $147.8 million – an 838% increase.
- Cumulative customer accounts grew from 180,000 to 1,510,000 – a 738% increase.
- The percentage of orders from repeat customers grew from over 46% in the fourth quarter of 1996 to over 58% in the same period in 1997.
- In terms of audience reach, per Media Metrix, our Web site went from a rank of 90th to within the top 20.
- We established long-term relationships with many important strategic partners, including America Online, Yahoo!, Excite, Netscape, GeoCities, AltaVista, @Home, and Prodigy.

Infrastructure

During 1997, we worked hard to expand our business infrastructure to support these greatly increased traffic, sales, and service levels:

- Amazon.com's employee base grew from 158 to 614, and we significantly strengthened our management team.
- Distribution center capacity grew from 50,000 to 285,000 square feet, including a 70% expansion of our Seattle facilities and the launch of our second distribution center in Delaware in November.
- Inventories rose to over 200,000 titles at year-end, enabling us to improve availability for our customers.
- Our cash and investment balances at year-end were $125 million, thanks to our initial public offering in May 1997 and our $75 million loan, affording us substantial strategic flexibility.

Our Employees

The past year's success is the product of a talented, smart, hard-working group, and I take great pride in being a part of this team. Setting the bar high in our approach to hiring has been, and will continue to be, the single most important element of Amazon.com's success.

It's not easy to work here (when I interview people I tell them, "You can work long, hard, or smart, but at Amazon.com you can't choose two out of three"), but we are working to build something important, something that matters to our customers, something that we can all tell our grandchildren about. Such things aren't meant to be easy. We are incredibly fortunate to have this group of dedicated employees whose sacrifices and passion build Amazon.com.

Goals for 1998

We are still in the early stages of learning how to bring new value to our customers through Internet commerce and merchandising. Our goal remains to continue to solidify and extend our brand and customer base. This requires sustained investment in systems and infrastructure to support outstanding customer convenience, selection, and service while we grow. We are planning to add music to our product offering, and over time we believe that other products may be prudent investments. We also believe there are significant opportunities to better serve our customers overseas, such as reducing delivery times and better tailoring the customer experience. To be certain, a big part of the challenge for us will lie not in finding new ways to expand our business, but in prioritizing our investments.

We now know vastly more about online commerce than when Amazon.com was founded, but we still have so much to learn. Though we are optimistic, we must remain vigilant and maintain a sense of urgency. The challenges and hurdles we will face to make our long-term vision for Amazon.com a reality are several: aggressive, capable, well-funded competition; considerable growth challenges and execution risk; the risks of product and geographic expansion; and the need for large continuing investments to meet an expanding market opportunity. However, as we've long said, online bookselling, and online commerce in general, should prove to be a very large market, and it's likely that a number of companies will see significant benefit. We feel good about what we've done, and even more excited about what we want to do.

1997 was indeed an incredible year. We at Amazon.com are grateful to our customers for their business and trust, to each other for our hard work, and to our shareholders for their support and encouragement.

Jeff P. Bezos

Jeffrey P. Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2018

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to .

Commission File No. 000-22513

AMAZON.COM, INC.
(Exact name of registrant as specified in its charter)

Delaware	**91-1646860**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

410 Terry Avenue North
Seattle, Washington 98109-5210
(206) 266-1000
(Address and telephone number, including area code, of registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $.01 per share	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Aggregate market value of voting stock held by non-affiliates of the registrant as of June 30, 2018	$	693,894,417,636
Number of shares of common stock outstanding as of January 23, 2019		491,202,890

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Report, to the extent not set forth herein, is incorporated herein by reference from the registrant's definitive proxy statement relating to the Annual Meeting of Shareholders to be held in 2019, which definitive proxy statement shall be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this Report relates.

AMAZON.COM, INC.
FORM 10-K
For the Fiscal Year Ended December 31, 2018

INDEX

AMAZON.COM, INC.

PART I

Item 1. *Business*

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements based on expectations, estimates, and projections as of the date of this filing. Actual results may differ materially from those expressed in forward-looking statements. See Item 1A of Part I — "Risk Factors."

Amazon.com, Inc. was incorporated in 1994 in the state of Washington and reincorporated in 1996 in the state of Delaware. Our principal corporate offices are located in Seattle, Washington. We completed our initial public offering in May 1997 and our common stock is listed on the Nasdaq Global Select Market under the symbol "AMZN."

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

General

We seek to be Earth's most customer-centric company. We are guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. In each of our segments, we serve our primary customer sets, consisting of consumers, sellers, developers, enterprises, and content creators. In addition, we provide services, such as advertising.

We have organized our operations into three segments: North America, International, and Amazon Web Services ("AWS"). These segments reflect the way the Company evaluates its business performance and manages its operations. Information on our net sales is contained in Item 8 of Part II, "Financial Statements and Supplementary Data — Note 10 — Segment Information." The financial results of Whole Foods Market, Inc. ("Whole Foods Market") have been included in our consolidated financial statements from the date of acquisition on August 28, 2017.

Consumers

We serve consumers through our online and physical stores and focus on selection, price, and convenience. We design our stores to enable hundreds of millions of unique products to be sold by us and by third parties across dozens of product categories. Customers access our offerings through our websites, mobile apps, Alexa, and physically visiting our stores. We also manufacture and sell electronic devices, including Kindle e-readers, Fire tablets, Fire TVs, and Echo devices, and we develop and produce media content. We strive to offer our customers the lowest prices possible through low everyday product pricing and shipping offers, and to improve our operating efficiencies so that we can continue to lower prices for our customers. We also provide easy-to-use functionality, fast and reliable fulfillment, and timely customer service. In addition, we offer Amazon Prime, a membership program that includes unlimited free shipping on over 100 million items, access to unlimited streaming of thousands of movies and TV episodes, and other benefits.

We fulfill customer orders in a number of ways, including through: North America and International fulfillment and delivery networks that we operate; co-sourced and outsourced arrangements in certain countries; digital delivery; and through our physical stores. We operate customer service centers globally, which are supplemented by co-sourced arrangements. See Item 2 of Part I, "Properties."

Sellers

We offer programs that enable sellers to grow their businesses, sell their products in our stores, and fulfill orders through us. We are not the seller of record in these transactions. We earn fixed fees, a percentage of sales, per-unit activity fees, interest, or some combination thereof, for our seller programs.

Developers and Enterprises

We serve developers and enterprises of all sizes, including start-ups, government agencies, and academic institutions, through our AWS segment, which offers a broad set of global compute, storage, database, and other service offerings.

Content Creators

We serve authors and independent publishers with Kindle Direct Publishing, an online service that lets independent authors and publishers choose a royalty option and make their books available in the Kindle Store, along with Amazon's own publishing arm, Amazon Publishing. We also offer programs that allow authors, musicians, filmmakers, skill and app developers, and others to publish and sell content.

Competition

Our businesses encompass a large variety of product types, service offerings, and delivery channels. The worldwide marketplace in which we compete is evolving rapidly and intensely competitive, and we face a broad array of competitors from many different industry sectors around the world. Our current and potential competitors include: (1) physical, e-commerce, and omnichannel retailers, publishers, vendors, distributors, manufacturers, and producers of the products we offer and sell to consumers and businesses; (2) publishers, producers, and distributors of physical, digital, and interactive media of all types and all distribution channels; (3) web search engines, comparison shopping websites, social networks, web portals, and other online and app-based means of discovering, using, or acquiring goods and services, either directly or in collaboration with other retailers; (4) companies that provide e-commerce services, including website development, advertising, fulfillment, customer service, and payment processing; (5) companies that provide fulfillment and logistics services for themselves or for third parties, whether online or offline; (6) companies that provide information technology services or products, including on-premises or cloud-based infrastructure and other services; and (7) companies that design, manufacture, market, or sell consumer electronics, telecommunication, and electronic devices. We believe that the principal competitive factors in our retail businesses include selection, price, and convenience, including fast and reliable fulfillment. Additional competitive factors for our seller and enterprise services include the quality, speed, and reliability of our services and tools, as well as customers' ability and willingness to change business practices. Some of our current and potential competitors have greater resources, longer histories, more customers, greater brand recognition, and greater control over inputs critical to our various businesses. They may secure better terms from suppliers, adopt more aggressive pricing, pursue restrictive distribution agreements that restrict our access to supply, direct consumers to their own offerings instead of ours, lock-in potential customers with restrictive terms, and devote more resources to technology, infrastructure, fulfillment, and marketing. Each of our businesses is also subject to rapid change and the development of new business models and the entry of new and well-funded competitors. Other companies also may enter into business combinations or alliances that strengthen their competitive positions.

Intellectual Property

We regard our trademarks, service marks, copyrights, patents, domain names, trade dress, trade secrets, proprietary technologies, and similar intellectual property as critical to our success, and we rely on trademark, copyright, and patent law, trade-secret protection, and confidentiality and/or license agreements with our employees, customers, partners, and others to protect our proprietary rights. We have registered, or applied for the registration of, a number of U.S. and international domain names, trademarks, service marks, and copyrights. Additionally, we have filed U.S. and international patent applications covering certain of our proprietary technology. We have licensed in the past, and expect that we may license in the future, certain of our proprietary rights to third parties.

Seasonality

Our business is affected by seasonality, which historically has resulted in higher sales volume during our fourth quarter, which ends December 31. We recognized 32%, 34%, and 31% of our annual revenue during the fourth quarter of 2016, 2017, and 2018. Fourth quarter 2017 results include revenue attributable to Whole Foods Market, which we acquired on August 28, 2017.

Employees

We employed approximately 647,500 full-time and part-time employees as of December 31, 2018. However, employment levels fluctuate due to seasonal factors affecting our business. Additionally, we utilize independent contractors and temporary personnel to supplement our workforce. We have works councils, statutory employee representation obligations, and union agreements in certain countries outside the United States and at certain of our studio operations within the United States. We consider our employee relations to be good. Competition for qualified personnel in our industry has historically been intense, particularly for software engineers, computer scientists, and other technical staff.

Available Information

Our investor relations website is amazon.com/ir and we encourage investors to use it as a way of easily finding information about us. We promptly make available on this website, free of charge, the reports that we file or furnish with the

Securities and Exchange Commission ("SEC"), corporate governance information (including our Code of Business Conduct and Ethics), and select press releases.

Executive Officers and Directors

The following tables set forth certain information regarding our Executive Officers and Directors as of January 23, 2019:

Executive Officers of the Registrant

Name	Age	Position
Jeffrey P. Bezos	55	President, Chief Executive Officer, and Chairman of the Board
Jeffrey M. Blackburn	49	Senior Vice President, Business Development
Andrew R. Jassy	51	CEO Amazon Web Services
Brian T. Olsavsky	55	Senior Vice President and Chief Financial Officer
Shelley L. Reynolds	54	Vice President, Worldwide Controller, and Principal Accounting Officer
Jeffrey A. Wilke	52	CEO Worldwide Consumer
David A. Zapolsky	55	Senior Vice President, General Counsel, and Secretary

Jeffrey P. Bezos. Mr. Bezos has been Chairman of the Board of Amazon.com since founding it in 1994 and Chief Executive Officer since May 1996. Mr. Bezos served as President of the Company from founding until June 1999 and again from October 2000 to the present.

Jeffrey M. Blackburn. Mr. Blackburn has served as Senior Vice President, Business Development, since April 2006.

Andrew R. Jassy. Mr. Jassy has served as CEO Amazon Web Services since April 2016, and Senior Vice President, Amazon Web Services, from April 2006 until April 2016.

Brian T. Olsavsky. Mr. Olsavsky has served as Senior Vice President and Chief Financial Officer since June 2015, Vice President, Finance for the Global Consumer Business from December 2011 to June 2015, and numerous financial leadership roles across Amazon with global responsibility since April 2002.

Shelley L. Reynolds. Ms. Reynolds has served as Vice President, Worldwide Controller, and Principal Accounting Officer since April 2007.

Jeffrey A. Wilke. Mr. Wilke has served as CEO Worldwide Consumer since April 2016, Senior Vice President, Consumer Business, from February 2012 until April 2016, and as Senior Vice President, North America Retail, from January 2007 until February 2012.

David A. Zapolsky. Mr. Zapolsky has served as Senior Vice President, General Counsel, and Secretary since May 2014, Vice President, General Counsel, and Secretary from September 2012 to May 2014, and as Vice President and Associate General Counsel for Litigation and Regulatory matters from April 2002 until September 2012.

Board of Directors

Name	Age	Position
Jeffrey P. Bezos	55	President, Chief Executive Officer, and Chairman of the Board
Tom A. Alberg	78	Managing Director, Madrona Venture Group
Jamie S. Gorelick	68	Partner, Wilmer Cutler Pickering Hale and Dorr LLP
Daniel P. Huttenlocher	60	Dean and Vice Provost, Cornell Tech at Cornell University
Judith A. McGrath	66	Senior Advisor, Astronauts Wanted * No experience necessary
Jonathan J. Rubinstein	62	Former co-CEO, Bridgewater Associates, LP
Thomas O. Ryder	74	Retired, Former Chairman, Reader's Digest Association, Inc.
Patricia Q. Stonesifer	62	President and Chief Executive Officer, Martha's Table
Wendell P. Weeks	59	Chief Executive Officer, Corning Incorporated

Item 1A. *Risk Factors*

Please carefully consider the following risk factors. If any of the following risks occur, our business, financial condition, operating results, and cash flows could be materially adversely affected. In addition, the current global economic climate amplifies many of these risks.

We Face Intense Competition

Our businesses are rapidly evolving and intensely competitive, and we have many competitors in different industries, including physical, e-commerce, and omnichannel retail, e-commerce services, digital content and electronic devices, web and infrastructure computing services, and transportation and logistics services, and across geographies, including cross-border competition. Some of our current and potential competitors have greater resources, longer histories, more customers, and/or greater brand recognition, particularly with our newly-launched products and services and in our newer geographic regions. They may secure better terms from vendors, adopt more aggressive pricing, and devote more resources to technology, infrastructure, fulfillment, and marketing.

Competition may intensify, including with the development of new business models and the entry of new and well-funded competitors, and as our competitors enter into business combinations or alliances and established companies in other market segments expand to become competitive with our business. In addition, new and enhanced technologies, including search, web and infrastructure computing services, digital content, and electronic devices, may increase our competition. The Internet facilitates competitive entry and comparison shopping, and increased competition may reduce our sales and profits.

Our Expansion Places a Significant Strain on our Management, Operational, Financial, and Other Resources

We are rapidly and significantly expanding our global operations, including increasing our product and service offerings and scaling our infrastructure to support our retail and services businesses. This expansion increases the complexity of our business and places significant strain on our management, personnel, operations, systems, technical performance, financial resources, and internal financial control and reporting functions. We may not be able to manage growth effectively, which could damage our reputation, limit our growth, and negatively affect our operating results.

Our Expansion into New Products, Services, Technologies, and Geographic Regions Subjects Us to Additional Business, Legal, Financial, and Competitive Risks

We may have limited or no experience in our newer market segments, and our customers may not adopt our offerings. These offerings may present new and difficult technology challenges, and we may be subject to claims if customers of these offerings experience service disruptions or failures or other quality issues. In addition, profitability, if any, in our newer activities may be lower than in our older activities, and we may not be successful enough in these newer activities to recoup our investments in them. If any of this were to occur, it could damage our reputation, limit our growth, and negatively affect our operating results.

We May Experience Significant Fluctuations in Our Operating Results and Growth Rate

We may not be able to accurately forecast our growth rate. We base our expense levels and investment plans on sales estimates. A significant portion of our expenses and investments is fixed, and we may not be able to adjust our spending quickly enough if our sales are less than expected.

Our revenue growth may not be sustainable, and our percentage growth rates may decrease. Our revenue and operating profit growth depends on the continued growth of demand for the products and services offered by us or our sellers, and our business is affected by general economic and business conditions worldwide. A softening of demand, whether caused by changes in customer preferences or a weakening of the U.S. or global economies, may result in decreased revenue or growth.

Our sales and operating results will also fluctuate for many other reasons, including due to risks described elsewhere in this section and the following:

- our ability to retain and increase sales to existing customers, attract new customers, and satisfy our customers' demands;
- our ability to retain and expand our network of sellers;
- our ability to offer products on favorable terms, manage inventory, and fulfill orders;
- the introduction of competitive stores, websites, products, services, price decreases, or improvements;
- changes in usage or adoption rates of the Internet, e-commerce, electronic devices, and web services, including outside the U.S.;

- timing, effectiveness, and costs of expansion and upgrades of our systems and infrastructure;
- the success of our geographic, service, and product line expansions;
- the extent to which we finance, and the terms of any such financing for, our current operations and future growth;
- the outcomes of legal proceedings and claims, which may include significant monetary damages or injunctive relief and could have a material adverse impact on our operating results;
- variations in the mix of products and services we sell;
- variations in our level of merchandise and vendor returns;
- the extent to which we offer free shipping, continue to reduce prices worldwide, and provide additional benefits to our customers;
- factors affecting our reputation or brand image;
- the extent to which we invest in technology and content, fulfillment, and other expense categories;
- increases in the prices of fuel and gasoline, as well as increases in the prices of other energy products and commodities like paper and packing supplies;
- the extent to which our equity-method investees record significant operating and non-operating items;
- the extent to which operators of the networks between our customers and our stores successfully charge fees to grant our customers unimpaired and unconstrained access to our online services;
- our ability to collect amounts owed to us when they become due;
- the extent to which use of our services is affected by spyware, viruses, phishing and other spam emails, denial of service attacks, data theft, computer intrusions, outages, and similar events; and
- terrorist attacks and armed hostilities.

Our International Operations Expose Us to a Number of Risks

Our international activities are significant to our revenues and profits, and we plan to further expand internationally. In certain international market segments, we have relatively little operating experience and may not benefit from any first-to-market advantages or otherwise succeed. It is costly to establish, develop, and maintain international operations and stores, and promote our brand internationally. Our international operations may not be profitable on a sustained basis.

In addition to risks described elsewhere in this section, our international sales and operations are subject to a number of risks, including:

- local economic and political conditions;
- government regulation (such as regulation of our product and service offerings and of competition); restrictive governmental actions (such as trade protection measures, including export duties and quotas and custom duties and tariffs); nationalization; and restrictions on foreign ownership;
- restrictions on sales or distribution of certain products or services and uncertainty regarding liability for products, services, and content, including uncertainty as a result of less Internet-friendly legal systems, local laws, lack of legal precedent, and varying rules, regulations, and practices regarding the physical and digital distribution of media products and enforcement of intellectual property rights;
- business licensing or certification requirements, such as for imports, exports, web services, and electronic devices;
- limitations on the repatriation and investment of funds and foreign currency exchange restrictions;
- limited fulfillment and technology infrastructure;
- shorter payable and longer receivable cycles and the resultant negative impact on cash flow;
- laws and regulations regarding consumer and data protection, privacy, network security, encryption, payments, and restrictions on pricing or discounts;
- lower levels of use of the Internet;
- lower levels of consumer spending and fewer opportunities for growth compared to the U.S.;
- lower levels of credit card usage and increased payment risk;
- difficulty in staffing, developing, and managing foreign operations as a result of distance, language, and cultural differences;

- different employee/employer relationships and the existence of works councils and labor unions;
- compliance with the U.S. Foreign Corrupt Practices Act and other applicable U.S. and foreign laws prohibiting corrupt payments to government officials and other third parties;
- laws and policies of the U.S. and other jurisdictions affecting trade, foreign investment, loans, and taxes; and
- geopolitical events, including war and terrorism.

As international physical, e-commerce, and omnichannel retail and other services grow, competition will intensify, including through adoption of evolving business models. Local companies may have a substantial competitive advantage because of their greater understanding of, and focus on, the local customer, as well as their more established local brand names. We may not be able to hire, train, retain, and manage required personnel, which may limit our international growth.

