

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, 2020

OR



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

FOR THE TRANSITION PERIOD FROM to

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Commission File Number

001-32871

Registrant's State of Incorporation; Address and
Telephone Number

COMCAST CORPORATION

I.R.S. Employer Identification No.

27-0000798

Pennsylvania
One Comcast Center
Philadelphia, PA 19103-2838
(215) 286-1700

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Trading symbol(s)	Name of Each Exchange on Which Registered
Class A Common Stock, \$0.01 par value	CMCSA	NASDAQ Global Select Market
0.250% Notes due 2027	CMCS27	NASDAQ Global Market
1.500% Notes due 2029	CMCS29	NASDAQ Global Market
0.750% Notes due 2032	CMCS32	NASDAQ Global Market
1.875% Notes due 2036	CMCS36	NASDAQ Global Market
1.250% Notes due 2040	CMCS40	NASDAQ Global Market
9.455% Guaranteed Notes due 2022	CMCSA22	New York Stock Exchange
5.50% Notes due 2029	CCGBP29	New York Stock Exchange
2.0% Exchangeable Subordinated Debentures due 2029	CCZ	New York Stock Exchange

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 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 (§232.405 of this chapter) 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 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 definition 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes ☒ No ☐

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

As of June 30, 2020, the aggregate market value of the Comcast Corporation common stock held by non-affiliates of the registrant was \$176.648 billion.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date:

As of December 31, 2020, there were 4,571,211,797 shares of Comcast Corporation Class A common stock and 9,444,375 shares of Class B common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Comcast Corporation – Part III – The registrant's definitive Proxy Statement for its annual meeting of shareholders.

Comcast Corporation
2020 Annual Report on Form 10-K

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Explanatory Note

Beginning with our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, we are voluntarily complying with new disclosure rules for guarantors and issuers of guaranteed debt securities issued by the Securities and Exchange Commission (“SEC”) in March 2020, as permitted by the transition guidance contained in the SEC’s final rule release “Financial Disclosures about Guarantors and Issuers of Guaranteed Securities and Affiliates Whose Securities Collateralize a Registrant’s Securities.” As a result, this report includes disclosures related to our consolidated subsidiaries that guarantee or have issued guaranteed debt securities registered with the SEC that are included within our guarantee structure (refer to Guarantee Structure within the Liquidity and Capital Resources section of Item 2: Management’s Discussion and Analysis of Financial Condition and Results of Operations). As a result of these rules, NBCUniversal Media, LLC is no longer required to prepare stand-alone periodic reports under SEC rules, and our periodic reports are no longer prepared as a combined report being filed separately by Comcast Corporation and NBCUniversal Media, LLC.

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Unless indicated otherwise, throughout this Annual Report on Form 10-K, we refer to Comcast and its consolidated subsidiaries, as “Comcast,” “we,” “us” and “our;” Comcast Cable Communications, LLC and its consolidated subsidiaries as “Comcast Cable;” Comcast Holdings Corporation as “Comcast Holdings;” NBCUniversal Enterprise, Inc. as “NBCUniversal Enterprise;” NBCUniversal Media, LLC and its consolidated subsidiaries as “NBCUniversal;” and Sky Limited and its consolidated subsidiaries as “Sky.”

This Annual Report on Form 10-K is for the year ended December 31, 2020. This Annual Report on Form 10-K modifies and supersedes documents filed before it. The SEC allows us to “incorporate by reference” information that we file with it, which means that we can disclose important information to you by referring you directly to those documents. Information incorporated by reference is considered to be part of this Annual Report on Form 10-K. In addition, information that we file with the SEC in the future will automatically update and supersede information contained in this Annual Report on Form 10-K.

Our registered trademarks include Comcast, NBCUniversal and the Comcast and NBCUniversal logos. This Annual Report on Form 10-K also contains other trademarks, service marks and trade names owned by us, as well as those owned by others.

Part I

Item 1: Business

We are a global media and technology company with three primary businesses: Comcast Cable, NBCUniversal and Sky. We were incorporated under the laws of Pennsylvania in December 2001. Through our predecessors, we have developed, managed and operated cable systems since 1963. Through transactions in 2011 and 2013, we acquired NBCUniversal, and in 2018, we acquired Sky.

We present our operations for (1) Comcast Cable in one reportable business segment, referred to as Cable Communications; (2) NBCUniversal in four reportable business segments: Cable Networks, Broadcast Television, Filmed Entertainment and Theme Parks (collectively, the “NBCUniversal segments”); and (3) Sky in one reportable business segment.

- **Cable Communications:** Consists of the operations of Comcast Cable, which is a leading provider of high-speed internet, video, voice, wireless, and security and automation services to residential customers in the United States under the Xfinity brand; we also provide these and other services to business customers and sell advertising.
- **Cable Networks:** Consists primarily of our national cable networks that provide a variety of entertainment, news and information, and sports content; our regional sports and news networks; our international cable networks; our cable television studio production operations; and various digital properties.
- **Broadcast Television:** Consists primarily of the NBC and Telemundo broadcast networks, our NBC and Telemundo owned local broadcast television stations, the NBC Universo national cable network, our broadcast television studio production operations, and various digital properties.
- **Filmed Entertainment:** Consists primarily of the operations of Universal Pictures, which produces, acquires, markets and distributes filmed entertainment worldwide; our films are also produced under the Illumination, DreamWorks Animation and Focus Features names.
- **Theme Parks:** Consists primarily of our Universal theme parks in Orlando, Florida; Hollywood, California; and Osaka, Japan. In addition, we are developing a theme park in Beijing, China along with a consortium of Chinese state-owned companies, and an additional theme park in Orlando, Florida.
- **Sky:** Consists of the operations of Sky, one of Europe’s leading entertainment companies, which primarily includes a direct-to-consumer business, providing video, high-speed internet, voice and wireless phone services, and a content business, operating entertainment networks, the Sky News broadcast network and Sky Sports networks.

Our other business interests consist primarily of the operations of Comcast Spectacor, which owns the Philadelphia Flyers and the Wells Fargo Center arena in Philadelphia, Pennsylvania, and other business initiatives, such as Peacock, our new direct-to-consumer streaming service that features NBCUniversal content, which was made available to Comcast customers in April 2020 and launched across the United States in July 2020.

Each of our businesses has been impacted as a result of the novel coronavirus disease 2019 (“COVID-19”) pandemic. For a discussion of the risks related to COVID-19, refer to Item 1A: Risk Factors, and for a discussion of the impacts of COVID-19 and for financial and other information about our reportable business segments, refer to Item 7: Management’s Discussion and Analysis of Financial Condition and Results of Operations and Note 2 to the consolidated financial statements included in this Annual Report on Form 10-K.

Available Information and Websites

Our phone number is (215) 286-1700, and our principal executive offices are located at One Comcast Center, Philadelphia, PA 19103-2838. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to such reports filed with or furnished to the SEC under Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), are available free of charge on the SEC’s website at www.sec.gov and on our website at www.comcastcorporation.com as soon as reasonably practicable after such reports are electronically filed with the SEC. The information posted on our websites is not incorporated into our SEC filings.

Description of Our Businesses

Cable Communications Segment

Cable Communications offers high-speed internet, video, voice, wireless, and security and automation services in the United States individually and as bundled services at a discounted rate over its cable distribution system to residential and business customers. Revenue is generated primarily from residential and business customers that subscribe to our services and from the sale of advertising. Bundled service offerings aim to meet the needs of various segments of our customer base, ranging from high-speed internet services packaged with video services that include a limited number of channels or streaming services, to a five-product bundle, consisting of high-speed internet, video, voice, wireless, and security and automation services. Subscription rates and related charges vary according to the services and features customers receive and the types of equipment they use, and customers are typically billed in advance on a monthly basis. A portion of our residential customers are subject to minimum-term contracts for their cable services, which are typically 1 to 2 years in length. Substantially all business customers are initially under minimum-term contracts, which typically range from 2 to 5 years. Customers with minimum-term contracts may only discontinue service in accordance with the terms of their contracts.

As of December 31, 2020, Cable Communications had 33.1 million total customer relationships, including 30.7 million residential customer relationships and 2.4 million business customer relationships, and passed more than 59 million homes and businesses. Homes and businesses are considered passed if we can connect them to our cable distribution system without further extending the transmission lines and are estimated based on the best available information. As of December 31, 2020, total customer relationships penetration of homes and businesses passed was 56%.

The Areas We Serve

The map below highlights Cable Communications' cable distribution footprint as of December 31, 2020 and the designated market areas ("DMAs") where we have 250,000 or more customer relationships, with the locations that are bolded representing one of the top 25 U.S. television DMAs as of December 31, 2020.

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High-Speed Internet

Cable Communications offers high-speed internet services with downstream speeds that range up to 1.2 gigabit per second (“Gbps”) and fiber-based speeds that range up to 2 Gbps. These services include access to an online portal and mobile apps, which provide users with the ability to manage their home Wi-Fi network, access to advanced security technology and other features including email, an address book and calendar.

Throughout its footprint, Cable Communications deploys wireless gateways to customers that combine an internet and voice modem with a Wi-Fi router to deliver reliable internet speeds and enhanced coverage through an in-and-out-of-home Wi-Fi network. Customers with wireless gateways may also personalize and manage their Wi-Fi network and connected home with the xFi branded whole-home application and online portal, which includes the ability to self-install and set up their Wi-Fi environment, view and change their Wi-Fi password, identify which devices are connected to their in-home network and set parental controls and schedules, along with advanced security and other features. Customers can also choose to extend their Wi-Fi coverage with xFi Pods and have access to our expanding network of secure residential, outdoor and business Wi-Fi hotspots nationwide.

For high-speed internet customers that prefer streaming content over the internet rather than linear cable television, Cable Communications offers Flex, a streaming device that provides access to certain online programming on their television with integrated search functionality, including the use of a voice-activated remote control and personalized recommendations. Flex programming includes our Peacock service and certain other internet-based apps at no additional charge, access to pay-per-view and video on demand content, and access to and the integration of certain third-party direct-to-consumer streaming services (“DTC streaming services”) such as Amazon Prime Video, HBO Max, Hulu, Netflix, YouTube, and, beginning in 2021, Disney+. We earn commission revenue related to the sale of certain DTC streaming services. Additionally, a variety of music apps such as Pandora are offered through Flex.

As of December 31, 2020, 28.4 million residential customers subscribed to our high-speed internet services.

Video

Cable Communications offers a broad variety of video services, primarily through our X1 platform, an Internet Protocol (“IP”) and cloud-enabled video platform. Video customers have access to hundreds of channels depending on the level of service, which typically range from limited basic service with access to between 20 and 60 channels to full service with access to more than 300 channels. Video services generally include programming provided by national broadcast networks, local broadcast stations, and national and regional cable networks, as well as government and public access programming. Our video services also include access to video on demand services (“On Demand”) and an interactive, on-screen program guide. Our On Demand service provides video customers with access to hundreds of thousands of programming choices included in our library. Other content, primarily movies and special-events programming, such as sporting events and concerts, can be rented or in some cases purchased to own digitally. Customers also receive high-definition (“HD”) video service that provides high-resolution picture quality, improved audio quality and a wide-screen format through an HD set-top box, and a broad selection of HD programming choices. Customers also have the option to subscribe to additional services, including a digital video recorder (“DVR”) service that allows customers to record and store programs and play them at their convenience, including online and through our mobile app, and to pause and rewind live television. Additionally, customers may subscribe to premium networks that generally provide, without commercial interruption, movies, original programming, live and pre-recorded sporting events and concerts, and other features. We also offer video service packages that include extensive amounts of foreign-language programming and other specialty tiers of programming. We tailor our video services for particular programming preferences, demographics and geographic areas in accordance with applicable local and federal regulatory requirements.

Through the X1 platform, customers have integrated search functionality, including the use of a voice-activated remote control; personalized recommendations; and access to and the integration of Peacock, which X1 customers receive for no additional charge, certain third-party DTC streaming services and a variety of other internet-based apps providing content and music.

Customers have access to their video services through the Stream mobile app and an online portal that allow them to view certain live programming and On Demand content and to browse program listings.

As of December 31, 2020, 19.0 million residential customers subscribed to our video services.

Voice

Cable Communications offers voice services using interconnected Voice over Internet Protocol (“VoIP”) technology. Service options provided include either unlimited or usage-based local and domestic long-distance calling, as well as options for international calling plans, voicemail, readable voicemail, nuisance call blocking tools and various call features such as caller ID and call waiting. Voice services also include the ability to access and manage voicemail and other account features through an online portal or mobile app.

As of December 31, 2020, 9.6 million residential customers subscribed to our voice services.

Wireless

Cable Communications offers wireless services for handsets, tablets and smart watches using mobile virtual network operator (“MVNO”) rights to provide the services over Verizon’s wireless network and our existing network of in-home and outdoor Wi-Fi hotspots. We currently only offer these services as part of our bundled service offerings to residential customers that subscribe to high-speed internet service within our cable distribution footprint and to a limited group of small business high-speed internet customers on similar terms. Customers may choose to pay for services on an unlimited data plan, shared data plans, or per gigabyte of data used. Customers have the ability to bring their own device or purchase them from us with the option to pay upfront or finance the purchase interest-free over 24 months.

As of December 31, 2020, there were 2.8 million activated wireless lines that were subscribed to our wireless services. Individual customer relationships may have multiple lines.

Business Services

Cable Communications offers a variety of products and services to businesses. High-speed internet services provide downstream speeds that range up to 1 Gbps and fiber-based speeds that range up to 100 Gbps. Our service offerings for small business locations primarily include high-speed internet services, as well as voice and video services, that are similar to those provided to residential customers, cloud-based cybersecurity services, wireless backup connectivity, advanced Wi-Fi solutions, video monitoring services and cloud-based services that provide file sharing, online backup and web conferencing, among other features. We also offer Ethernet network services that connect multiple locations and provide higher downstream and upstream speed options to medium-sized customers and larger enterprises, as well as advanced voice services, along with video solutions that serve hotels and other large venues. In addition, we provide cellular backhaul services to mobile network operators to help them manage their network bandwidth.

Cable Communications has expanded its service offerings to include a software-defined networking product for medium-sized and enterprise customers. Larger enterprises may also receive support services related to Wi-Fi networks, router management, network security, business continuity risks and other services. These service offerings are primarily provided to Fortune 1000 companies and other large enterprises with multiple locations both within and outside of Cable Communications’ cable distribution footprint, where we have agreements with other companies to use their networks to provide coverage outside of our service areas.

Advertising

As part of Cable Communications’ distribution agreements with cable networks, we generally receive an allocation of scheduled advertising time that is sold through our advertising business to local, regional and national advertisers. In most cases, the available advertising units are sold by our sales force. In some cases, we work with representation firms as an extension of our sales force to sell a portion of the advertising units allocated to us. Cable Communications also represents the advertising sales efforts of other multichannel video providers in some markets. In addition, we generate revenue from the sale of advertising on our digital platforms. We also provide technology, tools, data-driven services and marketplace solutions to customers in the media industry, which allow advertisers to more effectively engage with their target audiences.

Other

Cable Communications offers security and automation services that provide home monitoring services and the ability to manage other functions within the home, such as lighting and room temperature, through our online portal, mobile apps or the X1 platform. We also license our technology platforms to other multichannel video providers.

Technology

Cable Communications’ cable distribution system uses a hybrid fiber-optic and coaxial cable network that we believe is sufficiently flexible and scalable to support our future technology requirements. This network provides the two-way transmissions that are essential to providing high-speed internet services, interactive video services such as On Demand, voice services, and security and automation services.

Cable Communications continues to focus on technology initiatives to design, develop and deploy next-generation media and content delivery platforms, such as the X1 platform and related cloud DVR technology, and Flex, which use IP technology and our own cloud network servers to deliver video and advanced search capabilities, including through a voice-activated remote control, and that provide access to certain DTC streaming services.

Cable Communications continues to deploy 1 Gbps high-speed internet services that leverage DOCSIS 3.1 technology across its footprint and will continue to expand the capacity of its DOCSIS 3.1 infrastructure, including the implementation of DOCSIS FDX that will enable multi-gigabit services to be launched through our hybrid fiber-optic and coaxial cable network.

Sources of Supply

Cable Communications licenses software products for our high-speed internet services, such as email and security software, and content, such as news feeds for its online portal, from a variety of suppliers. Under the contracts with these suppliers, we generally pay on a fixed-fee basis, on a per subscriber basis in the case of software product licenses or on a video advertising revenue share basis in the case of content licenses.

To offer video services, Cable Communications licenses a substantial portion of programming from cable and broadcast networks, as well as from local broadcast television stations. We attempt to secure long-term programming distribution agreements with these programming providers. The fees associated with these programming distribution agreements are generally based on the number of subscribers who are able to watch the programming and the platforms on which the content is provided. We seek to include in distribution agreements the rights to offer such programming through multiple delivery platforms, such as through our On Demand service, online portal, mobile apps and streaming services.

For voice services, software products such as voicemail and text messaging are licensed from a variety of suppliers under multiyear contracts. The fees paid are generally based on the consumption of the related services.

For wireless services, we have an MVNO agreement that allows us to offer services using Verizon's wireless network and we purchase from a limited number of suppliers a significant number of wireless handsets, tablets and smart watches that we sell to wireless customers.

Cable Communications purchases from a limited number of suppliers a significant number of set-top boxes and certain other customer premise equipment, network equipment and services to provide services to residential and business customers.

Cable Communications uses two primary vendors to provide customer billing for our residential and business customers.

Customer and Technical Services

Cable Communications' customer service teams provide 24/7 call-answering capability, telemarketing and other services. Our technical services group performs various tasks, including installations, plant maintenance and upgrades to its cable distribution system.

Sales and Marketing

Cable Communications offers services directly to residential and business customers through its customer service teams, retail stores, customer service centers, websites, door-to-door selling, telemarketing, and third-party outlets, as well as through advertising via direct mail, television and the internet.

NBCUniversal Segments

NBCUniversal is one of the world's leading media and entertainment companies that develops, produces and distributes entertainment, news and information, sports, and other content for global audiences, and owns and operates theme parks worldwide.

Cable Networks

Cable Networks consists of a diversified portfolio of national cable networks that provide a variety of entertainment, news and information, and sports content; regional sports and news networks; international cable networks and cable television studio production operations. It also owns various digital properties, which include brand-aligned websites.

The table below presents a summary of NBCUniversal's national cable networks and their advertising reach to U.S. households.

Cable Network	Approximate U.S. Households as of December 31, 2020 (in millions) ^(a)	Description of Programming
USA Network	86	General entertainment
E!	84	Entertainment and pop culture
Syfy	84	Imagination-based entertainment
Bravo	83	Entertainment, culture and arts
MSNBC	83	News, political commentary and information
CNBC	82	Business and financial news
NBC Sports Network	80	Sports
Oxygen	71	Crime, mystery and suspense for women
Golf Channel	68	Golf competition and golf entertainment
Universal Kids	54	Children's entertainment
The Olympic Channel	41	Olympic sports events and Olympic-themed original content
CNBC World	27	Global financial news

(a) Household data is based on The Nielsen Company's December 2020 Household Universe Estimate report. The Nielsen report includes estimates based on subscribers to both traditional and certain virtual multichannel video providers. The Nielsen report is not based on information provided by us and is included solely to permit comparisons between our cable networks and those operated by our peers. We understand that the Nielsen Company's ability to collect in-home data may have been disrupted as a result of COVID-19, which may have impacted its estimated household data as of December 2020.

Our regional sports and news networks together serve more than 25 million households across the United States, including in markets such as Baltimore/Washington, Boston, Chicago, Philadelphia, Portland, Sacramento and San Francisco.

Revenue is generated primarily from the distribution and licensing of programming and from the sale of advertising on our networks and digital properties. We market and distribute cable network programming in the United States and internationally to multichannel video providers, including both traditional providers of linear programming and virtual providers who provide streaming services for linear programming. These distributors may provide the content on television, including via video on demand services, online and through mobile apps.

Cable Networks programming includes owned content and content licensed from third parties, including sports rights that are discussed below under the heading "Broadcast Television." NBCUniversal's cable television studio production operations identify, develop and produce original content for our own cable networks and third parties. We license owned content to cable and broadcast networks and to DTC streaming service providers, including Peacock. We also sell owned content on standard-definition DVDs and Blu-ray discs (together, "DVDs") and through digital distribution services such as iTunes.

Broadcast Television

Broadcast Television operates the NBC and Telemundo broadcast networks, which together reach viewers and advertisers in all 50 states, as well as our owned NBC and Telemundo local broadcast television stations, the NBC Universo national cable network, broadcast television studio production operations, and various digital properties, which primarily include brand-aligned websites. Revenue is generated primarily from the sale of advertising on our networks and digital properties, from licensing content, and from the fees received under retransmission consent agreements and associated fees received from NBC-affiliated and Telemundo-affiliated local broadcast television stations.

NBC Network

The NBC network distributes entertainment, news and sports programming that reaches viewers in virtually all U.S. television households through more than 200 affiliated stations across the United States, including NBCUniversal's 11 owned NBC-affiliated local broadcast television stations. The NBC network's programming library consists of rights of varying nature to more than 100,000 episodes of popular television content, including current and classic titles, unscripted programming, sports, news, long-form and short-form programming, and locally produced programming from around the world.

The NBC network programming includes owned content and content licensed from third parties. NBCUniversal has various contractual commitments for the licensing of rights to multiyear programming, primarily sports rights. The most significant sports rights commitments include the U.S. broadcast rights for the summer and winter Olympic Games through 2032 and agreements with the NFL to produce and broadcast a specified number of regular season and playoff games, including *Sunday Night Football* through the 2022-23 season and the Super Bowl in 2022. We also have U.S. broadcast rights to a specified number of NHL games through the 2020-21 season, English Premier League soccer through the 2021-22 season, certain NASCAR events through 2024 and certain PGA TOUR and other golf events through 2030. NBCUniversal's sports rights agreements also include the rights to distribute content on our national cable networks, including the NBC Sports Network and Golf Channel, on our regional sports networks, online, including through mobile apps, and on Peacock.

The broadcast television studio production operations develop and produce original content, including scripted and unscripted television series and talk shows. We license this content to broadcast networks, cable networks and local broadcast television stations owned by NBCUniversal and third parties, as well as to DTC streaming service providers, including Peacock, and it is sold on DVDs and through digital distribution services both in the United States and internationally. The broadcast television studio production operations also produce first-run syndicated shows for local markets that are broadcast on local broadcast television stations in the United States on a market-by-market basis. We also license some of our content after the initial broadcast, as well as older television programs from the library, to local broadcast television stations and cable networks in the off-network syndication market.

NBC Local Broadcast Television Stations

As of December 31, 2020, NBCUniversal owned and operated 11 NBC-affiliated local broadcast television stations, including stations in 8 of the top 10 general markets, that collectively reached approximately 30 million U.S. television households and represent approximately 29% of U.S. television households. In addition to broadcasting the NBC network's national programming, our local broadcast television stations produce news, sports, public affairs and other content that addresses local needs and license content from other sources.

Telemundo

Telemundo is a leading Hispanic media company that produces, licenses and distributes Spanish-language content in the United States and internationally. Telemundo's operations include the Telemundo network, 30 owned local broadcast television stations and the NBC Universo national cable network.

The Telemundo network is a leading Spanish-language broadcast network featuring original telenovelas, movies, news, specials and sporting events. Telemundo produces original content through its production studio and also licenses the rights to use content owned by third parties. We license the Spanish-language U.S. broadcast rights to FIFA World Cup soccer through 2026.

Telemundo Local Broadcast Television Stations

As of December 31, 2020, Telemundo owned 30 local broadcast television stations affiliated with the Telemundo network, including an independent television station in Puerto Rico and stations in 19 of the top 20 U.S. Hispanic markets, which collectively reached approximately 72% of U.S. Hispanic television households as of December 31, 2020.

Filmed Entertainment

Filmed Entertainment primarily produces, acquires, markets and distributes filmed entertainment worldwide. It also includes Fandango, a movie ticketing and entertainment business, our consumer products business and our live stage production business. We also distribute filmed entertainment produced by third parties.

Filmed Entertainment produces content both alone and jointly with other studios or production companies, as well as with other entities. NBCUniversal's films are produced primarily under the Universal Pictures, Illumination, DreamWorks Animation and Focus Features names. Films are marketed and distributed worldwide primarily through NBCUniversal's own marketing and distribution operations. Filmed Entertainment also acquires distribution rights to films produced by others, which may be limited to particular geographic regions, specific forms of media or certain periods of time. Filmed Entertainment's content

includes theatrical films, direct-to-video movies and a film library, which is comprised of more than 5,000 movies in a variety of genres.

Filmed Entertainment has entered into, and may continue to enter into, film cofinancing arrangements with third parties, including both studio and nonstudio entities, to jointly finance or distribute certain of our film productions. These arrangements can take various forms, but in most cases involve the grant of an economic interest in a film to an investor. Investors generally assume the full risks and rewards of ownership proportionate to their ownership in the film.

The majority of our films are initially distributed for exhibition in movie theaters. Beginning in 2020, certain titles are also made available for viewing on demand following a shortened theatrical release window. After their initial release, we sell and license films through various methods. We distribute films globally by selling them on DVDs to retail stores and rental kiosks, and through digital distribution services. We also license films, including selections from the film library, to cable, broadcast and premium networks, to DTC streaming service providers, including Peacock, and to video on demand and pay-per-view services provided by multichannel video providers, including the Cable Communications and Sky segments. The number of films licensed through DTC streaming service providers is increasing as consumers continue to seek additional ways to view Filmed Entertainment's content.

Theme Parks

Theme Parks consists primarily of Universal theme parks in Orlando, Florida; Hollywood, California; and Osaka, Japan. Universal Orlando includes two theme parks, Universal Studios Florida and Universal's Islands of Adventure, and our water park, Volcano Bay. Universal Orlando also includes Universal CityWalk Orlando, a dining, retail and entertainment complex, and features on-site themed hotels in which we own a noncontrolling interest. We are developing an additional theme park at Universal Orlando named Universal's Epic Universe; however, we have temporarily delayed construction in response to COVID-19. The Universal theme park in Hollywood, California consists primarily of Universal Studios Hollywood, as well as Universal CityWalk Hollywood. The Universal theme park in Osaka, Japan consists primarily of Universal Studios Japan. We are also developing Universal Beijing Resort, a theme park in Beijing, China, along with a consortium of Chinese state-owned companies that we expect will open in 2021. In addition, Theme Parks licenses the right to use the Universal Studios brand name and other intellectual property, and also provides other services, to third parties that own and operate the Universal Studios Singapore theme park on Sentosa Island, Singapore.

Revenue is generated primarily from guest spending at Universal theme parks in Orlando, Florida; Hollywood, California; and Osaka, Japan. Theme Parks licenses the right to use a substantial amount of intellectual property from third parties for its themed elements in rides, attractions and merchandising.

Sky Segment

Sky is one of Europe's leading entertainment companies operating in six territories, including three of the largest pay television markets in Western Europe: the United Kingdom, Italy and Germany. The majority of revenue is derived from Sky's direct-to-consumer business, which has 23.9 million customer relationships, and primarily involves the distribution of a wide array of video channels to both residential and business customers. Sky owns a diverse portfolio of pay television channels that offer entertainment, news, sports and movies, which are included in Sky's subscription video services and are also licensed through various distribution partnerships to third-party video providers that reach an additional 3.7 million households. Sky also provides high-speed internet, voice and wireless phone services in select countries. Sky's video, high-speed internet, voice and wireless phone services may be purchased individually or in bundles.

Video

Sky's direct-to-consumer video services include a direct-to-home ("DTH") video service delivered through a combination of both satellite transmission and broadband connection and are marketed under the Sky brand in the United Kingdom, Ireland, Italy, Germany and Austria. Sky also offers a DTC streaming service providing video content over the internet which is marketed as a distinct brand in these countries, as well as in Switzerland.

Sky's DTH video service is sold directly to customers in packages that include a diverse selection of Sky's owned entertainment and sports channels, channels owned by third parties and local free-to-air public broadcasting channels. In addition to live-linear content, Sky's platform also provides access to On Demand and current and prior season libraries for certain television shows. Sky's service offerings are tailored by country, with separate packages offered in each market. Basic packages include over 90 pay television channels in the United Kingdom and Ireland, over 50 channels in Italy, and over 25 channels in Germany and Austria. Specialty tiers for children's, sports, movie and HD programming are available for additional

fees. Sky's services also have pay-per-view programming for certain live sporting events and allow customers, as well as those without a subscription, to buy or rent programming for a fee.

Sky's DTH video service is primarily distributed to customers through a set-top box video platform, including through Sky Q, which is Sky's next-generation video platform. Customers have the ability to record several shows at once, to download content and recordings to watch offline on compatible devices, and for Sky Q households, to pause programming in one room and continue watching in another. Through the Sky Q platform, customers have integrated search functionality, including the use of a voice-activated remote control; personalized recommendations; and access to and the integration of content from DTC streaming services such as Amazon Prime Video, Discovery+, Disney+, Netflix and YouTube, and a variety of other internet-based apps providing content and music.

Sky's DTC streaming service offers packages for purchase ranging from daily to monthly access to entertainment, sports, movies and children's programming. The entertainment package includes Sky's owned entertainment channels and a broad range of On Demand programming series. The sports package provides access to Sky's owned sports channels and the movie package includes access to a library of films. The children's package includes thousands of hours of child-friendly on demand programming.

Other than those who subscribe to Sky's DTC streaming service, customers generally are required to subscribe for an initial contractual term of at least 1 year and may only discontinue service in accordance with the terms of their contracts. Subscription rates and related charges vary according to the services and features customers receive and the types of equipment they use, and customers are typically billed in advance on a monthly basis.

Television Channels

Sky's owned entertainment channels include Sky One, Sky Arts and Sky Atlantic in the United Kingdom and Ireland; Sky Atlantic, Sky Uno and Sky Arte in Italy; and Sky Atlantic and Sky 1 in Germany and Austria. Sky also owns premium sports channels under the Sky Sports brand and premium movie channels under the Sky Cinema brand, including family and children's movie channels. Sky also broadcasts several Sky branded free-to-air channels, including Sky News and Sky Arts in the United Kingdom and Ireland, Sky TG24 in Italy and Sky Sport News in Germany.

Sky licenses the rights to use content for owned channels from third parties, in some cases on an exclusive basis. Sky has various contractual commitments for the licensing of rights to multiyear programming, primarily sports rights and exclusive entertainment content. Our most significant sports rights commitments include the U.K. broadcast rights for English Premier League soccer games through 2022; German broadcast rights to Bundesliga through 2025 and Union des Associations Européennes de Football Champions League ("UCL") through 2021; and Italian broadcast rights to UCL and Lega Nazionale Professionisti Serie A through 2021. Our most significant commitments for the license of entertainment content include exclusive rights with HBO, Showtime, Warner Bros., NBCUniversal and Sony. Sky is also increasingly creating and investing in original scripted content that is broadcast across all of its territories and sold to other markets.

In addition to including owned channels as part of its video services, Sky distributes some of its owned channels on third-party platforms through both wholesale arrangements and arrangements with partners who distribute Sky's owned channels as agents to their respective customer bases. Additionally, Sky licenses owned and licensed content to third-party video providers and Peacock.

Advertising

Sky sells advertising and sponsorships across its owned television channels and where it represents the sales efforts of third-party channels. Sky also sells advertising on its digital platforms and offers various technology, tools and solutions relating to its advertising business.

Other Services

Sky offers high-speed internet and voice services in the United Kingdom and Ireland. Sky offers fiber-to-the-cabinet, standard copper digital subscriber line ("DSL") broadband and fiber-to-the-home ("FTTH") services, with download speeds up to 160 megabits per second in the United Kingdom and up to 1 Gbps in Ireland. In the United Kingdom, Sky uses a combination of its own core fiber network and wholesaling arrangements over third-party telecommunication providers' networks as the core network and also accesses the "last mile" network from third-party network operators for a fee to provide its services to customers. In Italy, Sky launched FTTH services in June 2020 using Open Fiber's network to provide high-speed internet access and voice services. Sky offers wireless phone services to customers in the United Kingdom using a combination of its own core fiber network and an arrangement to access network assets from Telefónica.