The People's Republic of China ("PRC") and India regulate Amazon's and its affiliates' businesses and operations in country through regulations and license requirements that may restrict (i) foreign investment in and operation of the Internet, IT infrastructure, data centers, retail, delivery, and other sectors, (ii) Internet content, and (iii) the sale of media and other products and services. For example, in order to meet local ownership and regulatory licensing requirements, www.amazon.cn is operated by PRC companies that are indirectly owned, either wholly or partially, by PRC nationals. In addition, we provide certain technology services in China in conjunction with third parties that hold PRC licenses to provide services. In India, the government restricts the ownership or control of Indian companies by foreign entities involved in online multi-brand retail trading activities. For www.amazon.in, we provide certain marketing tools and logistics services to third-party sellers to enable them to sell online and deliver to customers, and we hold indirect minority interests in entities that are third-party sellers on the www.amazon.in marketplace. Although we believe these structures and activities comply with existing laws, they involve unique risks, and the PRC and India are actively considering changes in their foreign investment rules that could impact these structures and activities. There are substantial uncertainties regarding the interpretation of PRC and Indian laws and regulations, and it is possible that these governments will ultimately take a view contrary to ours. In addition, our Chinese and Indian businesses and operations may be unable to continue to operate if we or our affiliates are unable to access sufficient funding or in China enforce contractual relationships with respect to management and control of such businesses. If our international activities were found to be in violation of any existing or future PRC, Indian or other laws or regulations or if interpretations of those laws and regulations were to change, our businesses in those countries could be subject to fines and other financial penalties, have licenses revoked, or be forced to restructure our operations or shut down entirely.

If We Do Not Successfully Optimize and Operate Our Fulfillment Network and Data Centers, Our Business Could Be Harmed

If we do not adequately predict customer demand or otherwise optimize and operate our fulfillment network and data centers successfully, it could result in excess or insufficient fulfillment or data center capacity, or result in increased costs, impairment charges, or both, or harm our business in other ways. As we continue to add fulfillment and data center capability or add new businesses with different requirements, our fulfillment and data center networks become increasingly complex and operating them becomes more challenging. There can be no assurance that we will be able to operate our networks effectively.

In addition, a failure to optimize inventory in our fulfillment network will increase our net shipping cost by requiring long-zone or partial shipments. We and our co-sourcers may be unable to adequately staff our fulfillment network and customer service centers. If the other businesses on whose behalf we perform inventory fulfillment services deliver product to our fulfillment centers in excess of forecasts, we may be unable to secure sufficient storage space and may be unable to optimize our fulfillment network.

We rely on a limited number of shipping companies to deliver inventory to us and completed orders to our customers. If we are not able to negotiate acceptable terms with these companies or they experience performance problems or other difficulties, it could negatively impact our operating results and customer experience. In addition, our ability to receive inbound inventory efficiently and ship completed orders to customers also may be negatively affected by inclement weather, fire, flood, power loss, earthquakes, labor disputes, acts of war or terrorism, acts of God, and similar factors.

Under some of our commercial agreements, we maintain the inventory of other companies, thereby increasing the complexity of tracking inventory and operating our fulfillment network. Our failure to properly handle such inventory or the inability of these other companies to accurately forecast product demand would result in unexpected costs and other harm to our business and reputation.

The Seasonality of Our Business Places Increased Strain on Our Operations

We expect a disproportionate amount of our net sales to occur during our fourth quarter. If we do not stock or restock popular products in sufficient amounts such that we fail to meet customer demand, it could significantly affect our revenue and our future growth. If we overstock products, we may be required to take significant inventory markdowns or write-offs and incur commitment costs, which could reduce profitability. We may experience an increase in our net shipping cost due to complimentary upgrades, split-shipments, and additional long-zone shipments necessary to ensure timely delivery for the holiday season. If too many customers access our websites within a short period of time due to increased demand, we may experience system interruptions that make our websites unavailable or prevent us from efficiently fulfilling orders, which may reduce the volume of goods we sell and the attractiveness of our products and services. In addition, we may be unable to adequately staff our fulfillment network and customer service centers during these peak periods and delivery and other fulfillment companies and customer service co-sourcers may be unable to meet the seasonal demand. We also face risks described elsewhere in this Item 1A relating to fulfillment network optimization and inventory.

We generally have payment terms with our retail vendors that extend beyond the amount of time necessary to collect proceeds from our consumer customers. As a result of holiday sales, as of December 31 of each year, our cash, cash equivalents, and marketable securities balances typically reach their highest level (other than as a result of cash flows provided by or used in investing and financing activities). This operating cycle results in a corresponding increase in accounts payable as of December 31. Our accounts payable balance generally declines during the first three months of the year, resulting in a corresponding decline in our cash, cash equivalents, and marketable securities balances.

Our Business Could Suffer if We Are Unsuccessful in Making, Integrating, and Maintaining Commercial Agreements, Strategic Alliances, and Other Business Relationships

We provide physical, e-commerce, and omnichannel retail and other services to businesses through commercial agreements, strategic alliances, and business relationships. Under these agreements, we provide web services, technology, fulfillment, computing, digital storage, and other services, as well as enable sellers to offer products or services through our stores. These arrangements are complex and require substantial infrastructure capacity, personnel, and other resource commitments, which may limit the amount of business we can service. We may not be able to implement, maintain, and develop the components of these commercial relationships, which may include web services, fulfillment, customer service, inventory management, tax collection, payment processing, hardware, content, and third-party software, and engaging third parties to perform services. The amount of compensation we receive under certain of our commercial agreements is partially dependent on the volume of the other company's sales. Therefore, if the other company's offerings are not successful, the compensation we receive may be lower than expected or the agreement may be terminated. Moreover, we may not be able to enter into additional commercial relationships and strategic alliances on favorable terms. We also may be subject to claims from businesses to which we provide these services if we are unsuccessful in implementing, maintaining, or developing these services.

As our agreements terminate, we may be unable to renew or replace these agreements on comparable terms, or at all. We may in the future enter into amendments on less favorable terms or encounter parties that have difficulty meeting their contractual obligations to us, which could adversely affect our operating results.

Our present and future e-commerce services agreements, other commercial agreements, and strategic alliances create additional risks such as:

- disruption of our ongoing business, including loss of management focus on existing businesses;
- impairment of other relationships;
- variability in revenue and income from entering into, amending, or terminating such agreements or relationships; and
- difficulty integrating under the commercial agreements.

Our Business Could Suffer if We Are Unsuccessful in Making, Integrating, and Maintaining Acquisitions and Investments

We have acquired and invested in a number of companies, and we may acquire or invest in or enter into joint ventures with additional companies. These transactions (such as our acquisition of Whole Foods Market, Inc.) create risks such as:

- disruption of our ongoing business, including loss of management focus on existing businesses;
- problems retaining key personnel;
- additional operating losses and expenses of the businesses we acquired or in which we invested;
- the potential impairment of tangible and intangible assets and goodwill, including as a result of acquisitions;

- the potential impairment of customer and other relationships of the company we acquired or in which we invested or our own customers as a result of any integration of operations;
- the difficulty of completing such transactions and achieving anticipated benefits within expected timeframes, or at all;
- the difficulty of incorporating acquired operations, technology, and rights into our offerings, and unanticipated expenses related to such integration;
- the difficulty of integrating a new company's accounting, financial reporting, management, information and information security, human resource, and other administrative systems to permit effective management, and the lack of control if such integration is delayed or not implemented;
- for investments in which an investee's financial performance is incorporated into our financial results, either in full or in part, the dependence on the investee's accounting, financial reporting, and similar systems, controls, and processes;
- the difficulty of implementing at companies we acquire the controls, procedures, and policies appropriate for a larger public company;
- the risks associated with businesses we acquire or invest in, which may differ from or be more significant than the risks our other businesses face;
- potential unknown liabilities associated with a company we acquire or in which we invest; and
- for foreign transactions, additional risks related to the integration of operations across different cultures and languages, and the economic, political, and regulatory risks associated with specific countries.

As a result of future acquisitions or mergers, we might need to issue additional equity securities, spend our cash, or incur debt, contingent liabilities, or amortization expenses related to intangible assets, any of which could reduce our profitability and harm our business or only be available on unfavorable terms, if at all. In addition, valuations supporting our acquisitions and strategic investments could change rapidly given the current global economic climate. We could determine that such valuations have experienced impairments or other-than-temporary declines in fair value which could adversely impact our financial results.

We Have Foreign Exchange Risk

The results of operations of, and certain of our intercompany balances associated with, our international stores and product and service offerings are exposed to foreign exchange rate fluctuations. Upon translation, operating results may differ materially from expectations, and we may record significant gains or losses on the remeasurement of intercompany balances. As we have expanded our international operations, our exposure to exchange rate fluctuations has increased. We also hold cash equivalents and/or marketable securities in foreign currencies including British Pounds, Euros, and Japanese Yen. If the U.S. Dollar strengthens compared to these currencies, cash equivalents, and marketable securities balances, when translated, may be materially less than expected and vice versa.

The Loss of Key Senior Management Personnel or the Failure to Hire and Retain Highly Skilled and Other Key Personnel Could Negatively Affect Our Business

We depend on our senior management and other key personnel, particularly Jeffrey P. Bezos, our President, CEO, and Chairman. We do not have "key person" life insurance policies. We also rely on other highly skilled personnel. Competition for qualified personnel in the technology industry has historically been intense, particularly for software engineers, computer scientists, and other technical staff. The loss of any of our executive officers or other key employees or the inability to hire, train, retain, and manage qualified personnel, could harm our business.

We Could Be Harmed by Data Loss or Other Security Breaches

Because we process, store, and transmit large amounts of data, including personal information, failure to prevent or mitigate data loss or other security breaches, including breaches of our vendors' or customers' technology and systems, could expose us or our customers to a risk of loss or misuse of such information, adversely affect our operating results, result in litigation or potential liability for us, deter customers or sellers from using our stores and services, and otherwise harm our business and reputation. We use third-party technology and systems for a variety of reasons, including, without limitation, encryption and authentication technology, employee email, content delivery to customers, back-office support, and other functions. Some of our systems have experienced past security breaches, and, although they did not have a material adverse effect on our operating results, there can be no assurance of a similar result in the future. Although we have developed systems and processes that are designed to protect customer information and prevent data loss and other security breaches, including systems and processes designed to reduce the impact of a security breach at a third-party vendor or customer, such measures cannot provide absolute security.

We Face Risks Related to System Interruption and Lack of Redundancy

We experience occasional system interruptions and delays that make our websites and services unavailable or slow to respond and prevent us from efficiently fulfilling orders or providing services to third parties, which may reduce our net sales and the attractiveness of our products and services. If we are unable to continually add software and hardware, effectively upgrade our systems and network infrastructure, and take other steps to improve the efficiency of our systems, it could cause system interruptions or delays and adversely affect our operating results.

Our computer and communications systems and operations could be damaged or interrupted by fire, flood, power loss, telecommunications failure, earthquakes, acts of war or terrorism, acts of God, computer viruses, physical or electronic break-ins, and similar events or disruptions. Any of these events could cause system interruption, delays, and loss of critical data, and could prevent us from accepting and fulfilling customer orders and providing services, which could make our product and service offerings less attractive and subject us to liability. Our systems are not fully redundant and our disaster recovery planning may not be sufficient. In addition, we may have inadequate insurance coverage to compensate for any related losses. Any of these events could damage our reputation and be expensive to remedy.

We Face Significant Inventory Risk

In addition to risks described elsewhere in this Item 1A relating to fulfillment network and inventory optimization by us and third parties, we are exposed to significant inventory risks that may adversely affect our operating results as a result of seasonality, new product launches, rapid changes in product cycles and pricing, defective merchandise, changes in consumer demand and consumer spending patterns, changes in consumer tastes with respect to our products, spoilage, and other factors. We endeavor to accurately predict these trends and avoid overstocking or understocking products we manufacture and/or sell. Demand for products, however, can change significantly between the time inventory or components are ordered and the date of sale. In addition, when we begin selling or manufacturing a new product, it may be difficult to establish vendor relationships, determine appropriate product or component selection, and accurately forecast demand. The acquisition of certain types of inventory or components may require significant lead-time and prepayment and they may not be returnable. We carry a broad selection and significant inventory levels of certain products, such as consumer electronics, and we may be unable to sell products in sufficient quantities or during the relevant selling seasons. Any one of the inventory risk factors set forth above may adversely affect our operating results.

We May Not Be Able to Adequately Protect Our Intellectual Property Rights or May Be Accused of Infringing Intellectual Property Rights of Third Parties

We regard our trademarks, service marks, copyrights, patents, trade dress, trade secrets, proprietary technology, and similar intellectual property as critical to our success, and we rely on trademark, copyright, and patent law, trade secret protection, and confidentiality and/or license agreements with our employees, customers, and others to protect our proprietary rights. Effective intellectual property protection may not be available in every country in which our products and services are made available. We also may not be able to acquire or maintain appropriate domain names in all countries in which we do business. Furthermore, regulations governing domain names may not protect our trademarks and similar proprietary rights. We may be unable to prevent third parties from acquiring domain names that are similar to, infringe upon, or diminish the value of our trademarks and other proprietary rights.

We may not be able to discover or determine the extent of any unauthorized use of our proprietary rights. Third parties that license our proprietary rights also may take actions that diminish the value of our proprietary rights or reputation. The protection of our intellectual property may require the expenditure of significant financial and managerial resources. Moreover, the steps we take to protect our intellectual property may not adequately protect our rights or prevent third parties from infringing or misappropriating our proprietary rights. We also cannot be certain that others will not independently develop or otherwise acquire equivalent or superior technology or other intellectual property rights.

Other parties also may claim that we infringe their proprietary rights. We have been subject to, and expect to continue to be subject to, claims and legal proceedings regarding alleged infringement by us of the intellectual property rights of third parties. Such claims, whether or not meritorious, may result in the expenditure of significant financial and managerial resources, injunctions against us, or the payment of damages, including to satisfy indemnification obligations. We may need to obtain licenses from third parties who allege that we have infringed their rights, but such licenses may not be available on terms acceptable to us or at all. In addition, we may not be able to obtain or utilize on terms that are favorable to us, or at all, licenses or other rights with respect to intellectual property we do not own. These risks have been amplified by the increase in third parties whose sole or primary business is to assert such claims.

Our digital content offerings depend in part on effective digital rights management technology to control access to digital content. If the digital rights management technology that we use is compromised or otherwise malfunctions, we could be subject to claims, and content providers may be unwilling to include their content in our service.

We Have a Rapidly Evolving Business Model and Our Stock Price Is Highly Volatile

We have a rapidly evolving business model. The trading price of our common stock fluctuates significantly in response to, among other risks, the risks described elsewhere in this Item 1A, as well as:

- changes in interest rates;
- conditions or trends in the Internet and the industry segments we operate in;
- quarterly variations in operating results;
- fluctuations in the stock market in general and market prices for Internet-related companies in particular;
- changes in financial estimates by us or securities analysts and recommendations by securities analysts;
- changes in our capital structure, including issuance of additional debt or equity to the public;
- changes in the valuation methodology of, or performance by, other e-commerce or technology companies; and
- transactions in our common stock by major investors and certain analyst reports, news, and speculation.

Volatility in our stock price could adversely affect our business and financing opportunities and force us to increase our cash compensation to employees or grant larger stock awards than we have historically, which could hurt our operating results or reduce the percentage ownership of our existing stockholders, or both.

Government Regulation Is Evolving and Unfavorable Changes Could Harm Our Business

We are subject to general business regulations and laws, as well as regulations and laws specifically governing the Internet, physical, e-commerce, and omnichannel retail, electronic devices, and other services. Existing and future laws and regulations may impede our growth. These regulations and laws may cover taxation, privacy, data protection, pricing, content, copyrights, distribution, transportation, mobile communications, electronic device certification, electronic waste, energy consumption, environmental regulation, electronic contracts and other communications, competition, consumer protection, employment, trade and protectionist measures, web services, the provision of online payment services, information reporting requirements, unencumbered Internet access to our services or access to our facilities, the design and operation of websites, health and sanitation standards, the characteristics, legality, and quality of products and services, product labeling, and the commercial operation of unmanned aircraft systems. It is not clear how existing laws governing issues such as property ownership, libel, data protection, and personal privacy apply to the Internet, e-commerce, digital content, web services, and artificial intelligence technologies and services. Jurisdictions may regulate consumer-to-consumer online businesses, including certain aspects of our seller programs. Unfavorable regulations, laws, and decisions interpreting or applying those laws and regulations could diminish the demand for, or availability of, our products and services and increase our cost of doing business.

We Could Be Subject to Additional Tax Liabilities and Collection Obligations

We are subject to a variety of taxes and tax collection obligations in the U.S. (federal and state) and numerous foreign jurisdictions. We may recognize additional tax expense and be subject to additional tax liabilities, including other liabilities for tax collection obligations due to changes in 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. Such changes could come about as a result of economic, political, and other conditions. An increasing number of jurisdictions are considering or have adopted laws or administrative practices that impose new tax measures, including revenue-based taxes, targeting online commerce and the remote selling of goods and services. These include new obligations to collect sales, consumption, value added, or other taxes on online marketplaces and remote sellers, or other requirements that may result in liability for third party obligations. For example, the European Union, certain member states, and other countries have proposed or enacted taxes on online advertising and marketplace service revenues. Our results of operations and cash flows could be adversely effected by additional taxes of this nature imposed on us or additional taxes or penalties resulting from the failure to comply with any collection obligations or failure to provide information about our customers, suppliers, and other third parties for tax reporting purposes to various government agencies. In some cases we also may not have sufficient notice to enable us to build systems and adopt processes to properly comply by the effective date.

Our tax expense and liabilities may also be affected by other 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, losses incurred in jurisdictions for which we are not able to realize related tax benefits, the applicability of special tax regimes, changes in foreign currency exchange rates, changes in our stock price, and changes in our deferred tax assets and liabilities and their valuation. Significant judgment is required in evaluating and estimating our tax expense and liabilities. In the ordinary course of our business, there are many transactions and calculations for which the ultimate tax determination is uncertain. For example, the legislation known as the U.S. Tax Cuts and Jobs Act of 2017 (the "U.S. Tax Act") requires complex computations to be performed that were not previously required by U.S. tax law, significant judgments to be made in interpretation of the provisions of the U.S. Tax Act, significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies will continue to interpret or issue guidance on how provisions of the U.S. Tax Act will be applied or otherwise administered. As future guidance is issued, we may make adjustments to amounts that we have previously recorded that may materially impact our financial statements in the period in which the adjustments are made.

We are also currently subject to tax controversies in various jurisdictions, and these jurisdictions may assess additional 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 tax accruals.

Our Supplier Relationships Subject Us to a Number of Risks

We have significant suppliers, including licensors, and in some cases, limited or single-sources of supply, that are important to our sourcing, services, manufacturing, and any related ongoing servicing of merchandise and content. We do not have long-term arrangements with most of our suppliers to guarantee availability of merchandise, content, components, or services, particular payment terms, or the extension of credit limits. If our current suppliers were to stop selling or licensing merchandise, content, components, or services to us on acceptable terms, or delay delivery, including as a result of one or more supplier bankruptcies due to poor economic conditions, as a result of natural disasters, or for other reasons, we may be unable to procure alternatives from other suppliers in a timely and efficient manner and on acceptable terms, or at all. In addition, if our suppliers or other vendors violate applicable laws, regulations, our code of standards and responsibilities, or implement practices regarded as unethical, unsafe, or hazardous to the environment, it could damage our reputation, limit our growth, and negatively affect our operating results.

We May Be Subject to Risks Related to Government Contracts and Related Procurement Regulations

Our contracts with U.S., as well as state, local, and foreign, government entities are subject to various procurement regulations and other requirements relating to their formation, administration, and performance. We may be subject to audits and investigations relating to our government contracts, and any violations could result in various civil and criminal penalties and administrative sanctions, including termination of contract, refunding or suspending of payments, forfeiture of profits, payment of fines, and suspension or debarment from future government business. In addition, such contracts may provide for termination by the government at any time, without cause.

We May Be Subject to Product Liability Claims if People or Property Are Harmed by the Products We Sell or Manufacture

Some of the products we sell or manufacture may expose us to product liability or food safety claims relating to personal injury or illness, death, or environmental or property damage, and may require product recalls or other actions. Certain third parties also sell products using our services and stores that may increase our exposure to product liability claims, such as if these sellers do not have sufficient protection from such claims. Although we maintain liability insurance, we cannot be certain that our coverage will be adequate for liabilities actually incurred or that insurance will continue to be available to us on economically reasonable terms, or at all. In addition, some of our agreements with our vendors and sellers do not indemnify us from product liability.

We Are Subject to Payments-Related Risks

We accept payments using a variety of methods, including credit card, debit card, credit accounts (including promotional financing), gift cards, direct debit from a customer's bank account, consumer invoicing, physical bank check, and payment upon delivery. For existing and future payment options we offer to our customers, we may become subject to additional regulations and compliance requirements (including obligations to implement enhanced authentication processes that could result in significant costs and reduce the ease of use of our payments products), as well as fraud. For certain payment methods, including credit and debit cards, we pay interchange and other fees, which may increase over time and raise our operating costs and lower profitability. We rely on third parties to provide certain Amazon-branded payment methods and payment processing services, including the processing of credit cards, debit cards, electronic checks, and promotional financing. In each case, it could disrupt our business if these companies become unwilling or unable to provide these services to us. We also offer co-branded credit card programs, which could adversely affect our operating results if terminated. We are also subject to payment card association operating rules, including data security rules, certification requirements, and rules governing electronic funds transfers, which could change or be reinterpreted to make it difficult or impossible for us to comply. If we fail to comply with these rules or requirements, or if our data security systems are breached, compromised, or otherwise unable to detect or prevent fraudulent activity, we may be liable for card issuing banks' costs, subject to fines and higher transaction fees, and lose our ability to accept credit and debit card payments from our customers, process electronic funds transfers, or facilitate other types of online payments, and our business and operating results could be adversely affected.

In addition, we provide regulated services in certain jurisdictions because we enable customers to keep account balances with us and transfer money to third parties, and because we provide services to third parties to facilitate payments on their behalf. In these jurisdictions, we may be subject to requirements for licensing, regulatory inspection, bonding and capital maintenance, the use, handling, and segregation of transferred funds, consumer disclosures, maintaining or processing data, and authentication. We are also subject to or voluntarily comply with a number of other laws and regulations relating to payments, money laundering, international money transfers, privacy and information security, and electronic fund transfers. If we were found to be in violation of applicable laws or regulations, we could be subject to additional requirements and civil and criminal penalties, or forced to cease providing certain services.

We Could Be Liable for Fraudulent or Unlawful Activities of Sellers

The law relating to the liability of online service providers is currently unsettled. In addition, governmental agencies could require changes in the way this business is conducted. Under our seller programs, we may be unable to prevent sellers from collecting payments, fraudulently or otherwise, when buyers never receive the products they ordered or when the products received are materially different from the sellers' descriptions. We also may be unable to prevent sellers in our stores or through other stores from selling unlawful, counterfeit, pirated, or stolen goods, selling goods in an unlawful or unethical manner, violating the proprietary rights of others, or otherwise violating our policies. Under our A2Z Guarantee, we reimburse buyers for payments up to certain limits in these situations, and as our third-party seller sales grow, the cost of this program will increase and could negatively affect our operating results. In addition, to the extent any of this occurs, it could harm our business or damage our reputation and we could face civil or criminal liability for unlawful activities by our sellers.

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

As of December 31, 2018, we operated the following facilities (in thousands):

Description of Use	Leased Square Footage (1)	Owned Square Footage	Location
Office space	16,642	3,901	North America
Office space	14,738	—	International
Physical stores (2)	19,176	724	North America
Physical stores (2)	173	—	International
Fulfillment, data centers, and other	153,917	4,467	North America
Fulfillment, data centers, and other	72,596	2,085	International
Total	277,242	11,177	

(1) For leased properties, represents the total leased space excluding sub-leased space.
(2) This includes 520 North America and 7 International stores as of December 31, 2018.

Segment	Leased Square Footage (1)	Owned Square Footage (1)
North America	165,503	1,977
International	70,619	895
AWS	9,740	4,404
Total	245,862	7,276

(1) Segment amounts exclude corporate facilities. Shared facilities are allocated among the segments based on usage and primarily relate to facilities that hold our technology infrastructure. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 10 — Segment Information."

We own and lease our corporate headquarters in Seattle, Washington and have announced plans to establish additional headquarters in New York, New York and Arlington, Virginia.

Item 3. *Legal Proceedings*

See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 7 — Commitments and Contingencies — Legal Proceedings."

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. *Market for the Registrant's Common Stock, Related Shareholder Matters, and Issuer Purchases of Equity Securities*

Market Information

Our common stock is traded on the Nasdaq Global Select Market under the symbol "AMZN."

Holders

As of January 23, 2019, there were 2,315 shareholders of record of our common stock, although there is a much larger number of beneficial owners.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

None.

Item 6. *Selected Consolidated Financial Data*

The following selected consolidated financial data should be read in conjunction with the consolidated financial statements and the notes thereto in Item 8 of Part II, "Financial Statements and Supplementary Data," and the information contained in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations." Historical results are not necessarily indicative of future results.

	Year Ended December 31,				
	2014	2015	2016	2017 (1)	2018
	(in millions, except per share data)				
Statements of Operations:					
Net sales	$ 88,988	$ 107,006	$ 135,987	$ 177,866	$ 232,887
Operating income	$ 178	$ 2,233	$ 4,186	$ 4,106	$ 12,421
Net income (loss)	$ (241)	$ 596	$ 2,371	$ 3,033	$ 10,073
Basic earnings per share (2)	$ (0.52)	$ 1.28	$ 5.01	$ 6.32	$ 20.68
Diluted earnings per share (2)	$ (0.52)	$ 1.25	$ 4.90	$ 6.15	$ 20.14
Weighted-average shares used in computation of earnings per share:					
Basic	462	467	474	480	487
Diluted	462	477	484	493	500
Statements of Cash Flows:					
Net cash provided by (used in) operating activities (3)	$ 6,976	$ 11,909	$ 17,203	$ 18,365	$ 30,723

	December 31,				
	2014	2015	2016	2017	2018
	(in millions)				
Balance Sheets:					
Total assets	$ 53,618	$ 64,747	$ 83,402	$ 131,310	$ 162,648
Total long-term obligations	$ 14,794	$ 17,477	$ 20,301	$ 45,718	$ 50,708

(1) We acquired Whole Foods Market on August 28, 2017. The results of Whole Foods Market have been included in our results of operation from the date of acquisition.

(2) For further discussion of earnings per share, see Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business and Accounting Policies."

(3) As a result of the adoption of new accounting guidance, we retrospectively adjusted our consolidated statements of cash flows to add restricted cash to cash and cash equivalents, which restated cash provided by operating activities by $128 million, $(130) million, $(69) million, and $(69) million in 2014, 2015, 2016, and 2017. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business and Accounting Policies" for additional information.

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 could differ materially for a variety of reasons, including, among others, fluctuations in foreign exchange rates, changes in global economic conditions and customer spending, world events, the rate of growth of the Internet, online commerce, and cloud services, 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 legal proceedings and claims, fulfillment, sortation, delivery, and data center optimization, risks of inventory management, seasonality, 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, the current global economic climate amplifies many of these risks. These risks and uncertainties, as well as other risks and uncertainties that could cause our actual results 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. 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, publishing, digital content subscriptions, and advertising.

Our financial focus is on long-term, sustainable growth in free cash flows[1]. Free cash flows are driven primarily by increasing operating income and efficiently managing working capital[2] 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. 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, increasing product categories and service offerings, expanding product information, improving ease of use, improving reliability, and earning customer trust.

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 centers and other facilities. 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 growth in fixed costs, we seek to improve process efficiencies and maintain a lean culture.

---

(1) See "Results of Operations — Non-GAAP Financial Measures" below for additional information on our non-GAAP free cash flows financial measures.

(2) Working capital consists of accounts receivable, inventory, and accounts payable.

Because of our model we are able to turn our inventory quickly and have a cash-generating operating cycle[3]. On average, our high inventory velocity means we generally collect from consumers before our payments to suppliers come due. 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, 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 terms over time, including the effect of balancing pricing and timing of payment terms with suppliers.

We expect spending in technology and content will increase over time as we add computer scientists, designers, software and hardware engineers, and merchandising employees. Our technology and content 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 content, including AWS, and expansion of new and existing product categories and service offerings, as well as in technology 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 and the advances of wireless connectivity, will continue to improve the consumer 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 initiatives to build and deploy innovative and efficient software and electronic devices. We are also investing in AWS, which offers a broad set of global compute, storage, database, and other service offerings to developers and enterprises of all sizes.

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 504 million and 507 million as of December 31, 2017 and 2018.

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 currency 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 and Accounting Policies."

---

(3) The operating cycle is the number of days of sales in inventory plus the number of days of sales in accounts receivable minus accounts payable days.

Critical Accounting Judgments

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. The SEC has defined a company's critical accounting policies as the ones that are most important to the portrayal of the company's financial condition and results of operations, and which require the company to make its most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. Based on this definition, we have identified the critical accounting policies and judgments 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 and Accounting Policies." 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, 2018, we would have recorded an additional cost of sales of approximately $190 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. 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 currency exchange rates, changes in our stock price, 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 are actively pursuing changes to their tax laws applicable to corporate multinationals, such as the U.S. tax reform legislation commonly known as the U.S. Tax Cuts and Jobs Act of 2017 (the "U.S. Tax Act"). Finally, foreign governments may enact tax laws in response to the U.S. Tax Act that could result in further changes to global taxation and materially affect our financial position and results of operations.

The U.S. Tax Act significantly changed how the U.S. taxes corporations. The U.S. Tax Act requires complex computations to be performed that were not previously required by U.S. tax law, significant judgments to be made in interpretation of the provisions of the U.S. Tax Act, significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies will continue to interpret or issue guidance on how provisions of the U.S. Tax Act will be applied or otherwise administered. As future guidance is issued, we may make adjustments to amounts that we have previously recorded that may materially impact our provision for income taxes in the period in which the adjustments are made.

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.

Recent Accounting Pronouncements

See Item 8 of Part II, “Financial Statements and Supplementary Data — Note 1 — Description of Business and Accounting Policies.”

Liquidity and Capital Resources

Cash flow information, which reflects retrospective adjustments to our consolidated statements of cash flows as described in Item 8 of Part II, “Financial Statements and Supplementary Data — Note 1 — Description of Business and Accounting Policies,” is as follows (in millions):

	Year Ended December 31,		
	2016	2017	2018
Cash provided by (used in):			
Operating activities	$ 17,203	$ 18,365	$ 30,723
Investing activities	(9,516)	(27,084)	(12,369)
Financing activities	(3,716)	9,928	(7,686)

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 $26.0 billion, $31.0 billion, and $41.3 billion as of December 31, 2016, 2017, and 2018. Amounts held in foreign currencies were $9.1 billion, $11.1 billion, and $13.8 billion, as of December 31, 2016, 2017, and 2018, and were primarily Euros, British Pounds, and Japanese Yen.

Cash provided by (used in) operating activities was $17.2 billion, $18.4 billion, and $30.7 billion in 2016, 2017, and 2018. 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 on our long-term obligations. Cash received from our customers and other activities generally corresponds to our net sales. Because consumers primarily use credit cards to buy from us, our receivables from consumers settle quickly. The increase in operating cash flow in 2017 and 2018, compared to the comparable prior years, is primarily due to the increase in net income, excluding non-cash charges such as depreciation, amortization, and stock-based compensation. Cash provided by (used in) operating activities is also subject to changes in working capital. Working capital at any specific point in time is subject to many variables, including seasonality, inventory management and category expansion, the timing of cash receipts and payments, 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, 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 $(9.5) billion, $(27.1) billion, and $(12.4) billion in 2016, 2017, and 2018, with the variability caused primarily by cash paid for acquisitions, our decision to purchase or lease property and equipment, and purchases, maturities, and sales of marketable securities. Cash capital expenditures were $6.7 billion, $10.1 billion, and $11.3 billion in 2016, 2017, and 2018, which primarily reflect additional capacity to support our fulfillment operations and additional investments in support of continued business growth in technology infrastructure (the majority of which is to support AWS), during all three years. In 2016, 2017, and 2018, we made cash payments, net of acquired cash, related to acquisition and other investment activity of $116 million, $14.0 billion, and $2.2 billion.

Cash provided by (used in) financing activities was $(3.7) billion, $9.9 billion, and $(7.7) billion in 2016, 2017, and 2018. Cash outflows from financing activities result from principal repayments on obligations related to capital leases and finance leases and repayments of long-term debt and other, which were $4.3 billion, $6.3 billion, and $8.5 billion in 2016, 2017, and 2018. Property and equipment acquired under capital leases was $5.7 billion, $9.6 billion, and $10.6 billion in 2016, 2017, and 2018, with the increase reflecting investments in support of continued business growth primarily due to investments in technology infrastructure for AWS, which investments we expect to continue over time. Cash inflows from financing activities primarily result from proceeds from long-term debt and other. Proceeds from long-term debt and other were $618 million, $16.2 billion, and $768 million in 2016, 2017, and 2018. During 2017, cash inflows from financing activities consisted primarily of proceeds from the issuance of $16.0 billion of senior unsecured notes in seven tranches maturing in 2020 through 2057. The proceeds from notes issued in August 2017 (the “August 2017 Notes”) were used to fund the consideration for the acquisition of Whole Foods Market, to repay notes due in 2017, and for general corporate purposes.

In April 2018, we established a commercial paper program (the "Commercial Paper Program") under which we may from time to time issue unsecured commercial paper up to a total of $7.0 billion at any time, with individual maturities that may vary but will not exceed 397 days from the date of issue. There were no borrowings outstanding under the Commercial Paper Program as of December 31, 2018.

We had no borrowings outstanding under our unsecured revolving credit facility (the "Credit Agreement") and $594 million of borrowings outstanding under our $620 million secured revolving credit facility (the "Credit Facility") as of December 31, 2018. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 5 — Debt" for additional information.

In 2016, 2017, and 2018, we recorded net tax provisions of $1.4 billion, $769 million, and $1.2 billion. Certain foreign subsidiary earnings are subject to U.S. taxation under the U.S. Tax Act, which also repeals U.S. taxation on the subsequent repatriation of those earnings. 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. As of December 31, 2018, cash, cash equivalents, and marketable securities held by foreign subsidiaries was $12.0 billion.

We have tax benefits relating to excess stock-based compensation deductions and accelerated depreciation deductions that are being utilized to reduce our U.S. taxable income. The U.S. Tax Act enhanced and extended the option to claim accelerated depreciation deductions by allowing full expensing of qualified property, primarily equipment, through 2022. Cash taxes paid (net of refunds) were $412 million, $957 million, and $1.2 billion for 2016, 2017, and 2018. As of December 31, 2018, our federal net operating loss carryforward was approximately $627 million and we had approximately $1.4 billion of federal tax credits potentially available to offset future tax liabilities. Our federal tax credits are primarily related to the U.S. federal research and development credit. As we utilize our federal net operating losses and tax credits we expect cash paid for taxes to increase. We endeavor to manage our global taxes on a cash basis, rather than on a financial reporting basis. In connection with the European Commission's October 2017 decision against us on state aid, Luxembourg tax authorities computed an initial recovery amount, consistent with the European Commission's decision, of approximately €250 million, that we deposited into escrow in March 2018, subject to adjustment pending conclusion of all appeals.

Our liquidity is also affected by restricted cash balances that are pledged as collateral for real estate leases, amounts due to third-party sellers in certain jurisdictions, debt, and standby and trade letters of credit. To the extent we process payments for third-party sellers or offer certain types of stored value to our customers, some jurisdictions may restrict our use of those funds. These restrictions would result in the reclassification of a portion of our cash and cash equivalents from "Cash and cash equivalents" to restricted cash, which is classified within "Accounts receivable, net and other" on our consolidated balance sheets. As of December 31, 2017 and 2018, restricted cash, cash equivalents, and marketable securities were $1.3 billion and $426 million. See Item 8 of Part II, "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, purchase obligations and open purchase orders, consisting of inventory and significant non-inventory commitments, were $13.1 billion as of December 31, 2018. 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 12 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 capital, finance, and operating lease arrangements, 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 likely 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.

Results of Operations

We have organized our operations into three segments: North America, International, and AWS. Our results reflect the operations of Whole Foods Market from the date of acquisition in August 2017. 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."

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, Amazon Prime membership fees, advertising services, and certain digital content subscriptions. Net sales information is as follows (in millions):

	Year Ended December 31,		
	2016	2017	2018
Net Sales:			
North America	$ 79,785	$ 106,110	$ 141,366
International	43,983	54,297	65,866
AWS	12,219	17,459	25,655
Consolidated	$ 135,987	$ 177,866	$ 232,887
Year-over-year Percentage Growth:			
North America	25%	33%	33%
International	24	23	21
AWS	55	43	47
Consolidated	27	31	31
Year-over-year Percentage Growth, excluding the effect of foreign exchange rates:			
North America	25%	33%	33%
International	26	23	19
AWS	55	43	47
Consolidated	28	31	30
Net sales mix:			
North America	59%	60%	61%
International	32	30	28
AWS	9	10	11
Consolidated	100%	100%	100%

Sales increased 31% in 2017 and 2018, compared to the comparable prior years. Changes in foreign currency exchange rates impacted net sales by $(550) million, $210 million, and $1.3 billion for 2016, 2017, and 2018. For a discussion of the effect on sales growth of foreign exchange rates, see "Effect of Foreign Exchange Rates" below.

North America sales increased 33% in 2017 and 2018, compared to the comparable prior years. The sales growth in each year primarily reflects increased unit sales, including sales by third-party sellers, and the impact of the acquisition of Whole Foods Market. Increased unit sales were driven largely by our continued efforts to reduce prices for our customers, including from our shipping offers, increased in-stock inventory availability, and increased selection.

International sales increased 23% and 21% in 2017, and 2018, compared to the comparable prior years. The sales growth in each year primarily reflects increased unit sales, including sales by third-party sellers. Increased unit sales were driven largely by our continued efforts to reduce prices for our customers, including from our shipping offers, increased in-stock inventory availability, and increased selection. Changes in foreign currency exchange rates impacted International net sales by $(489) million, $138 million, and $1.3 billion in 2016, 2017, and 2018.

AWS sales increased 43% and 47% in 2017 and 2018, compared to the comparable prior years. The sales growth in each year primarily reflects increased customer usage, partially offset by pricing changes. Pricing changes were driven largely by our continued efforts to reduce prices for our customers.

Operating Income (Loss)

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

	Year Ended December 31,		
	2016	2017	2018
Operating Income (Loss):			
North America	$ 2,361	$ 2,837	$ 7,267
International	(1,283)	(3,062)	(2,142)
AWS	3,108	4,331	7,296
Consolidated	$ 4,186	$ 4,106	$ 12,421

Operating income was $4.2 billion, $4.1 billion, and $12.4 billion for 2016, 2017, and 2018. We believe that operating income (loss) is a more meaningful measure than gross profit and gross margin due to the diversity of our product categories and services.

The increase in North America operating income in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to increased unit sales, including sales by third-party sellers, advertising sales, and slower growth in certain operating expenses, partially offset by costs to expand our fulfillment network. Changes in foreign exchange rates impacted operating income by $27 million, $(4) million, and $17 million for 2016, 2017, and 2018.