Technology and Sources of Supply

For a majority of customers, Sky's DTH video platform is delivered via one-way digital satellite transmission for the distribution of linear television channels, augmented by a set-top box with local DVR storage and high speed two-way broadband connectivity to provide access to a broad range of On Demand and other services. The Sky platform also incorporates Wi-Fi connectivity for in-home distribution enabling wireless multi-room consumption, and Sky has also developed a range of back-end and client software applications that provide customers with access to its content across multiple third-party devices and On Demand in and out of the home. Sky's DTC streaming service is delivered via the internet.

Sky continues to focus on technology initiatives to design, develop and deploy next-generation media and content delivery platforms, including Sky Q and Sky's DTC streaming service, that deliver video content, provide advanced search capabilities, including through a voice-activated remote control, and provide access to certain other DTC streaming services.

Sky relies on various telecommunications providers to deliver video, high-speed internet, voice and wireless phone services to its customers. For example, Sky relies on satellites leased from third parties to provide most of its video services. In addition, pursuant to the current regulatory regime in the United Kingdom, Ireland and Italy, Sky is able to access networks owned by third-party telecommunication providers for a fee to provide its high-speed internet and voice services in many cases, on regulated terms. Additionally, Sky purchases from a limited number of suppliers a significant number of set-top boxes and certain other customer premise equipment to provide its video and high-speed internet services. Sky also purchases from a limited number of suppliers a significant number of wireless handsets, tablets and smart watches that are sold to customers who receive our wireless phone services.

To offer video services, in addition to its owned channels, Sky licenses programming from third-parties that operate television channels. Sky attempts to secure long-term programming distribution agreements with these providers. The fees associated with these distribution agreements are generally based on the number of customers who are able to watch the programming and the platforms on which Sky provides the content. Sky seeks to include in distribution agreements the rights to offer such programming through multiple delivery platforms, such as through On Demand services, mobile apps and DTC streaming services.

Customer and Home Services

Sky's customer service operations are increasingly a digital first offering. The home service group performs various tasks, including installing, servicing and performing upgrades of customer premise equipment.

Sales and Marketing

Sky offers direct-to-consumer services to retail customers through customer service call centers, websites, telemarketing, a limited number of retail outlets, as well as through advertising via direct mail, television and the internet.

Corporate and Other

Our other business interests consist primarily of the operations of Comcast Spectacor, which owns the Philadelphia Flyers and the Wells Fargo Center arena in Philadelphia, Pennsylvania, and other business initiatives, including Peacock.

Peacock is our new premium ad-supported direct-to-consumer video on demand streaming service featuring NBCUniversal content including exclusive Peacock originals, current NBC and Telemundo shows, news, late-night comedy, live sports and a library of television shows and movies, providing customers access to tens of thousands of hours of programming. Customers have the choice of three tiers of service: a free, ad-supported version; a subscription based, ad-supported version with access to all Peacock content; and a similar subscription-based, ad-free version. The subscription-based, ad-supported version is offered to Cable Communications X1 and Flex customers and similar customers at Cox Communications for no additional charge. In addition to NBCUniversal's owned content, Peacock also includes content licensed from third parties.

Competition

All of our businesses operate in intensely competitive, consumer-driven and rapidly changing environments and compete with a growing number of companies that provide a broad range of communications products and services, and entertainment, news and information content to consumers. Technological changes are further intensifying and complicating the competitive landscape and challenging existing business models. In particular, consumers are increasingly turning to online sources for viewing and purchasing content, which has and likely will continue to reduce the number of our video customers and subscribers to our cable networks even as it makes high-speed internet services more important to consumers. In addition, the increasing number of entertainment choices available to consumers has intensified audience fragmentation and disaggregated the way that content traditionally has been viewed by consumers. This increase has caused and likely will continue to cause audience ratings declines at our programming channels.

Cable Communications Segment

Competition for Cable Communications' services consists primarily of phone companies with fiber-based networks and direct broadcast satellite ("DBS") providers that typically offer features, pricing and packaging for services comparable to ours.

High-Speed Internet

Cable Communications competes with a number of companies offering internet services, including:

- wireline phone companies and other providers of wireline internet service
- wireless phone companies and other providers of wireless internet service
- municipal broadband networks and power companies
- satellite broadband providers

Phone companies such as AT&T, Frontier, Lumen and Verizon have built and are continuing to build fiber-based network infrastructure farther into their networks, which allows them to provide data transmission speeds that exceed those that can be provided with traditional DSL technology, and are offering these higher-speed services in many of our service areas. Certain companies that offer DSL service have increased data transmission speeds, lowered prices or created bundled services to compete with our high-speed internet services.

Certain other companies have launched FTTH networks that provide high-speed internet services in a limited number of areas in which we operate, and certain municipalities in our service areas are also building fiber-based networks.

Various wireless companies are offering internet services using a variety of network types, including 3G and 4G, and 5G which continues to be available only in limited locations, wireless broadband services and Wi-Fi networks. These networks work with devices such as smartphones, laptops, tablets and mobile and fixed wireless routers, as well as wireless data cards. Numerous local governments are also considering or actively pursuing publicly subsidized Wi-Fi and other internet access networks. The availability of wireless and other offerings could negatively impact the demand for our high-speed internet services.

Video

Cable Communications competes with a number of different sources in the United States that provide news, sports, information and entertainment programming to consumers, including:

- DBS providers, including AT&T's DIRECTV and DISH Network, that transmit satellite signals to substantially all U.S. households to provide video programming and other information similar to our video services
- phone companies, including AT&T and Verizon, that have built and continue to build fiber-based networks that provide services similar to ours, which overlap a substantial portion of our service areas, and that in some cases provide bundled offerings that include wireless phone services
- DTC streaming and other over-the-top ("OTT") service providers including:
 - subscription-based services, such as Amazon Prime Video, Apple TV+, Disney+, HBO Max, Hulu and Netflix, that offer online services and devices that enable internet streaming and downloading of movies, television shows and other video programming

- virtual multichannel video providers who offer streaming services for linear programming that generally involve smaller packages of programming networks at prices lower than our traditional video service package offerings
- other providers that build and operate wireline communications systems in the same communities that we serve, including those operating as franchised cable operators
- satellite master antenna television systems that offer to their subscribers both improved reception of local broadcast television stations and much of the programming offered by our cable systems and generally serve multiple dwelling units (“MDUs”), office complexes and residential developments
- other companies, such as local broadcast television stations, that provide multiple channels of free over-the-air programming, as well as video rental services and home entertainment and gaming products

Many of these competitors also have significant financial resources and have further intensified competition through mergers and acquisitions.

Voice

Cable Communications competes with wireline and wireless phone companies, including incumbent local exchange carriers (“ILECs”) and competitive local exchange carriers (“CLECs”), and other internet-based and VoIP service providers. Certain phone companies, such as the ILECs AT&T and Verizon, have longstanding customer relationships, and extensive existing facilities and network rights-of-way. A few CLECs also have existing local networks and significant financial resources. In addition, we are increasingly competing with other phone service providers as customers replace traditional wireline phone services with wireless and internet-based phone services.

Wireless

Cable Communications competes with national wireless phone service providers in the United States, including AT&T and Verizon, which offer wireless service on both a standalone basis or along with other services as bundled offerings, as well as regional providers of wireless communications services.

Business Services

Cable Communications primarily competes with a variety of phone companies, including ILECs and CLECs and wide area network managed service providers. These companies either operate their own network infrastructure or use all or part of another carrier's network. We also compete with satellite operators who offer video services to businesses and VoIP companies that target businesses of all sizes. Our video monitoring services compete with companies that provide video surveillance services that use both traditional and cloud-based/digital solutions.

NBCUniversal Segments

Cable Networks and Broadcast Television

NBCUniversal's cable networks, broadcast networks and owned local broadcast television stations compete for viewers' attention and audience share with all forms of programming provided to viewers, including cable, broadcast and premium networks; DTC streaming and other OTT service providers; local broadcast television stations; home entertainment products; pay-per-view and video on demand services; online activities, such as social networking and viewing user-generated content; gaming products; and other forms of entertainment, news and information.

NBCUniversal's cable networks, broadcast networks and owned local broadcast television stations compete for the acquisition of content and for on-air and creative talent with other cable and broadcast networks, DTC streaming service providers, and local television stations. The market for content is very competitive, particularly for sports rights, where the cost for such content is significant.

NBCUniversal's cable networks compete with other cable networks and programming providers for carriage of their programming by multichannel video providers and DTC streaming and other OTT service providers. Our broadcast networks compete with the other broadcast networks in markets across the United States to secure affiliations with independently owned television stations, which are necessary to ensure the effective distribution of broadcast network programming to a nationwide audience.

In addition, NBCUniversal's cable television and broadcast television studio production operations compete with other production companies and creators of content for the acquisition of story properties, for creative, performing and technical personnel, and for distribution of, and consumer interest in, their content.

Filmed Entertainment

Filmed Entertainment competes for audiences for films and other entertainment content with other major studios and independent film producers, as well as with alternative forms of entertainment. The competitive position of Filmed Entertainment primarily depends on the number of films produced, their distribution and marketing success, and consumer response. Filmed Entertainment also competes to obtain creative, performing and technical talent, including writers, actors, directors and producers, as well as scripts for films. We also compete with the other major studios and other producers of entertainment content for the exhibition of films in theaters and on demand, and the distribution of films on premium networks, and with DTC streaming and other OTT service providers.

Theme Parks

Theme Parks competes with other multi-park entertainment companies as well as other providers of entertainment, lodging, tourism and recreational activities. To help maintain the competitiveness of our theme parks, we have invested and continue to invest significant amounts in existing and new theme park attractions, hotels and infrastructure, including the new theme parks in Beijing, China and Orlando, Florida.

Sky Segment

Sky competes with a broad range of companies engaged in media, entertainment and communications services in Europe. For video services, Sky competes with cable operators, providers of both paid-for and free-to-air programming, other satellite television providers, digital terrestrial television providers, content aggregators, home entertainment products companies, and other suppliers and providers of news, information, sports and entertainment that deliver DTC and other OTT streaming services. For high-speed internet and wireless services, Sky also competes with service providers making use of new fiber optic networks, telecommunications providers, other internet service providers and companies developing new technologies and devices. Sky's competitive position may be negatively impacted by an increase in the capacity of, or developments in, the means of delivery competitors use to provide their services as well as lowered prices, product innovations, new technologies or different value creation approaches. Sky also competes with organizations that are publicly funded, in whole or in part, to fulfill a public service broadcasting mandate.

Sky's owned channels compete for the acquisition of programming content with a wide range of providers, particularly for sports rights, where the cost for such programming is significant.

Advertising

Cable Communications, Cable Networks, Broadcast Television, Sky and Peacock compete for the sale of advertising with other television networks and stations, as well as with all other advertising platforms, such as digital, radio and print media. The willingness of advertisers to purchase advertising from us may be adversely affected by lower audience ratings at the related networks, stations or channels. Declines in audience ratings can be caused by increased competition for the leisure time of viewers and by audience fragmentation resulting from the increasing number of entertainment choices available, including content from DTC streaming and other OTT service providers, online media and other digital sources. In addition, advertising revenue is adversely affected by the growing use of technologies, such as DVRs and video on demand services, which give consumers greater flexibility to watch programming on a time-delayed or on-demand basis or to fast-forward or skip advertisements within programming.

Seasonality and Cyclicalities

Each of our businesses is typically subject to seasonal and cyclical variations. Cable Communications' results are impacted by the seasonal nature of residential customers receiving our services in college and vacation markets. This generally results in fewer net customer relationship additions in the second quarter of each year.

Revenue and operating costs and expenses (comprised of total costs and expenses, excluding depreciation and amortization expense and other operating gains) are cyclical as a result of our periodic broadcasts of major sporting events, such as the Olympic Games, which affect Cable Networks and Broadcast Television, and the Super Bowl, which affects Broadcast Television. In particular, advertising revenue increases due to increased demand for advertising time for these events and distribution revenue increases in the period of broadcasts of the Olympic Games. Operating costs and expenses also increase as a result of our production costs for these broadcasts and the amortization of the related rights fees.

Revenue in Cable Communications, Cable Networks, Broadcast Television and Sky is also subject to cyclical advertising patterns and changes in viewership levels. Advertising revenue in the United States is generally higher in the second and fourth quarters of each year and in even-numbered years due to increases in consumer advertising in the spring and in the period leading up to and including the holiday season and advertising related to candidates running for political office and issue-oriented advertising, respectively. Revenue in Cable Networks and Broadcast Television fluctuates depending on the timing of when our programming is aired, which typically results in higher advertising revenue in the second and fourth quarters of each year. Advertising revenue at Sky typically has seasonally higher audience levels in winter months and increased competition in the summer during major sporting events where public service broadcasters lease the rights, such as the Olympic Games and the FIFA World Cup™.

Revenue in Filmed Entertainment fluctuates due to the timing, nature and number of films released in movie theaters, on DVDs, and through various other distribution platforms, including viewing on demand. Release dates are determined by several factors, including competition and the timing of vacation and holiday periods. As a result, revenue tends to be seasonal, with increases experienced each year during the summer months and around the holiday season. Content licensing revenue in Cable Networks, Broadcast Television and Filmed Entertainment also fluctuates due to the timing of when our content is made available to licensees.

Revenue in Theme Parks fluctuates with changes in theme park attendance that typically result from the seasonal nature of vacation travel and weather variations, local entertainment offerings and the opening of new attractions, as well as with changes in currency exchange rates. Theme Parks generally experiences peak attendance during the spring holiday period, the summer months when schools are closed and the Christmas holiday season.

Sky's results are impacted by the seasonal nature of residential customers receiving our DTH and DTC streaming services, including the start of the new soccer seasons and the Christmas holiday. This generally results in greater net customer relationship additions and higher subscriber acquisition costs in the second half of each year due to higher marketing expenses.

Exclusive sports rights, such as European soccer, play a key role within Sky's wider content strategy. In Europe, broadcasting rights for major sports are usually tendered through a competitive auction process, with the winning bidder or bidders acquiring rights over a three to five-year period. This creates some level of cyclicity for Sky, although the staggered timing of major sports rights auctions usually gives Sky time to react to any material changes in the competitive dynamics of the prevailing market. Certain of Sky's significant sports rights agreements require payments at the start of each season, resulting in increases in sports rights payments in the third and fourth quarter of each year.

Legislation and Regulation

While all of our businesses are subject to various federal, state, and local laws and regulations, compliance with certain laws and regulations is most material with respect to our Cable Communications and Broadcast Television businesses in the United States. Specifically, the Communications Act of 1934, as amended (the "Communications Act"), and Federal Communications Commission ("FCC") regulations and policies affect significant aspects of our cable communications and broadcast businesses in the United States, and these businesses are also subject to other regulation by federal, state and local authorities. In addition, our international businesses are subject to the laws and the jurisdiction of the foreign regulatory authorities where they operate.

Beyond any significant regulations summarized below, legislators and regulators at all levels of government frequently consider changing, and sometimes do change, existing statutes, rules or regulations, or interpretations of existing statutes, rules or regulations, or prescribe new ones, any of which may significantly affect our businesses and ability to effectively compete. These legislators and regulators have been active in considering rulemakings and legislation, at times looking to adopt regulatory approaches from different countries that may be more burdensome, and they, along with some state attorneys general and foreign governmental authorities, have also been active in conducting inquiries and reviews, regarding our services. State legislative and regulatory initiatives can create a patchwork of different and/or conflicting state requirements, such as with respect to privacy and open internet/net neutrality regulations, that can affect our business operations and further constrain our ability to compete.

Legislative and regulatory activity may increase with the change in administration following the 2020 U.S. presidential election. For example, the U.S. Congress may consider proposals that address communications issues, including whether it should rewrite the entire Communications Act to account for changes in the communications marketplace, whether it should enact new, permanent open internet/net neutrality requirements, and whether it should fund new broadband infrastructure or broadband connectivity initiatives. Any of these regulations could significantly affect our business and compliance costs. In addition, United States and foreign regulators and courts could adopt new interpretations of existing competition laws or enact new competition laws or regulatory tools that could negatively impact our businesses. With the change in administration, tax legislation could be enacted increasing the federal corporate income tax from the current rate of 21%. Any future legislative, judicial, regulatory or administrative actions may increase our costs or impose additional restrictions on our businesses, some of which may be significant. We are unable to predict the outcome or effects of any of these potential actions or any other legislative or regulatory proposals on our businesses.

The following paragraphs summarize the significant legal and regulatory requirements affecting our businesses.

Communications-Related Regulations in the United States

High-Speed Internet

Our high-speed internet services are subject to a number of regulations and commitments. The FCC frequently considers imposing new broadband-related regulations such as those relating to an Open Internet. States and localities also consider new broadband-related regulations, including those regarding government-owned broadband networks, net neutrality and connectivity during COVID-19. New broadband regulations, if adopted, may have adverse effects on our businesses. In addition, as an internet service provider ("ISP"), we must implement certain network capabilities to assist law enforcement in conducting surveillance of persons suspected of criminal activity. From time to time, the FCC considers imposing new regulatory obligations on ISPs.

Open Internet Regulations

Various forms of Open Internet regulations can significantly affect our high-speed internet services. In 2017, the FCC reversed its prior classification of broadband internet access service as a Title II "telecommunications service" under the Communications Act and classified it as an "information service" under Title I. In addition, it eliminated its prior "net neutrality" rules prohibiting ISPs from blocking access to lawful content on the internet; impairing or degrading lawful internet traffic on the basis of content, applications or services ("throttling"); prioritizing certain internet traffic in exchange for consideration or in favor of an affiliate ("paid or affiliated prioritization"); and generally prohibiting ISPs from unreasonably interfering with or unreasonably disadvantaging consumers' ability to access and use the lawful internet content, applications, services or devices of their choosing or unreasonably interfering with or disadvantaging edge providers' ability to make lawful content, applications, services or devices available to consumers ("general conduct standard"). The FCC stated that jurisdiction to regulate ISP conduct would rest at the Federal Trade Commission ("FTC"), and it expressly preempted all state Open Internet laws. In addition, the FCC revised the transparency rule to add a requirement that ISPs disclose any blocking and throttling practices, and any paid or affiliated prioritization practices associated with their broadband offerings. We have disclosed that we do not block, throttle or engage in paid or affiliated prioritization, and have committed not to block, throttle or discriminate against lawful content. The FTC has authority to enforce these public commitments, and the FCC has authority to enforce compliance with its transparency rule.

The FCC's 2017 decision was challenged, and in 2019, the U.S. Court of Appeals for the District of Columbia largely upheld the FCC's decision, including the classification of broadband as a Title I information service and repeal of its prior rules. However, it vacated the FCC's express preemption of all state Open Internet laws, but noted that state laws may nevertheless be preempted on a case-by-case basis if those regulations conflict with federal law or policy or under other theories and precedent on implied preemption.

Several states have passed or introduced legislation, or have adopted executive orders, that impose Open Internet requirements in a variety of ways, and new state legislation may be introduced and adopted in the future. Certain of these state initiatives have been challenged in court. Such attempts by the states to regulate have the potential to create differing and/or conflicting state regulations.

The FCC under the new Administration likely will revisit the regulatory classification of broadband internet access service and reclassify broadband internet access service as a "telecommunications service," which would authorize the FCC to subject it to traditional common carriage regulation under Title II of the Communications Act. Under a Title II framework, the FCC could potentially regulate our customer rates, speeds, data usage thresholds or other terms for internet services and could prohibit or seriously restrict arrangements between us and internet content, applications and service providers, including backbone

interconnection arrangements. Any FCC action could impact state Open Internet initiatives and related legal challenges, and also could prompt further litigation. Congress may also consider legislation addressing these regulations and the regulatory framework for broadband internet access services. We cannot predict whether or how the rules might be changed, the impact of potential new legislation or the outcome of any litigation.

[Broadband Deployment/Infrastructure Initiatives](#)

Beginning in 2018, the FCC adopted a series of orders aimed at removing barriers to the deployment of broadband infrastructure, including the preemption of certain state and local laws or regulations that may unreasonably impede the deployment of wireless broadband networks. Over time, these orders may have the effect of creating regulatory imbalances that favor wireless services over wireline broadband services like our own. We cannot predict the extent to which the FCC might adopt similar orders in the future, whether such future orders would be upheld if appealed, how state or local laws or regulations may be impacted or how such changes may affect our business.

There also have been, and may continue to be, broadband-deployment funding initiatives at the federal and state level, including as part of COVID-19 relief efforts, that could subsidize other service providers building networks within our footprint or potentially subsidize expansion of our network to new areas. We cannot predict how such funds will be awarded or the impact of these initiatives on our businesses.

[Municipally Owned Broadband Networks](#)

A number of local municipalities operate municipally owned broadband networks and there may be further efforts by local governments to expand or create government-owned networks. Certain states have enacted laws that restrict or prohibit local municipalities from operating municipally owned broadband networks, and there may be efforts in other state legislatures to restrict the development of government-owned networks, although some may choose to ease or facilitate such networks. We cannot predict how successful those efforts will be and how they might affect our businesses.

Video

The video marketplace is quickly evolving and continues to become even more competitive, particularly as new DTC streaming and other OTT service providers enter the market at a growing pace. There are a number of laws and regulations that apply solely to multichannel video programming distributors ("MVPDs") or cable operators, and to cable networks and local broadcast television stations. These laws and regulations can constrain our ability to compete, particularly against new online providers, which are not subject to these same requirements.

[Cable Pricing and Packaging](#)

While the vast majority of our video services, including equipment and installation fees, are no longer subject to rate regulation by the FCC, certain state entities monitor and challenge in court the marketing and advertising of our services, and some have attempted to regulate the service packages we offer and our billing practices. We cannot predict the outcome of any current litigation with state entities or whether other states may pursue similar actions.

[Cable Franchising](#)

Cable operators generally operate their cable systems under nonexclusive franchises granted by local or state franchising authorities. While the terms and conditions of franchises vary materially from jurisdiction to jurisdiction, franchises typically last for a fixed term, obligate the franchisee to pay franchise fees and meet service quality, customer service and other requirements, and are terminable if the franchisee fails to comply with material provisions. Franchising authorities also may require adequate channel capacity, facilities and financial support for public, educational and governmental access programming, and other in-kind contributions.

The Communications Act also contains provisions governing the franchising process, including renewal procedures designed to protect incumbent franchisees against arbitrary denials of renewal and unreasonable renewal conditions. We believe that our franchise renewal prospects are generally favorable but cannot guarantee the future renewal of any individual franchise. The FCC adopted an order in 2019 that prohibits state and local authorities from imposing duplicative franchise and/or fee requirements on the provision of broadband and other non-cable services over franchised cable systems, and ruling that in-kind contributions are treated as franchise fees subject to the statutory cap on franchise fees of 5% of cable service revenue unless those contributions are expressly excluded by the Communications Act. The order has been appealed, and we cannot predict the outcome of this litigation.

[Program Carriage](#)

FCC regulations prohibit us from unreasonably restraining the ability of an unaffiliated video programming network to compete fairly by discriminating against the network on the basis of its non-affiliation in the selection, terms or conditions for its carriage. In addition, cable operators and other MVPDs in the United States are prohibited from requiring as a condition of

carriage a financial interest in, or exclusive distribution rights for, a video programming network. We have been involved in program carriage disputes at the FCC, as well as in the courts, and may be subject to new complaints in the future.

[Program Access](#)

The Communications Act and FCC regulations generally prevent cable networks affiliated with cable operators from favoring affiliated cable operators over competing MVPDs. The FCC and Congress have considered proposals that would require companies that own multiple cable networks to make each of their networks available individually when negotiating distribution agreements with MVPDs and potentially with DTC streaming and other OTT service providers; Maine has enacted a law mandating retail a la carte distribution by cable operators that may have similar effects. The Maine statute has been appealed and is currently stayed by the courts, but we cannot predict the outcome of that litigation. We currently offer our cable networks on a packaged basis (in “tiers”) and, in various cases, individually. We have been involved in program access disputes at the FCC and may be subject to new complaints in the future.

[Must-Carry/Retransmission Consent](#)

Cable operators are required to carry, without compensation, programming transmitted by most local commercial and noncommercial broadcast television stations. As an alternative to this “must-carry” requirement, local broadcast television stations may choose to negotiate with the cable operator for “retransmission consent,” under which the station gives up its must-carry rights and instead seeks to negotiate a carriage agreement with the cable operator, which frequently will involve payments to the station. We currently pay certain local broadcast television stations in exchange for their required consent for the retransmission of the stations’ broadcast programming to our video services customers and expect to continue to be subject to demands for increased payments and other concessions from local broadcast television stations. Failure to reach a retransmission consent agreement with a broadcaster could result in the loss of popular programming on our video services.

With respect to our Broadcast Television business, every three years, each local commercial broadcast television station must elect for each cable system in its DMA either must carry or retransmission consent. A similar regulatory scheme applies to satellite providers. For the three-year period from January 1, 2018 to December 31, 2020, all of our owned NBC and Telemundo local broadcast television stations elected retransmission consent. The next three-year period will commence on January 1, 2021, for which elections were made by October 1, 2020. All of our owned NBC and Telemundo local broadcast television stations elected retransmission consent. Although we have reached retransmission consent agreements with almost all MVPDs in the past, there can be no assurance that we will always be able to renew those agreements under favorable terms or at all.

[Broadcast Licensing](#)

Local broadcast television stations may be operated only in accordance with a license issued by the FCC upon a finding that the grant of the license will serve the public interest, convenience and necessity. The FCC grants broadcast television station licenses for specific periods of time, which may be renewed with or without conditions. The FCC renewed all of our broadcast television station licenses without conditions during the last license renewal cycle; the current television license renewal cycle began in 2020. Although our licenses have been renewed in prior cycles, there can be no assurance that we will always obtain renewal grants.

[Broadcast Ownership Restrictions](#)

The Communications Act and FCC regulations impose certain limitations on local and national television ownership, as well as limits on foreign ownership in a broadcast television station. Some of these limitations currently are under review in the U.S. Supreme Court. In addition, each of the four major broadcast television networks - ABC, CBS, Fox and NBC - is prohibited from being under common ownership or control with another of the four.

[Children's Programming](#)

Under federal regulations, the amount of commercial content that may be shown on cable networks, broadcast networks and local broadcast television stations during programming originally produced and broadcast primarily for an audience of children 12 years of age and under is limited, and certain television station programming must serve the educational and informational needs of children 16 years of age and under.

[FCC 5G Spectrum Proceedings](#)

The FCC also has established or is in the process of evaluating and potentially modifying its rules to make available additional spectrum that will likely be used for licensed and unlicensed commercial services, including new 5G services, some of which has been or is in the process of being auctioned by the FCC. Because Cable Communications and NBCUniversal both use some of this spectrum to provide services, they must transition their operations to different frequencies in order to accommodate the reallocation of spectrum for 5G, which could disrupt our services and impose additional costs.

Voice

We provide voice services using VoIP technology. The FCC has adopted a number of regulations for providers of nontraditional voice services such as ours, including regulations relating to privacy of customer proprietary network information, local number portability duties and benefits, disability access, E911, law enforcement assistance, outage reporting, Universal Service Fund contribution obligations, rural call completion, customer equipment back-up power, robocall mitigation, service discontinuance and certain regulatory filing requirements. The FCC has not yet ruled on whether VoIP services such as ours should be classified as an “information service” or a “telecommunications service” under the Communications Act. The classification determination is important because telecommunications services are regulated more extensively than information services. One federal court of appeals in the 8th Circuit has held that VoIP is an information service and preempted state regulation of VoIP, and the U.S. Supreme Court has declined to review that determination, but that ruling remains limited to the seven states located in that circuit. State regulatory commissions and legislatures in other jurisdictions may continue to consider imposing regulatory requirements on our voice services as long as the regulatory classification of VoIP remains unsettled at the federal level.

Wireless

We offer a wireless voice and data service using our MVNO rights to provide the service over Verizon’s wireless network. MVNOs are subject to many of the same FCC regulations as facilities-based wireless carriers (e.g., E911 services, local number portability, etc.), as well as certain state or local regulations. The FCC or other regulatory authorities may adopt new or different regulations for MVNOs and/or mobile broadband providers in the future, which could adversely affect our wireless phone service offering or our business generally.

International Communications-Related Regulations

Sky and certain NBCUniversal international businesses are subject to telecommunications and media-specific regulation described below in Europe, Latin America and other international jurisdictions, and all of our international businesses are subject to regulation under generally applicable laws, such as competition, consumer protection, data protection and taxation in the jurisdictions where they operate. Our international businesses are currently, and may be in the future, subject to proceedings or investigations from regulatory and antitrust authorities in the jurisdictions in which they operate. In addition, in connection with our acquisition of Sky, we have made certain legally binding commitments with respect to Sky’s operations, including for example, to maintain annual funding for Sky News in an amount no lower than Sky News’ 2017 fiscal year expenditures, as adjusted by inflation, until 2029.

Platform Services

In the United Kingdom, Sky is required to ensure that agreements to provide its electronic program guide (“EPG”) and conditional access (“CA”) services to other programming providers are on fair, reasonable and non-discriminatory terms, among other things, so that those providers’ content is available on Sky’s satellite platform via the EPG on set-top boxes. Sky also has voluntarily committed to the United Kingdom’s communications regulator, the Office of Communications, or Ofcom, to provide access control services to third parties that enable them to provide interactive services. Sky is subject to similar EPG and CA obligations in Germany.

Television Channels

Sky and NBCUniversal hold a number of licenses and authorizations for their portfolios of television channels. For example, in the United Kingdom, Sky is subject to various codes issued by Ofcom affecting the content and delivery of these channels. Sky and NBCUniversal also hold various broadcast licenses in certain E.U. countries and NBCUniversal holds broadcast licenses in various countries for its international cable networks, and must comply with rules and regulations covering issues such as the acquisition and exploitation of sports rights, media concentration and plurality, television advertising, the protection of children, accessibility, airtime for commercials and teleshopping, sponsorship and ensuring clear distinctions between program content and advertising.

High-Speed Internet and Voice

Sky provides broadband and voice services in the United Kingdom, Ireland and Italy pursuant to wholesale distribution agreements that third-party broadband and telecommunications companies either make available commercially or are required to make available under applicable laws in those jurisdictions. Material changes to these regulations could affect Sky’s business. Sky is also subject to E.U. open internet/net neutrality regulations, which prohibit the blocking, throttling or discrimination of online content, applications and services and require ISPs to disclose their traffic management, throughput limitations and other practices impacting quality of service in customer contracts.

Other Areas of Regulation

Intellectual Property

Copyright, trademark, unfair competition, patent, trade secret and other proprietary-rights laws of the United States and other countries help protect our intellectual property rights. In particular, unauthorized copying, distribution and piracy of programming and films over the internet, through devices, software and websites, counterfeit DVDs and through other platforms interfere with the market for copyrighted works and present challenges for our content businesses. We have actively engaged in the enforcement of our intellectual property rights and likely will continue to expend substantial resources to protect our content. Although many legal protections exist to combat such practices, the extent of copyright protection is sometimes ambiguous and the use of technological protections can be controversial. Modifications to existing laws, a weakening of these protections or their enforcement or a failure of existing laws, in the United States or internationally, to adapt to new technologies could have an adverse effect on our ability to license and sell our programming.

U.S. copyright laws establish a cable compulsory copyright license that requires our video distribution business to contribute a specified percentage of revenue to a federal copyright royalty pool in exchange for retransmitting copyrighted material included in broadcast signals. We also pay standard industry licensing fees for the public performance of music in the programs we create or distribute. The cable compulsory copyright license and the royalties we pay are subject to audits and possible regulatory and legislative changes that could impact the royalty fees we pay and our ability to retransmit broadcast signals over cable systems. In addition, the landscape for music licensing is constantly changing, and music fees we pay are subject to new fee demands and negotiations. We cannot predict how changes to the compulsory copyright license and music licensing will impact the fees that we pay.