The decrease in International operating loss in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to increased unit sales, including sales by third-party sellers, advertising sales, and slower growth in certain operating expenses, partially offset by costs to expand our fulfillment network. Changes in foreign exchange rates impacted operating loss by $89 million, $(85) million, and $258 million for 2016, 2017, and 2018.

The increase in AWS operating income in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to increased customer usage and cost structure productivity, partially offset by pricing changes and increased spending on technology infrastructure and payroll and related expenses, which was primarily driven by additional investments to support the business growth. Changes in foreign exchange rates impacted operating income by $(5) million, $(53) million, and $(49) million for 2016, 2017, and 2018.

Operating Expenses

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

	Year Ended December 31,		
	2016	2017	2018
Operating expenses:			
Cost of sales	$ 88,265	$ 111,934	$ 139,156
Fulfillment	17,619	25,249	34,027
Marketing	7,233	10,069	13,814
Technology and content	16,085	22,620	28,837
General and administrative	2,432	3,674	4,336
Other operating expense, net	167	214	296
Total operating expenses	$ 131,801	$ 173,760	$ 220,466
Year-over-year Percentage Growth:			
Cost of sales	23%	27%	24%
Fulfillment	31	43	35
Marketing	38	39	37
Technology and content	28	41	27
General and administrative	39	51	18
Other operating expense, net	(2)	28	38
Percent of Net Sales:			
Cost of sales	64.9%	62.9%	59.8%
Fulfillment	13.0	14.2	14.6
Marketing	5.3	5.7	5.9
Technology and content	11.8	12.7	12.4
General and administrative	1.8	2.1	1.9
Other operating expense, net	0.1	0.1	0.1

Cost of Sales

Cost of sales primarily consists of the purchase price of consumer products, digital media content costs where we record revenue gross, including video and music, packaging supplies, sortation and delivery centers and related equipment costs, and inbound and outbound shipping costs, including where we are the transportation service provider.

The increase in cost of sales in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to increased product and shipping costs resulting from increased sales.

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. Shipping costs, which include sortation and delivery centers and transportation costs, were $16.2 billion, $21.7 billion, and $27.7 billion in 2016, 2017, and 2018. 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 reduce shipping rates, 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 content” 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, customer service centers, and physical stores and payment processing costs. While AWS payment processing and related transaction costs are included in fulfillment, AWS costs are primarily classified as "Technology and content." 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, 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, because payment processing and fulfillment costs associated with seller transactions are based on the gross purchase price of underlying transactions, and payment processing and related transaction and fulfillment costs are higher as a percentage of sales versus our retail sales, sales by our sellers have higher fulfillment costs as a percent of net sales.

The increase in fulfillment costs in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to costs from expanding our fulfillment network, which includes physical stores, and variable costs corresponding with increased product and service sales volume and inventory levels.

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.

Marketing

We direct customers to our stores primarily through a number of targeted online marketing channels, such as our sponsored search, third party customer referrals, social and online advertising, 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 marketing costs in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to payroll and related expenses for personnel engaged in marketing and selling activities, as well as increased spending on online marketing channels.

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

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, 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.

We seek to invest efficiently in numerous areas of technology and content 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 content 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 content to increase over time as we continue to add employees and technology infrastructure. These costs are allocated to segments based on usage. The increase in technology and content costs in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to an increase in spending on technology 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.

General and Administrative

The increase in general and administrative costs in absolute dollars in 2017 and 2018, compared to the comparable prior years, is primarily due to increases in payroll and related expenses.

Other Operating Expense, Net

Other operating expense, net was $167 million, $214 million, and $296 million during 2016, 2017, and 2018, and is primarily related to the amortization of intangible assets.

Interest Income and Expense

Our interest income was $100 million, $202 million, and $440 million during 2016, 2017, and 2018. We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term fixed income 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 $484 million, $848 million, and $1.4 billion in 2016, 2017, and 2018. The increase is primarily due to increases in our long-term debt and capital and finance lease arrangements.

Our long-term debt was $24.7 billion and $23.5 billion as of December 31, 2017 and 2018. Our other long-term liabilities were $21.0 billion and $27.2 billion as of December 31, 2017 and 2018. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 5 — Debt and Note 6 — Other Long-Term Liabilities" for additional information.

Other Income (Expense), Net

Other income (expense), net was $90 million, $346 million, and $(183) million during 2016, 2017, and 2018. The primary components of other income (expense), net are related to foreign currency, equity warrant valuation, and equity securities gains.

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, audit-related developments, 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. Additionally, 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.

The U.S. Tax Act was signed into law on December 22, 2017. The U.S. Tax Act significantly revised the U.S. corporate income tax by, among other things, lowering the statutory corporate tax rate from 35% to 21%, eliminating certain deductions, imposing a mandatory one-time tax on accumulated earnings of foreign subsidiaries, introducing new tax regimes, and changing how foreign earnings are subject to U.S. tax. The U.S. Tax Act also enhanced and extended the option to claim accelerated depreciation deductions by allowing full expensing of qualified property, primarily equipment, through 2022. We reasonably estimated the effects of the U.S. Tax Act and recorded provisional amounts in our financial statements as of December 31, 2017. We recorded a provisional tax benefit for the impact of the U.S. Tax Act of approximately $789 million. This amount was primarily comprised of the remeasurement of federal net deferred tax liabilities resulting from the permanent reduction in the U.S. statutory corporate tax rate to 21% from 35%, after taking into account the mandatory one-time tax on the accumulated earnings of our foreign subsidiaries. The amount of this one-time tax was not material. In 2018, we completed our determination of the accounting implications of the U.S. Tax Act.

We recorded a provision for income taxes of $1.4 billion, $769 million, and $1.2 billion in 2016, 2017, and 2018. Our provision for income taxes in 2017 was lower than in 2016 primarily due to excess tax benefits from stock-based compensation and the one-time favorable effect of the U.S. Tax Act, partially offset by an increase in the proportion of foreign losses for which we may not realize a tax benefit and audit-related developments. We have recorded valuation allowances against the deferred tax assets associated with losses for which we may not realize a related tax benefit.

We regularly assess whether it is more likely than not that we will realize our deferred tax assets in each taxing jurisdiction in which we operate. In performing this assessment with respect to each jurisdiction, we review all available evidence, including 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. In Q2 2017, we recognized an estimated charge to tax expense of $600 million to record a valuation allowance against the net deferred tax assets in Luxembourg.

Our provision for income taxes in 2018 was higher than in 2017 primarily due to an increase in U.S. pre-tax income and the one-time provisional tax benefit of the U.S. Tax Act recognized in 2017. This was partially offset by the reduction to the

U.S. federal statutory tax rate in 2018, a decline in the proportion of foreign losses for which we may not realize a tax benefit, and an increase in excess tax benefits from stock-based compensation.

We have tax benefits relating to excess stock-based compensation deductions and accelerated depreciation deductions that are being utilized to reduce our U.S. taxable income. As of December 31, 2018, our federal net operating loss carryforward was approximately $627 million and we had approximately $1.4 billion of federal tax credits potentially available to offset future tax liabilities. Our federal tax credits are primarily related to the U.S. federal research and development credit.

See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 9 — Income Taxes" for additional information.

Equity-Method Investment Activity, Net of Tax

Equity-method investment activity, net of tax, was $(96) million, $(4) million, and $9 million in 2016, 2017, and 2018. The primary components of this activity during 2016, 2017, and 2018 were our equity-method investment gains (losses) during the years and impairments recorded in 2016.

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 capital and finance leases. As a result of the adoption of new accounting guidance, we retrospectively adjusted our consolidated statements of cash flows to add restricted cash to cash and cash equivalents. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business and Accounting Policies."

Free Cash Flow

Free cash flow is cash flow from operations reduced by "Purchases of property and equipment, net of proceeds from property and equipment incentives," which both are included in cash flow from investing activities. 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 2016, 2017, and 2018 (in millions):

	Year Ended December 31,		
	2016	2017	2018
Net cash provided by (used in) operating activities	$ 17,203	$ 18,365	$ 30,723
Purchases of property and equipment, net of proceeds from property and equipment incentives	(6,737)	(10,058)	(11,323)
Free cash flow	$ 10,466	$ 8,307	$ 19,400
Net cash provided by (used in) investing activities	$ (9,516)	$ (27,084)	$ (12,369)
Net cash provided by (used in) financing activities	$ (3,716)	$ 9,928	$ (7,686)

Free Cash Flow Less Lease Principal Repayments

Free cash flow less lease principal repayments is free cash flow reduced by "Principal repayments of capital lease obligations," and "Principal repayments of finance lease obligations," which are included in cash flow from financing activities. Free cash flow less lease principal repayments approximates the actual payments of cash for our capital and finance leases. The following is a reconciliation of free cash flow less lease principal repayments to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2016, 2017, and 2018 (in millions):

	Year Ended December 31,		
	2016	2017	2018
Net cash provided by (used in) operating activities	$ 17,203	$ 18,365	$ 30,723
Purchases of property and equipment, net of proceeds from property and equipment incentives	(6,737)	(10,058)	(11,323)
Principal repayments of capital lease obligations	(3,860)	(4,799)	(7,449)
Principal repayments of finance lease obligations	(147)	(200)	(337)
Free cash flow less lease principal repayments	$ 6,459	$ 3,308	$ 11,614
Net cash provided by (used in) investing activities	$ (9,516)	$ (27,084)	$ (12,369)
Net cash provided by (used in) financing activities	$ (3,716)	$ 9,928	$ (7,686)

Free Cash Flow Less Finance Lease Principal Repayments and Assets Acquired Under Capital Leases

Free cash flow less finance lease principal repayments and assets acquired under capital leases is free cash flow reduced by "Principal repayments of finance lease obligations," which is included in cash flow from financing activities, and property and equipment acquired under capital leases. In this measure, property and equipment acquired under capital 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 finance lease principal repayments and assets acquired under capital leases to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2016, 2017, and 2018 (in millions):

	Year Ended December 31,		
	2016	2017	2018
Net cash provided by (used in) operating activities	$ 17,203	$ 18,365	$ 30,723
Purchases of property and equipment, net of proceeds from property and equipment incentives	(6,737)	(10,058)	(11,323)
Property and equipment acquired under capital leases	(5,704)	(9,637)	(10,615)
Principal repayments of finance lease obligations	(147)	(200)	(337)
Free cash flow less finance lease principal repayments and assets acquired under capital leases	$ 4,615	$ (1,530)	$ 8,448
Net cash provided by (used in) investing activities	$ (9,516)	$ (27,084)	$ (12,369)
Net cash provided by (used in) financing activities	$ (3,716)	$ 9,928	$ (7,686)

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 years. 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, 2016			Year Ended December 31, 2017			Year Ended December 31, 2018		
	As Reported	Exchange Rate Effect (1)	At Prior Year Rates (2)	As Reported	Exchange Rate Effect (1)	At Prior Year Rates (2)	As Reported	Exchange Rate Effect (1)	At Prior Year Rates (2)
Net sales	$135,987	$ 550	$136,537	$177,866	$ (210)	$177,656	$232,887	$ (1,253)	$231,634
Operating expenses	131,801	660	132,461	173,760	(352)	173,408	220,466	(1,027)	219,439
Operating income	4,186	(110)	4,076	4,106	142	4,248	12,421	(226)	12,195

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

Guidance

We provided guidance on January 31, 2019, in our earnings release furnished on Form 8-K as set forth below. These forward-looking statements reflect Amazon.com's expectations as of January 31, 2019, 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 conditions and customer spending, world events, the rate of growth of the Internet, online commerce, and cloud services, as well as those outlined in Item 1A of Part I, "Risk Factors."

First Quarter 2019 Guidance

- Net sales are expected to be between $56 billion and $60 billion, or to grow between 10% and 18% compared with first quarter 2018. This guidance anticipates an unfavorable impact of approximately 210 basis points from foreign exchange rates.
- Operating income is expected to be between $2.3 billion and $3.3 billion, compared with $1.9 billion in first quarter 2018.
- This guidance assumes, among other things, that no additional business acquisitions, investments, restructurings, or legal settlements are concluded.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

We are exposed to market risk for the effect of interest rate changes, foreign currency fluctuations, and changes in the market values of our investments. Information relating to quantitative and qualitative disclosures about market risk is set forth below and in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources."

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and our long-term debt. Our long-term debt is carried at amortized cost and fluctuations in interest rates do not impact our consolidated financial statements. However, the fair value of our debt, which pays interest at a fixed rate, will generally fluctuate with movements of interest rates, increasing in periods of declining rates of interest and declining in periods of increasing rates of interest. All of our cash equivalent and marketable fixed income securities are designated as available-for-sale and, accordingly, are presented at fair value on our consolidated balance sheets. We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term fixed income securities. Fixed income securities may have their fair market value adversely affected due to a rise in interest rates, and we may suffer losses in principal if forced to sell securities that have declined in market value due to changes in interest rates.

The following table provides information about our cash equivalents and marketable fixed income securities, including principal cash flows by expected maturity and the related weighted-average interest rates as of December 31, 2018 (in millions, except percentages):

	2019	2020	2021	2022	2023	Thereafter	Total	Estimated Fair Value as of December 31, 2018
Money market funds	$ 12,515	$ —	$ —	$ —	$ —	$ —	$ 12,515	$ 12,515
Weighted average interest rate	1.16%	—%	—%	—%	—%	—%	1.16%	
Corporate debt securities	3,220	1,086	560	120	16	—	5,002	4,990
Weighted average interest rate	2.96%	3.25%	3.36%	3.86%	4.26%	—%	3.09%	
U.S. government and agency securities	11,071	416	135	91	4	—	11,717	11,667
Weighted average interest rate	2.35%	2.49%	2.68%	2.76%	3.38%	—%	2.36%	
Asset-backed securities	305	255	162	121	52	—	895	892
Weighted average interest rate	2.96%	3.07%	3.02%	2.99%	3.07%	—%	3.01%	
Foreign government and agency securities	761	50	4	—	—	—	815	815
Weighted average interest rate	2.60%	2.68%	3.32%	—%	—%	—%	2.61%	
Other fixed income securities	89	67	32	—	—	—	188	188
Weighted average interest rate	3.25%	2.89%	3.13%	—%	—%	—%	3.10%	
	$ 27,961	$ 1,874	$ 893	$ 332	$ 72	$ —	$ 31,132	
Cash equivalents and marketable fixed income securities								$ 31,067

As of December 31, 2018, we had $25.0 billion of debt, including the current portion, primarily consisting of the following fixed rate unsecured debt (in millions):

2.600% Notes due on December 5, 2019	$	1,000
1.900% Notes due on August 21, 2020	$	1,000
3.300% Notes due on December 5, 2021	$	1,000
2.500% Notes due on November 29, 2022	$	1,250
2.400% Notes due on February 22, 2023	$	1,000
2.800% Notes due on August 22, 2024	$	2,000
3.800% Notes due on December 5, 2024	$	1,250
5.200% Notes due on December 3, 2025	$	1,000
3.150% Notes due on August 22, 2027	$	3,500
4.800% Notes due on December 5, 2034	$	1,250
3.875% Notes due on August 22, 2037	$	2,750
4.950% Notes due on December 5, 2044	$	1,500
4.050% Notes due on August 22, 2047	$	3,500
4.250% Notes due on August 22, 2057	$	2,250

Based upon quoted market prices and Level 2 inputs, the fair value of our total debt was $25.0 billion as of December 31, 2018.

Foreign Exchange Risk

During 2018, net sales from our International segment accounted for 28% of our consolidated revenues. Net sales and related expenses generated from our internationally-focused stores, including within Canada and Mexico (which are included in our North America segment), are primarily denominated in the functional currencies of the corresponding stores and primarily include Euros, British Pounds, and Japanese Yen. The results of operations of, and certain of our intercompany balances associated with, our internationally-focused stores and AWS are exposed to foreign exchange rate fluctuations. Upon consolidation, as foreign exchange rates vary, net sales and other operating results may differ materially from expectations, and we may record significant gains or losses on the remeasurement of intercompany balances. For example, as a result of fluctuations in foreign exchange rates throughout the year compared to rates in effect the prior year, International segment net sales increased by $1.3 billion in comparison with the prior year.

We have foreign exchange risk related to foreign-denominated cash, cash equivalents, and marketable securities ("foreign funds"). Based on the balance of foreign funds as of December 31, 2018, of $13.8 billion, an assumed 5%, 10%, and 20% adverse change to foreign exchange would result in fair value declines of $690 million, $1.4 billion, and $2.8 billion. All cash equivalent and marketable fixed income securities are classified as "available-for-sale." Fluctuations in fair value are recorded in "Accumulated other comprehensive loss," a separate component of stockholders' equity. Equity securities with readily determinable fair values are included in "Marketable securities" on our consolidated balance sheets and are measured at fair value with changes recognized in net income.

We have foreign exchange risk related to our intercompany balances denominated in various foreign currencies. Based on the intercompany balances as of December 31, 2018, an assumed 5%, 10%, and 20% adverse change to foreign exchange would result in losses of $145 million, $305 million, and $685 million, recorded to "Other income (expense), net."

See Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations — Results of Operations — Effect of Foreign Exchange Rates" for additional information on the effect on reported results of changes in foreign exchange rates.

Investment Risk

As of December 31, 2018, our recorded value in equity and equity warrant investments in public and private companies was $942 million. Our equity and equity warrant investments in publicly traded companies represent $518 million of our investments as of December 31, 2018, and are recorded at fair value, which is subject to market price volatility. We perform a qualitative assessment for our equity investments in private companies to identify impairment. If this assessment indicates that an impairment exists, we estimate the fair value of the investment and, if the fair value is less than carrying value, we write down the investment to fair value. Our assessment includes a review of recent operating results and trends, recent sales/acquisitions of the investee securities, and other publicly available data. The current global economic climate provides additional uncertainty. Valuations of private companies are inherently more complex due to the lack of readily available market data. As such, we believe that market sensitivities are not practicable.

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, 2018 and 2017, 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, 2018 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, 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, 2018, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated January 31, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1996.
Seattle, Washington
January 31, 2019

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Year Ended December 31,		
	2016	2017	2018
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH, BEGINNING OF PERIOD	$ 16,175	$ 19,934	$ 21,856
OPERATING ACTIVITIES:			
Net income	2,371	3,033	10,073
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation of property and equipment and other amortization, including capitalized content costs	8,116	11,478	15,341
Stock-based compensation	2,975	4,215	5,418
Other operating expense, net	160	202	274
Other expense (income), net	(20)	(292)	219
Deferred income taxes	(246)	(29)	441
Changes in operating assets and liabilities:			
Inventories	(1,426)	(3,583)	(1,314)
Accounts receivable, net and other	(3,436)	(4,780)	(4,615)
Accounts payable	5,030	7,100	3,263
Accrued expenses and other	1,724	283	472
Unearned revenue	1,955	738	1,151
Net cash provided by (used in) operating activities	17,203	18,365	30,723
INVESTING ACTIVITIES:			
Purchases of property and equipment	(7,804)	(11,955)	(13,427)
Proceeds from property and equipment incentives	1,067	1,897	2,104
Acquisitions, net of cash acquired, and other	(116)	(13,972)	(2,186)
Sales and maturities of marketable securities	4,577	9,677	8,240
Purchases of marketable securities	(7,240)	(12,731)	(7,100)
Net cash provided by (used in) investing activities	(9,516)	(27,084)	(12,369)
FINANCING ACTIVITIES:			
Proceeds from long-term debt and other	618	16,228	768
Repayments of long-term debt and other	(327)	(1,301)	(668)
Principal repayments of capital lease obligations	(3,860)	(4,799)	(7,449)
Principal repayments of finance lease obligations	(147)	(200)	(337)
Net cash provided by (used in) financing activities	(3,716)	9,928	(7,686)
Foreign currency effect on cash, cash equivalents, and restricted cash	(212)	713	(351)
Net increase (decrease) in cash, cash equivalents, and restricted cash	3,759	1,922	10,317
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH, END OF PERIOD	$ 19,934	$ 21,856	$ 32,173
SUPPLEMENTAL CASH FLOW INFORMATION:			
Cash paid for interest on long-term debt	$ 290	$ 328	$ 854
Cash paid for interest on capital and finance lease obligations	206	319	575
Cash paid for income taxes, net of refunds	412	957	1,184
Property and equipment acquired under capital leases	5,704	9,637	10,615
Property and equipment acquired under build-to-suit leases	1,209	3,541	3,641

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per share data)

	Year Ended December 31,		
	2016	2017	2018
Net product sales	$ 94,665	$ 118,573	$ 141,915
Net service sales	41,322	59,293	90,972
Total net sales	135,987	177,866	232,887
Operating expenses:			
Cost of sales	88,265	111,934	139,156
Fulfillment	17,619	25,249	34,027
Marketing	7,233	10,069	13,814
Technology and content	16,085	22,620	28,837
General and administrative	2,432	3,674	4,336
Other operating expense, net	167	214	296
Total operating expenses	131,801	173,760	220,466
Operating income	4,186	4,106	12,421
Interest income	100	202	440
Interest expense	(484)	(848)	(1,417)
Other income (expense), net	90	346	(183)
Total non-operating income (expense)	(294)	(300)	(1,160)
Income before income taxes	3,892	3,806	11,261
Provision for income taxes	(1,425)	(769)	(1,197)
Equity-method investment activity, net of tax	(96)	(4)	9
Net income	$ 2,371	$ 3,033	$ 10,073
Basic earnings per share	$ 5.01	$ 6.32	$ 20.68
Diluted earnings per share	$ 4.90	$ 6.15	$ 20.14
Weighted-average shares used in computation of earnings per share:			
Basic	474	480	487
Diluted	484	493	500

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	Year Ended December 31,		
	2016	**2017**	**2018**
Net income	$ 2,371	$ 3,033	$ 10,073
Other comprehensive income (loss):			
Foreign currency translation adjustments, net of tax of $(49), $5, and $6	(279)	533	(538)
Net change in unrealized gains (losses) on available-for-sale debt securities:			
Unrealized gains (losses), net of tax of $(12), $5, and $0	9	(39)	(17)
Reclassification adjustment for losses (gains) included in “Other income (expense), net,” net of tax of $0, $0, and $0	8	7	8
Net unrealized gains (losses) on available-for-sale debt securities	17	(32)	(9)
Total other comprehensive income (loss)	(262)	501	(547)
Comprehensive income	$ 2,109	$ 3,534	$ 9,526

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED BALANCE SHEETS
(in millions, except per share data)

	December 31,	
	2017	2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 20,522	$ 31,750
Marketable securities	10,464	9,500
Inventories	16,047	17,174
Accounts receivable, net and other	13,164	16,677
Total current assets	60,197	75,101
Property and equipment, net	48,866	61,797
Goodwill	13,350	14,548
Other assets	8,897	11,202
Total assets	$ 131,310	$ 162,648
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 34,616	$ 38,192
Accrued expenses and other	18,170	23,663
Unearned revenue	5,097	6,536
Total current liabilities	57,883	68,391
Long-term debt	24,743	23,495
Other long-term liabilities	20,975	27,213
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 — 507 and 514		
Outstanding shares — 484 and 491	5	5
Treasury stock, at cost	(1,837)	(1,837)
Additional paid-in capital	21,389	26,791
Accumulated other comprehensive loss	(484)	(1,035)
Retained earnings	8,636	19,625
Total stockholders' equity	27,709	43,549
Total liabilities and stockholders' equity	$ 131,310	$ 162,648

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, 2016	471	$ 5	$ (1,837)	$ 13,394	$ (723)	$ 2,545	$ 13,384
Net income	—	—	—	—	—	2,371	2,371
Other comprehensive income (loss)	—	—	—	—	(262)	—	(262)
Exercise of common stock options	6	—	—	1	—	—	1
Excess tax benefits from stock-based compensation	—	—	—	829	—	—	829
Stock-based compensation and issuance of employee benefit plan stock	—	—	—	2,962	—	—	2,962
Balance as of December 31, 2016	477	5	(1,837)	17,186	(985)	4,916	19,285
Cumulative effect of a change in accounting principle related to stock-based compensation	—	—	—	—	—	687	687
Net income	—	—	—	—	—	3,033	3,033
Other comprehensive income (loss)	—	—	—	—	501	—	501
Exercise of common stock options	7	—	—	1	—	—	1
Stock-based compensation and issuance of employee benefit plan stock	—	—	—	4,202	—	—	4,202
Balance as of December 31, 2017	484	5	(1,837)	21,389	(484)	8,636	27,709
Cumulative effect of changes in accounting principles related to revenue recognition, income taxes, and financial instruments	—	—	—	—	(4)	916	912
Net income	—	—	—	—	—	10,073	10,073
Other comprehensive income (loss)	—	—	—	—	(547)	—	(547)
Exercise of common stock options	7	—	—	—	—	—	—
Stock-based compensation and issuance of employee benefit plan stock	—	—	—	5,402	—	—	5,402
Balance as of December 31, 2018	491	$ 5	$ (1,837)	$ 26,791	$ (1,035)	$ 19,625	$ 43,549

See accompanying notes to consolidated financial statements.

Note 1 — DESCRIPTION OF BUSINESS AND ACCOUNTING POLICIES

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, and content creators. We serve consumers through our online and physical stores and focus on selection, price, and convenience. We offer programs that enable sellers to sell their products in our stores and fulfill orders through us, and programs that allow authors, musicians, filmmakers, skill and app developers, and others to publish and sell content. We serve developers and enterprises of all sizes through our AWS segment, which offers a broad set of global compute, storage, database, and other service offerings. We also manufacture and sell electronic devices. In addition, we provide services, such as advertising.

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

Prior Period Reclassifications

Certain prior period amounts have been reclassified to conform to the current period presentation, including the addition of restricted cash to cash and cash equivalents on our consolidated statements of cash flows as a result of the adoption of new accounting guidance.

Principles of Consolidation

The consolidated financial statements include the accounts of Amazon.com, Inc., 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 China and that support our seller lending financing activities (collectively, the "Company"). Intercompany balances and transactions between consolidated entities are eliminated. The financial results of Whole Foods Market, Inc. ("Whole Foods Market") have been included in our consolidated financial statements from the date of acquisition on August 28, 2017.

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, commitments and contingencies, valuation of acquired intangibles and goodwill, stock-based compensation forfeiture rates, vendor funding, and inventory valuation. Actual results could differ materially from those estimates.

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,		
	2016	2017	2018
Shares used in computation of basic earnings per share	474	480	487
Total dilutive effect of outstanding stock awards	10	13	13
Shares used in computation of diluted earnings per share	484	493	500

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 audiobooks, digital video, e-books, digital music, 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.

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 primarily includes sales of advertising services, which are recognized as ads are delivered based on the number of clicks or impressions.

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 $567 million, $468 million, and $623 million as of December 31, 2016, 2017, and 2018. Additions to the allowance were $1.5 billion, $1.8 billion, and $2.3 billion and deductions from the allowance were $1.5 billion, $1.9 billion, and $2.3 billion in 2016, 2017, and 2018. Included in “Inventories” on our consolidated balance sheets are assets totaling $411 million, $406 million, and $519 million as of December 31, 2016, 2017, and 2018, 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, digital media content costs where we record revenue gross, including video and music, packaging supplies, sortation and delivery centers and related equipment costs, and inbound and outbound shipping costs, including where we are the transportation service provider. 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 funds 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, customer service centers, and physical stores, including 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.

Marketing

Marketing costs primarily consist of targeted online advertising, payroll and related expenses for personnel engaged in marketing and selling activities, and television advertising. 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 $5.0 billion, $6.3 billion, and $8.2 billion in 2016, 2017, and 2018. Prepaid advertising costs were not significant as of December 31, 2017 and 2018.

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, 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.

General and Administrative

General and administrative expenses primarily consist of payroll and related expenses; facilities and equipment expenses, such as depreciation expense and rent; professional fees and litigation costs; and other general corporate costs for corporate functions, including accounting, finance, tax, legal, and human resources, among others.

Stock-Based Compensation

Compensation cost for all 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.

Other Operating Expense, Net

Other operating expense, net, consists primarily of marketing-related, contract-based, and customer-related intangible asset amortization expense, and expenses related to legal settlements.

Other Income (Expense), Net

Other income (expense), net, consists primarily of foreign currency gains (losses) of $21 million, $247 million, and $(206) million in 2016, 2017, and 2018 and equity warrant valuation gains (losses) of $67 million, $109 million, and $(131) million in 2016, 2017, and 2018 and equity securities gains of $1 million, $18 million, and $145 million in 2016, 2017, and 2018.

Income Taxes

Income tax expense includes U.S. (federal and state) and foreign income taxes. Certain foreign subsidiary earnings are subject to U.S. taxation under the U.S. Tax Act, which also repeals U.S. taxation on the subsequent repatriation of those earnings. 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 and are stated at enacted tax rates expected to be in effect when taxes are actually paid or recovered.

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.

For our cash, cash equivalents, or marketable securities, we measure the fair value of money market funds and equity securities based on quoted prices in active markets for identical assets or liabilities. All other financial instruments 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 any cash, cash equivalents, or marketable securities categorized as Level 3 assets as of December 31, 2017 and 2018.

As part of entering into commercial agreements, we often obtain equity warrant assets giving us the right to acquire stock of other companies. As of December 31, 2017 and 2018, these warrants had a fair value of $441 million and $440 million, and are recorded within "Other assets" on our consolidated balance sheets. The related gain (loss) recorded in "Other income (expense), net" was $67 million, $109 million, and $(131) million in 2016, 2017, and 2018. These assets 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.

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, 2017 and 2018, customer receivables, net, were $6.4 billion and $9.4 billion, vendor receivables, net, were $2.6 billion and $3.2 billion, and seller receivables, net, were $692 million and $710 million. 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 known troubled accounts and historical experience of losses incurred. 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 $237 million, $348 million, and $495 million as of December 31, 2016, 2017, and 2018. Additions to the allowance were $451 million, $626 million, and $878 million, and deductions to the allowance were $403 million, $515 million, and $731 million in 2016, 2017, and 2018.

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. Incentives that we receive from property and equipment vendors are recorded as a reduction in our costs. Property includes buildings and land that we own, along with property we have acquired under build-to-suit, finance, and capital lease arrangements. Equipment includes assets such as servers and networking equipment, heavy equipment, and other fulfillment equipment. Depreciation 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 for our servers, five years for networking equipment, ten years for heavy equipment, and three to seven years for other fulfillment equipment). Depreciation expense is classified within the corresponding operating expense categories on our consolidated statements of operations.

Leases and Asset Retirement Obligations

We categorize leases at their inception as either operating or capital leases. On certain of our lease agreements, we may receive rent holidays and other incentives provided by the landlord. We recognize lease costs on a straight-line basis without regard to deferred payment terms, such as rent holidays, that defer the commencement date of required payments. Additionally, incentives we receive are treated as a reduction of our costs over the term of the agreement. Leasehold improvements are capitalized at cost and amortized over the lesser of their expected useful life or the non-cancellable term of the lease.

We establish assets and liabilities for the estimated construction costs incurred under build-to-suit lease arrangements to the extent we are involved in the construction of structural improvements or take construction risk prior to commencement of a lease. Upon occupancy of facilities under build-to-suit leases, we assess whether these arrangements qualify for sales recognition under the sale-leaseback accounting guidance. If we continue to be the deemed owner, the facilities are accounted for as finance leases.

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 depreciated over the lease period into operating expense, and the recorded liabilities are accreted to the future value of the estimated retirement costs.

As disclosed in "Accounting Pronouncements Not Yet Adopted," our accounting for build-to-suit and finance leases will change on January 1, 2019.

Goodwill

We evaluate goodwill for impairment annually or more frequently when an event occurs or circumstances change that indicate the carrying value may not be recoverable. In testing goodwill for impairment, 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 is less than its carrying amount. If our qualitative assessment indicates that goodwill impairment is more likely than not, we perform a two-step impairment test. We test goodwill for impairment under the two-step impairment test by first comparing the book value of net assets to the fair value of the reporting units. If the fair value is determined to be less than the book value or qualitative factors indicate that it is more likely than not that goodwill is impaired, a second step is performed to compute the amount of impairment as the difference between the estimated fair value of goodwill and the carrying value. 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 testing of goodwill for impairment for all reporting units as of April 1, 2018, and determined that goodwill is not impaired as the fair value of our reporting units substantially exceeded their book value. There were no events that caused us to update our annual impairment test. See "Note 4 — Acquisitions, Goodwill, and Acquired Intangible Assets."

Other Assets

Included in "Other assets" on our consolidated balance sheets are amounts primarily related to acquired intangible assets, net of accumulated amortization; video and music content, net of accumulated amortization; long-term deferred tax assets; certain equity investments; marketable securities restricted for longer than one year, the majority of which are attributable to collateralization of bank guarantees and debt related to our international operations; and equity warrant assets.

Video and Music Content

We obtain video and music content for customers through licensing agreements that have a wide range of licensing provisions, which include both fixed and variable payment schedules. When the license fee for a specific movie, television, or music title is determinable or reasonably estimable and the content is available for streaming, we recognize an asset representing the fee and a corresponding liability for the amounts owed. We relieve the liability as payments are made and we amortize the asset to "Cost of sales" on a straight-line basis or on an accelerated basis, based on estimated usage patterns, which typically ranges from one to five years. If we are unable to reasonably estimate the cost per title, no asset or liability is recorded and licensing costs are expensed as incurred. We also develop original content. Capitalized production costs associated with our original content are limited by the amount of revenue we expect to earn, which results in a portion being expensed as incurred. These capitalized costs are amortized to "Cost of sales" on an accelerated basis that follows the viewing pattern of customer streams in the first months after availability.

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 debt securities are classified as available-for-sale and reported at fair value with unrealized gains and losses included in "Accumulated other comprehensive loss."

Equity investments are accounted for using the equity method of accounting 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, and related gains or losses, if any, are classified as "Equity-method investment activity, net of tax" on our consolidated statements of operations.

Equity investments without readily determinable fair values and 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.

Equity investments that have readily determinable fair values 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 statement of operations.

We periodically evaluate whether declines in fair values of our investments indicate impairment. For debt securities and equity method investments, we also evaluate whether declines in fair value of our investments below their book value are other-than-temporary. This evaluation consists of several qualitative and quantitative factors regarding the severity and duration of the unrealized loss as well as our ability and intent to hold the investment until a forecasted recovery occurs. Additionally, we assess whether we have plans to sell the security or it is more likely than not we will be required to sell any investment before recovery of its amortized cost basis. Factors considered include: quoted market prices; recent financial results and operating trends; implied values from any recent transactions or offers of investee securities; credit quality of debt instrument issuers; other publicly available information that may affect the value of our investments; duration and severity of the decline in value; and our strategy and intentions for holding the investment.

Long-Lived Assets

Long-lived assets, other than goodwill, 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, 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, 2017 and 2018.

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, payroll and related expenses, unredeemed gift cards, customer liabilities, current debt, acquired digital media content, and other operating expenses.

As of December 31, 2017 and 2018, our liabilities for payroll related expenses were $2.9 billion and $3.4 billion and our liabilities for unredeemed gift cards were $3.0 billion and $2.8 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, 2017 was $6.1 billion, of which $5.3 billion was recognized as revenue during the year ended December 31, 2018, including adjustments related to the new revenue recognition guidance. Included in "Other long-term liabilities" on our consolidated balance sheets was $1.0 billion and $1.4 billion of unearned revenue as of December 31, 2017 and 2018.

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 $19.3 billion as of December 31, 2018. The weighted average remaining life of our long-term contracts is 3.3 years. However, the amount and timing of revenue recognition is largely driven by customer usage, which can extend beyond the original contractual term.

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 loss," a separate component of stockholders' equity, and in the "Foreign currency effect on cash and cash equivalents," 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 $62 million, $202 million, and $(186) million in 2016, 2017, and 2018.

Accounting Pronouncements Recently Adopted

In May 2014, the Financial Accounting Standards Board ("FASB") issued an Accounting Standards Update ("ASU") amending revenue recognition guidance and requiring more detailed disclosures to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. We adopted this ASU on January 1, 2018 for all revenue contracts with our customers using the modified retrospective approach and increased retained earnings by approximately $650 million. The adjustment primarily relates to the unredeemed portion of our gift cards, which are now recognized over the expected customer usage period rather than waiting until gift cards expire or when the likelihood of redemption becomes remote. We changed the recognition and classification of Amazon Prime memberships, which are now accounted for as a single performance obligation and recognized ratably over the membership period as service sales. Previously, Prime memberships were considered to be arrangements with multiple deliverables and were allocated among product sales and service sales. Other changes relate primarily to the presentation of revenue. Certain advertising services are now classified as revenue rather than a reduction in cost of sales, and sales of apps, in-app content, and certain digital media content are presented on a net basis. Prior year amounts have not been adjusted and continue to be reported in accordance with our historic accounting policy.

The impact of applying this ASU for the year ended December 31, 2018 primarily resulted in a decrease in product sales and an increase in service sales driven by the reclassification of Prime membership fees of approximately $3.8 billion. Service sales also increased by approximately $3.0 billion for the year ended December 31, 2018 due to the reclassification of certain advertising services.

In January 2016, the FASB issued an ASU that updates certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Under this ASU, certain equity investments are measured at fair value with changes recognized in net income. We adopted this ASU in Q1 2018 with no material impact to our consolidated financial statements.

In October 2016, the FASB issued an ASU amending the accounting for income taxes. The new guidance requires the recognition of the income tax consequences of an intercompany asset transfer, other than transfers of inventory, when the transfer occurs. For intercompany transfers of inventory, the income tax effects will continue to be deferred until the inventory has been sold to a third party. We adopted this ASU in Q1 2018 with an increase of approximately $250 million to retained earnings and deferred tax assets net of valuation allowances.

In November 2016, the FASB issued an ASU amending the presentation of restricted cash within the consolidated statements of cash flows. The new guidance requires that restricted cash be added to cash and cash equivalents on the consolidated statements of cash flows. We adopted this ASU in Q1 2018 on a retrospective basis with the following impacts to our consolidated statements of cash flows (in millions):

Year Ended December 31, 2016	Previously Reported	Adjustments	As Revised
Operating activities	$ 17,272	$ (69)	$ 17,203
Investing activities	(9,876)	360	(9,516)
Financing activities	(3,740)	24	(3,716)
Net change in cash, cash equivalents, and restricted cash	$ 3,656	$ 315	$ 3,971

Year Ended December 31, 2017	Previously Reported	Adjustments	As Revised
Operating activities	$ 18,434	$ (69)	$ 18,365
Investing activities	(27,819)	735	(27,084)
Financing activities	9,860	68	9,928
Net change in cash, cash equivalents, and restricted cash	$ 475	$ 734	$ 1,209

Accounting Pronouncements Not Yet Adopted

In February 2016, the FASB issued an ASU amending the accounting for leases. The new guidance requires the recognition of lease assets and liabilities for operating leases with terms of more than 12 months, in addition to those currently recorded, on our consolidated balance sheets. Presentation of leases within the consolidated statements of operations and consolidated statements of cash flows will be generally consistent with the current lease accounting guidance. The ASU is effective for reporting periods beginning after December 15, 2018, with early adoption permitted. We will adopt this ASU on January 1, 2019 with an immaterial cumulative adjustment to retained earnings rather than retrospectively adjusting prior periods. This adoption approach will result in a balance sheet presentation that will not be comparable to the prior period in the first year of adoption. The adoption of this ASU will result in the recognition of operating lease assets and liabilities of approximately $21 billion, which includes the reclassification of finance leases to operating leases of approximately $1.2 billion, and the derecognition of build-to-suit lease assets and liabilities when we do not control the building during the construction period of approximately $1.5 billion.