Privacy and Data Security Regulation

Our businesses are subject to federal, state and foreign laws and regulations that impose various restrictions and obligations related to privacy and the handling of consumers' personal information. In the United States, the Communications Act generally restricts cable operators' nonconsensual collection and disclosure to third parties of cable customers' personally identifiable information, except for rendering service, conducting legitimate business activities related to the service and responding to legal requests. We are also subject to various state and federal regulations that provide privacy protections for customer proprietary network information related to our voice services.

The FTC generally exercises oversight of consumer privacy protections using its enforcement authority over unfair and deceptive acts or practices. For example, the FTC often partners with state attorneys general to update or enforce transparency requirements about the collection and use of consumer information. These efforts may require ongoing review of new and rapidly evolving technologies and methods for delivering content and advertising to ensure that appropriate notice is given to consumers and consent is obtained where required in connection with the collection, use or sharing of personal information. We are also subject to stringent data security and data retention requirements that apply to website operators and online services directed to children 12 years of age and under, or that knowingly collect or post personal information from children 12 years of age and under.

In addition, certain states have enacted detailed laws establishing consumer privacy protections and data security requirements in their respective states. For example, the California Consumer Privacy Act ("CCPA") gives California residents rights to receive certain disclosures regarding the collection, use and sharing of "Personal Information," as well as rights to access, delete and restrict the sale of certain personal information collected about them. Moreover, all 50 states have security breach notification laws that generally require a business to give notice to consumers and government agencies when certain information has been disclosed to an unauthorized party due to a security breach.

Certain of our businesses are subject to the European Union's General Data Protection Regulation ("GDPR"), which broadly regulates the processing of personal data collected from individuals in the European Union. GDPR, and the Member States' legislation implementing the GDPR, affect our ability to process certain personal data. Moreover, the outcome of the United Kingdom's exit from the European Union (discussed more broadly below) could affect our ability to process certain data.

Privacy and data security remained a priority legislative issue in 2020. For example, California voters enacted updates to the CCPA via a ballot initiative called the California Privacy Rights Act ("CPRA"). Among other things, the CPRA creates an entirely new state-level agency for overseeing consumer privacy issues. Changes enacted in the CPRA generally go into effect on January 1, 2023, though several aspects of the law remain subject to further rulemaking. We cannot predict how these changes to the law will affect our business. There are several federal and state legislative proposals that, if enacted, could create new consumer privacy protections or impose new requirements on entities that collect and use consumer personal information, including us. We cannot predict whether such legislation will be enacted at the federal or state level and, if so, the impact of any such laws on our business.

State and Local Taxes

Some U.S. states and localities have imposed or are considering imposing, through both legislative and administrative channels, new or additional taxes or fees on, or limiting or eliminating incentives or credits earned or monetized by, the businesses operated by our Cable Communications and NBCUniversal segments, or imposing adverse methodologies by which taxes, fees, incentives or credits are computed, earned or monetized. These include combined reporting or other changes to general business taxes, central assessments for property tax and taxes and fees on the businesses operated or services provided by our Cable Communications and NBCUniversal segments. In some situations, DBS providers and other competitors that deliver their services over a high-speed internet connection do not face the same state tax and fee burdens. Congress has also considered, and may consider again, proposals to bar or limit states from imposing taxes on these DBS providers or other competitors that are equivalent to the taxes or fees that we pay. The Internet Tax Freedom Act ("ITFA") prohibits most states and localities from imposing sales and other taxes on our internet access charges; however, some jurisdictions may challenge the ITFA or the application of the ITFA to our business, or may assert that certain taxes akin to right-of-way fees are not preempted by the ITFA.

U.K. Exit from the European Union

The telecommunications and media regulatory framework applicable to our business in the United Kingdom may be subject to greater uncertainty as a result of the United Kingdom's withdrawal from the European Union and the end of the transition period on December 31, 2020, with the possibility of greater divergence between the regulation of our U.K. business and that of our other European businesses over time. We are not able to predict the extent of any such divergence at this point in time.

Other Regulations

U.S. states and localities, and various regulatory authorities actively regulate other aspects of our businesses, including our Filmed Entertainment and Theme Parks businesses, accessibility to our video and voice services and broadcast television programming for people with disabilities, customer service standards, inside wiring, cable equipment, pole attachments, universal service fees, public safety, telemarketing, leased access, indecency, loudness of commercial advertisements, advertising, political broadcasting, sponsorship identification, Emergency Alert System, equal employment opportunity and other employment-related laws, environmental-related matters, regulatory fees, our equipment supply chain and technical standards relating to the operation of cable systems and television stations. In addition, our international businesses are subject to various international regulations, including those that cover television broadcasting, programming and advertising. We are occasionally subject to enforcement actions and investigations at the FCC and other federal, state and local agencies, as well as foreign governments and regulatory authorities, which can result in us having to pay fines or being subject to other sanctions.

Human Capital Resources

As of December 31, 2020, we had approximately 168,000 full-time and part-time employees calculated on a full-time equivalent basis. Of these employees, approximately 82,000, 49,000 and 34,000 were associated with Cable Communications, NBCUniversal and Sky, respectively. Approximately 25% of these employees were located in over 30 countries outside the United States, with larger workforce concentrations in the United Kingdom, Japan, Italy and Germany. We also use freelance and temporary employees in the normal course of our business. A small overall portion of our full-time U.S. employees are unionized; outside the United States, employees in certain countries, particularly in Europe, are represented by an employee representative organization, such as a union, works council or employee association.

As a global media and technology company, we have a wide range of employees, including management professionals, technicians, engineers, call center employees, theme park employees and a wide range of media talent and production employees. Given the breadth of our employee base, we tailor our human capital management policies with a view to specific employee populations. However, we provide a wide variety of opportunities for professional growth for all employees with in-classroom and online trainings, on-the-job experience, education tuition assistance and counseling, and financial counseling and literacy training. We seek to create an engaged workforce through proactive listening and constructive dialogue, including through employee engagement surveys and employee resource groups, and continue to have a strong focus on diversity, equity and inclusion initiatives.

We focus on attracting and retaining employees by providing compensation and benefits packages that are competitive within the applicable market, taking into account the job position's location and responsibilities. We provide competitive financial benefits such as a 401(k) retirement plan in the United States with a company match, have employee stock purchase plans in the United States, United Kingdom, Ireland and several other European countries where most of our full-time and part-time employees can purchase our stock at a discount, and offer a portfolio of services and tools to support our employees' health and wellbeing. We also generally grant awards of restricted stock units and stock options on an annual basis to a meaningful portion of our employees, with over 18,000 employees receiving such awards in 2020.

In 2020, in response to COVID-19, we committed over \$500 million to support employees where operations were closed or impacted, made work from home options as broadly available as possible, and enhanced safety measures for customer-facing employees. In response to the impacts of COVID-19 and the changing environment in which we are operating our businesses, we also implemented temporary workforce reductions, including employee furloughs at our theme parks, and incurred severance at some of our businesses. Refer to Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations for additional information.

Caution Concerning Forward-Looking Statements

The SEC encourages companies to disclose forward-looking information so that investors can better understand a company's future prospects and make informed investment decisions. In this Annual Report on Form 10-K, we state our beliefs of future events and of our future financial performance. In some cases, you can identify these so-called "forward-looking statements" by words such as "may," "will," "should," "expects," "believes," "estimates," "potential," or "continue," or the negative of these words, and other comparable words. You should be aware that these statements are only our predictions. In evaluating these statements, you should consider various factors, including the risks and uncertainties listed in "Risk Factors" and in other reports we file with the SEC.

Additionally, we operate in a highly competitive, consumer-driven and rapidly changing environment. This environment is affected by government regulation; economic, strategic, political and social conditions; consumer response to new and existing products and services; technological developments; and, particularly in view of new technologies, the ability to develop and protect intellectual property rights. Our actual results could differ materially from our forward-looking statements as a result of any of such factors, which could adversely affect our businesses, results of operations or financial condition. We undertake no obligation to update any forward-looking statements.

Item 1A: Risk Factors

Risks Related to Our Business, Industry and Operations

The COVID-19 pandemic has had, and will likely continue to have, a material adverse effect on our businesses and results of operations.

The impacts of COVID-19 and measures to prevent its spread across the globe have impacted our businesses in a number of ways. While our Cable Communications results were strong in 2020, they were negatively affected by the significant deterioration in domestic economic conditions and by costs associated with our support of customer connectivity as people increasingly worked and learned remotely from home. COVID-19 had material negative impacts on NBCUniversal and Sky results of operations during 2020. For example, in late February we temporarily closed our theme park in Japan, and in mid-March we temporarily closed our theme parks in Orlando and Hollywood, and although our parks in Orlando and Japan reopened with limited capacity in June 2020, our park in Hollywood remains closed. We cannot predict when the Hollywood park will reopen, if any reopened parks will remain open or estimate attendance levels at any of the parks. We expect the results of operations at our theme parks will continue to be negatively impacted in the near to medium term. The creation and availability of our film and television programming globally have been and will continue to be disrupted, including as a result of the postponement or cancellation of sporting events (such as the professional soccer, hockey, baseball and basketball leagues and the Olympics), theatrical closures and the suspension of entertainment content production. We expect any continued deterioration of global economic conditions would result in lower advertising revenues and consumer spending across our businesses.

The impact of COVID-19 on our businesses also generally depends on the extent of restrictive governmental measures taken that affect day-to-day life and the length of time that such measures remain in place to respond to COVID-19, further deterioration of the global economy and the widespread availability of a vaccine. At this point, it is impossible to predict such extent and duration and the degree to which our results of operations will continue to be affected.

COVID-19 may also have the effect of heightening many of the other risks set forth below.

Our businesses operate in highly competitive and dynamic industries, and our businesses and results of operations could be adversely affected if we do not compete effectively.

All of our businesses operate in intensely competitive, consumer-driven, rapidly changing environments and compete with a growing number of companies that provide a broad range of communications products and services as well as entertainment, news and information content to consumers. Some established DTC streaming and other OTT service providers have become core competitors to our video services and more continue to enter the market at a growing pace.

For example:

- Cable Communications' and Sky's high-speed internet services compete primarily against wireline telecommunications companies with fiber-based networks, wireless telecommunications companies offering internet services (such as 4G and 5G wireless broadband services), certain municipalities in the United States that own and operate their own broadband networks and DBS providers. Competition for Cable Communications' video services consists primarily of DBS providers, phone companies with fiber-based networks and increasingly DTC streaming and other OTT service providers and devices, each of which typically offer features, pricing and packaging for services comparable to ours, including bundled offers with high-speed internet services. Sky faces competition for its services from cable and telecommunications providers in its European markets, many of which offer customers bundled services, which has increased competition.
- NBCUniversal and Sky face substantial and increasing competition from providers of similar types of content, as well as from other forms of entertainment and recreational activities. NBCUniversal and Sky must compete to obtain talent, content (including sports programming) and other resources required to operate their businesses. This competition has intensified as DTC streaming and other OTT service providers seek to develop high-quality programming to attract viewers.

For a more detailed description of the competition facing our businesses, see Item 1: Business and refer to the "Competition" discussion within that section.

Consolidation of, or cooperation between, our competitors, including suppliers and distributors of content, may increase competition in all of these areas, as may the emergence of additional competitors with significant resources and efficiencies of scale who are competing with our businesses in all forms of content distribution and production. For example, consolidation or cooperation between phone companies (which are also wireless distributors) and content providers may allow competitors to offer free or lower cost streaming services, potentially on an exclusive basis, through unlimited data-usage plans for internet or wireless phone services.

The ability of our businesses to compete effectively also depends on our perceived image and reputation among our various constituencies, including our customers, consumers, advertisers, business partners, employees, investors and government authorities. Our ability to compete will be negatively affected if we do not provide our customers with a satisfactory customer experience.

While we continue to seek ways to enhance the value of our businesses, such as by growing high-speed internet services and business services and by investing in Peacock as the media and entertainment landscape continues to rapidly evolve, there can be no assurance that we can execute on these and other initiatives in a manner sufficient to grow or maintain our revenue or operating margins or to compete successfully in the future. There can be no assurance that we will be able to compete effectively against existing or new competitors or that competition will not have an adverse effect on our businesses.

Changes in consumer behavior driven by online video distribution platforms for viewing content continue to adversely affect our businesses and challenge existing business models.

Distribution platforms for viewing and purchasing content over the internet have been, and will likely continue to be, developed that further increase the number of competitors that all our businesses face and challenge existing business models. As consumers increasingly turn to DTC streaming and other OTT services, the number of Cable Communications' video customers and subscribers to NBCUniversal's cable networks decrease, even as Cable Communications' high-speed internet services become more important to consumers. DTC streaming and other OTT services have driven, and will continue to drive, changes in consumer behavior as consumers seek more control over when, where and how they consume content and access communications services, and how much they pay for such content.

For example, in Europe, as more of Sky's new video customers have recently subscribed, and may continue to subscribe, to Sky's DTC streaming service instead of its traditional DTH video service. Although we have attempted to adapt our video service offerings and enhance our high-speed internet services for changing consumer behaviors, for example, by deploying the X1 and Sky Q platforms and Flex, which more easily aggregate content from linear (i.e., traditional television channels) and

DTC streaming and other OTT services for our customers, and by launching Peacock, our DTC streaming service, the continuing trend of content owners delivering their content directly to consumers over the internet rather than through, or in addition to, traditional video distribution services continues to disrupt traditional distribution business models.

The increase in DTC streaming and other OTT service providers also has significantly increased the number of entertainment choices available to consumers, which has intensified audience fragmentation and disaggregated the way that content traditionally has been distributed and viewed by consumers. NBCUniversal's revenue relatedly may be negatively impacted as traditional and virtual multichannel video providers, which pay NBCUniversal fees based on their respective numbers of customers, lose customers. Time-shifting technologies, such as DVR and on demand services, reduce viewership, which has caused and likely will continue to cause audience ratings declines for our programming channels. Consumers in many cases have multiple options for viewing the same content; for example, content may be available through traditional linear platforms, on demand services, or a DTC streaming or OTT service, which may also result in audience rating declines. Reduced ratings may adversely affect the price and amount of advertising that advertisers are willing to purchase from us and the amount that we receive for distribution of our content. In addition, as more programming providers offer their content directly to consumers, they may reduce the quantity and quality of the programming they license to NBCUniversal or Sky's programming channels.

Our failure to effectively anticipate or adapt to emerging competitors or changes in consumer behavior, including among younger consumers, and shifting business models could have an adverse effect on our competitive position, businesses and results of operations.

A decline in advertisers' expenditures or changes in advertising markets could negatively impact our businesses.

Cable Communications, NBCUniversal and Sky compete for the sale of advertising time with digital media distributors, other television networks and stations, as well as with all other advertising platforms, such as radio and print. We derive substantial revenue from the sale of advertising, and a decline in expenditures by advertisers, including through traditional linear television distribution models, could negatively impact our results of operations. Declines can be caused by the economic prospects of specific advertisers or industries, increased competition for the leisure time of viewers, such as from social media and video games, audience fragmentation, increased viewing of content through DTC streaming and other OTT service providers, regulatory intervention regarding where and when advertising may be placed, or economic conditions generally. In addition, advertisers have shifted a portion of their total expenditures to digital media and mobile offerings, which can deliver targeted advertising. Their willingness to purchase advertising from us may be adversely affected by lower audience ratings, which many of NBCUniversal's networks and some of Sky's television channels have experienced and likely will continue to experience, or from the level of popularity or perceived acceptance of Peacock. Advertising sales and rates also are dependent on the methodology used for audience measurement and could be negatively affected if methodologies do not accurately reflect actual viewership levels. For example, certain methods of viewing content, such as through DTC streaming or other OTT service providers or delayed viewing through DVR or on demand services, might not be fully counted in audience measurements or may generate less, if any, revenue than traditional linear television distribution methods, which could have an adverse effect on our advertising revenue.

Programming expenses for our video services are increasing, which could adversely affect Cable Communications' video businesses.

We expect programming expenses for our video services to continue to be the largest single expense item for our Cable Communications segment and to increase for the foreseeable future. Our programming expenses may also increase as we add programming to our video services or distribute existing programming to more of our customers or through additional delivery platforms, such as on demand or streaming services. Additionally, Cable Communications pays certain local broadcast television stations in exchange for their required consent for the retransmission of broadcast network programming to video services customers; we expect to continue to be subject to increasing demands for payment and other concessions from local broadcast television stations. These market factors may be exacerbated by increased consolidation in the media industry, which may further increase our programming expenses. If we are unable to raise our customers' rates or otherwise offset programming cost increases through the sale of additional services, cost management or other initiatives, the increasing cost of programming could have an adverse effect on our Cable Communications segment's results of operations.

Moreover, as our contracts with content providers expire, there can be no assurance that they will be renewed on acceptable terms, or at all, in which case we may be unable to provide such content as part of Cable Communication's video services, and our businesses and results of operations could be adversely affected.

NBCUniversal's and Sky's success depends on consumer acceptance of their content, and their businesses may be adversely affected if their content fails to achieve sufficient consumer acceptance or the costs to create or acquire content increase.

NBCUniversal and Sky create and acquire media and entertainment content, the success of which depends substantially on consumer tastes and preferences that change in often unpredictable ways. The success of these businesses depends on our

ability to consistently create, acquire, market and distribute television programming, filmed entertainment, theme park attractions and other content that meet the changing preferences of the broad domestic and international consumer markets. We have invested, and will continue to invest, substantial amounts in our content, including in the production of original content at NBCUniversal and Sky, in our films and for new theme parks and theme park attractions, before learning the extent to which they will earn consumer acceptance. We also are incurring significant costs to develop Peacock, and there can be no assurance that consumers and advertisers will embrace this offering.

NBCUniversal and Sky also obtain a significant portion of their content from third parties, such as movie studios, television production companies, sports organizations and other suppliers, sometimes on an exclusive basis. Competition for popular content, particularly for sports programming, is intense, and we may have to increase the price we are willing to pay or be outbid by our competitors for popular content. We also may be unable to license popular third-party content for NBCUniversal's and Sky's programming channels if media companies determine that licensing the content to us is not in their strategic best interests (for example, they may launch DTC streaming or other OTT services for their owned content, forgo license fees from us and only provide their content directly to consumers or they may license their content on an exclusive basis to certain of our competitors or rival DTC streaming or other OTT service providers).

Entering into or renewing contracts for such programming rights or acquiring additional rights may result in significantly increased costs. Particularly with respect to long-term contracts for sports programming rights for NBCUniversal and Sky, our results of operations and cash flows over the term of a contract depend on a number of factors, including the strength of the advertising market, audience size, the timing and amount of rights payments, and the ability of NBCUniversal to secure distribution from, impose surcharges on, or obtain carriage on multichannel video providers. There can be no assurance that revenue from these contracts will exceed our costs for the rights, as well as the other costs of producing and distributing the programming. If our content does not achieve sufficient consumer acceptance, or if we cannot obtain or retain rights to popular content on acceptable terms, or at all, NBCUniversal's and Sky's businesses may be adversely affected.

The loss of programming distribution and licensing agreements, or the renewal of these agreements on less favorable terms, could adversely affect our businesses.

NBCUniversal's cable networks depend on their ability to secure and maintain distribution agreements with traditional and virtual multichannel video providers. The number of subscribers to NBCUniversal's cable networks has been, and likely will continue to be, reduced as a result of fewer subscribers to multichannel video providers. Sky also depends on its ability to secure and maintain wholesale distribution agreements for its television channels with multichannel video providers. NBCUniversal's and Sky's ability to renew these agreements on favorable terms may be affected by recent industry consolidation and new participants entering the market for distribution of content on digital platforms.

Increasingly, NBCUniversal and Sky license their prior season and library content on third party distribution platforms, including to DTC streaming and other OTT service providers. If this programming does not attract sufficient viewers, these providers may not distribute NBCUniversal's or Sky's programming, and DTC streaming and other OTT service providers may not license programming NBCUniversal or Sky creates (or license it at reduced rates). In addition, we expect not to license certain popular content, and we may decide not to license additional owned popular content, to third parties so we may offer it exclusively through Peacock, which would result in foregone licensing revenue.

NBCUniversal's broadcast television networks depend on their ability to secure and maintain network affiliation agreements with third-party local broadcast television stations in the markets where it does not own the affiliated local broadcast television station. In addition, every three years, each of its owned local broadcast television stations must elect, with respect to its retransmission by multichannel video providers within its DMA, either "must-carry" status, in which the distributor's carriage of the station is mandatory and does not generate any compensation for the local station, or "retransmission consent," in which the station gives up its right to mandatory carriage and instead seeks to negotiate the terms and conditions of carriage with the distributor, including the amount of compensation, if any, paid to the station by such distributor.

There can be no assurance that any of these agreements will be entered into or renewed in the future on acceptable terms. The inability to enter into or renew these agreements could reduce our revenues and the reach of our programming, which could adversely affect NBCUniversal's and Sky's businesses.

Less favorable European telecommunications access regulations, the loss of Sky's transmission access agreements with satellite or telecommunications providers or the renewal of these agreements on less favorable terms could adversely affect Sky's businesses.

Sky relies on various third-party telecommunications providers to deliver its video, high-speed internet, voice and wireless phone services to its customers. For example, Sky relies on satellite transponder capacity leased from third parties to provide most of its video services. In addition, under the current regulatory regimes in the United Kingdom, Ireland and Italy, Sky

accesses networks owned by third-party telecommunications providers to offer its high-speed internet and phone services, in many cases, on regulated terms, including price. If there is a change in regulation in these markets, the regulated terms could become less favorable. Moreover, while Sky receives wholesale fiber access on fair, reasonable and non-discriminatory terms, specific pricing terms are not regulated. As a result, if Sky is only able to enter into or renew its transmission agreements with satellite or telecommunications operators on less favorable terms, this would adversely affect Sky's ability to compete, and if it is ultimately unable to do so on commercially viable terms or if these operators were to terminate their agreements, Sky may be unable to deliver some of its services to customers in one or more of the countries in which it operates, which would adversely affect Sky's businesses and results of operations.

Our businesses depend on using and protecting certain intellectual property rights and on not infringing the intellectual property rights of others.

We rely on our intellectual property, such as patents, copyrights, trademarks and trade secrets, as well as licenses and other agreements with our vendors and other third parties, to use various technologies, conduct our operations and sell our products and services. Legal challenges to our intellectual property rights and claims of intellectual property infringement by third parties could require that we enter into royalty or licensing agreements on unfavorable terms, incur substantial monetary liability, or be enjoined preliminarily or permanently from further use of the intellectual property in question, from importing into the United States or other jurisdictions in which we operate hardware or software that uses such intellectual property or from the continuation of our businesses as currently conducted. We may need to change our business practices if any of these events occur, which may limit our ability to compete effectively and could have an adverse effect on our results of operations. Even if we believe any such challenges or claims are without merit, they can be time-consuming and costly to defend and divert management's attention and resources away from our businesses. Moreover, if we are unable to obtain or continue to obtain licenses from our vendors and other third parties on reasonable terms, our businesses could be adversely affected.

In addition, intellectual property constitutes a significant part of the value of NBCUniversal's and Sky's businesses, and their success is highly dependent on protecting the intellectual property rights of the content they create or acquire against third-party misappropriation, reproduction or infringement. The unauthorized reproduction, distribution or display of copyrighted material negatively affects our ability to generate revenue from the legitimate sale of our content, as well as from the sale of advertising in connection with our content, and increases our costs due to our active enforcement of our intellectual property rights.

Piracy and other unauthorized uses of content are made easier, and the enforcement of intellectual property rights more challenging, by technological advances that allow the conversion of programming, films and other content into digital formats, which facilitates the creation, transmission and sharing of high-quality unauthorized copies. In particular, piracy of programming and films through unauthorized distribution platforms continues to present challenges for NBCUniversal's cable networks, broadcast television and filmed entertainment businesses, and certain illegal online entities may stream our broadcast television content online without our consent and without paying any compensation to us. It also presents similar challenges for Sky's businesses, including as a result of illegal retransmission of sports events. While piracy is a challenge in the United States, it is particularly prevalent in many parts of the world that lack developed copyright laws, effective enforcement of copyright laws and technical protective measures like those in effect in the United States. If any U.S. or international laws intended to combat piracy and protect intellectual property rights are repealed or weakened or are not adequately enforced, or if the legal system fails to adapt to new technologies that facilitate piracy, we may be unable to effectively protect our rights, the value of our intellectual property may be negatively impacted and our costs of enforcing our rights may increase.

We may be unable to obtain necessary hardware, software and operational support.

We depend on third-party vendors to supply us with a significant amount of the hardware, software and operational support necessary to provide certain of our products and services. Some of these vendors represent our primary source of supply or grant us the right to incorporate their intellectual property into some of our hardware and software products. While we actively monitor the operations and financial condition of key vendors in an attempt to detect any potential difficulties, there can be no assurance that we would timely identify any operating or financial difficulties associated with these vendors or that we could effectively mitigate our risks with respect to any such difficulties. If any of these vendors experience operating or financial difficulties, if our demand exceeds their capacity or if they breach or terminate their agreements with us or are otherwise unable to meet our specifications or provide the equipment, products or services we need in a timely manner (or at all), or at reasonable prices, our ability to provide some products or services may be adversely affected and we may incur additional costs.

Weak economic conditions may have a negative impact on our businesses.

A substantial portion of our revenue comes from customers whose spending patterns may be affected by prevailing economic conditions. Weak economic conditions in the United States or globally could adversely affect demand for any of our products and services and have a negative impact on our results of operations. For example, weak economic conditions will likely impact our customers' discretionary spending and as a result, they may reduce the level of services to which they subscribe or may

discontinue subscribing to one or more of Cable Communications' or Sky's services. This risk may be increased by the expanded availability of free or lower cost competitive services, such as certain DTC streaming and other OTT services, or substitute services for high-speed internet and voice services, such as mobile phones and Wi-Fi networks. Weak economic conditions also negatively impact our advertising revenue, the performance of our films and home entertainment releases, and attendance and spending in our theme parks. In particular, the success of our theme parks and theatrical releases largely depend on consumer demand for out-of-home entertainment experiences, which may be limited by weakened economic conditions (as well as natural disasters, infectious disease outbreaks (such as COVID-19), terrorist attacks or other similar events).

Weak economic conditions and disruption in the global financial markets may also have an impact on the ability of third parties to satisfy their obligations to us or increase our exposure to currency fluctuations in countries where we operate. In addition, in connection with our acquisition of Sky, we incurred and assumed a significant amount of additional debt. If our businesses are negatively impacted by weak economic conditions, we may not be able to reduce the amount of our debt outstanding as quickly as expected. Further, a significant increase in interest rates or disruption in the global financial markets may affect our ability to obtain financing or to refinance existing debt on acceptable terms, if at all, and could increase the cost of our borrowings.

Acquisitions and other strategic initiatives present many risks, and we may not realize the financial and strategic goals that we had contemplated.

From time to time, we make acquisitions and investments and may pursue other strategic initiatives, such as Peacock. In connection with such acquisitions and strategic initiatives, we may incur significant or unanticipated expenses, fail to realize anticipated benefits and synergies, have difficulty incorporating an acquired or new line of business, disrupt relationships with current and new employees, customers and vendors, incur significant debt, divert the attention of management from our current operations, or have to delay or not proceed with announced transactions or initiatives. Additionally, federal regulatory agencies such as the FCC or DOJ or international regulators may impose restrictions on the operation of our businesses as a result of our seeking regulatory approvals for any significant acquisitions and strategic initiatives or may dissuade us from pursuing certain transactions. The occurrence of any of these events could have an adverse effect on our business and results of operations.

We face risks relating to doing business internationally that could adversely affect our businesses.

We operate our businesses worldwide. There are risks inherent in doing business internationally, including global financial market turmoil; economic volatility and global economic slowdown; currency exchange rate fluctuations and inflationary pressures; political risks; the requirements of local laws and customs relating to the publication and distribution of content and the display and sale of advertising; import or export restrictions, tariffs, sanctions and trade regulations; difficulties in developing, staffing and managing foreign operations; issues related to occupational safety and adherence to diverse local labor laws and regulations; and potentially adverse tax developments. Additionally, although we employ foreign currency derivative instruments to hedge certain exposure to foreign currency exchange rate risks, including the British pound and Euro, the use of such derivative instruments may not be sufficient to mitigate exchange rate fluctuations. Sky's businesses in particular are also subject to risks relating to uncertainties and effects of the United Kingdom's withdrawal from the European Union (referred to as "Brexit"), including financial, legal, tax and trade implications. In addition, doing business internationally subjects us to risks relating to political or social unrest, as well as corruption and government regulation, including U.S. laws such as the Foreign Corrupt Practices Act and the U.K. Bribery Act, that impose stringent requirements on how we conduct our foreign operations. If any of these events occur or our conduct does not comply with such laws and regulations, our businesses may be adversely affected.

Our businesses depend on keeping pace with technological developments.

Our success is, to a large extent, dependent on our ability to acquire, develop, adopt and leverage new and existing technologies, and our competitors' use of certain types of technology and equipment may provide them with a competitive advantage. New technologies can materially impact our businesses in a number of ways, including affecting the demand for our products, the distribution methods of our products and content to our customers, the ways in which our customers can purchase and view our content and the growth of distribution platforms available to advertisers. For example, current and new wireless internet technologies such as 4G and 5G wireless broadband services continue to evolve rapidly and may allow for greater speed and reliability. In addition, some companies and U.S. municipalities are building advanced fiber-based networks that provide very fast internet access speeds. We expect advances in communications technology to continue to occur in the future. If we choose technology or equipment that is not as effective or attractive to consumers as that employed by our competitors, if we fail to employ technologies desired by consumers before our competitors do so, or if we fail to execute effectively on our technology initiatives, our businesses and results of operations could be adversely affected. We also will continue to incur additional costs as we execute our technology initiatives, such as the deployment of Flex and Sky Q set-top boxes, wireless gateways and the development of Peacock. There can be no assurance that we can execute on these and other initiatives in a manner sufficient to grow or maintain our revenue or to successfully compete in the future. We also may generate less revenue or incur increased costs if changes in our competitors' product offerings require that we offer certain services or enhancements at a lower or no cost to our customers or that we increase our research and development expenditures.

We rely on network and information systems and other technologies, as well as key properties, and a disruption, cyber attack, failure or destruction of such networks, systems, technologies or properties may disrupt our businesses.

Network and information systems and other technologies, including those related to our network management, customer service operations, and programming delivery, and technology embedded in our products and services, are critical to our business activities. Cyber threats and attacks are directed at both known and newly discovered software and hardware vulnerabilities and are constantly evolving, which increases the difficulty of detecting and successfully defending against them. Cyber threats and attacks can have cascading impacts that unfold with increasing speed across networks, information systems and other technologies. Network, information systems and technology-related events, including those caused by us, such as process breakdowns, security architecture or design vulnerabilities, or by third parties, such as computer hackings, cyber attacks, computer viruses, worms or other destructive or disruptive software, denial of service attacks, malicious social engineering or other malicious activities, or power outages, natural disasters, infectious disease outbreaks (such as COVID-19), terrorist attacks or other similar events, could result in a degradation or disruption of our products and services, excessive call volume to call centers, theft or misuse of our intellectual property or other assets, a reduction in demand for our theme parks, disruption of the security of our internal systems and products and services or satellite transmission signals, the compromise of confidential or technical business information or damage to our equipment, data, properties and reputation. In addition, severe weather events such as hurricanes and wild fires have impacted our services, products and properties from time to time in the past and will in the future. The occurrence of these events may result in large expenditures to repair or replace the damaged properties, products, services, networks or information systems to protect them from similar events in the future, and any such events could lead to litigation or otherwise have an adverse effect on our results of operations.

In addition, we obtain certain confidential, proprietary and personal information about our customers, personnel and vendors, and in some cases provide this information to third parties, in connection with our business. While we generally obtain assurances that these third parties will protect this information, there is a risk that this information may be compromised. Any security breaches, such as misappropriation, misuse, leakage, falsification or accidental release or loss of information maintained in our third-party's information technology systems, including customer, personnel and vendor data, could damage our reputation and require us to expend significant capital and other resources to remedy any such security breach, could lead to litigation or could cause regulators in the United States and internationally to impose fines or other remedies for failure to comply with relevant customer privacy rules.

The risk of systems-related events and security breaches occurring continues to intensify in many of our businesses, and our businesses may be at a disproportionately heightened risk of these events occurring, due to the nature of our businesses and because we maintain certain information necessary to conduct our business in digital form. In the ordinary course of our business, there are frequent attempts by third parties to cause such systems-related events and security breaches and to identify our security architecture or system design vulnerabilities. While we develop and maintain systems, and operate an extensive security program, seeking to prevent systems-related events and security breaches from occurring, the development, maintenance and operation of these systems and programs is costly and requires ongoing monitoring and updating as technologies change and efforts to overcome security measures become more sophisticated and evolve rapidly. Despite our efforts to prevent these events and security breaches, we have experienced systems-related events and breaches in the past, and there can be no assurance that they will not occur in the future or will not have an adverse effect on our businesses. Moreover, the amount and scope of insurance we maintain against losses resulting from any such events or security breaches likely would not be sufficient to cover our losses or otherwise adequately compensate us for any disruptions to our business that may result, and the occurrence of any such events or security breaches could have an adverse effect on our business.

The loss of key management personnel or popular on-air and creative talent could have an adverse effect on our businesses.

We rely on certain key management personnel in the operation of our businesses. While we maintain long-term and emergency transition plans for key management personnel and believe we could either identify internal candidates or attract outside candidates to fill any vacancy created by the loss of any key management personnel, the loss of one or more of our key management personnel could have a negative impact on our businesses.

In addition, NBCUniversal and Sky depend on the abilities and expertise of on-air and creative talent. If we fail to attract or retain on-air or creative talent, if the costs to attract or retain such talent increase materially, or if these individuals cause negative publicity or lose their current appeal, our businesses could be adversely affected.

Risks Related to Legal, Regulatory and Governance Matters

We are subject to regulation by federal, state, local and foreign authorities, which impose additional costs and restrictions on our businesses.

While all of our businesses are subject to various federal, state and local laws and regulations, compliance with certain laws and regulations is most material with respect to our Cable Communications and Broadcast Television businesses in the United States. In addition, our international businesses are subject to various laws and regulations in the jurisdiction of the foreign regulatory authorities where they operate.

Legislators and regulators at all levels of government frequently consider changing, and sometimes do change, existing statutes, rules or regulations, or interpretations of existing statutes, rules or regulations, or prescribe new ones, any of which may significantly affect our businesses and ability to effectively compete. These legislators and regulators have been active in considering rulemakings and legislation, at times looking to adopt regulatory approaches from different countries that may be more burdensome, and they, along with some state attorneys general and foreign governmental authorities, also have been active in conducting inquiries and reviews regarding our services, and this trend likely will continue. State legislative and regulatory initiatives can create a patchwork of different and/or conflicting state requirements, such as with respect to privacy and Open Internet/net neutrality, that can affect our business operations and further constrain our ability to compete.

Legislative and regulatory activity may increase with the change in administration following the 2020 U.S. presidential election. For example, the U.S. Congress may consider proposals that address communications issues, including whether it should rewrite the entire Communications Act to account for changes in the communications marketplace, whether it should enact new, permanent Open Internet requirements, and whether it should fund new broadband infrastructure or broadband connectivity initiatives. Any of these regulations could significantly affect our business and compliance costs. In addition, United States and foreign regulators and courts could adopt new interpretations of existing competition laws and United States and foreign policymakers could enact new competition laws or regulatory enforcement options that could negatively impact our businesses. With the change in administration, tax legislation could be enacted increasing the federal corporate income tax from the current rate of 21%. Any future legislative, judicial, regulatory or administrative actions may increase our costs or impose additional restrictions on our businesses, some of which may be significant. We are unable to predict the outcome or effects of any of these potential actions or any other legislative or regulatory proposals on our businesses.

Failure to comply with the laws and regulations applicable to our businesses could result in administrative enforcement actions, fines, and civil and criminal liability. Any changes to the legal and regulatory framework applicable to any of our services or businesses could have an adverse impact on our businesses and results of operations. For a more extensive discussion of the significant risks associated with the regulation of our businesses, see Item 1: Business and refer to the "Legislation and Regulation" discussion within that section.

Unfavorable litigation or governmental investigation results could require us to pay significant amounts or lead to onerous operating procedures.

We are subject from time to time to a number of lawsuits both in the United States and in foreign countries, including claims relating to competition, intellectual property rights (including patents), employment and labor matters, personal injury and property damage, free speech, customer privacy, regulatory requirements, advertising, marketing and selling practices, and credit and collection issues. Greater constraints on the use of arbitration to resolve certain of these disputes could adversely affect our business. We also spend substantial resources complying with various regulatory and government standards, including any related investigations and litigation. We may incur significant expenses defending any such suit or government charge and may be required to pay amounts or otherwise change our operations in ways that could adversely impact our businesses, results of operations or financial condition.

Labor disputes, whether involving employees or sports organizations, may disrupt our operations and adversely affect our businesses.

Many of NBCUniversal's writers, directors, actors, technical and production personnel, as well as some of our on-air and creative talent employees, are covered by collective bargaining agreements or works councils. Most of NBCUniversal's collective bargaining agreements are industry-wide agreements, and we may lack practical control over the negotiations and terms of the agreements. If we are unable to reach agreement with a labor union before the expiration of a collective bargaining agreement, our employees who were covered by that agreement may have a right to strike or take other actions that could adversely affect us, which could disrupt our operations and reduce our revenue, and the resolution of any disputes may increase our costs. There can be no assurance that we will renew our collective bargaining agreements as they expire or that we can renew them on favorable terms or without any work stoppages.

In addition, NBCUniversal's cable networks and broadcast television networks and Sky have programming rights agreements of varying scope and duration with various sports organizations to broadcast and produce sporting events, including certain NFL, NHL, NBA, MLB and European football games. Labor disputes in these and other sports organizations could have an adverse effect on our businesses.

Our Class B common stock has substantial voting rights and separate approval rights over several potentially material transactions, and our Chairman and CEO has considerable influence over our company through his beneficial ownership of our Class B common stock.

Our Class B common stock has a non-dilutable 33¹/₃% of the combined voting power of our Class A and Class B common stock. This non-dilutable voting power is subject to proportional decrease to the extent the number of shares of Class B common stock is reduced below 9,444,375, which was the number of shares of Class B common stock outstanding on the date of our 2002 acquisition of AT&T Corp.'s cable business, subject to adjustment in specified situations. Stock dividends payable on the Class B common stock in the form of Class B or Class A common stock do not decrease the non-dilutable voting power of the Class B common stock. The Class B common stock also has separate approval rights over several potentially material transactions, even if they are approved by our Board of Directors or by our other shareholders and even if they might be in the best interests of our other shareholders. These potentially material transactions include mergers or consolidations involving us, transactions (such as a sale of all or substantially all of our assets) or issuances of securities that require shareholder approval, transactions that result in any person or group owning shares representing more than 10% of the combined voting power of the resulting or surviving corporation, issuances of Class B common stock or securities exercisable or convertible into Class B common stock, and amendments to our articles of incorporation or by-laws that would limit the rights of holders of our Class B common stock. Brian L. Roberts, our chairman and CEO, beneficially owns all of the outstanding shares of our Class B common stock and, accordingly, has considerable influence over our company and the potential ability to transfer effective control by selling the Class B common stock, which could be at a premium.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

We believe that substantially all of our physical assets were in good operating condition as of December 31, 2020. Our corporate headquarters and Cable Communications segment headquarters are located in Philadelphia, Pennsylvania at One Comcast Center. Additionally, we completed construction of the Comcast Technology Center in 2019, which is adjacent to the Comcast Center and is a center for Cable Communications' technology and engineering workforce, as well as the home of our NBCUniversal and Telemundo owned local broadcast stations in Philadelphia, Pennsylvania. We also have leases for numerous business offices, warehouses and properties throughout the United States that house divisional information technology operations.

Cable Communications Segment

Our principal physical assets consist of operating plant and equipment, including cable system signal receiving, encoding and decoding devices, headends and distribution networks. Our distribution network consists primarily of headends, content distribution servers, coaxial and fiber-optic cables, lasers, routers, switches and related electronic equipment. Our cable plant and related equipment generally are connected to utility poles under pole rental agreements with local public utilities, although in some areas the distribution cable is buried in underground ducts or trenches. The physical components of cable systems require periodic maintenance and replacement.

Our cable system signal reception sites, which consist primarily of antenna towers and headends, and our microwave facilities are located on owned and leased parcels of land, and we own or lease space on the towers on which certain of our equipment is located. We own most of our service vehicles.

Our high-speed internet network consists of fiber-optic cables owned or leased by us and related equipment. We also operate national and regional data centers with equipment that is used to provide services, such as email and web services, to our high-speed internet and voice customers, as well as cloud services to our video customers. In addition, we maintain network operations centers with equipment necessary to monitor and manage the status of our services and network.

We own or lease buildings throughout the United States that contain customer service call centers, retail stores and customer service centers, warehouses and administrative space. We also own a building that houses our digital media center. The digital

media center contains equipment that we own or lease, including equipment related to network origination, video transmission via satellite and terrestrial fiber-optics, broadcast studios, post-production services and interactive television services.

NBCUniversal Segments

NBCUniversal's corporate headquarters are located in New York, New York at 30 Rockefeller Plaza and surrounding campus and include offices and studios, which are used by Headquarters and Other and the Cable Networks and Broadcast Television segments. NBCUniversal owns substantially all of the space it occupies at 30 Rockefeller Plaza. NBCUniversal also leases space in 10 Rockefeller Plaza which includes *The Today Show* studio, production facilities and offices used by the Broadcast Television segment. Telemundo's leased headquarters and production facilities are located in Miami, Florida and are used by the Broadcast Television segment and Headquarters and Other. The Universal City owned location in California includes offices, studios, and theme park and retail operations which are owned by NBCUniversal and used by all NBCUniversal segments. Our owned CNBC headquarters and production facilities and disaster recovery center are located in Englewood Cliffs, New Jersey and are used by the Cable Networks and Broadcast Television segments and Headquarters and Other. We also own or lease offices, studios, production facilities, screening rooms, retail operations, warehouse space, satellite transmission receiving facilities and data centers in numerous locations in the United States and around the world, including property for our owned local broadcast television stations. In addition, we own theme parks and own or lease related facilities in Orlando, Florida; Hollywood, California; and Osaka, Japan, which are used in the Theme Parks segment, and are developing new theme parks in Beijing, China and Orlando, Florida.

Sky Segment

Sky's principal physical assets consist of operating plant and equipment, including leased satellite system signal receiving, encoding and decoding devices, and owned and leased headends and distribution networks, including coaxial, fiber-optic cables and other related equipment. In the United Kingdom, Sky uses a combination of its own core fiber network and wholesaling arrangements over third-party telecommunication providers' networks as the core network and also accesses the "last mile" network from third-party network operators for a fee to provide its services to customers. The physical components of cable systems require periodic maintenance and replacement.

Sky's corporate headquarters are located in Middlesex, U.K. Sky owns the space it occupies at Middlesex. Sky leases the Sky Deutschland headquarters located in Unterföhring, Germany and the Sky Italia headquarters located in Milan, Italy.

Additionally, Sky owns and leases offices, production facilities and studios, broadcasting facilities, and customer support centers throughout Europe, including in the United Kingdom, Ireland, Germany, Italy and Austria. We are currently constructing a new studio production facility in Elstree, U.K., which Sky will lease upon completion.

Other

The Wells Fargo Center, a large, multipurpose arena in Philadelphia, Pennsylvania that we own was the principal physical operating asset of our other businesses as of December 31, 2020.

Item 3: Legal Proceedings

See Note 16 included in this Annual Report on Form 10-K for a discussion of legal proceedings.

Item 4: Mine Safety Disclosures

Not applicable.

Part II

Item 5: Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Comcast's Class A common stock is listed on the NASDAQ Global Select Market under the symbol CMCSA. There is no established public trading market for Comcast's Class B common stock. The Class B common stock can be converted, on a share for share basis, into Class A common stock.

Dividends Declared

2020		2019	
Month Declared:	Dividend Per Share	Month Declared:	Dividend Per Share
January	\$ 0.23	January	\$ 0.21
May	\$ 0.23	May	\$ 0.21
July	\$ 0.23	July	\$ 0.21
October (paid in January 2021)	\$ 0.23	October (paid in January 2020)	\$ 0.21
Total	\$ 0.92	Total	\$ 0.84

We expect to continue to pay quarterly dividends, although each dividend is subject to approval by our Board of Directors. In January 2021, our Board of Directors approved a 9% increase in our dividend to \$1.00 per share on an annualized basis.

Holders of Class A common stock in the aggregate hold $66\frac{2}{3}\%$ of the voting power of our common stock. The number of votes that each share of Class A common stock has at any given time depends on the number of shares of Class A common stock and Class B common stock then outstanding, with each share of Class B common stock having 15 votes per share. The Class B common stock represents $33\frac{1}{3}\%$ of the combined voting power of our common stock, which percentage is generally non-dilutable under the terms of our articles of incorporation. Mr. Brian L. Roberts beneficially owns all outstanding shares of Class B common stock. Generally, including as to the election of directors, holders of Class A common stock and Class B common stock vote as one class except where class voting is required by law.

Record holders as of December 31, 2020 are presented in the table below.

Stock Class	Record Holders
Class A Common Stock	371,292
Class B Common Stock	3

Stock Performance Graph

The following graph compares the annual percentage change in the cumulative total shareholder return on Comcast's Class A common stock during the five years ended December 31, 2020 with the cumulative total returns on the Standard & Poor's 500 Stock Index and a select peer group consisting of us and other companies engaged in the cable, communications and media industries. This peer group consists of our Class A common stock and the common stock of AT&T Inc., Charter Communications, Inc., DISH Network Corporation (Class A), Lumen Technologies, Inc. (formerly CenturyLink, Inc.), Sprint Corporation (which is included through April 1, 2020, when it merged with T-Mobile US, Inc.), T-Mobile US, Inc. and Verizon Communications Inc. (the "transmission and distribution subgroup"); and Discovery, Inc. (Class A), ViacomCBS Inc. (Class B) and The Walt Disney Company (the "media subgroup").

The peer group is constructed as a composite peer group in which the transmission and distribution subgroup is weighted 71% and the media subgroup is weighted 29% based on the respective revenue of our transmission and distribution and media businesses. The comparison assumes \$100 was invested on December 31, 2015 in our Class A common stock and in each of the following indices and assumes the reinvestment of dividends.

Comparison of 5 Year Cumulative Total Return

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		2016	2017	2018	2019	2020
Comcast Class A	\$	125	\$ 147	\$ 128	\$ 172	205
S&P 500 Stock Index	\$	112	\$ 136	\$ 130	\$ 171	203
Peer Group Index	\$	126	\$ 131	\$ 121	\$ 159	175

Item 6: Selected Financial Data

Year ended December 31 (in millions, except per share data)	2020	2019	2018 ^(c)	2017 ^(d)	2016
Statement of Income Data					
Revenue	\$ 103,564	\$ 108,942	\$ 94,507	\$ 85,029	\$ 80,736
Operating income	17,493	21,125	19,009	18,018	16,831
Net income attributable to Comcast Corporation ^(a)	10,534	13,057	11,731	22,735	8,678
Basic earnings per common share attributable to Comcast Corporation shareholders	2.30	2.87	2.56	4.83	1.80
Diluted earnings per common share attributable to Comcast Corporation shareholders	2.28	2.83	2.53	4.75	1.78
Dividends declared per common share	0.92	0.84	0.76	0.63	0.55
Balance Sheet Data (at year end)					
Total assets	\$ 273,869	\$ 263,414	\$ 251,684	\$ 187,462	\$ 181,017
Long-term debt ^(b)	103,760	102,217	111,743	64,556	61,046
Comcast Corporation shareholders' equity	90,323	82,726	71,613	68,616	53,932
Statement of Cash Flows Data					
Net cash provided by (used in):					
Operating activities	\$ 24,737	\$ 25,697	\$ 24,297	\$ 21,261	\$ 19,691
Investing activities	(12,047)	(14,841)	(50,854)	(13,533)	(18,265)
Financing activities	(6,513)	(9,181)	27,140	7,572	(434)

(a) For 2020 and 2019, refer to Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations included in this Annual Report on Form 10-K for a discussion of the effects of items impacting net income attributable to Comcast Corporation. In 2020, 2019, 2018, 2017 and 2016, net income attributable to Comcast Corporation is stated after deducting net income attributable to noncontrolling interests of \$167 million, \$266 million, \$131 million, \$187 million and \$350 million, respectively.

(b) Includes long-term debt and the current portion of long-term debt as presented in the consolidated balance sheet. Refer to footnotes to the consolidated financial statements for discussion of our accounting policies related to debt obligations.

(c) Amounts include Sky from the date of acquisition on October 9, 2018. Refer to Note 7 to the consolidated financial statements for further discussion.

(d) 2017 net income attributable to Comcast Corporation and earnings per common share attributable to Comcast Corporation shareholders included a \$12.7 billion net income tax benefit as a result of the impacts of the 2017 tax reform legislation.

Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations

Introduction

Management's discussion and analysis of financial condition and results of operations is provided as a supplement to, and should be read in conjunction with, the consolidated financial statements and related notes to enhance the understanding of our operations and our present business environment. Components of management's discussion and analysis of financial condition and results of operations include:

- Overview
- Results of Operations
- Non-GAAP Financial Measures
- Liquidity and Capital Resources
- Contractual Obligations
- Off-Balance Sheet Arrangements
- Recent Accounting Pronouncements
- Critical Accounting Judgments and Estimates

Overview

We are a global media and technology company with three primary businesses: Comcast Cable, NBCUniversal and Sky. We present our operations for (1) Comcast Cable in one reportable business segment, referred to as Cable Communications; (2) NBCUniversal in four reportable business segments: Cable Networks, Broadcast Television, Filmed Entertainment and Theme Parks; and (3) Sky in one reportable business segment. For more information about our company's operations, see Item 1: Business. Additionally, refer to Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations in our [2019 Annual Report on Form 10-K](#) for management's discussion and analysis of financial condition and results of operations for the fiscal year 2019 compared to fiscal year 2018.

Consolidated Revenue, Net Income Attributable to Comcast Corporation and Adjusted EBITDA^(a)
(in billions)

Revenue	Net Income Attributable to Comcast Corporation	Adjusted EBITDA
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(a) Adjusted EBITDA is a financial measure that is not defined by generally accepted accounting principles in the United States (“GAAP”). Refer to the “Non-GAAP Financial Measure” section on page 57 for additional information, including our definition and our use of Adjusted EBITDA, and for a reconciliation from net income attributable to Comcast Corporation to Adjusted EBITDA.

2020 Consolidated Operating Results^(a)

Revenue	Adjusted EBITDA
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(a) Charts exclude the results of Corporate and Other, and eliminations.

2020 Developments

The following are the more significant developments in our businesses during 2020:

Overall

- COVID-19 materially impacted our 2020 results of operations. While Cable Communications results were strong, NBCUniversal and Sky results experienced material negative impacts due to the temporary closure of our theme parks and the postponement of sporting events, respectively.
- Repaid \$18.8 billion and issued \$18.6 billion of long-term debt in 2020 ending the year with \$11.7 billion of cash on hand. This financing activity resulted in a reduction in the weighted-average cost of debt due to the favorable interest rate environment and provides additional liquidity given the risks associated with the economic conditions caused by COVID-19.

Cable Communications

- Revenue increased 3.4% to \$60.1 billion, reflecting increases in high-speed internet, wireless, business services and advertising revenue, partially offset by declines in voice, video and other revenue.
- Adjusted EBITDA increased 8.6% to \$25.3 billion.
- Operating margin increased from 40.1% to 42.1%, reflecting increases in revenue from high-speed internet and business services and decreases in losses in our wireless business.
- Total customer relationships increased by 1.6 million, total high-speed internet customers increased 2.0 million and total video customers decreased 1.4 million.
- Capital expenditures decreased 4.4% to \$6.6 billion, reflecting lower spending on customer premise equipment and support capital, partially offset by an increase in spending on scalable infrastructure.

NBCUniversal

- Total NBCUniversal revenue decreased 17.3% to \$28.1 billion and total NBCUniversal Adjusted EBITDA decreased 28.5% to \$6.3 billion driven by the impacts of COVID-19.
- Cable Networks and Broadcast Television segments revenue decreased 5.8% to \$10.8 billion and 0.2% to \$10.2 billion, respectively, reflecting decreases in advertising revenue, partially offset by increases in content licensing revenue. Distribution revenue decreased at Cable Networks and increased at Broadcast Television.
- Filmed Entertainment segment revenue decreased 18.7% to \$5.3 billion, reflecting lower theatrical and other revenues as a result of theater closures due to COVID-19, partially offset by an increase in content licensing revenue.
- Theme Parks segment revenue decreased 68.9% to \$1.8 billion and Adjusted EBITDA decreased from \$2.5 billion to a loss of \$541 million, reflecting the temporary theme parks closures due to COVID-19.

Sky

- Sky revenue decreased 3.3% to \$18.6 billion. Excluding the impact of foreign currency, Sky revenue decreased 4.2% due to decreases in direct-to-consumer, advertising and content revenues driven by impacts of COVID-19.
- Sky Adjusted EBITDA decreased 37.0% to \$2.0 billion. Excluding the impact of foreign currency, Sky Adjusted EBITDA decreased 37.6% primarily due to the decreases in revenue.

Other

- Launched Peacock, our direct-to-consumer streaming service that features NBCUniversal content, which was made available to Comcast customers in April 2020 and launched nationally in July 2020.
- Corporate and Other revenue increased 9.8% to \$366 million primarily due to revenue generated from Peacock.
- Corporate and Other Adjusted EBITDA losses increased from \$880 million to \$2.4 billion primarily due to severance charges and costs associated with Peacock.

Impacts of COVID-19

COVID-19 and measures taken to prevent its spread across the globe have impacted our businesses in a number of ways. Our Cable Communications results of operations were strong in 2020, despite having been affected by the significant deterioration in domestic economic conditions and by the costs associated with our support of customer connectivity as people worked and learned remotely from home. COVID-19 had material negative impacts on NBCUniversal and Sky results of operations during

2020 primarily due to the temporary closure of our theme parks and disruption of professional sports seasons, respectively. We expect the impacts of the COVID-19 pandemic will continue to have a material adverse impact on our consolidated results of operations over the near to medium term, although the extent of such impact will depend on restrictive governmental measures, further deterioration of the global economy and widespread availability of vaccines.

Cable Communications

- Our distribution network performed well under the stress of increased traffic and peak usage driven by increased video streaming, gaming and videoconferencing as customers worked and learned remotely from home.
- We incurred costs in 2020 associated with compensating personnel in roles affected by COVID-19, primarily during the first half of the year. These costs included additional compensation for frontline personnel who worked to keep our customers connected to our services and compensation for certain personnel who were unable to work due to the closing or suspension of operations.
- Beginning in March 2020 and continuing through June 2021, new qualifying customers for Internet Essentials, our low-income internet adoption program, receive 60 days of free internet services. We also implemented programs, primarily during the second quarter of 2020, under which we elected to waive certain fees and to not disconnect internet, voice or wireless services for customers for nonpayment, and we are providing customers a variety of flexible and extended payment options. As a result of these programs, our customer metrics for 2020 do not include customers in the free Internet Essentials offer or certain high-risk customers who continued to receive service following nonpayment. The number of customers excluded from our customer metrics was highest as of June 30, 2020 and these customers were excluded from second quarter net additions. The number of such customers decreased in the third and fourth quarters as some of these customers either began paying for service, resulting in customer net additions, or disconnected and no longer receive service. We expect the number of excluded customers to continue to decrease in future quarters.
- Certain professional sports leagues were disrupted due to COVID-19, generally resulting in postponed or canceled matches and reduced schedules. Certain of our programming distribution agreements with regional sports networks include contractual adjustment provisions if a minimum number of sporting events does not occur. Our programming expenses were reduced as a result of these provisions, and our revenue was negatively impacted in similar amounts as a result of adjustments that we passed through to our customers in 2020 and continue to pass through in the first quarter of 2021.
- The deterioration of economic conditions and increased economic uncertainty resulting from COVID-19 have resulted in reduced demand for certain of our residential and business services and reduced spending from advertisers, which have had and, while we have seen some improvement over the course of 2020, likely will continue to have, negative impacts on our revenue over the near to medium term. In addition, we believe there is increased risk associated with collections on our outstanding receivables, and we have incurred, and may continue to incur, increases in our bad debt expense.

NBCUniversal

- The temporary closure of all of our theme parks had the most significant impact on our revenue and Adjusted EBITDA for the year ended December 31, 2020 on a consolidated basis. Our parks in Orlando and Japan reopened with limited capacity in June 2020, while our park in Hollywood remains closed. We expect the results of operations at our theme parks will continue to be negatively impacted in the near to medium term, and we cannot predict with certainty when the Hollywood park will reopen, if any reopened parks will remain open or the level of attendance at any reopened parks. In addition, although we currently expect that Universal Beijing Resort will open in 2021, we have delayed certain construction projects, including the development of the Epic Universe theme park in Orlando.
- The deterioration of economic conditions caused by COVID-19 resulted in significant reductions in advertising spend by our customers in the Cable Networks and Broadcast Television segments and, while we have seen some improvement over the course of 2020, we expect this trend to continue over the near to medium term. There has also been, and likely will continue to be, an acceleration of subscriber losses at our networks.
- We incurred costs in 2020 associated with compensating personnel who were unable to work due to the closing or suspension of operations due to COVID-19, primarily during the first half of the year, including at our theme parks and at our production studios.

- The postponement and cancellation of many sporting events and professional sports seasons caused by COVID-19 impacted our results of operations during 2020, since both advertising revenues and costs associated with broadcasting these programs are recognized when events are broadcast. While professional sports leagues generally resumed and completed their seasons in the second half of 2020, some had reduced numbers of events for the remainder of the interrupted seasons. Certain of our sports programming rights agreements and distribution agreements with multichannel video providers require contractual adjustments if a minimum number of sporting events does not occur. Our distribution revenue was negatively impacted as a result of credits accrued relating to these provisions; and the programming costs that we recognized as the remaining events occurred were also impacted. In addition, there have been, and there may be in the future, delays to the start of the current or upcoming seasons for certain professional sports leagues. When, or the extent to which, sporting events will occur in 2021 will impact the timing, and potentially the amount, of revenue and expense recognition. In addition, the 2020 Tokyo Olympics have been postponed from the third quarter of 2020 to the third quarter of 2021, resulting in a corresponding delay of the associated revenue and costs.
- The creation and availability of our film and television programming in the United States and globally have been disrupted, including from the suspension of studio production operations in the first half of 2020. Our studio production operations have resumed at a limited capacity. Additionally, with the temporary closure of many movie theaters worldwide, we have delayed or altered the theatrical distribution strategy for certain of our films, both domestically and internationally. Delays in theatrical releases affect both current and future periods as a result of corresponding delays in subsequent content licensing windows. We expect results of operations in our Filmed Entertainment segment to continue to be negatively impacted over the near to medium term as a result of COVID-19.

Sky

- Direct-to-consumer revenue has been negatively impacted as a result of lower sports subscription revenue due to the disruption of professional sports seasons and future periods may be negatively impacted as a result of the reopening plans and the extent of reopening of our commercial customers. While sporting events generally resumed late in the second quarter of 2020 and the interrupted seasons were completed, there were delays to the start of the current seasons for certain sports, including European soccer. As a result, significant costs associated with broadcasting these programs were not recognized in 2020. COVID-19 continues to result in uncertainty in the ultimate timing of when, or the extent to which, sporting events will occur in future periods; their broadcast is expected to impact the timing, and potentially the amount, of revenue and expense recognition.
- We temporarily suspended certain sales channels due to COVID-19, which negatively impacted net customer additions and revenue in the first half of 2020. Our sales channels generally resumed operations in June 2020.
- COVID-19 has resulted in the deterioration of economic conditions and increased economic uncertainty in Europe, intensifying what was an already deteriorating economic and advertising environment. These conditions negatively impacted revenue in 2020 and, while we have seen some improvement over the course of 2020, we expect COVID-19 likely will continue to negatively impact advertising spend and consumer demand for our services in 2021. In addition, there is increased risk associated with collections on our outstanding receivables, and we have incurred and may continue to incur increases in our bad debt expense.

We have implemented and will continue to implement cost savings initiatives across our businesses that have impacted and will continue to impact our results of operations; certain costs incurred by our businesses in response to COVID-19, including severance, are presented in Corporate and Other. Our businesses implemented separate cost savings initiatives, with the most significant relating to severance at NBCUniversal in connection with the realignment of the operating structure in our television businesses as well as overall reductions in the cost base. We do not anticipate significant incremental costs to be incurred under these plans, and payments related to NBCUniversal employee severance are expected to be completed in 2021. NBCUniversal employee-related costs savings will be realized in operating costs and expenses primarily beginning in 2021 and a portion of these cost savings may be reallocated to investments in content and other strategic initiatives.

Global financial markets have been volatile and domestic and global economic conditions continue to show signs of material weakness. At this point, it is impossible to predict the extent and duration of these and any other impacts of COVID-19 to our businesses, or the degree to which demand for our products and services, or supply of key inputs to those products and services, will be affected. This uncertainty makes it challenging for management to estimate with precision the future performance of our businesses.

As of December 31, 2020, we evaluated whether the facts and circumstances and available information resulted in the need for an impairment assessment for any of our long-lived assets and concluded no assessment was required. Refer to the Critical

Accounting Judgments and Estimates section for discussion of our impairment testing of goodwill and cable franchise rights. We will continue to evaluate the impacts of COVID-19 on our businesses, including the impacts of overall economic conditions, which could result in the recognition of an impairment charge in the future.

Liquidity

Although negatively impacted by the effects of COVID-19, we expect that our businesses will continue to generate significant cash flows from operating activities and we believe that these cash flows, together with our existing cash, cash equivalents and investments, available borrowings under our existing credit facilities and our ability to obtain future external financing, will be sufficient for us to meet our current and long-term liquidity and capital requirements. In 2020, we issued \$18.6 billion of long-term debt, the proceeds of which were used to repay existing indebtedness and increase cash on our balance sheet in order to bolster liquidity and strengthen our financial position as a result of the increased uncertainty related to the duration and scope of the COVID-19 pandemic. We also took actions to conservatively manage cash through reductions in costs and capital expenditures in 2020. We expect the timing of certain priorities may continue to be impacted, such as the pace of our debt reduction efforts and returning capital to shareholders, and the delay of certain capital projects.

Competition

All of our businesses operate in intensely competitive, consumer-driven and rapidly changing environments and compete with a growing number of companies that provide a broad range of communications products and services, and entertainment, news and information content to consumers. For additional information on the competition our businesses face, see Item 1: Business and Item 1A: Risk Factors. Within the Business section, refer to the “Competition” discussion, and within the Risk Factors section, refer to the risk factors entitled “Our businesses operate in highly competitive and dynamic industries, and our businesses and results of operations could be adversely affected if we do not compete effectively” and “Changes in consumer behavior driven by online video distribution platforms for viewing content continue to adversely affect our businesses and challenge existing business models.”

Seasonality and Cyclical

Each of our businesses is typically subject to seasonal and cyclical variations. See Item 1: Business and refer to the “Seasonality and Cyclical” discussion within that section for additional information.