Note 2 — CASH, CASH EQUIVALENTS, RESTRICTED CASH, AND MARKETABLE SECURITIES

As of December 31, 2017 and 2018, 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, and other investment grade 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, 2017			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Estimated Fair Value
Cash	$ 9,982	$ —	$ —	$ 9,982
Level 1 securities:				
Money market funds	11,343	—	—	11,343
Equity securities	23	30	—	53
Level 2 securities:				
Foreign government and agency securities	620	—	—	620
U.S. government and agency securities	4,841	1	(19)	4,823
Corporate debt securities	4,265	1	(9)	4,257
Asset-backed securities	910	—	(5)	905
Other fixed income securities	340	—	(2)	338
	$ 32,324	$ 32	$ (35)	$ 32,321
Less: Restricted cash, cash equivalents, and marketable securities (1)				(1,335)
Total cash, cash equivalents, and marketable securities				$ 30,986

	December 31, 2018			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Estimated Fair Value
Cash	$ 10,406	$ —	$ —	$ 10,406
Level 1 securities:				
Money market funds	12,515	—	—	12,515
Equity securities	29	143	(2)	170
Level 2 securities:				
Foreign government and agency securities	815	—	—	815
U.S. government and agency securities	11,686	1	(20)	11,667
Corporate debt securities	5,008	1	(19)	4,990
Asset-backed securities	896	—	(4)	892
Other fixed income securities	190	—	(2)	188
Equity securities	28	5	—	33
	$ 41,573	$ 150	$ (47)	$ 41,676
Less: Restricted cash, cash equivalents, and marketable securities (1)				(426)
Total cash, cash equivalents, and marketable securities				$ 41,250

(1) We are required to pledge or otherwise restrict a portion of our cash, cash equivalents, and marketable securities as collateral for real estate leases, amounts due to third-party sellers in certain jurisdictions, debt, and standby and trade letters of credit. We classify cash, cash equivalents, and marketable 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."

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

	Year Ended December 31,		
	2016	2017	2018
Realized gains	$ 3	$ 5	$ 2
Realized losses	11	11	9

The following table summarizes the remaining contractual maturities of our cash equivalents and marketable fixed income securities as of December 31, 2018 (in millions):

	Amortized Cost	Estimated Fair Value
Due within one year	$ 27,520	$ 27,508
Due after one year through five years	2,865	2,845
Due after five years through ten years	187	185
Due after ten years	538	529
Total	$ 31,110	$ 31,067

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

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, 2017	December 31, 2018
Cash and cash equivalents	$ 20,522	$ 31,750
Restricted cash included in accounts receivable, net and other	1,329	418
Restricted cash included in other assets	5	5
Total cash, cash equivalents, and restricted cash shown in the consolidated statements of cash flows	$ 21,856	$ 32,173

Note 3 — PROPERTY AND EQUIPMENT

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

	December 31,	
	2017	2018
Gross property and equipment (1):		
Land and buildings	$ 23,896	$ 31,741
Equipment	42,244	54,591
Other assets	2,438	2,577
Construction in progress	4,078	6,861
Gross property and equipment	72,656	95,770
Total accumulated depreciation and amortization (1)	23,790	33,973
Total property and equipment, net	$ 48,866	$ 61,797

(1) We revised our prior year presentation of gross property and equipment and total accumulated depreciation and amortization to include all property and equipment in service, including equipment which is fully-depreciated, to conform to the current year presentation. Total property and equipment, net remains unchanged for the prior year.

Depreciation expense on property and equipment was $6.4 billion, $8.8 billion, and $12.1 billion which includes amortization of property and equipment acquired under capital leases of $3.8 billion, $5.4 billion, and $7.3 billion for 2016, 2017, and 2018. Gross assets recorded under capital leases were $26.4 billion and $36.1 billion as of December 31, 2017 and 2018. Accumulated amortization associated with capital leases was $13.4 billion and $19.8 billion as of December 31, 2017 and 2018.

We capitalize construction in progress and record a corresponding long-term liability for build-to-suit lease agreements where we are considered the owner, for accounting purposes, during the construction period. For buildings under build-to-suit lease arrangements where we have taken occupancy, which do not qualify for sales recognition under the sale-leaseback accounting guidance, we determined that we continue to be the deemed owner of these buildings. This is principally due to our significant investment in tenant improvements. As a result, the buildings are being depreciated over the shorter of their useful lives or the related leases' terms. Additionally, certain build-to-suit lease arrangements and finance leases provide purchase options. Upon occupancy, the long-term construction obligations are considered long-term finance lease obligations with amounts payable during the next 12 months recorded as "Accrued expenses and other." Gross assets remaining under finance leases were $5.4 billion and $7.5 billion as of December 31, 2017 and 2018. Accumulated amortization associated with finance leases was $635 million and $1.1 billion as of December 31, 2017 and 2018. As disclosed in "Note 1 — Description of Business and Accounting Policies," our accounting for build-to-suit and finance leases will change on January 1, 2019.

Note 4 — ACQUISITIONS, GOODWILL, AND ACQUIRED INTANGIBLE ASSETS

2016 Acquisition Activity

During 2016, we acquired certain companies for an aggregate purchase price of $103 million. The primary reason for these acquisitions, none of which were individually material to our consolidated financial statements, was to acquire technologies and know-how to enable Amazon to serve customers more effectively.

2017 Acquisition Activity

On May 12, 2017, we acquired Souq Group Ltd. ("Souq"), an e-commerce company, for approximately $583 million, net of cash acquired, and on August 28, 2017, we acquired Whole Foods Market, a grocery store chain, for approximately $13.2 billion, net of cash acquired. Both acquisitions are intended to expand our retail presence. During 2017, we also acquired certain other companies for an aggregate purchase price of $204 million. The primary reason for our other 2017 acquisitions was to acquire technologies and know-how to enable Amazon to serve customers more effectively.

2018 Acquisition Activity

On April 12, 2018, we acquired Ring Inc. ("Ring") for cash consideration of approximately $839 million, net of cash acquired, and on September 11, 2018, we acquired PillPack, Inc. ("PillPack") for cash consideration of approximately $753 million, net of cash acquired, to expand our product and service offerings. During 2018, we also acquired certain other companies for an aggregate purchase price of $57 million. The primary reason for our other 2018 acquisitions was to acquire technologies and know-how to enable Amazon to serve customers more effectively.

Acquisition-related costs were expensed as incurred and were not significant.

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

Purchase Price Allocation

The aggregate purchase price of these acquisitions was allocated as follows (in millions):

	December 31,		
	2016	2017	2018
Purchase Price			
Cash paid, net of cash acquired	$ 81	$ 13,859	$ 1,618
Indemnification holdback	22	104	31
	$ 103	$ 13,963	$ 1,649
Allocation			
Goodwill	$ 60	$ 9,501	$ 1,228
Intangible assets (1):			
Marketing-related	2	1,987	186
Contract-based	1	440	13
Technology-based	53	166	285
Customer-related	1	54	193
	57	2,647	677
Property and equipment	3	3,810	11
Deferred tax assets	17	117	174
Other assets acquired	10	1,858	282
Long-term debt	(5)	(1,165)	(176)
Deferred tax liabilities	(18)	(961)	(159)
Other liabilities assumed	(21)	(1,844)	(388)
	$ 103	$ 13,963	$ 1,649

(1) Intangible assets acquired in 2016, 2017, and 2018 have estimated useful lives of between one and seven years, one and twenty-five years, and two and seven years, with weighted-average amortization periods of five years, twenty-one years, and six years.

We determined the estimated fair value of identifiable intangible assets acquired primarily by using the income approach. These assets are included within "Other assets" on our consolidated balance sheets and are being amortized to operating expenses on a straight-line basis over their estimated useful lives.

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 2017 and 2018 by segment (in millions):

	North America	International	AWS	Consolidated
Goodwill - January 1, 2017	$ 2,044	$ 694	$ 1,046	$ 3,784
New acquisitions (1)	9,115	368	18	9,501
Other adjustments (2)	6	46	13	65
Goodwill - December 31, 2017	11,165	1,108	1,077	13,350
New acquisitions (1)	1,031	177	20	1,228
Other adjustments (2)	(5)	(15)	(10)	(30)
Goodwill - December 31, 2018	$ 12,191	$ 1,270	$ 1,087	$ 14,548

(1) Primarily includes the acquisition of Whole Foods Market in the North America segment and Souq in the International segment in 2017 and the acquisitions of Ring and PillPack in the North America segment in 2018.
(2) Primarily includes changes in foreign exchange rates.

Intangible Assets

Acquired intangible assets, included within "Other assets" on our consolidated balance sheets, consist of the following (in millions):

	December 31,						
	2017			2018			
	Acquired Intangibles, Gross (1)	Accumulated Amortization (1)	Acquired Intangibles, Net	Acquired Intangibles, Gross (1)	Accumulated Amortization (1)	Acquired Intangibles, Net	Weighted Average Life Remaining
Marketing-related	$ 2,486	$ (418)	$ 2,068	$ 2,542	$ (431)	$ 2,111	21.2
Contract-based	1,013	(213)	800	1,430	(224)	1,206	12.3
Technology- and content-based	640	(252)	388	941	(377)	564	4.6
Customer-related	283	(168)	115	437	(208)	229	4.4
Acquired intangibles (2)	$ 4,422	$ (1,051)	$ 3,371	$ 5,350	$ (1,240)	$ 4,110	15.4

(1) Excludes the original cost and accumulated amortization of fully-amortized intangibles.
(2) Intangible assets have estimated useful lives of between one and twenty-five years.

Amortization expense for acquired intangibles was $287 million, $366 million, and $475 million in 2016, 2017, and 2018. Expected future amortization expense of acquired intangible assets as of December 31, 2018 is as follows (in millions):

Year Ended December 31,	
2019	$ 511
2020	412
2021	355
2022	323
2023	270
Thereafter	2,217
	$ 4,088

Note 5 — DEBT

As of December 31, 2018, we had $24.3 billion of unsecured senior notes outstanding (the "Notes"). As of December 31, 2017 and 2018, the net unamortized discount and debt issuance costs on the Notes was $99 million and $101 million. We also have other long-term debt with a carrying amount, including the current portion and borrowings under our credit facility, of $692 million and $715 million as of December 31, 2017 and 2018. The face value of our total long-term debt obligations is as follows (in millions):

	December 31,	
	2017	2018
2.600% Notes due on December 5, 2019 (2)	1,000	1,000
1.900% Notes due on August 21, 2020 (3)	1,000	1,000
3.300% Notes due on December 5, 2021 (2)	1,000	1,000
2.500% Notes due on November 29, 2022 (1)	1,250	1,250
2.400% Notes due on February 22, 2023 (3)	1,000	1,000
2.800% Notes due on August 22, 2024 (3)	2,000	2,000
3.800% Notes due on December 5, 2024 (2)	1,250	1,250
5.200% Notes due on December 3, 2025 (4)	1,000	1,000
3.150% Notes due on August 22, 2027 (3)	3,500	3,500
4.800% Notes due on December 5, 2034 (2)	1,250	1,250
3.875% Notes due on August 22, 2037 (3)	2,750	2,750
4.950% Notes due on December 5, 2044 (2)	1,500	1,500
4.050% Notes due on August 22, 2047 (3)	3,500	3,500
4.250% Notes due on August 22, 2057 (3)	2,250	2,250
Credit Facility	592	594
Other long-term debt	100	121
Total debt	24,942	24,965
Less current portion of long-term debt	(100)	(1,371)
Face value of long-term debt	$ 24,842	$ 23,594

(1) Issued in November 2012, effective interest rate of the 2022 Notes was 2.66%.
(2) Issued in December 2014, effective interest rates of the 2019, 2021, 2024, 2034, and 2044 Notes were 2.73%, 3.43%, 3.90%, 4.92%, and 5.11%.
(3) Issued in August 2017, effective interest rates of the 2020, 2023, 2024, 2027, 2037, 2047, and 2057 Notes were 2.16%, 2.56%, 2.95%, 3.25%, 3.94%, 4.13%, and 4.33%.
(4) Consists of $872 million of 2025 Notes issued in December 2017 in exchange for notes assumed in connection with the acquisition of Whole Foods Market and $128 million of 2025 Notes issued by Whole Foods Market that did not participate in our December 2017 exchange offer. The effective interest rate of the 2025 Notes was 3.02%.

Interest on the Notes issued in 2012 is payable semi-annually in arrears in May and November. Interest on the Notes issued in 2014 is payable semi-annually in arrears in June and December. Interest on the Notes issued in 2017 is payable semi-annually in arrears in February and August. Interest on the 2025 Notes is payable semi-annually in arrears in June and December. 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 proceeds from the November 2012 and the December 2014 Notes were used for general corporate purposes. The proceeds from the August 2017 Notes were used to fund the consideration for the acquisition of Whole Foods Market, to repay notes due in 2017, and for general corporate purposes. The estimated fair value of the Notes was approximately $25.7 billion and $24.3 billion as of December 31, 2017 and 2018, which is based on quoted prices for our debt as of those dates.

In October 2016, we entered into a $500 million secured revolving credit facility with a lender that is secured by certain seller receivables, which we subsequently increased to $620 million and may from time to time increase in the future subject to lender approval (the "Credit Facility"). The Credit Facility is available for a term of three years, bears interest at the London interbank offered rate ("LIBOR") plus 1.65%, and has a commitment fee of 0.50% on the undrawn portion. There were $592 million and $594 million of borrowings outstanding under the Credit Facility as of December 31, 2017 and 2018, which had a weighted-average interest rate of 2.7% and 3.2% as of December 31, 2017 and 2018. As of December 31, 2017 and 2018, we have pledged $686 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, 2017 and 2018.

The other debt, including the current portion, had a weighted-average interest rate of 5.8% and 6.0% as of December 31, 2017 and 2018. We used the net proceeds from the issuance of this debt primarily to fund certain business operations. The estimated fair value of the other long-term debt, which is based on Level 2 inputs, approximated its carrying value as of December 31, 2017 and 2018.

As of December 31, 2018, future principal payments for our total debt were as follows (in millions):

Year Ended December 31,		
2019	$	1,371
2020		1,298
2021		1,016
2022		1,266
2023		1,014
Thereafter		19,000
	$	24,965

In April 2018, we established a commercial paper program (the "Commercial Paper Program") under which we may from time to time issue unsecured commercial paper up to a total of $7.0 billion at any time, with individual maturities that may vary but will not exceed 397 days from the date of issue. There were no borrowings outstanding under the Commercial Paper Program as of December 31, 2018.

In April 2018, in connection with our Commercial Paper Program, we amended and restated our unsecured revolving credit facility (the "Credit Agreement") with a syndicate of lenders to increase our borrowing capacity thereunder to $7.0 billion. As amended and restated, the Credit Agreement has a term of three years, but 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 amended and restated Credit Agreement is LIBOR 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, 2017 and 2018.

Note 6 — OTHER LONG-TERM LIABILITIES

Our other long-term liabilities are summarized as follows (in millions):

	December 31,			
	2017		2018	
Long-term capital lease obligations	$	8,438	$	9,650
Long-term finance lease obligations		4,745		6,642
Construction liabilities		1,350		2,516
Tax contingencies		1,004		896
Long-term deferred tax liabilities		990		1,490
Other		4,448		6,019
Total other long-term liabilities	$	20,975	$	27,213

Capital and Finance Leases

Certain of our equipment, primarily related to technology infrastructure, and buildings have been acquired under capital leases. Long-term capital lease obligations are as follows (in millions):

	December 31, 2018	
Gross capital lease obligations	$	17,952
Less imputed interest		(582)
Present value of net minimum lease payments		17,370
Less current portion of capital lease obligations		(7,720)
Total long-term capital lease obligations	$	9,650

We continue to be the deemed owner after occupancy of certain facilities that were constructed as build-to-suit lease arrangements and previously reflected as “Construction liabilities.” As such, these arrangements are accounted for as finance leases. Long-term finance lease obligations are as follows (in millions):

	December 31, 2018
Gross finance lease obligations	$ 8,376
Less imputed interest	(1,323)
Present value of net minimum lease payments	7,053
Less current portion of finance lease obligations	(411)
Total long-term finance lease obligations	$ 6,642

As disclosed in “Note 1 — Description of Business and Accounting Policies,” our accounting for build-to-suit and finance leases will change on January 1, 2019.

Construction Liabilities

We capitalize construction in progress and record a corresponding long-term liability for build-to-suit lease agreements where we are considered the owner during the construction period for accounting purposes. These liabilities primarily relate to our corporate buildings and fulfillment, sortation, delivery, and data centers. As disclosed in “Note 1 — Description of Business and Accounting Policies,” our accounting for build-to-suit and finance leases will change on January 1, 2019.

Tax Contingencies

We have recorded reserves for tax contingencies, inclusive of accrued interest and penalties, for U.S. and foreign income taxes. These reserves primarily relate to transfer pricing and state income taxes, and are presented net of offsetting deferred tax assets related to net operating losses and tax credits. See “Note 9 — Income Taxes” for discussion of tax contingencies.

Note 7 — COMMITMENTS AND CONTINGENCIES

Commitments

We have entered into non-cancellable operating, capital, and finance leases for equipment and office, fulfillment, sortation, delivery, data center, physical store, and renewable energy facilities. Rental expense under operating lease agreements was $1.4 billion, $2.2 billion, and $3.4 billion for 2016, 2017, and 2018.

The following summarizes our principal contractual commitments, excluding open orders for purchases that support normal operations and are generally cancellable, as of December 31, 2018 (in millions):

	Year Ended December 31,						
	2019	2020	2021	2022	2023	Thereafter	Total
Debt principal and interest	$ 2,277	$ 2,161	$ 1,861	$ 2,078	$ 1,781	$ 30,013	$ 40,171
Capital lease obligations, including interest (1)	7,807	5,742	2,725	704	473	501	17,952
Finance lease obligations, including interest (2)	628	640	652	664	675	5,117	8,376
Operating leases	3,127	3,070	2,775	2,473	2,195	13,026	26,666
Unconditional purchase obligations (3)	3,523	4,103	3,291	3,098	2,974	5,204	22,193
Other commitments (4) (5)	2,618	1,455	1,056	843	808	8,875	15,655
Total commitments	$19,980	$17,171	$12,360	$ 9,860	$ 8,906	$ 62,736	$131,013

(1) Excluding interest, current capital lease obligations of $5.8 billion and $7.7 billion are recorded within “Accrued expenses and other” as of December 31, 2017 and 2018, and $8.4 billion and $9.6 billion are recorded within “Other long-term liabilities” as of December 31, 2017 and 2018.
(2) Excluding interest, current finance lease obligations of $282 million and $411 million are recorded within “Accrued expenses and other” as of December 31, 2017 and 2018, and $4.7 billion and $6.6 billion are recorded within “Other long-term liabilities” as of December 31, 2017 and 2018.
(3) Includes unconditional purchase obligations related to certain products offered in our Whole Foods Market stores and long-term agreements to acquire and license digital media content that are not reflected on the consolidated balance sheets. 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.
(4) Includes the estimated timing and amounts of payments for rent and tenant improvements associated with build-to-suit lease arrangements and equipment lease arrangements that have not been placed in service and digital media content liabilities associated with long-term digital media content assets with initial terms greater than one year.
(5) Excludes approximately $3.4 billion of accrued tax contingencies for which we cannot make a reasonably reliable estimate of the amount and period of payment, if any.

Pledged Assets

As of December 31, 2017 and 2018, we have pledged or otherwise restricted $1.4 billion and $575 million of our cash, cash equivalents, and marketable securities, and certain property and equipment as collateral for real estate leases, amounts due to third-party sellers in certain jurisdictions, debt, and standby and trade letters of credit.