Consolidated Operating Results

Year ended December 31 (in millions, except per share data)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue	\$ 103,564	\$ 108,942	\$ 94,507	(4.9)%	15.3 %
Costs and Expenses:					
Programming and production	33,121	34,440	29,692	(3.8)	16.0
Other operating and administrative	33,109	32,807	28,094	0.9	16.8
Advertising, marketing and promotion	6,741	7,617	7,036	(11.5)	8.2
Depreciation	8,320	8,663	8,281	(4.0)	4.6
Amortization	4,780	4,290	2,736	11.4	56.8
Other operating gains	—	—	(341)	—	NM
Total costs and expenses	86,071	87,817	75,498	(2.0)	16.3
Operating income	17,493	21,125	19,009	(17.2)	11.1
Interest expense	(4,588)	(4,567)	(3,542)	0.5	28.9
Investment and other income (loss), net	1,160	438	(225)	164.8	294.6
Income before income taxes	14,065	16,996	15,242	(17.2)	11.5
Income tax (expense) benefit	(3,364)	(3,673)	(3,380)	(8.4)	8.7
Net income	10,701	13,323	11,862	(19.7)	12.3
Less: Net income attributable to noncontrolling interests and redeemable subsidiary preferred stock	167	266	131	(37.5)	102.7
Net income attributable to Comcast Corporation	\$ 10,534	\$ 13,057	\$ 11,731	(19.3)%	11.3 %
Basic earnings per common share attributable to Comcast Corporation shareholders	\$ 2.30	\$ 2.87	\$ 2.56	(19.9)%	12.1 %
Diluted earnings per common share attributable to Comcast Corporation shareholders	\$ 2.28	\$ 2.83	\$ 2.53	(19.4)%	11.9 %
Adjusted EBITDA^(a)	\$ 30,826	\$ 34,258	\$ 30,165	(10.0)%	13.6 %

All percentages are calculated based on actual amounts. Minor differences may exist due to rounding.

Percentage changes that are considered not meaningful are denoted with NM.


(a) Adjusted EBITDA is a non-GAAP financial measure. Refer to the “Non-GAAP Financial Measure” section on page 57 for additional information, including our definition and our use of Adjusted EBITDA, and for a reconciliation from net income attributable to Comcast Corporation to Adjusted EBITDA.

The comparability of our consolidated results of operations was impacted by the Sky transaction in the fourth quarter of 2018. Sky’s results of operations are included in our consolidated financial statements following the October 9, 2018 acquisition date.

Consolidated Revenue

The following graph illustrates the contributions to the change in consolidated revenue made by our Cable Communications, NBCUniversal and Sky segments, as well as by Corporate and Other activities, including eliminations.

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The primary drivers of the change in revenue from 2019 to 2020 were as follows:

- A decrease in our NBCUniversal segments revenue primarily due to the impacts of COVID-19 resulting in decreased revenue at the Theme Parks, Filmed Entertainment, Cable Networks and Broadcast segments.
- A decrease in Corporate, Other and Eliminations revenue primarily due to an increase in eliminations as a result of the licensing of content between our NBCUniversal segments and Peacock.
- A decrease in our Sky segment revenue primarily due to the impacts of COVID-19 resulting in decreased direct-to-consumer, advertising and content revenue, as well as the impact of foreign currency translation.
- Growth in our Cable Communications segment revenue driven by increased revenue from high-speed internet, wireless, business services and advertising, partially offset by decreased revenue from voice, video and other revenue.

Revenue for our segments and other businesses is discussed separately below under the heading “Segment Operating Results.”

Consolidated Costs and Expenses

The following graph illustrates the contributions to the change in consolidated operating costs and expenses, representing total costs and expenses excluding depreciation and amortization expense, made by our Cable Communications, NBCUniversal and Sky segments, as well as by Corporate and Other activities, including eliminations.

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The primary drivers of the change in operating costs and expenses from 2019 to 2020 were as follows:

- A decrease in NBCUniversal expenses primarily due to the impacts of COVID-19, which led to decreased expenses in our Filmed Entertainment, Theme Parks, Cable Networks and Broadcast segments.
- Flat Cable Communications segment expenses primarily due to decreased advertising, marketing and promotion expenses and customer service expenses, offset by an increase in programming expenses, other expenses, technical product support costs, and franchise and other regulatory fees.
- An increase in Corporate, Other and Eliminations expenses primarily due to certain costs incurred in response to COVID-19, including severance charges related to our businesses, costs associated with Peacock, and a legal settlement, partially offset by an increase in eliminations as a result of our licensing content between our NBCUniversal segments and Peacock.
- An increase in our Sky segment's expenses primarily due to an increase in other costs and direct network costs, partially offset by a decrease in programming and production costs and the impacts of foreign currency translation.

Operating costs and expenses for our segments and our corporate operations, business development initiatives and other businesses are discussed separately below under the heading "Segment Operating Results."

Consolidated Depreciation and Amortization Expense

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Cable Communications	\$ 7,753	\$ 7,994	\$ 8,262	(3.0)%	(3.2) %
NBCUniversal	2,278	2,129	2,108	7.0	0.9
Sky	3,034	2,699	539	12.4	NM
Corporate and Other	35	131	108	(74.1)	21.4
Comcast Consolidated	\$ 13,100	\$ 12,953	\$ 11,017	1.1 %	17.6 %

Percentage changes that are considered not meaningful are denoted with NM.

NBCUniversal and Sky depreciation and amortization expense increased in 2020 primarily due to amortization of certain trade names beginning in the first quarter of 2020, which were previously accounted for as indefinite-lived intangible assets (see Note 11). Cable Communications depreciation and amortization expense decreased due to lower spending on customer premise equipment and support capital, partially offset by an increase in spending on scalable infrastructure.

Amortization expense from acquisition-related intangible assets totaled \$2.3 billion, \$2.0 billion and \$1.1 billion for 2020, 2019 and 2018, respectively. Amounts primarily relate to customer relationship intangible assets recorded in connection with the Sky transaction in the fourth quarter of 2018 and the NBCUniversal transaction in 2011.

Consolidated Interest Expense

Interest expense was flat in 2020 compared to 2019 as \$360 million of charges related to the early redemption of senior notes were offset by lower weighted-average interest rates and a decrease in average debt outstanding.

Consolidated Investment and Other Income (Loss), Net

Year ended December 31 (in millions)	2020	2019	2018
Equity in net income (losses) of investees, net	\$ (113)	\$ (505)	\$ (364)
Realized and unrealized gains (losses) on equity securities, net	1,014	656	(187)
Other income (loss), net	259	287	326
Total investment and other income (loss), net	\$ 1,160	\$ 438	(225)

Equity in Net Income (Losses) of Investees, Net

The change in equity in net income (losses) of investees, net in 2020 compared to 2019 was primarily due to our investment in Atairos Group, Inc. and our reduced share of net losses for other equity method investments. The income (losses) at Atairos were driven by fair value adjustments on its underlying investments with income of \$286 million in 2020 and losses of \$64 million in 2019. See Note 9 for additional information related to our investments.

Realized and Unrealized Gains (Losses) on Equity Securities, Net

Realized and unrealized gains (losses) on equity securities, net in 2020 were primarily as a result of gains relating to transactions involving FanDuel and PointsBet and a public offering by fuboTV, as well as gains related to our investment in Peloton, which was sold during 2020. Realized and unrealized gains (losses) on equity securities, net in 2019 resulted primarily from gains related to our interests in Snap, which was sold in 2019, and Peloton as a result of its initial public offering in 2019. See Note 9 for additional information related to our investments.

Other Income (Loss), Net

The change in other income (loss), net in 2020 compared to 2019 was primarily due to the recognition of \$219 million of gains related to the dilution of our Hulu ownership in 2019, partially offset by foreign currency gains and lower impairments related to equity method investments in 2020.

Consolidated Income Tax (Expense) Benefit

Our effective income tax rate in 2020 and 2019 was 23.9% and 21.6%, respectively.

In 2020, the effective income tax rate included \$145 million of expense relating to the impact of tax law changes in the third quarter of 2020.

In 2019, the effective income tax rate included \$125 million of benefits related to state income tax adjustments recognized in the third quarter of 2019.

Consolidated Net Income Attributable to Noncontrolling Interests and Redeemable Subsidiary Preferred Stock

The decrease in net income attributable to noncontrolling interests and redeemable subsidiary preferred stock in 2020 compared to 2019 was primarily due to our acquisition of the remaining interest of one of our noncontrolling interests.

Segment Operating Results

Our segment operating results are presented based on how we assess operating performance and internally report financial information. We use Adjusted EBITDA as the measure of profit or loss for our operating segments (see Note 2).

Cable Communications Segment Results of Operations

Revenue and Adjusted EBITDA

(in billions)

Residential Customer Relationships

(in millions)

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Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue					
Residential:					
High-speed internet	\$ 20,599	\$ 18,752	\$ 17,144	9.9 %	9.4 %
Video	21,937	22,270	22,455	(1.5)	(0.8)
Voice	3,532	3,879	3,960	(8.9)	(2.1)
Wireless	1,574	1,167	890	34.9	31.2
Business services	8,191	7,795	7,129	5.1	9.3
Advertising	2,594	2,465	2,795	5.2	(11.8)
Other	1,624	1,754	1,660	(7.5)	5.7
Total revenue	60,051	58,082	56,033	3.4	3.7
Operating costs and expenses					
Programming	13,498	13,389	13,249	0.8	1.1
Technical and product support	8,022	7,973	7,569	0.6	5.3
Customer service	2,432	2,494	2,536	(2.5)	(1.6)
Advertising, marketing and promotion	3,759	4,014	4,002	(6.3)	0.3
Franchise and other regulatory fees	1,625	1,582	1,578	2.7	0.2
Other	5,445	5,364	5,418	1.5	(1.0)
Total operating costs and expenses	34,781	34,816	34,352	(0.1)	1.4
Adjusted EBITDA	\$ 25,270	\$ 23,266	\$ 21,681	8.6 %	7.3 %

Customer Metrics

				Net Additions		
(in thousands)	2020	2019	2018	2020	2019	2018
Customer relationships						
Residential customer relationships	30,718	29,149	28,109	1,569	1,040	925
Business services customer relationships	2,426	2,396	2,303	30	94	123
Total customer relationships	33,144	31,545	30,412	1,599	1,134	1,048
Residential customer relationships mix						
One product customers	12,434	10,247	9,015	2,187	1,232	840
Two product customers	8,734	8,923	8,992	(188)	(69)	(25)
Three or more product customers	9,550	9,979	10,102	(429)	(123)	110
High-speed internet						
Residential customers	28,351	26,414	25,097	1,937	1,317	1,234
Business services customers	2,248	2,215	2,125	34	89	120
Total high-speed internet customers	30,600	28,629	27,222	1,971	1,406	1,353
Video						
Residential customers	18,993	20,288	20,959	(1,295)	(671)	(344)
Business services customers	852	966	1,027	(114)	(61)	(27)
Total video customers	19,846	21,254	21,986	(1,408)	(733)	(370)
Voice						
Residential customers	9,645	9,934	10,153	(289)	(218)	(163)
Business services customers	1,357	1,342	1,297	15	46	60
Total voice customers	11,002	11,276	11,449	(275)	(173)	(103)
Wireless						
Wireless lines	2,826	2,052	1,236	774	816	854

Customer metrics are presented based on actual amounts. Minor differences may exist due to rounding. Customer relationships represent the number of residential and business customers that subscribe to at least one of our services. One product, two product, and three or more product customers represent residential customers that subscribe to one, two, or three or more of our services, respectively. For MDUs, including buildings located on college campuses, whose residents have the ability to receive additional services, such as additional programming choices or our HD or DVR services, we count and report customers based on the number of potential billable relationships within each MDU. For MDUs whose residents are not able to receive additional services, the MDU is counted as a single customer. Residential high-speed internet and video customer metrics include certain customers that have prepaid for services. Wireless lines represent the number of activated eligible wireless devices on customers' accounts. Individual customer relationships may have multiple wireless lines. Customer metrics for 2020 do not include certain high-risk customers who continue to receive service following nonpayment or customers in the free Internet Essentials offer (refer to "Impacts of COVID-19" for further discussion).

	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Average monthly total revenue per customer relationship	\$ 154.71	\$ 156.24	\$ 156.23	(1.0)%	— %
Average monthly Adjusted EBITDA per customer relationship	\$ 65.11	\$ 62.59	\$ 60.45	4.0 %	3.5 %

Average monthly total revenue per customer relationship is impacted by rate adjustments and changes in the types and levels of services received by our residential and business services customers, as well as changes in advertising revenue. While revenue from our residential high-speed internet, video and voice services is also impacted by changes in the allocation of revenue among services sold in a bundle, the allocation does not impact average monthly total revenue per customer relationship. Average rates in 2020 were negatively impacted by customer adjustments accrued as a result of provisions in our programming distribution agreements with regional sports networks related to canceled sporting events. For customers receiving bundled services, the revenue reduction was allocated across each of the services in the bundle.

Each of our services has a different contribution to operating margin and we also use average monthly Adjusted EBITDA per customer relationship to evaluate the profitability of our customer base across our service offerings. We believe these metrics are useful to understand the trends in our business and average monthly Adjusted EBITDA per customer relationship is useful particularly as we continue to focus on growing our higher-margin businesses, including residential high-speed internet and business services.

Cable Communications Segment – Revenue

We are a leading provider of high-speed internet, video, voice, wireless, and security and automation services to residential customers in the United States under the Xfinity brand; we also provide these and other services to business customers and sell advertising. Revenue is generated primarily from residential and business customers that subscribe to our services, which are marketed individually and as bundled services. We also generate revenue from selling through our allocation of scheduled advertising time on cable networks that is received as part of distribution agreements with these networks to local, regional and national advertisers.

High-Speed Internet

We offer high-speed internet services with downstream speeds that range up to 1.2 Gbps and fiber-based speeds that range up to 2 Gbps. We also deploy xFi-enabled wireless gateways that deliver internet and voice connectivity, whole-home Wi-Fi coverage, network control and advanced security features. We believe our customer base will continue to grow as consumers choose our high-speed internet service and seek higher-speed offerings.

Revenue increased in 2020 primarily due to an increase in the number of residential high-speed internet customers. The remaining increase in revenue in 2020 was due to an increase in average rates. Average rates in 2020 were negatively impacted by waived fees due to COVID-19 and the impacts of customer adjustments. Refer to video description below for further information.

Video

We offer a broad variety of video services packages that may include premium networks, pay-per-view services and our On Demand service. Our video customers may also subscribe for additional fees to our HD and DVR services.

Revenue decreased in 2020 primarily due to a decline in the number of residential video customers, partially offset by an increase in average rates. Average rates in 2020 were negatively impacted by customer adjustments accrued as a result of provisions in our programming distribution agreements with regional sports networks related to canceled sporting events. For customers receiving bundled services, the revenue reduction was allocated across each of the services in the bundle.

We have experienced, and expect that we will continue to experience, declines in the number of residential video customers due to competitive pressures, and we expect that our video revenue will continue to decline as a result of the competitive environment and shifting video consumption patterns. We believe our X1 platform helps us compete more effectively against this competition, and have also continued to employ sales and marketing programs, such as promotions, bundled service offerings and service offerings targeted at specific market segments.

Voice

We offer voice services that provide local and long-distance calling and other related features.

Revenue decreased in 2020 primarily due to a decrease in average rates and a decline in the number of residential voice customers.

We expect that the number of residential voice customers and voice revenue will continue to decline.

Wireless

We offer wireless phone services to customers that may choose to pay for services on an unlimited data plan, shared data plans, or per gigabyte of data used.

Revenue increased in 2020 primarily due to an increase in the number of customer lines.

Business Services

We offer a variety of products and services to businesses. Our service offerings for small business locations primarily include high-speed internet services, as well as voice and video services, that are similar to those provided to residential customers, and include certain other features specific to businesses. We also offer Ethernet network services that connect multiple locations and other services to meet the needs of medium-sized customers and larger enterprises, and we provide cellular backhaul services to mobile network operators.

Revenue increased in 2020 primarily due to increases in average rates and an increase in the number of customers receiving our services. The rates of growth were reduced due to the negative impacts of COVID-19 on small businesses.

Advertising

As part of our distribution agreements with cable networks, we generally receive an allocation of scheduled advertising time that is sold through our advertising business to local, regional and national advertisers. We also represent the advertising sales

efforts of other multichannel video providers in some markets. In addition, we generate revenue from the sale of advertising on our digital platforms. We also provide technology, tools, data-driven services and marketplace solutions to customers in the media industry, which allow advertisers to more effectively engage with their target audiences. Revenue is affected by the strength of the advertising market, general economic conditions, and cyclicalities related to political campaigns and issue-oriented advertising.

Revenue increased in 2020 primarily due to an increase in political advertising, partially offset by a reduction in spending from advertisers due to COVID-19.

In 2020, 4% of our advertising revenue was generated from our NBCUniversal segments, compared to 5% and 4% in 2019 and 2018, respectively. These amounts are eliminated in our consolidated financial statements but are included in the amounts presented above.

Other

Other revenue primarily includes revenue related to our security and automation services. We also receive revenue related to residential customer late fees and from services, such as the licensing of our technology platforms to other multichannel video providers.

Revenue decreased in 2020 primarily due to certain waived billing and collection fees due to COVID-19, partially offset by higher revenue from the licensing of our technology platforms to other multichannel video providers.

Cable Communications Segment – Operating Costs and Expenses

Programming Expenses

Programming expenses, which represent our most significant operating expense, are the fees we incur to provide content to our customers. These expenses are affected by the programming license fees charged by content providers, the fees charged for retransmission of the signals from local broadcast television stations, the number of customers we serve and the amount of content we provide.

Expenses increased slightly in 2020 primarily due to increases in retransmission consent and sports programming fees, partially offset by declines in the number of video subscribers. The increase in expenses was also offset by the impact of adjustment provisions in our programming distribution agreements with regional sports networks related to canceled sporting events as a result of COVID-19.

We anticipate that our programming expenses will be impacted by rate increases to a greater extent in 2021 compared to 2020 due to the timing of contract renewals, partially offset by expected declines in the number of residential video customers.

Technical and Product Support Expenses

Expenses include costs to complete service call and installation activities, as well as costs for network operations, product development, fulfillment and provisioning, as well as the cost of wireless handsets and tablets sold to customers and monthly wholesale wireless access fees.

Expenses were flat in 2020 primarily due to increased costs associated with our wireless phone service and increased costs related to COVID-19, including additional compensation costs for certain personnel, offset by cost savings initiatives implemented during the current year, as well as a reduction in activity in certain aspects of our business.

Customer Service Expenses

Expenses include the personnel and other costs associated with handling the sale of services to customers and customer service activity.

Expenses decreased in 2020 primarily due to lower labor costs as a result of reduced call volumes and cost savings initiatives implemented during the current year, partially offset by an increase in costs as a result of additional Xfinity stores.

Advertising, Marketing and Promotion Expenses

Expenses include the costs associated with attracting new customers and promoting our service offerings.

Expenses decreased in 2020 primarily due to a decrease in spending.

Franchise and Other Regulatory Fees

Franchise and other regulatory fees represent the fees we are required to pay to federal, state and local authorities under the terms of our cable franchise agreements.

Franchise and other regulatory fees increased in 2020 primarily due to increases in the related rates of these fees.

Other Expenses

Expenses primarily include personnel costs, advertising expenses, and building and facilities costs.

Other operating costs and expenses increased in 2020 primarily due to an increase in bad debt expense as a result of COVID-19.

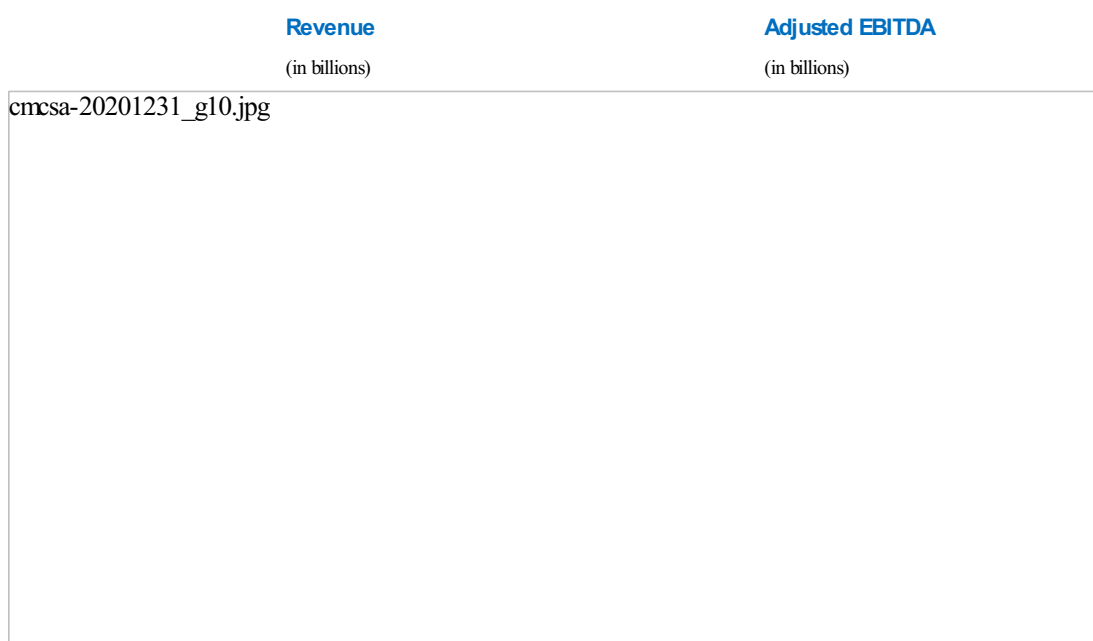
Cable Communications Segment – Operating Margin

Our operating margin is Adjusted EBITDA as a percentage of revenue. We believe this metric is useful particularly as we continue to focus on growing our higher-margin businesses, including residential high-speed internet and business services, and on reducing losses related to our wireless phone service and improving overall operating cost management. The most significant operating costs and expenses are the programming expenses we incur to provide content to our video customers, which were flat in 2020.

Our operating margin was 42.1%, 40.1% and 38.7% in 2020, 2019 and 2018, respectively. While accrued adjustments for regional sports networks did not impact Adjusted EBITDA in 2020, they resulted in an increase to operating margins. Losses from our wireless phone service were \$206 million, \$401 million and \$743 million in 2020, 2019 and 2018, respectively.

NBCUniversal Segments Overview

2020 NBCUniversal Segments Operating Results^(a)



(a) Segment details in the charts exclude the results of NBCUniversal Headquarters, Other and Eliminations and therefore the amounts do not equal the total. Revenue and Adjusted EBITDA charts are not presented on the same scale.

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue					
Cable Networks	\$ 10,849	\$ 11,513	\$ 11,773	(5.8)%	(2.2)%
Broadcast Television	10,244	10,261	11,439	(0.2)	(10.3)
Filmed Entertainment	5,276	6,493	7,152	(18.7)	(9.2)
Theme Parks	1,846	5,933	5,683	(68.9)	4.4
Headquarters, other and eliminations	(133)	(233)	(286)	NM	NM
Total revenue	\$ 28,082	\$ 33,967	\$ 35,761	(17.3)%	(5.0)%
Adjusted EBITDA					
Cable Networks	\$ 4,616	\$ 4,444	\$ 4,428	3.9 %	0.4 %
Broadcast Television	1,934	1,730	1,657	11.8	4.4
Filmed Entertainment	785	833	734	(5.8)	13.5
Theme Parks	(541)	2,455	2,455	(122.0)	—
Headquarters, other and eliminations	(525)	(690)	(676)	NM	NM
Total Adjusted EBITDA	\$ 6,269	\$ 8,772	\$ 8,598	(28.5)%	2.0 %

Percentage changes that are considered not meaningful are denoted with NM.

Cable Networks Segment Results of Operations

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue					
Distribution	\$ 6,437	\$ 6,790	\$ 6,826	(5.2)%	(0.5)%
Advertising	3,155	3,478	3,587	(9.3)	(3.0)
Content licensing and other	1,257	1,245	1,360	1.0	(8.5)
Total revenue	10,849	11,513	11,773	(5.8)	(2.2)
Operating costs and expenses					
Programming and production	4,452	5,107	5,357	(12.8)	(4.7)
Other operating and administrative	1,438	1,499	1,453	(4.1)	3.2
Advertising, marketing and promotion	343	463	535	(25.8)	(13.6)
Total operating costs and expenses	6,233	7,069	7,345	(11.8)	(3.8)
Adjusted EBITDA	\$ 4,616	\$ 4,444	\$ 4,428	3.9 %	0.4 %

Cable Networks Segment – Revenue

Distribution

Revenue is generated from the distribution of our cable network programming to traditional and virtual multichannel video providers and is affected by the number of subscribers receiving our cable networks and the fees we charge per subscriber.

Distribution revenue decreased in 2020 compared to 2019 primarily due to increased declines in the number of subscribers at our cable networks, partially offset by increases in the contractual rates charged under distribution agreements. The decrease was also due to credits accrued at some of our regional sports networks resulting from the reduced number of games played by professional sports leagues due to COVID-19. Certain of our distribution agreements with multichannel video providers require contractual adjustments if a minimum number of sporting events does not occur.

Advertising

Revenue is generated from the sale of advertising units sold on our cable networks and digital properties. Advertising revenue is primarily based on the price we charge for each advertising unit, which is generally based on audience ratings, the value of our viewer demographics to advertisers and the number of advertising units we can place in our cable networks' programming schedules. Advertising revenue is affected by the audience ratings of our programming, the strength of the national advertising market and general economic conditions.

Advertising revenue decreased in 2020 compared to 2019 primarily due to continued audience ratings declines at our networks and reduced spending from advertisers as a result of COVID-19, including as a result of the reduced number of sporting events, partially offset by higher prices for advertising units sold.

Content Licensing and Other

Revenue is generated primarily from the licensing of our owned programming in the United States and internationally to cable and broadcast networks and to DTC streaming service providers, as well as from the sale of our owned programming on DVDs and through digital distribution services such as iTunes. In addition, our cable television studio production operations generate revenue from programming the studio produces for third-party networks and for DTC streaming service providers.

Revenue increased in 2020 compared to 2019 primarily due to revenue from our digital properties, partially offset by the timing of content provided under our licensing agreements.

In 2020, 2019 and 2018, 15%, 15% and 14%, respectively, of our Cable Networks segment revenue was generated from our Cable Communications segment. These amounts are eliminated in Comcast's consolidated financial statements but are included in the amounts presented above.

Cable Networks Segment – Operating Costs and Expenses

Programming and Production Costs

Costs include the amortization of owned and acquired programming, sports rights, direct production costs, residual and participation payments, production overhead, costs associated with the distribution of our programming to third-party networks and other distribution platforms, and on-air talent costs.

Costs decreased in 2020 primarily due to decreases in sports programming costs recognized resulting from the reduced number of events as a result of COVID-19.

Other Operating and Administrative Expenses

Other operating and administrative costs and expenses include salaries, employee benefits, rent and other overhead expenses.

Expenses decreased in 2020 primarily due to lower employee-related costs as a result of cost savings initiatives.

Advertising, Marketing and Promotion Expenses

Expenses consist primarily of the costs associated with promoting programming on our cable networks and digital properties.

Expenses decreased in 2020 primarily due to lower spending on marketing related to our cable networks.

Broadcast Television Segment Results of Operations

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue					
Advertising	\$ 5,027	\$ 5,712	\$ 7,010	(12.0)%	(18.5)%
Content licensing	2,640	2,157	2,182	22.4	(1.1)
Distribution and other	2,577	2,392	2,247	7.8	6.4
Total revenue	10,244	10,261	11,439	(0.2)	(10.3)
Operating costs and expenses					
Programming and production	6,548	6,547	7,789	—	(15.9)
Other operating and administrative	1,476	1,564	1,547	(5.6)	1.1
Advertising, marketing and promotion	286	420	446	(31.9)	(5.9)
Total operating costs and expenses	8,310	8,531	9,782	(2.6)	(12.8)
Adjusted EBITDA	\$ 1,934	\$ 1,730	\$ 1,657	11.8 %	4.4 %

Broadcast Television Segment – Revenue

Advertising

Revenue is generated from the sale of advertising units sold on our broadcast networks, owned local broadcast television stations and digital properties. Advertising revenue is primarily based on the price we charge for each advertising unit, which is generally based on audience ratings and the value of our viewer demographics to advertisers, and the number of advertising units we can place in our broadcast networks' and owned local television stations' programming schedules. Advertising revenue is affected by the strength of the national and local advertising markets, general economic conditions, cyclicalities related to political campaigns and issue-oriented advertising, and the success and ratings of our programming.

Revenue decreased in 2020 compared to 2019 primarily due to continued declines in audience ratings and reduced spending from advertisers as a result of COVID-19, partially offset by higher prices for advertising units sold.

Content Licensing

Revenue is generated from the licensing of our owned programming in the United States and internationally to various distribution platforms, including to cable and broadcast networks, and to DTC streaming service providers. In addition, our broadcast television studio production operations develop and produce original content that they license to broadcast networks, cable networks and local broadcast television stations owned by us and third parties, as well as to DTC streaming service providers. The production and distribution costs related to our owned programming generally exceed the revenue generated from the initial network license, which means the subsequent licensing of our owned programming series following the initial network license is critical to their financial success.

Content licensing revenue increased in 2020 compared to 2019 primarily due to the timing of content provided under our licensing agreement, including transactions with Peacock beginning in the second quarter of 2020.

Distribution and Other

We generate distribution and other revenue primarily from fees for retransmission consent of our owned local broadcast television stations and associated fees received from NBC-affiliated local broadcast television stations, as well as from the sale of our owned programming on DVDs and through digital distribution services. The sale of our owned programming is driven primarily by the popularity of our broadcast networks and programming series and therefore fluctuates based on consumer spending and acceptance. Distribution and other revenue also includes distribution revenue associated with our periodic broadcasts of the Olympic Games.

Revenue increased in 2020 compared to 2019 primarily due to increases in fees recognized under our retransmission consent agreements.

Broadcast Television Segment – Operating Costs and Expenses

Programming and Production Costs

Expenses relate to content that originates on our broadcast networks and owned local broadcast television stations, as well as owned content that is licensed to third parties. These costs include the amortization of owned and acquired programming costs, sports rights, direct production costs, residual and participation payments, production overhead, costs associated with the distribution of our programming to third-party networks and other distribution platforms, and on-air talent costs.

Expenses were flat in 2020 primarily due to lower production costs as a result of delays in production and airing of new programs and cost savings initiatives and the impact of the updated accounting guidance, which removed certain limitations on the amounts capitalized for episodic television series and had a favorable impact on programming and production expense in the current year (see Note 8), which were offset by higher amortization associated with content licensing sales.

Other Operating and Administrative Expenses

Other operating and administrative costs and expenses include salaries, employee benefits, rent and other overhead expenses. Expenses decreased in 2020 primarily due to decreased overhead costs as part of cost savings initiatives and lower employee-related costs.

Advertising, Marketing and Promotion Expenses

Expenses consist primarily of the costs associated with promoting our owned and acquired television programming, as well as the marketing of DVDs and costs associated with our digital properties. These expenses decreased in 2020 primarily due to lower spending on marketing related to our programming.

Filmed Entertainment Segment Results of Operations

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue					
Theatrical	\$ 421	\$ 1,469	\$ 2,111	(71.4)%	(30.4)%
Content licensing	3,342	3,045	2,899	9.7	5.1
Home entertainment	944	957	1,048	(1.4)	(8.7)
Other	569	1,022	1,094	(44.2)	(6.7)
Total revenue	5,276	6,493	7,152	(18.7)	(9.2)
Operating costs and expenses					
Programming and production	2,603	2,949	3,446	(11.7)	(14.4)
Other operating and administrative	988	1,131	1,189	(12.6)	(4.9)
Advertising, marketing and promotion	900	1,580	1,783	(43.0)	(11.4)
Total operating costs and expenses	4,491	5,660	6,418	(20.6)	(11.8)
Adjusted EBITDA	\$ 785	\$ 833	\$ 734	(5.8)%	13.5 %

Filmed Entertainment Segment – Revenue

Theatrical

Revenue is generated from the worldwide theatrical release of our produced and acquired films for exhibition in movie theaters and is significantly affected by the timing of each release and the number of films we distribute, as well as their acceptance by audiences. Theatrical revenue is also affected by the number of exhibition screens, ticket prices, the percentage of ticket sale retention by the exhibitors and the popularity of competing films at the time our films are released. The success of a film in movie theaters is generally a significant factor in determining the revenue a film is likely to generate in succeeding distribution platforms.

Revenue decreased in 2020 primarily due to theater closures as a result of COVID-19.

Content Licensing

Revenue is generated primarily from the licensing of our produced and acquired films to cable, broadcast and premium networks, DTC streaming service providers and through video on demand and pay-per-view services provided by multichannel video providers and OTT service providers, including through the release of certain titles made available for viewing on video on demand platforms following a shortened theatrical release window.

Revenue increased in 2020 primarily due to the timing of when content was made available under licensing agreements, including transactions with Peacock beginning in the second quarter of 2020, and increased sales of titles made available on demand, including certain 2020 releases after theater closures due to COVID-19.

Home Entertainment

Revenue is generated from the sale of our produced and acquired films on DVDs to retail stores and rental kiosks, and through digital distribution services. Revenue is significantly affected by the timing and number of our releases and their acceptance by consumers. Release dates are determined by several factors, including the timing of the exhibition of a film in movie theaters, holiday periods and the timing of competitive releases. The overall DVD market continues to experience declines due to the maturation of the DVD format from increasing shifts in consumer behavior toward digital distribution services and subscription rental services, both of which generate less revenue per transaction than DVD sales, as well as due to piracy.

Revenue decreased in 2020 primarily due to higher sales of 2019 releases in the prior year period including *How to Train Your Dragon: The Hidden World*, *Fast & Furious: Hobbs & Shaw* and *Dr. Seuss' The Grinch*, partially offset by sales of 2020 releases, including *Trolls World Tour*, *1917* and *Dolittle*, in the current year period.

Other

Revenue is generated from Fandango, our movie ticketing and entertainment business, consumer products, the production and licensing of live stage plays, and the distribution of filmed entertainment produced by third parties.

Revenue decreased in 2020 primarily due to decreases in revenue from our movie ticketing and entertainment business and live stage plays, which were impacted by theater and entertainment venue closures as a result of COVID-19.

Filmed Entertainment Segment – Operating Costs and Expenses

Programming and Production Costs

Expenses include the amortization of capitalized film production and acquisition costs, residual and participation payments, and distribution expenses. Residual payments represent amounts payable to individuals hired under collective bargaining agreements to work on productions and are calculated based on post-theatrical revenue. Participation payments are primarily based on film performance and represent contingent consideration payable to creative talent, to third parties that have entered into cofinancing agreements with us and to other parties involved in the production of a film. The costs associated with producing films have generally increased in recent years and may continue to increase in the future.

Expenses decreased in 2020 due to higher amortization of film production costs in the prior year period.

Other Operating and Administrative Expenses

Expenses include salaries, employee benefits, rent and other overhead expenses.

Expenses decreased in 2020 primarily due to lower costs associated with our movie ticketing and entertainment business and live stage plays, which were impacted by theater and entertainment venue closures as a result of COVID-19.

Advertising, Marketing and Promotion Expenses

Expenses consist primarily of expenses associated with advertising for our theatrical releases and the marketing of our films on DVDs and in digital formats. We incur significant marketing expenses before and throughout the release of a film in movie theaters. As a result, we typically incur losses on a film prior to and during the film's exhibition in movie theaters and may not realize profits, if any, until the film generates home entertainment and content licensing revenue. The costs associated with marketing films have generally increased in recent years and may continue to increase in the future.

Expenses decreased in 2020 primarily due to lower spending on current period releases as a result of COVID-19.

Theme Parks Segment Results of Operations

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue	\$ 1,846	\$ 5,933	\$ 5,683	(68.9)%	4.4 %
Operating costs and expenses	2,387	3,478	3,228	(31.4)	7.7
Adjusted EBITDA	\$ (541)	\$ 2,455	\$ 2,455	(122.0)%	— %

Theme Parks Segment – Revenue

Revenue is generated primarily from guest spending at Universal theme parks. Guest spending includes ticket sales and in-park spending on food, beverages and merchandise. Guest spending depends heavily on the general environment for travel and tourism, including consumer spending on travel and other recreational activities.

Revenue decreased in 2020 due to the temporary closures of our theme parks as a result of COVID-19, beginning in late February in Japan and mid-March for our theme parks in Orlando and Hollywood. Our theme parks in Orlando and Japan reopened with limited capacity in June, while our park in Hollywood remains closed.

Theme Parks Segment – Operating Costs and Expenses

Expenses consist primarily of theme park operations, including repairs and maintenance and related administrative expenses; food, beverage and merchandise costs; labor costs; and sales and marketing costs.

Expenses decreased in 2020 primarily due to decreases in costs related to park operations due to the park closures and lower marketing-related costs, partially offset by pre-opening costs associated with Universal Beijing Resort. We expect to incur significant additional pre-opening costs ahead of the expected opening of Universal Beijing Resort in 2021.

NBCUniversal Headquarters, Other and Eliminations

Expenses include overhead, personnel costs and costs associated with corporate initiatives. Expenses decreased in 2020 primarily due to lower employee-related costs and decreased overhead costs as part of cost savings initiatives.

Sky Segment Results of Operations

Sky's results of operations are included in our consolidated financial statements following the October 9, 2018 acquisition date, impacting the comparability of results of operations from fiscal year 2018 to fiscal year 2019, and as a result, actual growth rates for those fiscal years are not meaningful.

The discussion below compares Sky's actual results for 2020 to actual results for 2019. The pro forma segment information includes adjustments as if the Sky transaction occurred on January 1, 2017. Pro forma data is also adjusted for the effects of acquisition accounting and eliminating the costs and expenses directly related to the transaction, but does not include adjustments for costs related to integration activities, cost savings or synergies that have been or may be achieved by the combined business. Pro forma amounts are not necessarily indicative of what our results would have been had we operated the Sky business since January 1, 2017, nor of our future results.

Year ended December 31 (in millions)	2020	2019	2018		% Change 2019 to 2020		% Change 2018 to 2019	
	Actual	Actual	Actual October 9 to December 31	Pro Forma Adjustments ^(a)	Pro Forma Combined	Actual	Constant Currency Growth ^(b)	Pro Forma Combined Growth
Revenue								
Direct-to-consumer	\$ 15,223	\$ 15,538	\$ 3,632	\$ 12,445	\$ 16,077	(2.0)%	(3.0) %	(3.4) %
Content	1,373	1,432	304	944	1,248	(4.1)	(4.9)	14.7
Advertising	1,998	2,249	651	1,838	2,489	(11.2)	(12.0)	(9.6)
Total revenue	18,594	19,219	4,587	15,227	19,814	(3.3)	(4.2)	(3.0)
Operating costs and expenses								
Programming and production	8,649	8,865	2,137	6,685	8,822	(2.4)	(3.5)	0.5
Direct network costs	2,086	1,746	399	1,225	1,624	19.5	18.6	7.5
Other	5,905	5,509	1,359	5,115	6,474	7.2	6.3	(14.9)
Total operating costs and expenses	16,640	16,120	3,895	13,025	16,920	3.2	2.2	(4.7)
Adjusted EBITDA	\$ 1,954	\$ 3,099	\$ 692	\$ 2,202	\$ 2,894	(37.0)%	(37.6) %	7.1 %

All percentages are calculated based on actual amounts. Minor differences may exist due to rounding.

(a) Pro forma amounts include the results of operations for Sky for the period January 1, 2018 through October 8, 2018, as well as acquisition accounting adjustments.

(b) Constant currency growth is a non-GAAP financial measure. Refer to the "Non-GAAP Financial Measures" section on page 57 for additional information, including our definition and our use of constant currency, and for a reconciliation of Sky's constant currency growth rates.

Customer Metrics

(in thousands)	2020	2019	2018	Net Additions		
	Actual	Actual	Actual	2020	2019	2018
Total customer relationships	23,939	23,994	23,600	(56)	394	735

Sky customer relationships represent the number of residential customers that subscribe to at least one of Sky's four primary services of video, high-speed internet, voice and wireless phone service. Commercial customers include hotels, bars, workplaces and restaurants with an active subscription for the purpose of providing Sky services to customers. Sky reports commercial customers based on the number of commercial agreements per venue in the United Kingdom, and generally based on a residential equivalent unit using the multiple of residential customer revenue in Italy and the number of active venues (bars and restaurants) or rooms (hotels and clinics) in Germany.

	2020	2019	2018	% Change 2019 to 2020		% Change 2018 to 2019	
	Actual	Actual	Pro Forma	Actual	Constant Currency Growth ^(a)	Pro Forma Growth	Constant Currency Growth ^(a)
Average monthly direct-to-consumer revenue per customer relationship	\$ 52.93	\$ 54.41	\$ 57.67	(2.7)%	(3.7) %	(5.7)%	(1.0) %

(a) Constant currency growth is a non-GAAP financial measure. Refer to the "Non-GAAP Financial Measures" section on page 57 for additional information, including our definition and our use of constant currency, and for a reconciliation of Sky's constant currency growth rates.

Average monthly direct-to-consumer revenue per customer relationship is impacted by rate adjustments and changes in the types and levels of services received by Sky's customers. Each of Sky's services has a different contribution to Adjusted EBITDA. We believe this metric is useful in understanding the trends in our business across all of our direct-to-consumer service offerings.

Sky Segment – Revenue

Direct-to-Consumer

Revenue is derived from subscription and transactional revenue from residential and business customers. Subscription revenue includes revenue from residential and business subscribers to video, high-speed internet, voice and wireless phone services, including DTC streaming service subscriptions and income from set-top boxes, wireless phone handset and tablet sales, installation, service calls and warranties. Transactional revenue includes the purchase of physical and digital content, DTC streaming daily passes, and pay-per-view programming.

Revenue decreased in 2020 compared to 2019. Excluding the impact of foreign currency, revenue decreased primarily due to decreases in average revenue per customer relationship as a result of COVID-19.

Content

Revenue is derived from the distribution of Sky's owned television channels on third-party platforms and the licensing of owned and acquired programming to third-party video providers.

Revenue decreased in 2020 compared to 2019. Excluding the impact of foreign currency, revenue decreased primarily due to a decrease in revenue from the distribution of Sky's sports programming on third-party platforms due to postponed sporting events as a result of COVID-19.

Advertising

Revenue is derived from the sale of advertising and sponsorships across Sky's owned television channels and where it represents the sales efforts of third-party channels.

Revenue decreased in 2020 compared to 2019. Excluding the impact of foreign currency, revenue decreased primarily due to overall market weakness, which has worsened due to COVID-19, and the impact of changes in legislation related to gambling advertisements in the United Kingdom and Italy that occurred in the third quarter of 2019.

Sky Segment – Operating Costs and Expenses

Programming and Production Costs

Expenses primarily relate to content broadcast on Sky's channels. These costs include the amortization of owned and acquired programming costs, sports rights, direct production costs, residual and participation payments, production overhead, and on-air talent costs. These expenses also include the fees associated with programming distribution agreements for channels owned by third parties, which are generally based on the number of customers who are able to watch the programming and the platforms on which the content is provided.

Expenses decreased in 2020 compared to 2019. Excluding the impact of foreign currency, expenses decreased primarily due to the impacts of the disruptions of professional sports seasons as a result of COVID-19, including the delayed starts of the current European soccer seasons.

Direct Network Costs

Expenses primarily include costs directly related to the supply of high-speed internet and voice services, including wireless phone services, to Sky's customers. This includes call costs, monthly wholesale access fees and other variable costs associated with Sky's network. In addition, it includes the cost of mobile handsets sold to customers.

Expenses increased in 2020 compared to 2019. Excluding the impact of foreign currency, expenses increased primarily due to an increase in costs associated with Sky's high-speed internet and wireless phone services as a result of increases in the number of customers receiving these services.

Other Expenses

Expenses include costs related to marketing, fees paid to third-party channels where Sky represents the advertising sales efforts, subscriber management, supply chain, transmission, technology, fixed networks and general administrative costs.

Expenses increased in 2020 compared to 2019. Excluding the impact of foreign currency, expenses increased primarily due to higher marketing costs related to Sky Q and the launch of FTTH services in Italy and a favorable settlement in the prior year, partially offset by lower fees paid to third-party channels for advertising sales efforts resulting from the impact of COVID-19.

Corporate, Other and Eliminations

Corporate and Other Results of Operations

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue	\$ 366	\$ 333	\$ 513	9.8 %	(35.0)%
Operating costs and expenses	3,046	1,393	1,772	118.5	(21.3)
Adjustment for legal settlement	(177)	—	(125)	NM	NM
Adjustment for Sky transaction-related costs	(56)	(180)	(355)	NM	NM
Adjusted EBITDA	\$ (2,447)	\$ (880)	\$ (779)	(178.0)%	(12.9)%

Percentage changes that are considered not meaningful are denoted with NM.

Corporate and Other – Revenue

Revenue primarily relates to Comcast Spectacor, which owns the Philadelphia Flyers and the Wells Fargo Center arena in Philadelphia, Pennsylvania, and revenue at Peacock beginning in the second quarter of 2020.

Revenue increased in 2020 primarily due to revenue generated from Peacock. The increases were partially offset by decreases at Comcast Spectacor as a result of COVID-19.

Corporate and Other – Operating Costs and Expenses

Expenses primarily include overhead, personnel costs, the costs of other business initiatives, such as Peacock, and operating costs and expenses associated with Comcast Spectacor.

Expenses increased in 2020 primarily due to costs associated with Peacock, certain costs incurred in response to COVID-19, including severance charges related to our businesses, a legal settlement and other non-recurring items, which were partially offset by a reduction in costs related to the Sky transaction, including expenses resulting from the replacement of share-based compensation awards and costs related to integration activities. Beginning in the second quarter of 2020, Peacock costs include amortization of film and television costs and we expect to continue to incur significant costs related to additional content and marketing for the new platform. Corporate and Other Adjusted EBITDA excludes the legal settlement and Sky transaction-related costs.

Eliminations

Year ended December 31 (in millions)	2020	2019	2018	% Change 2019 to 2020	% Change 2018 to 2019
Revenue	\$ (3,529)	\$ (2,659)	(2,387)	32.7 %	11.4 %
Operating costs and expenses	(3,309)	(2,660)	(2,360)	24.3	12.8
Adjusted EBITDA	\$ (220)	\$ 1	(27)	NM	(105.4)%

Percentage changes that are considered not meaningful are denoted with NM.

For 2020, revenue and operating costs and expenses eliminations increased as a result of licensing of content between our NBCUniversal segments and Peacock. Refer to Note 2 for further description of transactions between our segments.

Non-GAAP Financial Measures

Consolidated Adjusted EBITDA

Adjusted EBITDA is a non-GAAP financial measure and is the primary basis used to measure the operational strength and performance of our businesses as well as to assist in the evaluation of underlying trends in our businesses. This measure eliminates the significant level of noncash depreciation and amortization expense that results from the capital-intensive nature of certain of our businesses and from intangible assets recognized in business combinations. It is also unaffected by our capital and tax structures, and by our investment activities, including the results of entities that we do not consolidate, as our management excludes these results when evaluating our operating performance. Our management and Board of Directors use this financial measure to evaluate our consolidated operating performance and the operating performance of our operating segments and to allocate resources and capital to our operating segments. It is also a significant performance measure in our annual incentive compensation programs. Additionally, we believe that Adjusted EBITDA is useful to investors because it is one of the bases for comparing our operating performance with that of other companies in our industries, although our measure of Adjusted EBITDA may not be directly comparable to similar measures used by other companies.

We define Adjusted EBITDA as net income attributable to Comcast Corporation before net income (loss) attributable to noncontrolling interests and redeemable subsidiary preferred stock, income tax expense, investment and other income (loss), net, interest expense, depreciation and amortization expense, and other operating gains and losses (such as impairment charges related to fixed and intangible assets and gains or losses on the sale of long-lived assets), if any. From time to time we may exclude from Adjusted EBITDA the impact of certain events, gains, losses or other charges (such as significant legal settlements) that affect the period-to-period comparability of our operating performance.

We reconcile consolidated Adjusted EBITDA to net income attributable to Comcast Corporation. This measure should not be considered a substitute for operating income (loss), net income (loss), net income (loss) attributable to Comcast Corporation, or net cash provided by operating activities that we have reported in accordance with GAAP.

Reconciliation from Net Income Attributable to Comcast Corporation to Adjusted EBITDA

Year ended December 31 (in millions)	2020	2019	2018
Net income attributable to Comcast Corporation	\$ 10,534	\$ 13,057	\$ 11,731
Net income attributable to noncontrolling interests and redeemable subsidiary preferred stock	167	266	131
Income tax (benefit) expense	3,364	3,673	3,380
Investment and other (income) loss, net	(1,160)	(438)	225
Interest expense	4,588	4,567	3,542
Depreciation	8,320	8,663	8,281
Amortization	4,780	4,290	2,736
Other operating gains	—	—	(341)
Adjustment for Sky transaction-related costs	56	180	355
Adjustment for legal settlement	177	—	125
Adjusted EBITDA	\$ 30,826	\$ 34,258	\$ 30,165

Constant Currency

Constant currency and constant currency growth rates are non-GAAP financial measures that present our results of operations excluding the estimated effects of foreign currency exchange rate fluctuations. Certain of our businesses, including Sky, have operations outside the United States that are conducted in local currencies. As a result, the comparability of the financial results reported in U.S. dollars is affected by changes in foreign currency exchange rates. In our Sky segment, we use constant currency and constant currency growth rates to evaluate the underlying performance of the business, and we believe it is helpful for investors to present operating results on a comparable basis year over year to evaluate its underlying performance.

Constant currency and constant currency growth rates are calculated by comparing the prior year results adjusted to reflect the average exchange rates from the current year rather than the actual exchange rates that were in effect during the respective prior year.

Reconciliation of Sky Constant Currency Growth Rates

Year ended December 31 (in millions, except per customer data)	2020		2019		% Change 2019 to 2020		2018		% Change 2018 to 2019	
	Actual	Constant Currency	Constant Currency	Constant Growth	Actual	Constant Currency	Constant Currency	Constant Growth	Actual	Constant Currency
Revenue										
Direct-to-consumer	\$ 15,223	\$ 15,698		(3.0) %	\$ 15,538	\$ 15,326		1.4 %		
Content	1,373	1,443		(4.9)	1,432	1,196		19.7		
Advertising	1,998	2,270		(12.0)	2,249	2,376		(5.4)		
Total revenue	18,594	19,411		(4.2)	19,219	18,898		1.7		
Operating costs and expenses										
Programming and production	8,649	8,967		(3.5)	8,865	8,406		5.4		
Direct network costs	2,086	1,759		18.6	1,746	1,555		12.3		
Other	5,905	5,556		6.3	5,509	6,173		(10.8)		
Total operating costs and expenses	16,640	16,282		2.2	16,120	16,134		(0.1)		
Adjusted EBITDA	\$ 1,954	\$ 3,129		(37.6) %	\$ 3,099	\$ 2,764		12.2 %		
Average monthly direct-to-consumer revenue per customer relationship	\$ 52.93	\$ 54.97		(3.7) %	\$ 54.41	\$ 54.98		(1.0) %		

Liquidity and Capital Resources

Our businesses generate significant cash flows from operating activities. We believe that we will be able to continue to meet our current and long-term liquidity and capital requirements, including fixed charges, through our cash flows from operating activities; existing cash, cash equivalents and investments; available borrowings under our existing credit facilities; and our ability to obtain future external financing. We anticipate that we will continue to use a substantial portion of our cash flows in repaying our debt obligations, funding our capital expenditures, investing in business opportunities and returning capital to shareholders. Refer to “Impacts of COVID-19” for additional discussion.

We maintain significant availability under our revolving credit facilities and our commercial paper programs to meet our short-term liquidity requirements. Our commercial paper programs provide a lower-cost source of borrowing to fund our short-term working capital requirements. See Note 6 for additional information on our revolving credit facilities. As of December 31, 2020, amounts available under our revolving credit facilities, net of amounts outstanding under our commercial paper programs and outstanding letters of credit and bank guarantees, totaled \$9.2 billion.

Comcast, NBCUniversal and Comcast Cable are subject to the covenants and restrictions set forth in the indentures governing our public debt securities and in the credit agreements governing the Comcast revolving credit facility. The financial covenant in the credit facility pertains to leverage, which is the ratio of debt to EBITDA, as defined in the credit facility. We test for compliance with this financial covenant on an ongoing basis. As of December 31, 2020, we met this financial covenant by a significant margin. We do not expect to have to reduce debt or improve operating results in order to continue to comply with this financial covenant. In addition, the Universal Studios Japan term loans contain certain financial covenants. As of December 31, 2020, Universal Studios Japan was in compliance with all of these covenants.

Operating Activities

Components of Net Cash Provided by Operating Activities

Year ended December 31 (in millions)	2020	2019	2018
Operating income	\$ 17,493	\$ 21,125	\$ 19,009
Depreciation, amortization and other operating gains	13,100	12,953	10,676
Noncash share-based compensation	1,193	1,021	826
Changes in operating assets and liabilities	(178)	(2,335)	(1,313)
Payments of interest	(3,878)	(4,254)	(2,897)
Payments of income taxes	(3,183)	(3,231)	(2,355)
Proceeds from investments and other	190	418	351
Net cash provided by operating activities	\$ 24,737	\$ 25,697	\$ 24,297

The variance in changes in operating assets and liabilities in 2020 compared to 2019 was primarily due to the impacts of COVID-19, including the timing of amortization and related payments for our film and television costs, which resulted from the

suspension of studio production operations partially offset by the timing of sporting events, as well as the extension of due dates for certain tax payments and accruals related to severance.

The decrease in interest payments in 2020 was primarily due to a decrease in average debt outstanding.

The decrease in income tax payments in 2020 was primarily due to lower taxable income from operations in 2020, partially offset by the taxable gain associated with the AirTouch redemption which approximated the proceeds received.

Investing Activities

Net cash used in investing activities in 2020 consisted primarily of capital expenditures, cash paid for intangible assets, the construction of Universal Beijing Resort, purchases of investments and the purchase of spectrum rights, which were partially offset by proceeds from sales of businesses and investments. Net cash used in investing activities in 2019 consisted primarily of capital expenditures, cash paid for intangible assets, purchases of investments and the construction of Universal Beijing Resort, which were partially offset by proceeds from sales of businesses and investments.

Capital Expenditures

Capital expenditures decreased in 2020 primarily due to decreases in spending by our Theme Parks segment as a result of COVID-19 and by our Cable Communications segment, partially offset by increases in spending by our Sky segment, reflecting the continued deployment of Sky Q and high-speed internet services.

Our most significant recurring investing activity has been capital expenditures in our Cable Communications segment, and we expect that this will continue in the future. Cable Communications' capital expenditures decreased primarily due to lower spending on customer premise equipment and support capital, partially offset by an increase in spending on scalable infrastructure. The table below summarizes the capital expenditures we incurred in our Cable Communications segment in 2020, 2019 and 2018.

Year ended December 31 (in millions)		2020	2019	2018
Customer premise equipment	\$	2,333	\$ 2,659	\$ 2,917
Scalable infrastructure		2,289	2,000	2,555
Line extensions		1,394	1,392	1,484
Support capital		589	858	767
Total	\$	6,605	\$ 6,909	\$ 7,723

We expect our capital expenditures for 2021 will be focused on the continued investment in scalable infrastructure to increase network capacity in our Cable Communications segment; increased investment in line extensions for the expansion of both business services and residential; and the continued deployment of wireless gateways, our X1 platform, cloud DVR technology, Sky Q, and international DTC streaming platforms. In addition, while we expect to invest in existing and new attractions at our Universal theme parks in the future, we have paused the construction of our additional theme park in Orlando, Florida. Capital expenditures for subsequent years will depend on numerous factors, including acquisitions, competition, changes in technology, regulatory changes, the timing and rate of deployment of new services, the capacity required for existing services, and the timing of new attractions at our theme parks.

Cash Paid for Intangible Assets

In 2020, cash paid for intangible assets was flat primarily due to decreases in expenditures for software development at our Cable Communications segment, offset by increases in expenditures for software development at both our Sky segment and at Corporate, primarily related to our development of Sky Q and Peacock, respectively.

Construction of Universal Beijing Resort

Construction of Universal Beijing Resort includes costs related to the construction of the Universal theme park and resort in Beijing, China. See Note 7.

Purchase of Spectrum

On September 2, 2020, the FCC announced the results of its CBRS spectrum auction. In connection with the auction, we acquired the rights to \$459 million of spectrum.

Proceeds from Sales of Businesses and Investments

In 2020, proceeds from sales of businesses and investments increased primarily due to \$1.7 billion of proceeds received from the sale of our investment in AirTouch in the second quarter of 2020. See Note 9.

Purchases of Investments

Purchases of investments in 2020 were primarily related to capital contributions to Atairos and in 2019 were primarily related to Hulu, including the acquisition of our proportionate share of the interest previously held by AT&T, and Atairos.

Other

Other investing activities in 2020 and 2019 were primarily related to distributions received from equity method investments.

Financing Activities

Net cash used in financing activities in 2020 consisted primarily of repayments of debt and the related early redemption payments presented in other financing activities, dividend payments and payments related to the redemption and repayment of subsidiary preferred shares in the second quarter of 2020 presented in other financing activities (see Note 9), which were partially offset by proceeds from borrowings and proceeds from the settlement of cross currency swaps related to our debt presented in other financing activities. Net cash used in financing activities in 2019 consisted primarily of repayments of debt and dividend payments, partially offset by proceeds from issuance of senior notes and a collateralized obligation.

In 2020, we made debt repayments of \$18.8 billion, including the early redemption and purchase of senior notes maturing between 2020 and 2047 and optional repayments of term loans due 2021 to 2023 totaling \$15.8 billion.

In 2020, we issued \$12.5 billion of fixed-rate senior notes maturing between 2025 and 2062, \$3.2 billion (using exchange rates on the date of issuance) of fixed-rate Euro senior notes maturing between 2027 and 2040 and \$1.8 billion (using exchange rates on the date of issuance) of fixed-rate Sterling senior notes maturing between 2029 and 2036. In 2020, we made borrowings of \$1.1 billion under the Universal Beijing Resort term loan.

We have made, and may from time to time in the future make, optional repayments on our debt obligations, which may include repurchases or exchanges of our outstanding public notes and debentures, depending on various factors, such as market conditions. Any such repurchases may be effected through privately negotiated transactions, market transactions, tender offers, redemptions or otherwise. See Note 6 for additional information on our financing activities.

Dividends

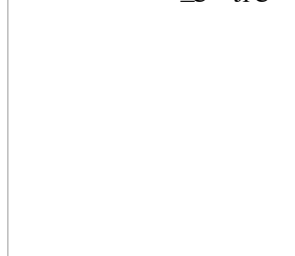
Our Board of Directors declared quarterly dividends totaling \$4.3 billion in 2020. We paid dividends of \$4.1 billion in 2020. In January 2021, our Board of Directors approved a 9% increase in our dividend to \$1.00 per share on an annualized basis. We expect to continue to pay quarterly dividends, although each dividend is subject to approval by our Board of Directors.

The chart below summarizes our dividends paid in 2020, 2019 and 2018. In addition, we paid \$534 million and \$504 million in 2020 and 2019, respectively, related to employee taxes associated with the administration of our share-based compensation plans.

Dividends Paid

(in billions)

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Guarantee Structure

Our debt is primarily issued at Comcast, although we also have debt at certain of our subsidiaries as a result of acquisitions and other issuances. A substantial amount of this debt is subject to guarantees by Comcast and by certain subsidiaries that we have put in place to simplify our capital structure. We believe this guarantee structure provides liquidity benefits to debt investors and helps to simplify credit analysis with respect to relative value considerations of guaranteed subsidiary debt.

Debt and Guarantee Structure

December 31 (in billions)	2020	2019
Debt subject to cross-guarantees		
Comcast	\$ 85.7	\$ 80.4
NBCUniversal ^(a)	2.8	5.8
Comcast Cable ^(a)	2.1	2.1
	90.6	88.3
Debt subject to one-way guarantees		
Sky	8.4	9.2
Other ^(a)	2.8	4.1
	11.2	13.3
Debt not guaranteed		
Universal Beijing Resort ^(b)	2.5	1.3
Other	1.1	1.0
	3.6	2.3
Debt issuance costs, premiums, discounts, fair value adjustments for acquisition accounting and hedged positions, net	(1.6)	(1.7)
Total debt	\$ 103.8	\$ 102.2

(a) NBCUniversal, Comcast Cable and Comcast Holdings (included within other debt subject to one-way guarantees) are each consolidated subsidiaries subject to the periodic reporting requirements of the SEC. The guarantee structures and related disclosures in this section, together with Exhibit 22, satisfy these reporting obligations.

(b) Universal Beijing Resort debt financing is secured by the assets of Universal Beijing Resort and the equity interests of the investors. See Note 7 for additional information.

Cross-guarantees

Comcast, NBCUniversal and Comcast Cable (the “Guarantors”) fully and unconditionally, jointly and severally, guarantee each other’s debt securities. NBCUniversal and Comcast Cable also guarantee other borrowings of Comcast, including its revolving credit facility. These guarantees rank equally with all other general unsecured and unsubordinated obligations of the respective Guarantors. However, the obligations of the Guarantors under the guarantees are structurally subordinated to the indebtedness and other liabilities of their respective non-guarantor subsidiaries. The obligations of each Guarantor are limited to the maximum amount that would not render such Guarantor’s obligations subject to avoidance under applicable fraudulent conveyance provisions of U.S. and non-U.S. law. Each Guarantor’s obligations will remain in effect until all amounts payable with respect to the guaranteed securities have been paid in full. However, a guarantee by NBCUniversal or Comcast Cable of Comcast’s debt securities, or by NBCUniversal of Comcast Cable’s debt securities, will terminate upon a disposition of such Guarantor entity or all or substantially all of its assets.

The Guarantors are each holding companies that principally hold investments in, borrow from and lend to non-guarantor subsidiary operating companies; issue and service third-party debt obligations; repurchase shares and pay dividends; and engage in certain corporate and headquarters activities. The Guarantors are generally dependent on non-guarantor subsidiary operating companies to fund these activities.

As of December 31, 2020 and 2019, the combined Guarantors have noncurrent notes payable to non-guarantor subsidiaries of \$124 billion and \$122 billion, respectively, and noncurrent notes receivable from non-guarantor subsidiaries of \$26 billion and \$21 billion, respectively. This financial information is that of the Guarantors presented on a combined basis with intercompany balances between the Guarantors eliminated. The combined financial information excludes financial information of non-guarantor subsidiaries. The underlying net assets of the non-guarantor subsidiaries are significantly in excess of the Guarantor obligations. Excluding investments in non-guarantor subsidiaries, external debt and the noncurrent notes payable and receivable with non-guarantor subsidiaries, the Guarantors do not have material assets, liabilities or results of operations.

One-way Guarantees

Comcast provides full and unconditional guarantees of certain debt issued by Sky and other consolidated subsidiaries not subject to the periodic reporting requirements of the SEC.

Comcast also provides a full and unconditional guarantee of \$138 million principal amount of subordinated debt issued by Comcast Holdings. Comcast's obligations under this guarantee are subordinated and subject, in right of payment, to the prior payment in full of all of Comcast's senior indebtedness, including debt guaranteed by Comcast on a senior basis; and are structurally subordinated to the indebtedness and other liabilities of its non-guarantor subsidiaries (for purposes of this Comcast Holdings discussion, Comcast Cable and NBCUniversal are included within the non-guarantor subsidiary group). Comcast's obligations as guarantor will remain in effect until all amounts payable with respect to the guaranteed debt have been paid in full. However, the guarantee will terminate upon a disposition of Comcast Holdings or all or substantially all of its assets. Comcast Holdings is a consolidated subsidiary holding company that directly or indirectly holds 100% and approximately 37% of our equity interests in Comcast Cable and NBCUniversal, respectively.