Suppliers

During 2018, 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

In 2016, we determined that we processed and delivered orders of consumer products for certain individuals and entities located outside Iran covered by the Iran Threat Reduction and Syria Human Rights Act or other United States sanctions and export control laws. The consumer products included books, music, other media, apparel, home and kitchen, health and beauty, jewelry, office, consumer electronics, software, lawn and patio, grocery, and automotive products. Our review is ongoing and we have voluntarily reported these orders to the United States Treasury Department’s Office of Foreign Assets Control and the United States Department of Commerce’s Bureau of Industry and Security. We intend to cooperate fully with OFAC and BIS with respect to their review, which may result in the imposition of penalties. For additional information, see Item 9B of Part II, “Other Information — Disclosure Pursuant to Section 13(r) of the Exchange Act.”

We are subject to claims related to various indirect taxes (such as sales, value added, consumption, service, and similar taxes), including in jurisdictions in which we already collect and remit such taxes. If the relevant taxing authorities were successfully to pursue these claims, we could be subject to significant additional tax liabilities. For example, in June 2017, the State of South Carolina issued an assessment for uncollected sales and use taxes for the period from January 2016 to March 2016, including interest and penalties. South Carolina is alleging that we should have collected sales and use taxes on transactions by our third-party sellers. We believe the assessment is without merit. If South Carolina or other states were successfully to seek additional adjustments of a similar nature, we could be subject to significant additional tax liabilities. We intend to defend ourselves vigorously in this matter.

Legal Proceedings

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

In November 2007, an Austrian copyright collection society, Austro-Mechana, filed lawsuits against Amazon.com International Sales, Inc., Amazon EU S.à r.l., Amazon.de GmbH, Amazon.com GmbH, and Amazon Logistik in the Commercial Court of Vienna, Austria and in the District Court of Munich, Germany seeking to collect a tariff on blank digital media sold by our EU-based retail websites to customers located in Austria. In July 2008, the German court stayed the German case pending a final decision in the Austrian case. In July 2010, the Austrian court ruled in favor of Austro-Mechana and ordered us to report all sales of products to which the tariff potentially applies for a determination of damages. We contested Austro-Mechana's claim and in September 2010 commenced an appeal in the Commercial Court of Vienna. We lost this appeal and in March 2011 commenced an appeal in the Supreme Court of Austria. In October 2011, the Austrian Supreme Court referred the case to the European Court of Justice ("ECJ"). In July 2013, the ECJ ruled that EU law does not preclude application of the tariff where certain conditions are met and directed the case back to the Austrian Supreme Court for further proceedings. In October 2013, the Austrian Supreme Court referred the case back to the Commercial Court of Vienna for further fact finding to determine whether the tariff on blank digital media meets the conditions set by the ECJ. In August 2015, the Commercial Court of Vienna ruled that the Austrian tariff regime does not meet the conditions the ECJ set and dismissed Austro-Mechana's claims. In September 2015, Austro-Mechana appealed that judgment to the Higher Commercial Court of Vienna. In December 2015, the Higher Commercial Court of Vienna confirmed that the Austrian tariff regime does not meet the conditions the ECJ set and dismissed Austro-Mechana's appeal. In February 2016, Austro-Mechana appealed that judgment to the Austrian Supreme Court. In March 2017, the Austrian Supreme Court ruled in favor of Austro-Mechana and referred the case back to the Commercial Court of Vienna for further proceedings. A number of additional actions have been filed making similar allegations. In December 2012, a German copyright collection society, Zentralstelle für private Überspielungsrechte ("ZPU"), filed a complaint against Amazon EU S.à r.l., Amazon Media EU S.à r.l., Amazon Services Europe S.à r.l., Amazon Payments Europe SCA, Amazon Europe Holding Technologies SCS, and Amazon Eurasia Holdings S.à r.l. in the District Court of Luxembourg seeking to collect a tariff on blank digital media sold by the Amazon.de retail website to customers located in Germany. In January 2013, a Belgian copyright collection society, AUVIBEL, filed a complaint against Amazon EU S.à r.l. in the Court of First Instance of Brussels, Belgium, seeking to collect a tariff on blank digital media sold by the Amazon.fr retail website to customers located in Belgium. In November 2013, the Belgian court ruled in favor of AUVIBEL and ordered us to report all sales of products to which the tariff potentially applies for a determination of damages. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in these matters.

Beginning in August 2013, a number of complaints were filed alleging, among other things, that Amazon.com, Inc. and several of its subsidiaries failed to compensate hourly workers for time spent waiting in security lines and otherwise violated federal and state wage and hour statutes and common law. In August 2013, Busk v. Integrity Staffing Solutions, Inc. and Amazon.com, Inc. was filed in the United States District Court for the District of Nevada, and Vance v. Amazon.com, Inc., Zappos.com Inc., another affiliate of Amazon.com, Inc., and Kelly Services, Inc. was filed in the United States District Court for the Western District of Kentucky. In September 2013, Allison v. Amazon.com, Inc. and Integrity Staffing Solutions, Inc. was filed in the United States District Court for the Western District of Washington, and Johnson v. Amazon.com, Inc. and an affiliate of Amazon.com, Inc. was filed in the United States District Court for the Western District of Kentucky. In October 2013, Davis v. Amazon.com, Inc., an affiliate of Amazon.com, Inc., and Integrity Staffing Solutions, Inc. was filed in the United States District Court for the Middle District of Tennessee. The plaintiffs variously purport to represent a nationwide class of certain current and former employees under the Fair Labor Standards Act and/or state-law-based subclasses for certain current and former employees in states including Arizona, California, Pennsylvania, South Carolina, Kentucky, Washington, and Nevada, and one complaint asserts nationwide breach of contract and unjust enrichment claims. The complaints seek an unspecified amount of damages, interest, injunctive relief, and attorneys' fees. We have been named in several other similar cases. In December 2014, the Supreme Court ruled in Busk that time spent waiting for and undergoing security screening is not compensable working time under the federal wage and hour statute. In February 2015, the courts in those actions alleging only federal law claims entered stipulated orders dismissing those actions without prejudice. In March 2016, the United States District Court for the Western District of Kentucky dismissed the Vance case with prejudice. In April 2016, the plaintiffs appealed the district court's judgment to the United States Court of Appeals for the Federal Circuit. In March 2017, the court of appeals affirmed the district court's decision. In June 2017, the United States District Court for the Western District of Kentucky dismissed the Busk and Saldana cases with prejudice. We dispute any remaining allegations of wrongdoing and intend to defend ourselves vigorously in these matters.

In March 2015, Zitovault, LLC filed a complaint against Amazon.com, Inc., Amazon.com, LLC, Amazon Web Services, Inc., and Amazon Web Services, LLC for patent infringement in the United States District Court for the Eastern District of Texas. The complaint alleges that Elastic Compute Cloud, Virtual Private Cloud, Elastic Load Balancing, Auto-Scaling, and Elastic Beanstalk infringe U.S. Patent No. 6,484,257, entitled "System and Method for Maintaining N Number of Simultaneous Cryptographic Sessions Using a Distributed Computing Environment." The complaint seeks injunctive relief, an unspecified amount of damages, enhanced damages, attorneys' fees, costs, and interest. In January 2016, the case was transferred to the United States District Court for the Western District of Washington. In June 2016, the case was stayed pending resolution of a review petition we filed with the United States Patent and Trademark Office. In January 2019, the stay of the case was lifted following resolution of the review petition. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

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 October 2017, SRC Labs, LLC and Saint Regis Mohawk Tribe filed a complaint for patent infringement against Amazon Web Services, Inc., Amazon.com, Inc., and VADATA, Inc. in the United States District Court for the Eastern District of Virginia. The complaint alleges, among other things, that certain AWS EC2 Instances infringe U.S. Patent Nos. 6,434,687, entitled "System and method for accelerating web site access and processing utilizing a computer system incorporating reconfigurable processors operating under a single operating system image"; 7,149,867, entitled "System and method of enhancing efficiency and utilization of memory bandwidth in reconfigurable hardware"; 7,225,324 and 7,620,800, both entitled "Multi-adaptive processing systems and techniques for enhancing parallelism and performance of computational functions"; and 9,153,311, entitled "System and method for retaining DRAM data when reprogramming reconfigurable devices with DRAM memory controllers." The complaint seeks an unspecified amount of damages, enhanced damages, interest, and a compulsory on-going royalty. In February 2018, the Virginia district court transferred the case to the United States District Court for the Western District of Washington. In November 2018, the case was stayed pending resolution of eight review petitions filed with the United States Patent and Trademark Office relating to the '324, '867, and '311 patents. 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 June 2018, VoIP-Pal.com, Inc. filed a complaint against Amazon Technologies, Inc. and Amazon.com, Inc. in the United States District Court for the District of Nevada. The complaint alleges, among other things, that the Alexa calling and messaging system, the Alexa app, and Echo, Tap, and Fire devices with Alexa support infringe U.S. Patent Nos. 9,537,762; 9,813,330; 9,826,002; and 9,948,549, all entitled "Producing Routing Messages For Voice Over IP Communications." The complaint seeks an unspecified amount of damages, enhanced damages, attorneys' fees, costs, and interest. In November 2018, 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 November 2018, Dynamic Data Technologies, LLC filed a complaint for patent infringement against Amazon.com, Inc., Amazon Web Services, Inc., and Amazon Digital Services, LLC in the United States District Court for the Eastern District of Texas. The complaint alleges, among other things, that products and services with H.265 functionality, including Amazon Elastic Transcoder, AWS Elemental Media Convert, AWS Elemental MediaLive, certain EC2 instances, Amazon CloudFront, Amazon Fire TV, and Amazon Fire tablets, infringe U.S. Patent Nos. 8,135,073, entitled "Enhancing Video Images Depending On Prior Image Enhancements"; 6,774,918, entitled "Video Overlay Processor With Reduced Memory and Bus Performance Requirements"; and 7,571,450, entitled "System For And Method Of Displaying Information." The complaint also alleges that products and services with H.265 functionality, including AWS Elemental Media Convert, AWS Elemental MediaLive, certain EC2 instances, Amazon CloudFront, and Amazon Fire TV, infringe U.S. Patent Nos. 8,073,054, entitled "Unit For And Method Of Estimating A Current Motion Vector"; 6,996,177, entitled "Motion Estimation"; 8,311,112, entitled "System And Method For Video Compression Using Predictive Coding"; and 7,894,529, entitled "Method And Device For Determining Motion Vectors." The complaint also alleges that products and services for encoding video data, including Amazon Elastic Transcoder and Amazon Video, infringe U.S. Patent No. 8,184,689, entitled "Method Video Encoding And Decoding Preserving Cache Localities," and that products and services with VP9 encoding functionality, including Amazon Elastic Transcoder and Amazon Fire TV, infringe U.S. Patent No. 7,519,230, entitled "Background Motion Vector Detection." The complaint seeks an unspecified amount of damages, enhanced damages, attorneys' fees, and interest. 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.

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. In addition, for the matters disclosed above 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.

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 497 million, 504 million, and 507 million, as of December 31, 2016, 2017, and 2018. 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 2016, 2017, or 2018.

Stock Award Plans

Employees vest in restricted stock unit awards and stock options 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,		
	2016	2017	2018
Cost of sales	$ 16	$ 47	$ 73
Fulfillment	657	911	1,121
Marketing	323	511	769
Technology and content	1,664	2,305	2,888
General and administrative	315	441	567
Total stock-based compensation expense (1)	$ 2,975	$ 4,215	$ 5,418

---

(1) The related tax benefits were $907 million, $860 million, and $1.1 billion for 2016, 2017, and 2018. In 2017 and 2018, the tax benefit reflects the permanent reduction in the U.S. statutory corporate tax rate from 35% to 21%.

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, 2016	18.9	$ 362
Units granted	9.3	660
Units vested	(6.1)	321
Units forfeited	(2.3)	440
Outstanding as of December 31, 2016	19.8	506
Units granted	8.9	946
Units vested	(6.8)	400
Units forfeited	(1.8)	649
Outstanding as of December 31, 2017	20.1	725
Units granted	5.0	1,522
Units vested	(7.1)	578
Units forfeited	(2.1)	862
Outstanding as of December 31, 2018	15.9	$ 1,024

Scheduled vesting for outstanding restricted stock units as of December 31, 2018, is as follows (in millions):

	Year Ended						
	2019	2020	2021	2022	2023	Thereafter	Total
Scheduled vesting — restricted stock units	6.9	5.6	2.4	0.8	0.1	0.1	15.9

As of December 31, 2018, there was $6.6 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 weighted-average recognition period of 1.1 years. The estimated forfeiture rate as of December 31, 2016, 2017, and 2018 was 28%, 28%, and 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 2016, 2017, and 2018, the fair value of restricted stock units that vested was $4.3 billion, $6.8 billion, and $11.4 billion.

Common Stock Available for Future Issuance

As of December 31, 2018, common stock available for future issuance to employees is 113 million shares.

Note 9 — INCOME TAXES

In 2016, 2017, and 2018, we recorded net tax provisions of $1.4 billion, $769 million, and $1.2 billion. We have tax benefits relating to excess stock-based compensation deductions and accelerated depreciation deductions that are being utilized to reduce our U.S. taxable income. Cash taxes paid, net of refunds, were $412 million, $957 million, and $1.2 billion for 2016, 2017, and 2018.

The U.S. Tax Act was signed into law on December 22, 2017. The U.S. Tax Act significantly revised the U.S. corporate income tax by, among other things, lowering the statutory corporate tax rate from 35% to 21%, eliminating certain deductions, imposing a mandatory one-time tax on accumulated earnings of foreign subsidiaries, introducing new tax regimes, and changing how foreign earnings are subject to U.S. tax. The U.S. Tax Act also enhanced and extended the option to claim accelerated depreciation deductions by allowing full expensing of qualified property, primarily equipment, through 2022. We reasonably estimated the effects of the U.S. Tax Act and recorded provisional amounts in our financial statements as of December 31, 2017. We recorded a provisional tax benefit for the impact of the U.S. Tax Act of approximately $789 million. This amount was primarily comprised of the remeasurement of federal net deferred tax liabilities resulting from the permanent reduction in the U.S. statutory corporate tax rate to 21% from 35%, after taking into account the mandatory one-time tax on the accumulated earnings of our foreign subsidiaries. The amount of this one-time tax was not material. In 2018, we completed our determination of the accounting implications of the U.S. Tax Act.

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

	Year Ended December 31,		
	2016	2017	2018
Current taxes:			
U.S. Federal	$ 1,136	$ (137)	$ (129)
U.S. State	208	211	322
International	327	724	563
Current taxes	1,671	798	756
Deferred taxes:			
U.S. Federal	116	(202)	565
U.S. State	(31)	(26)	5
International	(331)	199	(129)
Deferred taxes	(246)	(29)	441
Provision for income taxes, net	$ 1,425	$ 769	$ 1,197

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

	Year Ended December 31,		
	2016	2017	2018
U.S.	$ 4,551	$ 5,630	$ 11,157
International	(659)	(1,824)	104
Income before income taxes	$ 3,892	$ 3,806	$ 11,261

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,		
	2016	2017	2018
Income taxes computed at the federal statutory rate (1)	$ 1,362	$ 1,332	$ 2,365
Effect of:			
Tax impact of foreign earnings	(69)	1,178	119
State taxes, net of federal benefits	110	114	263
Tax credits	(119)	(220)	(419)
Stock-based compensation (2)	189	(917)	(1,086)
Domestic production activities deduction	(94)	—	—
2017 Impact of U.S. Tax Act	—	(789)	(157)
Other, net	46	71	112
Total	$ 1,425	$ 769	$ 1,197

(1) The U.S. Tax Act reduced the U.S. federal statutory rate from 35% to 21% beginning in 2018.

(2) Includes non-deductible stock-based compensation and beginning in 2017, excess tax benefits from stock-based compensation. For 2017 and 2018, our tax provision includes $1.3 billion and $1.6 billion of excess tax benefits from stock-based compensation.

Our provision for income taxes in 2017 was lower than in 2016 primarily due to excess tax benefits from stock-based compensation and the one-time favorable effect of the U.S. Tax Act, partially offset by an increase in the proportion of foreign losses for which we may not realize a tax benefit and audit-related developments.

We regularly assess whether it is more likely than not that we will realize our deferred tax assets in each taxing jurisdiction in which we operate. In performing this assessment with respect to each jurisdiction, we review all available evidence, including 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. In Q2 2017, we recognized an estimated charge to tax expense of $600 million to record a valuation allowance against the net deferred tax assets in Luxembourg.

Our provision for income taxes in 2018 was higher than in 2017 primarily due to an increase in U.S. pre-tax income and the one-time provisional tax benefit of the U.S. Tax Act recognized in 2017. This was partially offset by the reduction to the U.S. federal statutory tax rate in 2018, a decline in the proportion of foreign losses for which we may not realize a tax benefit and an increase in excess tax benefits from stock-based compensation.

Certain foreign subsidiary earnings are subject to U.S. taxation under the U.S. Tax Act, which also repeals U.S. taxation on the subsequent repatriation of those earnings. 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, 2017	December 31, 2018
Deferred tax assets (1):		
Loss carryforwards U.S. - Federal/States	$ 211	$ 222
Loss carryforwards - Foreign	2,149	2,551
Accrued liabilities, reserves, and other expenses	901	1,064
Stock-based compensation	1,026	1,293
Deferred revenue	349	321
Assets held for investment	35	69
Depreciation and amortization	279	2,386
Other items	167	94
Tax credits	381	734
Total gross deferred tax assets	5,498	8,734
Less valuation allowance (2)	(2,538)	(4,950)
Deferred tax assets, net of valuation allowance	2,960	3,784
Deferred tax liabilities:		
Depreciation and amortization	(2,568)	(3,579)
Acquisition related intangible assets	(531)	(682)
Other items	(58)	(67)
Net deferred tax assets (liabilities), net of valuation allowance	$ (197)	$ (544)

(1) Deferred tax assets are presented 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 and future capital gains.

As of December 31, 2018, our federal, foreign, and state net operating loss carryforwards for income tax purposes were approximately $627 million, $7.8 billion, and $919 million. The federal, foreign, and state net operating loss carryforwards are subject to limitations under Section 382 of the Internal Revenue Code and applicable foreign and state tax law. If not utilized, a portion of the federal, foreign, and state net operating loss carryforwards will begin to expire in 2029, 2019, and 2019, respectively. As of December 31, 2018, our tax credit carryforwards for income tax purposes were approximately $1.7 billion. If not utilized, a portion of the tax credit carryforwards will begin to expire in 2022. As of December 31, 2018, our federal capital loss carryforwards for income tax purposes was approximately $261 million. If not utilized, a portion of the capital loss carryforwards 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,		
	2016	2017	2018
Gross tax contingencies – January 1	$ 1,181	$ 1,710	$ 2,309
Gross increases to tax positions in prior periods	355	223	164
Gross decreases to tax positions in prior periods	(133)	(139)	(90)
Gross increases to current period tax positions	308	518	1,088
Settlements with tax authorities	—	—	(36)
Lapse of statute of limitations	(1)	(3)	(21)
Gross tax contingencies – December 31 (1)	$ 1,710	$ 2,309	$ 3,414

(1) As of December 31, 2018, we had approximately $3.4 billion of accrued tax contingencies, of which $1.7 billion, if fully recognized, would decrease our effective tax rate.

As of December 31, 2017 and 2018, we had accrued interest and penalties, net of federal income tax benefit, related to tax contingencies of $107 million and $127 million. Interest and penalties, net of federal income tax benefit, recognized for the years ended December 31, 2016, 2017, and 2018 was $9 million, $40 million, and $20 million.