As of December 31, 2020 and 2019, Comcast and Comcast Holdings, the combined issuer and guarantor of the guaranteed subordinated debt, have noncurrent senior notes payable to non-guarantor subsidiaries of \$94 billion and \$92 billion, respectively, and noncurrent notes receivable from non-guarantor subsidiaries of \$23 billion and \$18 billion, respectively. This financial information is that of Comcast and Comcast Holdings presented on a combined basis with intercompany balances between Comcast and Comcast Holdings eliminated. The combined financial information excludes financial information of non-guarantor subsidiaries of Comcast and Comcast Holdings. The underlying net assets of the non-guarantor subsidiaries of Comcast and Comcast Holdings are significantly in excess of the obligations of Comcast and Comcast Holdings. Excluding investments in non-guarantor subsidiaries, external debt and the noncurrent notes payable and receivable with non-guarantor subsidiaries, Comcast and Comcast Holdings do not have material assets, liabilities or results of operations.

Contractual Obligations

As of December 31, 2020 (in millions)	Payment Due by Period				
	Total	Year 1	Years 2-3	Years 4-5	More than 5
Debt obligations ^(a)	\$ 104,408	\$ 2,923	\$ 7,794	\$ 13,612	\$ 80,079
Collateralized obligation ^{(a)(b)}	5,168	—	—	5,168	—
Finance lease obligations	1,001	210	159	87	545
Operating lease obligations	5,381	873	1,461	1,004	2,043
Purchase obligations ^(c)	64,765	21,288	17,254	9,693	16,530
Other long-term liabilities reflected on the balance sheet ^(d)	5,234	434	1,278	1,218	2,304
Total ^{(e)(f)}	\$ 185,957	\$ 25,728	\$ 27,946	\$ 30,782	\$ 101,501

Refer to Notes 6 and 16.

(a) Excludes interest payments.

(b) Collateralized obligation relates to a \$5.2 billion term loan facility, the principal amount of which is fully secured by the minimum guaranteed proceeds under the put/call provisions related to our investment in Hulu. See Note 9.

(c) Purchase obligations consist of agreements to purchase goods and services that are legally binding on us and specify all significant terms, including fixed or minimum quantities to be purchased and price provisions. Our purchase obligations related to Cable Communications and Sky include programming contracts with cable networks and local broadcast television stations; contracts with customer premise equipment manufacturers; contracts with communications vendors and multichannel video providers for which we provide advertising sales representation; contracts to acquire handsets and other equipment; and other contracts entered into in the normal course of business. Cable Communications' and Sky's programming contracts include amounts payable under fixed or minimum guaranteed commitments and do not represent the total fees that are expected to be paid under programming contracts, which we expect to be significantly higher because these contracts are generally based on the number of subscribers receiving the programming. Our purchase obligations related to NBCUniversal and Sky include commitments to acquire film and television programming, and broadcast rights relating to sporting events, such as the Olympics, the NFL and European soccer leagues, as well as obligations under various creative talent agreements, including obligations to actors, producers and television personalities, and various other television commitments. Purchase obligations do not include contracts with immaterial future commitments.

(d) Other long-term liabilities reflected on the balance sheet consist primarily of deferred compensation obligations and postretirement, pension and postemployment benefit obligations. Our total recorded liability of \$2.8 billion related to participations and residuals are not included in the table above because we cannot make a reliable estimate of the period in which these obligations will be settled. Liabilities for uncertain tax positions of \$1.4 billion and the associated interest and penalties are not included in the table above because it is uncertain if or when these amounts will become payable. A contractual obligation with a carrying value of \$1.1 billion is not included in the table above because it is uncertain if the arrangement will be settled. The contractual obligation involves an interest held by a third party in the revenue of certain theme parks. See Note 16 for additional information related to this arrangement.

(e) Our contractual obligations do not include our capital commitment related to our investment in Atairos due to our inability to estimate the timing of this funding. As of December 31, 2020, our remaining commitment is \$1.3 billion based on the capital calls received as of that date (see Note 9).

(f) Total contractual obligations are made up of the following components.

(in millions)	
Liabilities recorded on the balance sheet	\$ 126,230
Commitments not recorded on the balance sheet	59,727
Total	\$ 185,957

Off-Balance Sheet Arrangements

As of December 31, 2020, we did not have any material off-balance sheet arrangements that are reasonably likely to have a current or future effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Recent Accounting Pronouncements

See Note 8 for additional information related to recent accounting pronouncements, including the impact of the adoption of the updated accounting guidance related to film and television costs and credit losses.

Critical Accounting Judgments and Estimates

The preparation of our consolidated financial statements requires us to make estimates that affect the reported amounts of assets, liabilities, revenue and expenses, and the related disclosure of contingent assets and contingent liabilities. We base our judgments on our historical experience and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making estimates about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe our judgments and related estimates associated with the valuation and impairment testing of goodwill and cable franchise rights and the accounting for film and television costs are critical in the preparation of our consolidated financial statements. Management has discussed the development and selection of these critical accounting judgments and estimates with the Audit Committee of our Board of Directors, and the Audit Committee has reviewed the related disclosures below. See also Notes 4 and 11.

Valuation and Impairment Testing of Goodwill and Cable Franchise Rights

We assess the recoverability of our goodwill and indefinite-lived intangible assets, including cable franchise rights, annually as of July 1, or more frequently whenever events or substantive changes in circumstances indicate that the assets might be impaired. The assessment of recoverability may first consider qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit or an indefinite-lived intangible asset is less than its carrying amount. A quantitative assessment is performed if the qualitative assessment results in a more-likely-than-not determination or if a qualitative assessment is not performed.

Goodwill

Goodwill results from business combinations and represents the excess amount of the consideration paid over the identifiable assets and liabilities recorded in the acquisition. We test goodwill for impairment at the reporting unit level and have concluded that our reporting units are generally the same as our reportable segments. We evaluate the determination of our reporting units periodically or whenever events or substantive changes in circumstances occur. When performing a quantitative assessment, we estimate the fair values of our reporting units primarily based on a discounted cash flow analysis that involves significant judgment, including market participant estimates of future cash flows expected to be generated by the business and the selection of discount rates. When analyzing the fair values indicated under discounted cash flow models, we also consider multiples of Adjusted EBITDA generated by the underlying assets, current market transactions and profitability information.

We performed qualitative assessments in 2020 for goodwill in our Cable Communications and NBCUniversal segments. The qualitative assessments considered that the estimated fair values of these reporting units substantially exceeded their carrying values at the time of our previous quantitative assessments in 2018; changes in projected future cash flows; recent market transactions and overall macroeconomic conditions, including the effects of COVID-19; discount rates; and changes in our market capitalization. Based on these assessments, we concluded that it was more likely than not that the estimated fair values of our reporting units were higher than their carrying values and that the performance of a quantitative impairment test was not required. We performed a quantitative assessment in 2020 for goodwill in our Sky segment and the estimated fair value of the reporting unit was higher than the carrying value. Assets and liabilities resulting from a business combination are initially recorded at fair value and the risk of goodwill impairment is reduced as the value of the businesses in a reporting unit increases and as the carrying value of the reporting unit decreases due to the amortization of the historical cost of acquired long-lived assets over time. Given the goodwill in our Sky segment resulted from our recent acquisition of Sky in the fourth quarter of 2018, the fair value is in close proximity to the carrying value of the Sky reporting unit.

Changes in market conditions, laws and regulations, and key assumptions made in future quantitative assessments, including expected cash flows, competitive factors and discount rates, could negatively impact the results of future impairment testing and could result in the recognition of an impairment charge.

Cable Franchise Rights

Our cable franchise rights assets result from agreements we have with state and local governments that allow us to construct and operate a cable business within a specified geographic area. The value of a franchise is derived from the economic benefits we receive from the right to solicit new customers and to market additional services in a particular service area. The amounts we record for cable franchise rights are primarily a result of cable system acquisitions. Typically when we acquire a cable system, the most significant asset we record is the value of the cable franchise rights. Often these cable system acquisitions include multiple franchise areas. We currently serve approximately 6,400 franchise areas in the United States.

We have concluded that our cable franchise rights have an indefinite useful life since there are no legal, regulatory, contractual, competitive, economic or other factors which limit the period over which these rights will contribute to our cash flows. Accordingly, we do not amortize our cable franchise rights.

For purposes of impairment testing, we have grouped the recorded values of our various cable franchise rights into our three Cable Communications divisions or units of account. We evaluate the unit of account periodically to ensure our impairment testing is performed at an appropriate level.

When performing a quantitative assessment, we estimate the fair values of our cable franchise rights primarily based on a discounted cash flow analysis that involves significant judgment, including the estimate of future cash flows and the selection of discount rates. When analyzing the fair values indicated under the discounted cash flow models, we also consider multiples of Adjusted EBITDA generated by the underlying assets, current market transactions and profitability information.

In 2020, we performed a qualitative assessment of our cable franchise rights. At the time of our previous quantitative assessment in 2018, the estimated fair values of our franchise rights substantially exceeded their carrying values. We also considered various factors that would affect the estimated fair values of our cable franchise rights in our qualitative assessment, including changes in our projected future cash flows associated with our Cable Communications segment; recent market transactions and overall macroeconomic conditions, including the effects of COVID-19; discount rates; and changes in our market capitalization. Based on this assessment, we concluded that it was more likely than not that the estimated fair values of our cable franchise rights were higher than the carrying values and that the performance of a quantitative impairment test was not required.

Changes in market conditions, laws and regulations and key assumptions made in future quantitative assessments, including expected cash flows, competitive factors and discount rates, could negatively impact the results of future impairment testing and could result in the recognition of an impairment charge.

Film and Television Content

We capitalize costs for owned film and television content, including direct costs, production overhead, print costs, development costs and interest, as well as acquired libraries. We have determined that the predominant monetization strategy for the substantial majority of our content is on an individual basis. Amortization for owned content predominantly monetized on an individual basis and accrued costs associated with participations and residual payments are recorded using the individual film forecast computation method, which recognizes the costs in the same ratio as the associated ultimate revenue.

Our estimates of ultimate revenue for films generally include revenue from all sources that are expected to be earned within 10 years from the date of a film's initial release. These estimates are based on the distribution strategy and historical performance of similar content, as well as factors unique to the content itself. The most sensitive factor affecting our estimate of ultimate revenue for a film intended for theatrical release is the film's theatrical performance, as subsequent revenue from the licensing and sale of a film has historically exhibited a high correlation to its theatrical performance. Upon a film's release, our estimates of revenue from succeeding markets, including from content licensing across multiple platforms and home entertainment sales, are revised based on historical relationships and an analysis of current market trends.

With respect to television series or other owned television programming, the most sensitive factor affecting our estimate of ultimate revenue is whether the series can be successfully licensed beyond its initial license window. Initial estimates of ultimate revenue are limited to the amount of revenue attributed to the initial license window. Once it is determined that a television series or other owned television programming can be licensed beyond the initial license window, revenue estimates for these additional windows or platforms, such as U.S. and international syndication, home entertainment, and other distribution platforms, are included in ultimate revenue. Revenue estimates for produced episodes include revenue expected to be earned within 10 years of delivery of the initial episode or, if still in production, 5 years from the delivery of the most recent episode, if later.

We capitalize the costs of licensed content when the license period begins, the content is made available for use and the costs of the licenses are known. Licensed content is amortized as the associated programs are broadcast. We recognize the costs of multiyear, live-event sports rights as the rights are utilized over the contract term based on estimated relative value. Estimated relative value is generally based on the ratio of the current period revenue to the estimated ultimate revenue or the terms of the contract. Our estimates of ultimate revenue for sports rights include estimates of advertising and subscribers receiving or viewing the broadcasts over the term of the agreements.

Capitalized film and television costs are subject to impairment testing when certain triggering events are identified. The substantial majority of our owned content is evaluated for impairment on an individual title basis. Licensed content that is not part of a film group is tested for impairment primarily on a channel, network or platform basis, with the exception of our broadcast networks and owned local broadcast television stations, which are tested on a daypart basis. Sports rights are accounted for as executory contracts and are not subject to impairment. When performing an impairment assessment, we estimate fair value primarily based on a discounted cash flow analysis that involves significant judgment, including market participant estimates of future cash flows, which are supported by internal forecasts. Adjustments to capitalized film and television costs were not material in any of the periods presented.

Item 7A: Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk Management

We maintain a mix of fixed-rate and variable-rate debt and we are exposed to the market risk of adverse changes in interest rates. In order to manage the cost and volatility relating to the interest cost of our outstanding debt, we enter into various interest rate risk management derivative transactions in accordance with our policy.

We monitor our exposure to the risk of adverse changes in interest rates through the use of techniques that include market valuation and sensitivity analyses. We do not engage in any speculative or leveraged derivative transactions.

Our interest rate derivative financial instruments, which primarily include cross currency swaps, represent an integral part of our interest rate risk management program. These cross-currency swaps effectively change our current fixed interest rates to different fixed interest rates.

The effect of our interest rate derivative financial instruments to our consolidated interest expense was a decrease of \$9 million in 2020, a decrease of \$49 million in 2019, and an increase of \$2 million in 2018. Interest rate derivative financial instruments may have a significant effect on consolidated interest expense in the future.

The table below summarizes by contractual year of maturity the principal amount of our debt, effective rates, and fair values subject to interest rate risk maintained by us as of December 31, 2020.

(in millions)	2021	2022	2023	2024	2025	Thereafter	Total	Estimated Fair Value as of December 31, 2020
Debt								
Fixed-rate debt	\$ 2,045	\$ 2,084	\$ 1,095	\$ 6,246	\$ 6,953	\$ 78,122	\$ 96,545	\$ 116,732
Average interest rate	1.6 %	6.7 %	2.0 %	3.1 %	3.4 %	3.9 %	3.8 %	
Variable-rate debt	\$ 1,088	\$ 1,944	\$ 2,830	\$ 500	\$ —	\$ 2,502	\$ 8,864	\$ 8,873
Average interest rate	0.7 %	0.8 %	1.1 %	1.5 %	— %	4.4 %	1.9 %	

The average interest rates on our debt in the table above reflect the effects of our derivative financial instruments. We estimate interest rates on variable rate debt and swaps using the relevant average implied forward rates through the year of maturity based on the yield curve in effect on December 31, 2020, plus the applicable borrowing margin.

Additionally, we have a \$5.2 billion variable rate term loan presented separately as a collateralized obligation that will mature in March 2024. We entered into a series of variable-to-fixed rate interest rate swaps on \$5.2 billion of this term loan with average pay rate and average receive rate related to these interest rate swaps of 1.12% and 0.15% as of December 31, 2020, respectively. As of December 31, 2020 and 2019, the estimated fair value of the term loan was \$5.2 billion for each period, and the estimated fair value of the related interest rate swaps was a net liability of \$155 million and a net asset of \$34 million, respectively.

See Notes 1, 6 and 9 for additional information.

Foreign Exchange Risk Management

We have significant operations in a number of countries outside the United States through Sky and NBCUniversal, and certain of our operations are conducted in foreign currencies. The value of these currencies fluctuates relative to the U.S. dollar. These changes could adversely affect the U.S. dollar equivalent value of our non-U.S. dollar operations, which could negatively affect our business, financial condition and results of operations in a given period or in specific territories.

As part of our overall strategy to manage the level of exposure to the risk of foreign exchange rate fluctuations, we enter into derivative financial instruments related to a significant portion of our foreign currency exposure for transactions denominated in other than the functional currency. We enter into foreign currency forward contracts that change in value as currency exchange rates fluctuate to protect the functional currency equivalent value of non-functional currency denominated assets, liabilities, commitments, and forecasted non-functional currency revenue and expenses. In accordance with our policy, we hedge forecasted foreign currency transactions for periods generally not to exceed 30 months. As of December 31, 2020 and 2019, we had foreign exchange contracts on transactions other than debt with a total notional value of \$8.1 billion and \$6.3 billion, respectively. As of December 31, 2020 and 2019, the aggregate estimated fair value of these foreign exchange contracts was not material.

We use cross-currency swaps as cash flow hedges for foreign currency denominated debt obligations when those obligations are denominated in a currency other than the functional currency. Cross-currency swaps effectively convert foreign currency denominated debt to debt denominated in the functional currency, which hedge currency exchange risks associated with foreign currency denominated cash flows such as interest and principal debt repayments. As of December 31, 2020 and 2019, we had cross-currency swaps designated as cash flow hedges on \$1.7 billion and \$3.7 billion of our foreign currency denominated debt, respectively. As of December 31, 2020 and 2019, the aggregate estimated fair values of cross-currency swaps designated as cash flow hedges were a net liability of \$45 million and a net asset of \$373 million, respectively.

We are also exposed to foreign exchange risk on the consolidation of our foreign operations. We have foreign currency denominated debt and cross-currency swaps designated as hedges of our net investments in certain of these subsidiaries. Transaction gains and losses resulting from currency movements on debt and changes in fair value of cross-currency swaps designated as net investment hedges are recorded within the currency translation adjustments component of accumulated other comprehensive income (loss). As of December 31, 2020 and 2019, the amount of our net investment in foreign subsidiaries hedged using foreign currency denominated debt was \$10.3 billion and \$9.2 billion, respectively, and the amount of our net investment in foreign subsidiaries hedged using cross-currency swaps was \$4.0 billion and \$4.8 billion, respectively. As of December 31, 2020 and 2019, the aggregate estimated fair value of these cross-currency swaps was a net liability of \$376 million and \$373 million, respectively. The amount of pre-tax gains (losses) related to net investment hedges recognized in the cumulative translation adjustments component of other comprehensive income (loss) were losses of \$686 million in 2020, gains of \$343 million in 2019 and losses of \$3 million in 2018.

We have analyzed our foreign currency exposure related to our foreign operations as of December 31, 2020, including our hedging contracts, to identify assets and liabilities denominated in a currency other than their functional currency. For those assets and liabilities, we then evaluated the effect of a hypothetical 10% shift in currency exchange rates, inclusive of the effects of derivatives. The results of our analysis indicate that such a shift in exchange rates would not have a material impact on our 2020 net income attributable to Comcast Corporation.

Counterparty Credit Risk Management

We manage the credit risks associated with our derivative financial instruments through diversification and the evaluation and monitoring of the creditworthiness of counterparties. Although we may be exposed to losses in the event of nonperformance by counterparties, we do not expect such losses, if any, to be significant. We have agreements with certain counterparties that include collateral provisions. These provisions require a party with an aggregate unrealized loss position in excess of certain thresholds to post cash collateral for the amount in excess of the threshold. The threshold levels in our collateral agreements are based on our and the counterparty's credit ratings. As of December 31, 2020 and 2019, we were not required to post collateral under the terms of these agreements, nor did we hold any collateral under the terms of these agreements.

Item 8: Comcast Corporation Financial Statements and Supplementary Data

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Report of Management

Management's Report on Financial Statements

Our management is responsible for the preparation, integrity and fair presentation of information in the consolidated financial statements, including estimates and judgments. The consolidated financial statements presented in this report have been prepared in accordance with accounting principles generally accepted in the United States. Our management believes the consolidated financial statements and other financial information included in this report fairly present, in all material respects, the financial condition, results of operations and cash flows as of and for the periods presented in this report. The consolidated financial statements have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Our system of internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States.

Our internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets.
- Provide reasonable assurance that our transactions are recorded as necessary to permit preparation of our financial statements in accordance with accounting principles generally accepted in the United States, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors.
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changes in conditions, effectiveness of internal control over financial reporting may vary over time. Our system contains self-monitoring mechanisms, and actions are taken to correct deficiencies as they are identified.

Our management conducted an evaluation of the effectiveness of the system of internal control over financial reporting based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that the system of internal control over financial reporting was effective as of December 31, 2020. The effectiveness of internal control over financial reporting has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

Audit Committee Oversight

The Audit Committee of the Board of Directors, which is comprised solely of independent directors, has oversight responsibility for our financial reporting process and the audits of the consolidated financial statements and internal control over financial reporting. The Audit Committee meets regularly with management and with our internal auditors and independent registered public accounting firm (collectively, the “auditors”) to review matters related to the quality and integrity of our financial reporting, internal control over financial reporting (including compliance matters related to our Code of Conduct), and the nature, extent, and results of internal and external audits. Our auditors have full and free access and report directly to the Audit Committee. The Audit Committee recommended, and the Board of Directors approved, that the audited consolidated financial statements be included in this Form 10-K.

/s/ BRIAN L. ROBERTS

Brian L. Roberts

Chairman and
Chief Executive Officer

/s/ MICHAEL J. CAVANAGH

Michael J. Cavanagh

Chief Financial Officer

/s/ DANIEL C. MURDOCK

Daniel C. Murdock

Executive Vice President, Chief
Accounting Officer and Controller

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Comcast Corporation
Philadelphia, Pennsylvania

Opinions on the Consolidated Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Comcast Corporation and subsidiaries (the “Company”) as of December 31, 2020 and 2019, the related consolidated statements of income, comprehensive income, cash flows, and changes in equity for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the “financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company’s management is responsible for these financial statements, 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 these financial statements and an opinion on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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.

Critical Audit Matters

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

Sky Goodwill - Refer to Note 11 to the financial statements

Critical Audit Matter Description

The Company’s evaluation of goodwill for impairment involves the comparison of the fair value of the Sky reporting unit to its carrying value.

The Company used the discounted cash flow model to estimate fair value, which requires management to make significant estimates and assumptions related to discount rates and forecasts of expected cash flows. Changes in these assumptions could have a significant impact on

Report of Independent Registered Public Accounting Firm

either the fair value, the amount of any goodwill impairment charge, or both. The goodwill balance was \$70,669 million as of December 31, 2020, of which \$29,950 million was allocated to the Sky reporting unit. Given the Company's acquisition of Sky in the fourth quarter of 2018, the fair value of the Sky reporting unit remains in close proximity to its carrying value as of the measurement date.

We identified goodwill for Sky as a critical audit matter because of the significant judgments made by management to estimate the fair value of the Sky reporting unit. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to the selection of the discount rate and forecasts of future expected cash flows for the Sky reporting unit.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the discount rate and forecasts of future expected cash flows used by management to estimate the fair value of Sky included the following, among others:

- We tested the effectiveness of controls over management's goodwill impairment evaluation, including those over the determination of the fair value of Sky, such as controls related to management's selection of the discount rate and forecasts of future expected cash flows.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) discount rate, including testing the source information underlying the determination of the discount rate, testing the mathematical accuracy of the calculation, and developing a range of independent estimates and comparing those to the discount rate selected by management.
- We evaluated management's ability to accurately forecast future revenue and cash flows by comparing actual results to (1) historical results, including management's forecasting accuracy, (2) projections utilized in the purchase price allocation in connection with the 2018 acquisition of Sky, (3) internal communications to management, and (4) forecasted information included in Company press releases as well as in analyst and industry reports of the Company and companies in its peer group.

Film and Television Costs - Refer to Note 4 to the financial statements

Critical Audit Matter Description

The Company amortizes capitalized film and television production costs that are predominantly monetized on an individual basis using the individual film forecast computation method, which amortizes such costs using the ratio of current period revenue to the total remaining revenue forecasted to be realized, also known as "ultimate revenue." In addition, the Company recognizes the costs of multiyear, live-event sports programming rights as the rights are utilized over the contractual term based on estimated relative value. Estimated relative value is generally based on the ratio of current period revenue to the estimated ultimate revenue or the terms of the contract. The estimates of ultimate revenue have a significant impact on the rate at which capitalized costs are amortized.

The determination of ultimate revenue for capitalized film and television costs requires the Company to make significant estimates of future revenue based on the distribution strategy and historical performance of similar content, as well as factors unique to the content itself. The determination of ultimate revenue for multiyear, live-event sports programming rights requires the Company to make significant estimates of future revenue based on historical and expected trends in the advertising market as well as the number of subscribers receiving or viewing the sports programming. Given the judgments necessary to estimate ultimate revenue, auditing these estimates involved especially subjective judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to forecasts of ultimate revenue for individual film or television productions and for sports programming rights included the following, among others:

- We tested the effectiveness of management's controls over its amortization of film and television costs and sports programming rights, including controls over forecasts of ultimate revenue.
- For film and television productions, we tested management's selection of inputs and assumptions, including considering the historical performance of similar titles, expected distribution platforms, factors unique to the individual film or television production, and third-party projections. In addition, we evaluated the historical accuracy of management's forecast of future revenues by comparing actual results to management's historical estimates of ultimate revenue.
- For certain multiyear live-events sports programming rights, we evaluated management's assessment of any significant changes to the estimated relative value of the rights including any significant contract amendments, changes to expected trends in the advertising market, and number of subscribers receiving or viewing the sports programming.

/s/ **Deloitte & Touche LLP**

Philadelphia, Pennsylvania

February 3, 2021

We have served as the Company's auditor since 1963.

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Comcast Corporation
Consolidated Statement of Income

Year ended December 31 (in millions, except per share data)	2020		2019		2018
Revenue	\$	103,564	\$	108,942	\$ 94,507
Costs and Expenses:					
Programming and production		33,121		34,440	29,692
Other operating and administrative		33,109		32,807	28,094
Advertising, marketing and promotion		6,741		7,617	7,036
Depreciation		8,320		8,663	8,281
Amortization		4,780		4,290	2,736
Other operating gains		—		—	(341)
Total costs and expenses		86,071		87,817	75,498
Operating income		17,493		21,125	19,009
Interest expense		(4,588)		(4,567)	(3,542)
Investment and other income (loss), net		1,160		438	(225)
Income before income taxes		14,065		16,996	15,242
Income tax (expense) benefit		(3,364)		(3,673)	(3,380)
Net income		10,701		13,323	11,862
Less: Net income attributable to noncontrolling interests and redeemable subsidiary preferred stock		167		266	131
Net income attributable to Comcast Corporation	\$	10,534	\$	13,057	\$ 11,731
Basic earnings per common share attributable to Comcast Corporation shareholders	\$	2.30	\$	2.87	\$ 2.56
Diluted earnings per common share attributable to Comcast Corporation shareholders	\$	2.28	\$	2.83	\$ 2.53

See accompanying notes to consolidated financial statements.

Comcast Corporation

Consolidated Statement of Comprehensive Income

Year ended December 31 (in millions)	2020	2019	2018
Net income	\$ 10,701	\$ 13,323	\$ 11,862
Currency translation adjustments, net of deferred taxes of \$(331), \$(66) and \$9	1,213	1,375	(916)
Cash flow hedges:			
Deferred gains (losses), net of deferred taxes of \$26, \$(4) and \$(3)	(101)	19	50
Realized (gains) losses reclassified to net income, net of deferred taxes of \$31, \$(10) and \$(4)	(147)	65	(6)
Employee benefit obligations and other, net of deferred taxes of \$20, \$16 and \$(3)	(68)	(57)	8
Comprehensive income	11,598	14,725	10,998
Less: Net income attributable to noncontrolling interests and redeemable subsidiary preferred stock	167	266	131
Less: Other comprehensive income (loss) attributable to noncontrolling interests	60	(13)	(41)
Comprehensive income attributable to Comcast Corporation	\$ 11,371	\$ 14,472	\$ 10,908

See accompanying notes to consolidated financial statements.

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Comcast Corporation
Consolidated Statement of Cash Flows

Year ended December 31 (in millions)	2020	2019	2018
Operating Activities			
Net income	\$ 10,701	\$ 13,323	\$ 11,862
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and other operating gains	13,100	12,953	10,676
Share-based compensation	1,193	1,021	826
Noncash interest expense (income), net	697	417	364
Net (gain) loss on investment activity and other	(970)	(20)	576
Deferred income taxes	(550)	563	290
Changes in operating assets and liabilities, net of effects of acquisitions and divestitures:			
Current and noncurrent receivables, net	(20)	(57)	(802)
Film and television costs, net	(244)	(929)	(395)
Accounts payable and accrued expenses related to trade creditors	(266)	(347)	(394)
Other operating assets and liabilities	1,096	(1,227)	1,294
Net cash provided by operating activities	24,737	25,697	24,297
Investing Activities			
Capital expenditures	(9,179)	(9,953)	(9,774)
Cash paid for intangible assets	(2,455)	(2,475)	(1,935)
Construction of Universal Beijing Resort	(1,498)	(1,116)	(460)
Purchase of spectrum	(459)	—	—
Acquisitions, net of cash acquired	(233)	(370)	(38,219)
Proceeds from sales of businesses and investments	2,339	886	141
Purchases of investments	(812)	(1,899)	(1,257)
Other	250	86	650
Net cash provided by (used in) investing activities	(12,047)	(14,841)	(50,854)
Financing Activities			
Proceeds from (repayments of) short-term borrowings, net	—	(1,288)	379
Proceeds from borrowings	18,644	5,479	44,781
Proceeds from collateralized obligation	—	5,175	—
Repurchases and repayments of debt	(18,777)	(14,354)	(8,798)
Repurchases of common stock under repurchase program and employee plans	(534)	(504)	(5,320)
Dividends paid	(4,140)	(3,735)	(3,352)
Other	(1,706)	46	(550)
Net cash provided by (used in) financing activities	(6,513)	(9,181)	27,140
Impact of foreign currency on cash, cash equivalents and restricted cash	2	5	(245)
Increase (decrease) in cash, cash equivalents and restricted cash	6,179	1,680	338
Cash, cash equivalents and restricted cash, beginning of year	5,589	3,909	3,571
Cash, cash equivalents and restricted cash, end of year	\$ 11,768	\$ 5,589	\$ 3,909

See accompanying notes to consolidated financial statements.

Comcast Corporation
Consolidated Balance Sheet

December 31 (in millions, except share data)	2020	2019
Assets		
Current Assets:		
Cash and cash equivalents	\$ 11,740	\$ 5,500
Receivables, net	11,466	11,292
Programming rights	—	3,877
Other current assets	3,535	4,723
Total current assets	26,741	25,392
Film and television costs	13,340	8,933
Investments	7,820	6,989
Investment securing collateralized obligation	447	694
Property and equipment, net	51,995	48,322
Goodwill	70,669	68,725
Franchise rights	59,365	59,365
Other intangible assets, net	35,389	36,128
Other noncurrent assets, net	8,103	8,866
Total assets	\$ 273,869	\$ 263,414
Liabilities and Equity		
Current Liabilities:		
Accounts payable and accrued expenses related to trade creditors	\$ 11,364	\$ 10,826
Accrued participations and residuals	1,706	1,730
Deferred revenue	2,963	2,768
Accrued expenses and other current liabilities	9,617	10,516
Current portion of long-term debt	3,146	4,452
Total current liabilities	28,796	30,292
Long-term debt, less current portion	100,614	97,765
Collateralized obligation	5,168	5,166
Deferred income taxes	28,051	28,180
Other noncurrent liabilities	18,222	16,765
Commitments and contingencies		
Redeemable noncontrolling interests and redeemable subsidiary preferred stock	1,280	1,372
Equity:		
Preferred stock—authorized, 20,000,000 shares; issued, zero	—	—
Class A common stock, \$0.01 par value—authorized, 7,500,000,000 shares; issued, 5,444,002,825 and 5,416,381,298; outstanding, 4,571,211,797 and 4,543,590,270	54	54
Class B common stock, \$0.01 par value—authorized, 75,000,000 shares; issued and outstanding, 9,444,375	—	—
Additional paid-in capital	39,464	38,447
Retained earnings	56,438	50,695
Treasury stock, 872,791,028 Class A common shares	(7,517)	(7,517)
Accumulated other comprehensive income (loss)	1,884	1,047
Total Comcast Corporation shareholders' equity	90,323	82,726
Noncontrolling interests	1,415	1,148
Total equity	91,738	83,874
Total liabilities and equity	\$ 273,869	\$ 263,414

See accompanying notes to consolidated financial statements.