We are under examination, or may be subject to examination, by the Internal Revenue Service (“IRS”) for the calendar year 2005 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. As previously disclosed, we have received Notices of Proposed Adjustment (“NOPAs”) from the IRS for transactions undertaken in the 2005 and 2006 calendar years relating to transfer pricing with our foreign subsidiaries. The IRS is seeking to increase our U.S. taxable income by an amount that would result in additional federal tax of approximately $1.5 billion, subject to interest. On March 23, 2017, the U.S. Tax Court issued its decision regarding the issues raised in the IRS NOPAs. The Tax Court rejected the approach from the IRS NOPAs in determining transfer pricing adjustments in 2005 and 2006 for the transactions undertaken with our foreign subsidiaries and adopted, with adjustments, our suggested approach. In September 2017, the IRS appealed the decision to the U.S. Court of Appeals for the Ninth Circuit. We will continue to defend ourselves vigorously in this matter. If the Tax Court decision were reversed on appeal or if the IRS were to successfully assert transfer pricing adjustments of a similar nature to the NOPAs for transactions in subsequent years, we could be subject to significant additional tax liabilities.

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, that 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. We believe the European Commission’s decision to be without merit and will continue to defend ourselves vigorously in this matter. We are also subject to taxation in various states and other foreign jurisdictions including China, 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 2008 and thereafter.

We expect the total amount of tax contingencies will grow in 2019. In addition, changes in state, federal, and foreign tax laws may increase our tax contingencies. The timing of the resolution of income tax examinations 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 12 months we will receive additional assessments by various tax authorities or possibly reach resolution of income tax examinations in one or more jurisdictions. These assessments or settlements could result in changes to our contingencies related to positions on tax filings in years through 2018. 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,” “Marketing,” “Technology and content,” 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 service offerings 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,		
	2016	2017	2018
North America			
Net sales	$ 79,785	$ 106,110	$ 141,366
Operating expenses	77,424	103,273	134,099
Operating income	$ 2,361	$ 2,837	$ 7,267
International			
Net sales	$ 43,983	$ 54,297	$ 65,866
Operating expenses	45,266	57,359	68,008
Operating income (loss)	$ (1,283)	$ (3,062)	$ (2,142)
AWS			
Net sales	$ 12,219	$ 17,459	$ 25,655
Operating expenses	9,111	13,128	18,359
Operating income	$ 3,108	$ 4,331	$ 7,296
Consolidated			
Net sales	$ 135,987	$ 177,866	$ 232,887
Operating expenses	131,801	173,760	220,466
Operating income	4,186	4,106	12,421
Total non-operating income (expense)	(294)	(300)	(1,160)
Provision for income taxes	(1,425)	(769)	(1,197)
Equity-method investment activity, net of tax	(96)	(4)	9
Net income	$ 2,371	$ 3,033	$ 10,073

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

	Year Ended December 31,		
	2016	2017	2018
Net Sales:			
Online stores (1)	$ 91,431	$ 108,354	$ 122,987
Physical stores (2)	—	5,798	17,224
Third-party seller services (3)	22,993	31,881	42,745
Subscription services (4)	6,394	9,721	14,168
AWS	12,219	17,459	25,655
Other (5)	2,950	4,653	10,108
Consolidated	$ 135,987	$ 177,866	$ 232,887

(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, music, videos, games, 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.
(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 audiobook, digital video, e-book, digital music, and other non-AWS subscription services.
(5) Primarily includes sales of advertising services, as well as sales related to our other service offerings.

Net sales generated from our internationally-focused online stores are denominated in local functional currencies. Revenues are translated at average rates prevailing throughout the period. Net sales attributed to countries that represent a significant portion of consolidated net sales are as follows (in millions):

	Year Ended December 31,		
	2016	2017	2018
United States	$ 90,349	$ 120,486	$ 160,146
Germany	14,148	16,951	19,881
United Kingdom	9,547	11,372	14,524
Japan	10,797	11,907	13,829
Rest of world	11,146	17,150	24,507
Consolidated	$ 135,987	$ 177,866	$ 232,887

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,		
	2016	2017	2018
North America (1)	$ 22,225	$ 35,844	$ 47,251
International (1)	10,429	18,014	19,923
AWS (2)	12,698	18,660	26,340
Corporate	38,050	58,792	69,134
Consolidated	$ 83,402	$ 131,310	$ 162,648

(1) North America and International segment assets primarily consist of property and equipment, 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,		
	2016	2017	2018
North America	$ 10,143	$ 20,401	$ 27,052
International	3,448	7,425	8,552
AWS	10,300	14,885	18,851
Corporate	5,223	6,155	7,342
Consolidated	$ 29,114	$ 48,866	$ 61,797

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

	Year Ended December 31,		
	2016	2017	2018
North America (1)	$ 5,132	$ 13,200	$ 10,749
International (1)	1,680	5,196	2,476
AWS (2)	5,193	9,190	9,783
Corporate	1,580	2,197	2,060
Consolidated	$ 13,585	$ 29,783	$ 25,068

(1) Includes property and equipment added under capital leases of $1.5 billion, $2.9 billion, and $2.0 billion in 2016, 2017, and 2018, and under other financing arrangements of $849 million, $2.9 billion, and $3.0 billion in 2016, 2017, and 2018.
(2) Includes property and equipment added under capital leases of $4.0 billion, $7.3 billion, and $8.4 billion in 2016, 2017, and 2018, and under finance leases of $75 million, $134 million, and $245 million in 2016, 2017, and 2018.

U.S. property and equipment, net was $22.0 billion, $35.5 billion, and $45.1 billion, in 2016, 2017, and 2018, and rest of world property and equipment, net was $7.1 billion, $13.4 billion, and $16.7 billion in 2016, 2017, and 2018. Except for the U.S., property and equipment, net, in any single country was less than 10% of consolidated property and equipment, net.

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

	Year Ended December 31,		
	2016	2017	2018
North America	$ 1,971	$ 3,029	$ 4,415
International	930	1,278	1,628
AWS	3,461	4,524	6,095
Consolidated	$ 6,362	$ 8,831	$ 12,138

Note 11 — QUARTERLY RESULTS (UNAUDITED)

The following tables contain selected unaudited statement of operations information for each quarter of 2017 and 2018. The following information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period. Our business is affected by seasonality, which historically has resulted in higher sales volume during our fourth quarter. Unaudited quarterly results are as follows (in millions, except per share data):

	Year Ended December 31, 2017 (1)			
	First Quarter	Second Quarter	Third Quarter (2)	Fourth Quarter (2)
Net sales	$ 35,714	$ 37,955	$ 43,744	$ 60,453
Operating income	1,005	628	347	2,127
Income before income taxes	953	666	316	1,872
Provision for income taxes	(229)	(467)	(58)	(16)
Net income	724	197	256	1,856
Basic earnings per share	1.52	0.41	0.53	3.85
Diluted earnings per share	1.48	0.40	0.52	3.75
Shares used in computation of earnings per share:				
Basic	477	479	481	483
Diluted	490	492	494	496

	Year Ended December 31, 2018 (1)			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	$ 51,042	$ 52,886	$ 56,576	$ 72,383
Operating income	1,927	2,983	3,724	3,786
Income before income taxes	1,916	2,605	3,390	3,350
Provision for income taxes	(287)	(74)	(508)	(327)
Net income	1,629	2,534	2,883	3,027
Basic earnings per share	3.36	5.21	5.91	6.18
Diluted earnings per share	3.27	5.07	5.75	6.04
Shares used in computation of earnings per share:				
Basic	484	486	488	490
Diluted	498	500	501	501

(1) The sum of quarterly amounts, including per share amounts, may not equal amounts reported for year-to-date periods. This is due to the effects of rounding and changes in the number of weighted-average shares outstanding for each period.

(2) We acquired Whole Foods Market on August 28, 2017. The results of Whole Foods Market have been included in our results of operation from the date of acquisition. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 4 — Acquisitions, Goodwill, and Acquired Intangible Assets" for additional information regarding this transaction.

Item 9. *Changes in and Disagreements with Accountants On Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

We carried out an evaluation required by the Securities Exchange Act of 1934 (the "1934 Act"), under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rule 13a-15(e) of the 1934 Act, as of December 31, 2018. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of December 31, 2018, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the 1934 Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and to provide reasonable assurance that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) of the 1934 Act. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2018 based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. As a result of this assessment, management concluded that, as of December 31, 2018, our internal control over financial reporting was effective in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Ernst & Young has independently assessed the effectiveness of our internal control over financial reporting and its report is included below.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2018 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Controls

Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected.

Report of Independent Registered Public Accounting Firm

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

Opinion on Internal Control Over Financial Reporting

We have audited Amazon.com, Inc.'s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Amazon.com, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, 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, 2018 and the related notes and our report dated January 31, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Seattle, Washington
January 31, 2019

Item 9B. *Other Information*

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

We determined that, between January 2012 and December 2018, we processed and delivered orders of consumer products for certain individuals and entities located outside Iran covered by the Iran Threat Reduction and Syria Human Rights Act (“ITRA”), in addition to those we have previously disclosed, as follows: consumer products valued at approximately $80 for an Iranian embassy located in a country other than Iran; consumer products valued at approximately $50,900 for individuals who may have been acting for 18 Iranian embassies and diplomatic organizations located in countries other than Iran; consumer products valued at approximately $17,500 for individuals who may have been acting for four entities owned or controlled by the Iranian government; consumer products valued at approximately $500 for three individuals designated under Executive Order 13224 and Executive Order 13382; and consumer products valued at approximately $1,100 for individuals who may have been acting for four individuals and entities designated under Executive Order 13224 or Executive Order 13382, one of which is owned or controlled by the Iranian government. The consumer products included books, other media, apparel, home and kitchen, jewelry, office, toys, health and beauty, consumer electronics, lawn and patio, automotive, musical instruments, software, grocery, and pet products. In addition, the information provided pursuant to Section 13(r) of the Exchange Act in Item 5 of Part II of the Company’s Quarterly Reports on 10-Q for the quarters ended March 31, 2018, June 30, 2018, and September 30, 2018 is hereby incorporated by reference to such reports. We are unable to accurately calculate the net profit attributable to these transactions. We do not plan to continue selling to these accounts in the future. Our review is ongoing and we are enhancing our processes designed to identify transactions associated with individuals and entities covered by the ITRA.

PART III

Item 10. *Directors, Executive Officers, and Corporate Governance*

Information regarding our Executive Officers required by Item 10 of Part III is set forth in Item 1 of Part I “Business — Executive Officers of the Registrant.” Information required by Item 10 of Part III regarding our Directors and any material changes to the process by which security holders may recommend nominees to the Board of Directors is included in our Proxy Statement relating to our 2019 Annual Meeting of Shareholders, and is incorporated herein by reference. Information relating to our Code of Business Conduct and Ethics and to compliance with Section 16(a) of the 1934 Act is set forth in our Proxy Statement relating to our 2019 Annual Meeting of Shareholders and is incorporated herein by reference. To the extent permissible under Nasdaq rules, we intend to disclose amendments to our Code of Business Conduct and Ethics, as well as waivers of the provisions thereof, on our investor relations website under the heading “Corporate Governance” at amazon.com/ir.

Item 11. *Executive Compensation*

Information required by Item 11 of Part III is included in our Proxy Statement relating to our 2019 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters*

Information required by Item 12 of Part III is included in our Proxy Statement relating to our 2019 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

Information required by Item 13 of Part III is included in our Proxy Statement relating to our 2019 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 14. *Principal Accountant Fees and Services*

Information required by Item 14 of Part III is included in our Proxy Statement relating to our 2019 Annual Meeting of Shareholders and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) *List of Documents Filed as a Part of This Report:*

(1) *Index to Consolidated Financial Statements:*

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

Consolidated Statements of Cash Flows for each of the three years ended December 31, 2018

Consolidated Statements of Operations for each of the three years ended December 31, 2018

Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2018

Consolidated Balance Sheets as of December 31, 2017 and 2018

Consolidated Statements of Stockholders' Equity for each of the three years ended December 31, 2018

Notes to Consolidated Financial Statements

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

(2) *Index to Financial Statement Schedules:*

All schedules have been omitted because the required information is included in the consolidated financial statements or the notes thereto, or because it is not required.

(3) *Index to Exhibits*

See exhibits listed under Part (b) below.

(b) *Exhibits:*

Exhibit Number	Description
3.1	Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2000).
3.2	Amended and Restated Bylaws of the Company (incorporated by reference to the Company's Current Report on Form 8-K, filed February 25, 2016).
4.1	Indenture, dated as of November 29, 2012, between Amazon.com, Inc. and Wells Fargo Bank, National Association, as trustee, and Form of 0.650% Note due 2015, Form of 1.200% Note due 2017, and Form of 2.500% Note due 2022 (incorporated by reference to the Company's Current Report on Form 8-K, filed November 29, 2012).
4.2	Officers' Certificate of Amazon.com, Inc., dated as of December 5, 2014, containing Form of 2.600% Note due 2019, Form of 3.300% Note due 2021, Form of 3.800% Note due 2024, Form of 4.800% Note due 2034, and Form of 4.950% Note due 2044 (incorporated by reference to the Company's Current Report on Form 8-K, filed December 5, 2014).
4.3	Officers' Certificate of Amazon.com, Inc., dated as of August 22, 2017, containing Form of 1.900% Note due 2020, Form of 2.400% Note due 2023, Form of 2.800% Note due 2024, Form of 3.150% Note due 2027, Form of 3.875% Note due 2037, Form of 4.050% Note due 2047, and Form of 4.250% Note due 2057 (incorporated by reference to the Company's Current Report on Form 8-K, filed August 22, 2017).
4.4	Registration Rights Agreement, dated as of August 22, 2017, among Amazon.com, Inc. and the representatives of the initial purchasers of Amazon.com, Inc.'s 1.900% Notes due 2020, 2.400% Notes due 2023, 2.800% Notes due 2024, 3.150% Notes due 2027, 3.875% Notes due 2037, 4.050% Notes due 2047, and 4.250% Notes due 2057 (incorporated by reference to the Company's Current Report on Form 8-K, filed August 22, 2017).
4.5	Officers' Certificate of Amazon.com, Inc., dated as of December 20, 2017, containing Form of 5.200% Note due 2025 (incorporated by reference to the Company's Current Report on Form 8-K, filed December 20, 2017).
10.1†	1997 Stock Incentive Plan (amended and restated) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2013).
10.2†	1999 Nonofficer Employee Stock Option Plan (amended and restated) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2013).

10.3† Form of Indemnification Agreement between the Company and each of its Directors (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1 (Registration No. 333-23795) filed March 24, 1997, as amended on April 21, 1997).

10.4† Form of Restricted Stock Unit Agreement for Officers and Employees (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2002).

10.5† Form of Restricted Stock Unit Agreement for Directors (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2002).

10.6† Form of Restricted Stock Agreement (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2001).

10.7† Form of Global Restricted Stock Unit Award Agreement for Executive Officers.

10.8 Credit Agreement, dated as of May 20, 2016, among Amazon.com, Inc., Bank of America, N.A., as administrative agent, and the other lenders party thereto (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended June 30, 2016).

10.9+ Independent Contractor Agreement, dated as of March 15, 2017, between Amazon Corporate LLC and William B. Gordon (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2017).

21.1 List of Significant Subsidiaries.

23.1 Consent of Independent Registered Public Accounting Firm.

31.1 Certification of Jeffrey P. Bezos, Chairman and Chief Executive Officer of Amazon.com, Inc., pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934.

31.2 Certification of Brian T. Olsavsky, Senior Vice President and Chief Financial Officer of Amazon.com, Inc., pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934.

32.1 Certification of Jeffrey P. Bezos, Chairman and Chief Executive Officer of Amazon.com, Inc., pursuant to 18 U.S.C. Section 1350.

32.2 Certification of Brian T. Olsavsky, Senior Vice President and Chief Financial Officer of Amazon.com, Inc., pursuant to 18 U.S.C. Section 1350.

101 The following financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL: (i) Consolidated Statements of Cash Flows, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Balance Sheets, (v) Consolidated Statements of Stockholders' Equity, and (vi) Notes to Consolidated Financial Statements, tagged as blocks of text and including detailed tags.

As permitted by Item 601(b)(4)(iii)(A) of Regulation S-K, the Company has not filed with this Annual Report on Form 10-K certain instruments defining the rights of holders of long-term debt of the Company and its subsidiaries because the total amount of securities authorized thereunder does not exceed 10 percent of the total assets of the Company and its subsidiaries on a consolidated basis. The Company agrees to furnish a copy of such agreements to the Commission upon request.

---

* Certain schedules and exhibits to this agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K and the Company agrees to furnish supplementally to the Securities and Exchange Commission a copy of any omitted schedule and/or exhibit upon request.

† Executive Compensation Plan or Agreement.

\+ Portions of this exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.

Item 16. ***Form 10-K Summary***

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, as of January 31, 2019.

AMAZON.COM, INC.

By: /s/ Jeffrey P. Bezos

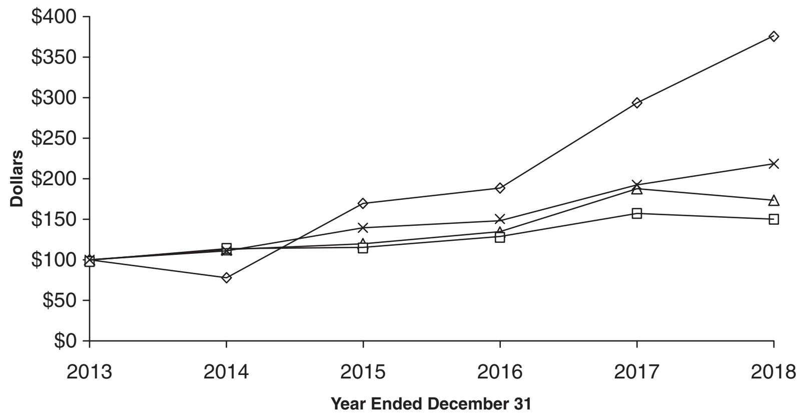
Jeffrey P. Bezos
President, Chief Executive Officer, and Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities indicated as of January 31, 2019.

Signature	Title
/s/ Jeffrey P. Bezos **Jeffrey P. Bezos**	Chairman of the Board, President, and Chief Executive Officer (Principal Executive Officer)
/s/ Brian T. Olsavsky **Brian T. Olsavsky**	Senior Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Shelley L. Reynolds **Shelley L. Reynolds**	Vice President, Worldwide Controller (Principal Accounting Officer)
/s/ Tom A. Alberg **Tom A. Alberg**	Director
/s/ Jamie S. Gorelick **Jamie S. Gorelick**	Director
/s/ Daniel P. Huttenlocher **Daniel P. Huttenlocher**	Director
/s/ Judith A. McGrath **Judith A. McGrath**	Director
/s/ Jonathan J. Rubinstein **Jonathan J. Rubinstein**	Director
/s/ Thomas O. Ryder **Thomas O. Ryder**	Director
/s/ Patricia Q. Stonesifer **Patricia Q. Stonesifer**	Director
/s/ Wendell P. Weeks **Wendell P. Weeks**	Director

Stock Price Performance Graph

The graph set forth below compares cumulative total return on the common stock with the cumulative total return of the Morgan Stanley Technology Index, the S&P 500 Index, and the S&P 500 Retailing Index, resulting from an initial investment of $100 in each and, except in the case of the Morgan Stanley Technology Index, assuming the reinvestment of any dividends, based on closing prices. Measurement points are the last trading day of each of Amazon's fiscal years ended December 31, 2013, 2014, 2015, 2016, 2017, and 2018.



Cumulative Total Return
Year Ended December 31,

	Legend	2013	2014	2015	2016	2017	2018
Amazon.com, Inc.	—◇—	$100	$78	$169	$188	$293	$377
Morgan Stanley Technology Index	—△—	100	112	120	135	188	173
S&P 500 Index	—□—	100	114	115	129	157	150
S&P 500 Retailing Index	—×—	100	111	140	148	193	218

Note: Stock price performance shown in the Stock Price Performance Graph for the common stock is historical and not necessarily indicative of future price performance.