Comcast Corporation
Consolidated Statement of Changes in Equity

(in millions, except per share data)	2020	2019	2018
Redeemable Noncontrolling Interests and Redeemable Subsidiary Preferred Stock			
Balance, beginning of year	\$ 1,372	\$ 1,316	\$ 1,357
Contributions from (distributions to) noncontrolling interests, net	(51)	(62)	(56)
Other	(190)	(38)	(43)
Net income (loss)	149	156	58
Balance, end of year	\$ 1,280	\$ 1,372	\$ 1,316
Class A common stock			
Balance, beginning of year	\$ 54	\$ 54	\$ 55
Repurchases of common stock under repurchase program and employee plans	—	—	(1)
Balance, end of year	\$ 54	\$ 54	\$ 54
Class B common stock			
Balance, beginning and end of year	\$ —	\$ —	\$ —
Additional Paid-In Capital			
Balance, beginning of year	\$ 38,447	\$ 37,461	\$ 37,497
Stock compensation plans	920	783	607
Repurchases of common stock under repurchase program and employee plans	(143)	(34)	(920)
Employee stock purchase plans	255	222	214
Other	(15)	15	63
Balance, end of year	\$ 39,464	\$ 38,447	\$ 37,461
Retained Earnings			
Balance, beginning of year	\$ 50,695	\$ 41,983	\$ 38,202
Cumulative effects of adoption of accounting standards	(124)	—	(43)
Repurchases of common stock under repurchase program and employee plans	(407)	(485)	(4,408)
Dividends declared	(4,250)	(3,860)	(3,499)
Other	(10)	—	—
Net income (loss)	10,534	13,057	11,731
Balance, end of year	\$ 56,438	\$ 50,695	\$ 41,983
Treasury Stock at Cost			
Balance, beginning and end of year	\$ (7,517)	\$ (7,517)	\$ (7,517)
Accumulated Other Comprehensive Income (Loss)			
Balance, beginning of year	\$ 1,047	\$ (368)	\$ 379
Cumulative effects of adoption of accounting standards	—	—	76
Other comprehensive income (loss)	837	1,415	(823)
Balance, end of year	\$ 1,884	\$ 1,047	\$ (368)
Noncontrolling Interests			
Balance, beginning of year	\$ 1,148	\$ 889	\$ 843
Other comprehensive income (loss)	60	(13)	(41)
Contributions from (distributions to) noncontrolling interests, net	192	176	294
Other	(3)	(14)	(280)
Net income (loss)	18	110	73
Balance, end of year	\$ 1,415	\$ 1,148	\$ 889
Total equity	\$ 91,738	\$ 83,874	\$ 72,502
Cash dividends declared per common share	\$ 0.92	\$ 0.84	\$ 0.76

See accompanying notes to consolidated financial statements.

Note 1: Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include all entities in which we have a controlling voting interest and variable interest entities (“VIEs”) required to be consolidated including Universal Beijing Resort (see Note 7).

We translate assets and liabilities of our foreign operations where the functional currency is the local currency into U.S. dollars at the exchange rate as of the balance sheet date and translate revenue and expenses using average monthly exchange rates. The related translation adjustments are recorded as a component of accumulated other comprehensive income (loss) in our consolidated balance sheet. Any foreign currency transaction gains or losses are included in our consolidated statement of income in investment and other income (loss), net. For disclosures containing future amounts where the functional currency is the local currency, we translate the amounts into U.S. dollars at the exchange rates as of the balance sheet date.

Accounting Policies

Our consolidated financial statements are prepared in accordance with GAAP, which require us to select accounting policies, including in certain cases industry-specific policies, and make estimates that affect the reported amount of assets, liabilities, revenue and expenses, and the related disclosure of contingent assets and contingent liabilities. Actual results could differ from these estimates. The following accounting policies are specific to the industries in which we operate:

- capitalization and amortization of film and television costs (see Note 4)
- costs for connecting customers to our cable systems (see Note 10)

Information on other accounting policies and methods that we use in the preparation of our consolidated financial statements are included, where applicable, in their respective footnotes that follow. The collateralized obligation related to our investment in Hulu is discussed in Note 9 and our other long-term debt is discussed in Note 6. Below is a discussion of accounting policies and methods used in our consolidated financial statements that are not presented within other footnotes.

Advertising Expenses

Advertising costs are expensed as incurred.

Derivative Financial Instruments

We use derivative financial instruments to manage our exposure to the risks associated with fluctuations in interest rates, foreign exchange rates and equity prices. Our objective is to manage the financial and operational exposure arising from these risks by offsetting gains and losses on the underlying exposures with gains and losses on the derivatives used to economically hedge them.

Our derivative financial instruments are recorded in our consolidated balance sheet at fair value. We designate certain derivative instruments as cash flow hedges of forecasted foreign currency denominated transactions, including cash flows associated with non-functional currency debt and non-functional currency revenue and expenses. Changes in the fair value of derivative instruments accounted for as cash flow hedges are recorded as a component of accumulated other comprehensive income (loss) until the hedged items affect earnings. For derivatives not designated as cash flow hedges, changes in fair value are recognized in earnings.

Refer to Note 6 for further information on derivative instruments related to debt. The impact of our remaining derivative financial instruments was not material to our consolidated financial statements in any of the periods presented.

Fair Value Measurements

The accounting guidance related to fair value measurements establishes a hierarchy based on the types of inputs used for the various valuation techniques. The levels of the hierarchy are described below.

- Level 1: Values are determined using quoted market prices for identical financial instruments in an active market.
- Level 2: Values are determined using quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets.
- Level 3: Values are determined using models that use significant inputs that are primarily unobservable, discounted cash flow methodologies or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

Comcast Corporation

We use the three tier fair value hierarchy to measure the fair value of certain financial instruments on a recurring basis, such as for investments (see Note 9); on a non-recurring basis, such as for acquisitions and impairment testing; and for disclosure purposes, such as for long-term debt (see Note 6). Our assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation and classification within the fair value hierarchy.

Note 2: Segment Information

We are a global media and technology company with three primary businesses: Comcast Cable, NBCUniversal and Sky. We present our operations for (1) Comcast Cable in one reportable business segment, referred to as Cable Communications; (2) NBCUniversal in four reportable business segments: Cable Networks, Broadcast Television, Filmed Entertainment and Theme Parks; and (3) Sky in one reportable business segment. See Note 3 for a description of the various products and services within each reportable segment.

Our other business interests consist primarily of the operations of Comcast Spectacor, which owns the Philadelphia Flyers and the Wells Fargo Center arena in Philadelphia, Pennsylvania, and other business initiatives, such as Peacock, our new direct-to-consumer streaming service that features NBCUniversal content.

Our financial data by reportable segment is presented in the tables below. We do not present a measure of total assets for our reportable business segments as this information is not used by management to allocate resources and capital.

(in millions)	Revenue	Adjusted EBITDA ^(b)	Depreciation and Amortization	Capital Expenditures	Cash Paid for Intangible Assets
2020					
Cable Communications	\$ 60,051	\$ 25,270	\$ 7,753	\$ 6,605	\$ 1,333
NBCUniversal					
Cable Networks	10,849	4,616	771	34	24
Broadcast Television	10,244	1,934	163	82	15
Filmed Entertainment	5,276	785	95	13	17
Theme Parks	1,846	(541)	771	1,171	56
Headquarters and Other	121	(521)	478	185	139
Eliminations ^(a)	(254)	(4)	—	—	—
NBCUniversal	28,082	6,269	2,278	1,485	251
Sky	18,594	1,954	3,034	959	741
Corporate and Other	366	(2,447)	35	130	130
Eliminations ^(a)	(3,529)	(220)	—	—	—
Comcast Consolidated	\$ 103,564	\$ 30,826	\$ 13,100	\$ 9,179	\$ 2,455

(in millions)	Revenue	Adjusted EBITDA ^(b)	Depreciation and Amortization	Capital Expenditures	Cash Paid for Intangible Assets
2019					
Cable Communications	\$ 58,082	\$ 23,266	\$ 7,994	\$ 6,909	\$ 1,426
NBCUniversal					
Cable Networks	11,513	4,444	735	41	17
Broadcast Television	10,261	1,730	157	161	15
Filmed Entertainment	6,493	833	79	21	22
Theme Parks	5,933	2,455	696	1,605	60
Headquarters and Other	83	(689)	462	244	171
Eliminations ^(a)	(316)	(1)	—	—	—
NBCUniversal	33,967	8,772	2,129	2,072	285
Sky	19,219	3,099	2,699	768	707
Corporate and Other	333	(880)	131	204	57
Eliminations ^(a)	(2,659)	1	—	—	—
Comcast Consolidated	\$ 108,942	\$ 34,258	\$ 12,953	\$ 9,953	\$ 2,475

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(in millions)		Revenue	Adjusted EBITDA ^(b)	Depreciation and Amortization	Capital Expenditures	Cash Paid for Intangible Assets
2018						
Cable Communications	\$	56,033	\$ 21,681	\$ 8,262	\$ 7,723	\$ 1,346
NBCUniversal						
Cable Networks		11,773	4,428	738	42	23
Broadcast Television		11,439	1,657	146	204	81
Filmed Entertainment		7,152	734	145	35	25
Theme Parks		5,683	2,455	660	1,143	173
Headquarters and Other		63	(680)	419	306	146
Eliminations ^(a)		(349)	4	—	—	—
NBCUniversal		35,761	8,598	2,108	1,730	448
Sky		4,587	692	539	222	137
Corporate and Other		513	(779)	108	99	4
Eliminations ^(a)		(2,387)	(27)	—	—	—
Comcast Consolidated	\$	94,507	\$ 30,165	\$ 11,017	\$ 9,774	\$ 1,935

(a) Included in Eliminations are transactions that our segments enter into with one another. Our segments generally report transactions with one another as if they were stand-alone businesses in accordance with GAAP, and these transactions are eliminated in consolidation. When multiple segments enter into transactions to provide products and services to third parties, revenue is generally allocated to our segments based on relative value. The most significant transactions between our segments include distribution revenue at Cable Networks for the sale of programming to Cable Communications; content licensing revenue in our NBCUniversal segments (Broadcast Television, Filmed Entertainment and Cable Networks) for the license of owned content to Peacock and Sky, and for licenses of owned content to other NBCUniversal segments; advertising revenue at Cable Communications, Cable Networks and Broadcast Television; and distribution revenue at Broadcast Television for fees received under retransmission consent agreements from Cable Communications. For segment reporting purposes, we account for intercompany content licenses as follows:

- Revenue for licenses of content from NBCUniversal segments to Peacock and Sky are generally recognized at a point in time, consistent with the recognition of transactions with third parties, when the content is delivered and made available for use. The costs of these licenses at Peacock and Sky are recognized as the content is used over the license period. The difference in timing of recognition between segments results in an Adjusted EBITDA impact in eliminations as the profits on these transactions are deferred in our consolidated results and recognized as the content is used over the license period.
- Revenue for licenses of content between NBCUniversal segments is recognized over time to correspond with the amortization of the costs of the licensed content as the content is used over the license period.

(b) We use Adjusted EBITDA as the measure of profit or loss for our operating segments. From time to time we may report the impact of certain events, gains, losses or other charges related to our operating segments (such as certain costs incurred in response to COVID-19, including severance charges), within Corporate and Other. Our reconciliation of the aggregate amount of Adjusted EBITDA for our reportable segments to consolidated income before income taxes is presented in the table below.

Year ended December 31 (in millions)	2020	2019	2018
Adjusted EBITDA	\$ 30,826	\$ 34,258	\$ 30,165
Adjustment for legal settlement	(177)	—	(125)
Adjustment for Sky transaction-related costs	(56)	(180)	(355)
Depreciation	(8,320)	(8,663)	(8,281)
Amortization	(4,780)	(4,290)	(2,736)
Other operating gains	—	—	341
Interest expense	(4,588)	(4,567)	(3,542)
Investment and other income (loss), net	1,160	438	(225)
Income before income taxes	\$ 14,065	\$ 16,996	\$ 15,242

Comcast Corporation
Note 3: Revenue

Year ended December 31 (in millions)	2020	2019	2018
Residential:			
High-speed internet	\$ 20,599	\$ 18,752	\$ 17,144
Video	21,937	22,270	22,455
Voice	3,532	3,879	3,960
Wireless	1,574	1,167	890
Business services	8,191	7,795	7,129
Advertising	2,594	2,465	2,795
Other	1,624	1,754	1,660
Total Cable Communications	60,051	58,082	56,033
Distribution	6,437	6,790	6,826
Advertising	3,155	3,478	3,587
Content licensing and other	1,257	1,245	1,360
Total Cable Networks	10,849	11,513	11,773
Advertising	5,027	5,712	7,010
Content licensing	2,640	2,157	2,182
Distribution and other	2,577	2,392	2,247
Total Broadcast Television	10,244	10,261	11,439
Theatrical	421	1,469	2,111
Content licensing	3,342	3,045	2,899
Home entertainment	944	957	1,048
Other	569	1,022	1,094
Total Filmed Entertainment	5,276	6,493	7,152
Total Theme Parks	1,846	5,933	5,683
Headquarters and Other	121	83	63
Eliminations ^(a)	(254)	(316)	(349)
Total NBCUniversal	28,082	33,967	35,761
Direct-to-consumer	15,223	15,538	3,632
Content	1,373	1,432	304
Advertising	1,998	2,249	651
Total Sky	18,594	19,219	4,587
Corporate and Other	366	333	513
Eliminations ^(a)	(3,529)	(2,659)	(2,387)
Total revenue	\$ 103,564	\$ 108,942	\$ 94,507

(a) Included in Eliminations are transactions that our segments enter into with one another. See Note 2 for a description of these transactions.

We operate primarily in the United States but also in select international markets. The table below summarizes revenue by geographic location.

Year ended December 31 (in millions)	2020	2019	2018
United States	\$ 80,327	\$ 82,952	\$ 82,233
Europe	20,460	21,553	7,721
Other	2,777	4,437	4,553
Total revenue	\$ 103,564	\$ 108,942	\$ 94,507

Comcast Corporation**Cable Communications Segment**

Revenue is generated from the sale of our high-speed internet, video, voice, wireless and other services to residential customers in the United States under the Xfinity brand, which we market individually and as bundled services at a discounted rate. We also provide these and other services to business customers and sell advertising.

Residential

We recognize revenue as the services are provided on a monthly basis. Subscription rates and related charges vary according to the services and features customers receive. Revenue from customers that purchase bundled services at a discounted rate is allocated between the separate services based on the respective stand-alone selling prices. The stand-alone selling prices are determined based on the current prices at which we separately sell the services. Significant judgment is used to determine performance obligations that should be accounted for separately and the allocation of revenue when services are combined in a bundle. Customers are typically billed in advance and pay on a monthly basis. Installation fees are deferred and recognized as revenue over the period of benefit to the customer, which is less than a year. While a portion of our customers are subject to contracts for their services, which are typically 1 to 2 years in length, based on our evaluation of the terms of these contracts, we recognize revenue for these services on a basis that is consistent with our customers that are not subject to contracts. Our services generally involve customer premise equipment, such as set-top boxes, cable modems and wireless gateways. The timing and pattern of recognition for customer premise equipment revenue are consistent with those of our services. We recognize revenue from the sale of wireless handsets at the point of sale. Sales commissions are expensed as incurred, as the related period of benefit is less than a year. We also have arrangements to sell certain DTC streaming services to our customers. We have concluded we are generally the sales agent in these arrangements and we record net commission revenue as earned, which is generally as customers are billed on a monthly basis, within high-speed internet revenues.

Under the terms of cable franchise agreements, we are generally required to pay the cable franchising authority an amount based on gross video revenue. We generally pass these and other similar fees through to our customers and classify these fees in the respective Cable Communications services revenue, with the corresponding costs included in other operating and administrative expenses.

Business Services

Revenue is generated from subscribers to a variety of our products and services which are offered to businesses. Our service offerings for small business locations primarily include high-speed internet services, as well as voice and video services, that are similar to those provided to residential customers, and include certain other features specific to businesses. We also offer Ethernet network services that connect multiple locations and other services to meet the needs of medium-sized customers and larger enterprises, and we provide cellular backhaul services to mobile network operators.

We recognize revenue as the services are provided on a monthly basis. Substantially all of our customers are initially under contracts, with terms typically ranging from 2 years for small and medium-sized businesses to up to 5 years for larger enterprises. At any given time, the amount of future revenue to be earned related to fixed pricing under existing agreements is equal to approximately half of our annual business services revenue, of which the substantial majority will be recognized within 2 years. Customers with contracts may only discontinue service in accordance with the terms of their contracts. We receive payments based on a billing schedule established in our contracts, which is typically on a monthly basis. Installation revenue and sales commissions are generally deferred and recognized over the respective contract terms.

Advertising

Revenue is generated from the sale of advertising and technology, tools and solutions relating to advertising businesses. As part of distribution agreements with cable networks, we generally receive an allocation of scheduled advertising time that we sell to local, regional and national advertisers. In most cases, the available advertising units are sold by our sales force. We also represent the advertising sales efforts of other multichannel video providers in some markets. Since we are acting as the principal in these arrangements, we record the advertising that is sold in advertising revenue and the fees paid to multichannel video providers in other operating and administrative expenses. In some cases, we work with representation firms as an extension of our sales force to sell a portion of the advertising units allocated to us and record the revenue net of agency commissions. In addition, we generate revenue from the sale of advertising on digital platforms. We enter into advertising arrangements with customers and have determined that a contract exists once all terms and conditions are agreed upon, typically when the number of advertising units is specifically identified and the timing of airing is scheduled. Advertisements are generally aired or viewed within one year once all terms and conditions are agreed upon. Revenue from these arrangements is recognized in the period in which advertisements are aired or viewed. Payment terms vary by contract, although terms generally require payment within 30 to 60 days from when advertisements are aired or viewed. In addition, we also provide technology, tools, data-driven services and marketplace solutions to customers in the media industry, which allows advertisers to more effectively engage with their target audiences. Revenue earned in this manner is recognized when services are provided.

Comcast Corporation

NBCUniversal Segments

Distribution

Cable Networks generates revenue from the distribution of our national, regional and international cable network programming to traditional and virtual multichannel video providers. Broadcast Television generates revenue from the fees received under retransmission consent agreements for our NBC and Telemundo owned local broadcast television stations and associated fees received from NBC-affiliated local broadcast television stations.

These arrangements are accounted for as licenses of functional intellectual property and revenue is recognized as programming is provided on a monthly basis, generally under multiyear agreements. Monthly fees received under distribution agreements with multichannel video providers are generally based on the number of subscribers. Payment terms and conditions vary by contract type, although terms generally include payment within 60 days.

Advertising

Cable Networks and Broadcast Television generate revenue from the sale of advertising on our cable and broadcast networks, our owned local broadcast television stations and various digital properties.

We enter into advertising arrangements with customers and have determined that a contract exists once all terms and conditions are agreed upon, typically when the number of advertising units is specifically identified and the timing of airing is scheduled. Advertisements are generally aired or viewed within one year once all terms are agreed upon. Revenue is recognized, net of agency commissions, in the period in which advertisements are aired or viewed and payment occurs thereafter, with payment generally required within 30 days. In some instances, we guarantee audience ratings for the advertisements. To the extent there is a shortfall in contracts where the ratings were guaranteed, a portion of the revenue is deferred until the shortfall is settled, typically by providing additional advertising units generally within one year of the original airing.

Theatrical

Filmed Entertainment generates revenue from the worldwide theatrical release of produced and acquired films for exhibition in movie theaters. Our arrangements with exhibitors generally entitle us to a percentage of ticket sales. We recognize revenue as the films are viewed and exhibited in theaters and payment generally occurs within 30 days after exhibition.

Content Licensing

Cable Networks', Broadcast Television's and Filmed Entertainment's production studios generate revenue from the licensing of our owned film and television content in the United States and internationally to cable, broadcast and premium networks and to DTC streaming service providers. Our agreements generally include fixed pricing and span multiple years. For example, following a film's theatrical release, Filmed Entertainment may license the exhibition rights of a film to different customers over multiple successive distribution windows.

We recognize revenue when the content is delivered and available for use by the licensee. When the term of an existing agreement is renewed or extended, we recognize revenue at the later of when the content is available or when the renewal or extension period begins. Payment terms and conditions vary by contract type, although payments are generally collected over the license term. The amount of future revenue to be earned related to fixed pricing under existing agreements at any given time equals approximately 1 to 2 years of annual Filmed Entertainment content licensing revenue, which is the segment with the largest portion of this future revenue. The majority of this revenue will be recognized within 2 years. This amount may fluctuate from period to period depending on the timing of the releases and the availability of content under existing agreements and may not represent the total revenue expected to be recognized as it does not include revenue from future agreements or from variable pricing or optional purchases under existing agreements.

For our agreements that include variable pricing, such as pricing based on the number of subscribers to a DTC streaming service sold by our customers, we generally recognize revenue as our customers sell to their subscribers.

Home Entertainment

Filmed Entertainment generates revenue from the sale of our produced and acquired films on DVDs and through digital distribution services. Cable Networks and Broadcast Television also generate revenue from the sale of owned programming on DVDs and through digital distribution services, which is reported in other revenue. We generally recognize revenue from DVD sales, net of estimated returns and customer incentives, on the date that DVDs are delivered to and made available for sale by retailers. Payment terms generally include payment within 60 to 90 days from delivery to the retailer.

Comcast Corporation**Theme Parks**

Theme Parks generates revenue primarily from guest spending at our Universal theme parks in Orlando, Florida; Hollywood, California; and Osaka, Japan. Guest spending includes ticket sales and in-park spending on food, beverages and merchandise. We recognize revenue from ticket sales when the tickets are used, generally within a year from the date of purchase. For annual passes, we generally recognize revenue on a straight-line basis over the period the pass is available to be used. We recognize revenue from in-park spending at the point of sale.

Sky Segment**Direct-to-Consumer**

Revenue is generated from subscribers to our video services from both residential and business customers, primarily in the United Kingdom, Italy and Germany. We also provide high-speed internet, voice and wireless phone services in select countries. Generally, all of our residential customers are initially under contracts, with terms typically ranging from rolling monthly to 18 months, depending on the product and territory, and may only discontinue service in accordance with the terms of their contracts. Subscription rates and related charges vary according to the services and features customers receive and the types of equipment they use. Our video, high-speed internet, voice and wireless phone services generally may be purchased individually or in bundles. We recognize revenue from video, high-speed internet, voice and wireless phone services as the services are provided on a monthly basis. At any given time, the amount of future revenue to be earned related to existing agreements is equal to less than half of our annual direct-to-consumer revenue, which generally will be recognized within 18 months.

Content

Revenue is generated from the distribution of our television channels on third-party platforms and the licensing of owned and acquired programming to third-party video providers. See the NBCUniversal segment discussion of distribution and content licensing revenue above for accounting policies for these types of arrangements.

Advertising

Revenue is generated from advertising and sponsorships across our owned television channels and where we represent the sales efforts of third-party channels. We also generate revenue from the sale of advertising on digital platforms and various technology, tools and solutions relating to our advertising business. Revenue is recognized when the advertising is aired or viewed. Since we are acting as the principal in the arrangements where we represent the sales efforts of third parties, we record the advertising that is sold in advertising revenue and the fees paid to the third-party channels in other operating and administrative expenses.

Consolidated Balance Sheet

The following table summarizes our accounts receivable:

December 31 (in millions)	2020		2019	
Receivables, gross	\$	12,273	\$	11,711
Less: Allowance for doubtful accounts		807		419
Receivables, net	\$	11,466	\$	11,292

The following table presents changes in our allowance for doubtful accounts:

(in millions)	Beginning Balance	Additions Charged to Costs and Expenses and Other Accounts	Deductions from Reserves	Ending Balance
2020	\$ 419	\$ 912	\$ 524	\$ 807
2019	\$ 352	\$ 769	\$ 702	419
2018	\$ 288	\$ 616	\$ 552	352

Comcast Corporation

The following table summarizes our other balances that are not separately presented in our consolidated balance sheet that relate to the recognition of revenue and collection of the related cash, as well as the deferred costs associated with our contracts with customers:

December 31 (in millions)		2020		2019
Noncurrent receivables, net (included in other noncurrent assets, net)	\$	1,091	\$	1,337
Contract acquisition and fulfillment costs (included in other noncurrent assets, net)	\$	1,060	\$	1,083
Noncurrent deferred revenue (included in other noncurrent liabilities)	\$	750	\$	618

Note 4: Programming and Production Costs

Year ended December 31 (in millions)		2020
Video distribution programming	\$	12,684
Film and television content:		
Owned ^(a)		7,973
Licensed, including sports rights		11,264
Other		1,200
Total programming and production costs	\$	33,121

(a) Amount includes amortization of owned content of \$6.6 billion as well as participations and residuals expense.

Video Distribution Programming Expenses

We incur programming expenses related to the license of rights to distribute the third-party programmed channels, platforms and related content included in video services we sell to end consumers. Programming is generally acquired under multiyear distribution agreements, with fees typically based on the number of customers that receive the programming and the extent of distribution. Programming arrangements are accounted for as executory contracts with expenses generally recognized based on the rates in the agreements and the arrangements are not subject to impairment.

Film and Television Content

We incur costs related to the production of owned content and the license of the rights to use content owned by third parties and sports rights on our owned networks and platforms, which are described as owned and licensed content, respectively. We adopted new accounting guidance related to film and television content in the first quarter of 2020 (see Note 8), and accordingly, amounts presented below for 2020 and the policy discussion reflect the updated accounting guidance, and amounts presented for 2019 reflect the accounting guidance in effect at that time. Under the new accounting guidance, we have determined that the predominant monetization strategy for the substantial majority of our content is on an individual basis.

Capitalized Film and Television Costs

December 31 (in millions)	2020	2019		
	Film and Television Costs	Film Costs	Television Costs	Total
Owned:				
Released, less amortization	\$ 3,815	\$ 1,551	\$ 2,810	\$ 4,361
Completed, not released	139	187	—	187
In production and in development	2,755	1,314	1,162	2,476
	6,709	3,052	3,972	7,024
Licensed, including sports advances	6,631			5,786
	13,340			12,810
Less: Current portion of licensed programming rights	—			3,877
Film and television costs	\$ 13,340			\$ 8,933

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The table below summarizes estimated future amortization expense for the capitalized film and television costs recorded in our consolidated balance sheet as of December 31, 2020.

(in millions)		Owed	Licensed
Completed, not released:			
2021	\$	69	
Released and licensed content:			
2021	\$	1,445	\$ 4,722
2022	\$	543	\$ 820
2023	\$	336	\$ 470

We have future minimum commitments for sports rights and licensed content that are not recognized in our consolidated balance sheet as of December 31, 2020 totaling \$38.5 billion and \$4.5 billion, respectively.

Capitalization and Recognition of Film and Television Content

We capitalize costs for owned film and television content, including direct costs, production overhead, print costs, development costs and interest, as well as acquired libraries. Amortization for owned content predominantly monetized on an individual basis and accrued costs associated with participations and residual payments are recorded using the individual film forecast computation method, which recognizes the costs in the same ratio as the associated ultimate revenue. Estimates of ultimate revenue and total costs are based on anticipated release patterns and distribution strategies, public acceptance and historical results for similar productions. Amortization for content predominantly monetized with other owned or licensed content is recorded based on estimated usage. In determining the method of amortization and estimated life of an acquired film or television library, we generally use the method and the life that most closely follow the undiscounted cash flows over the estimated life of the asset. We do not capitalize costs related to the distribution of a film in movie theaters or the licensing or sale of a film or television production, which primarily include costs associated with marketing and distribution.

We may enter into cofinancing arrangements with third parties to jointly finance or distribute certain of our film productions. Cofinancing arrangements can take various forms, but in most cases involve the grant of an economic interest in a film to an investor who owns an undivided copyright interest in the film. The number of investors and the terms of these arrangements can vary, although investors generally assume the full risks and rewards for the portion of the film acquired in these arrangements. We account for the proceeds received from the investor under these arrangements as a reduction of our capitalized film costs and the investor's interest in the profit or loss of the film is recorded as either a charge or a benefit, respectively, in programming and production costs. The investor's interest in the profit or loss of a film is recorded each period using the individual film forecast computation method.

We capitalize the costs of licensed content when the license period begins, the content is made available for use and the costs of the licenses are known. Licensed content is amortized as the associated programs are broadcast.

Owed and licensed content are presented as noncurrent assets in film and television costs. We present amortization of owned and licensed content and accrued costs associated with participation and residual payments in programming and production costs.

When an event or a change in circumstance occurs that was known or knowable as of the balance sheet date and that indicates the fair value of either owned or licensed content is less than the unamortized costs in the balance sheet, we determine the fair value and record an impairment charge to the extent the unamortized costs exceed the fair value. Owned content is assessed either individually or in identified film groups, for content predominantly monetized on an individual basis or with other content, respectively. The substantial majority of our owned content is evaluated for impairment on an individual title basis. Licensed content that is not part of a film group is generally assessed in packages, channels or dayparts. A daypart is an aggregation of programs broadcast during a particular time of day or programs of a similar type. Licensed content is tested for impairment primarily on a channel, network or platform basis, with the exception of our broadcast networks and owned local broadcast television stations, which are tested on a daypart basis. Estimated fair values of owned and licensed content are generally based on Level 3 inputs including analysis of market participant estimates of future cash flows. We record charges related to impairments or content that is substantively abandoned to programming and production costs. Impairments of capitalized film and television costs were not material in any of the periods presented.

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Sports Rights

We recognize the costs of multiyear, live-event sports rights as the rights are utilized over the contract term based on estimated relative value. Estimated relative value is generally based on the ratio of the current period revenue to the estimated ultimate revenue or the terms of the contract. Sports rights are accounted for as executory contracts and are not subject to impairment. When cash payments, including advanced payments, exceed the relative value of the sports rights delivered, we recognize an asset in licensed content. Production costs incurred in advance of airing are also presented with licensed content.

Note 5: Income Taxes

Income Before Income Taxes

Year ended December 31 (in millions)	2020	2019	2018
Domestic	\$ 16,211	\$ 16,646	\$ 14,387
Foreign	(2,146)	350	855
	\$ 14,065	\$ 16,996	\$ 15,242

Components of Income Tax (Expense) Benefit

Year ended December 31 (in millions)	2020	2019	2018
Current (Expense) Benefit:			
Federal	\$ (2,824)	\$ (2,085)	\$ (2,026)
State	(836)	(425)	(639)
Foreign	(254)	(600)	(425)
	(3,914)	(3,110)	(3,090)
Deferred (Expense) Benefit:			
Federal	111	(902)	(546)
State	71	15	167
Foreign	368	324	89
	550	(563)	(290)
Income tax (expense) benefit	\$ (3,364)	\$ (3,673)	\$ (3,380)

Our income tax (expense) benefit differs from the federal statutory amount because of the effect of the items detailed in the table below.

Year ended December 31 (in millions)	2020	2019	2018
Federal tax at statutory rate	\$ (2,954)	\$ (3,569)	\$ (3,201)
State income taxes, net of federal benefit	(265)	(306)	(212)
Foreign income taxed at different rates	(24)	(126)	(147)
Adjustments to uncertain and effectively settled tax positions, net	(344)	(3)	(144)
Federal research and development credits	164	124	22
Excess tax benefits recognized on share-based compensation	150	196	75
Other	(91)	11	227
Income tax (expense) benefit	\$ (3,364)	\$ (3,673)	\$ (3,380)

We base our provision for income taxes on our current period income, changes in our deferred income tax assets and liabilities, income tax rates, changes in estimates of our uncertain tax positions, tax planning opportunities available in the jurisdictions in which we operate and excess tax benefits or deficiencies that arise when the tax consequences of share-based compensation differ from amounts previously recognized in the statement of income. We recognize deferred tax assets and liabilities when there are temporary differences between the financial reporting basis and tax basis of our assets and liabilities and for the expected benefits of using net operating loss carryforwards. When a change in the tax rate or tax law has an impact on deferred taxes, we apply the change based on the years in which the temporary differences are expected to reverse. We record the change in our consolidated financial statements in the period of enactment.

The determination of the income tax consequences of a business combination includes identifying the tax basis of assets and liabilities acquired and any contingencies associated with uncertain tax positions assumed or resulting from the business combination. Deferred tax assets and liabilities related to temporary differences of an acquired entity are recorded as of the date of the business combination and are based on our estimate of the ultimate tax basis that will be accepted by the various tax authorities. We record liabilities for contingencies associated with prior tax returns filed by the acquired entity based on criteria set forth in the appropriate accounting guidance. We adjust the deferred tax accounts and the liabilities periodically to reflect

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any revised estimated tax basis and any estimated settlements with the various tax authorities. The effects of these adjustments are recorded to income tax (expense) benefit.

From time to time, we engage in transactions in which the tax consequences may be subject to uncertainty. In these cases, we evaluate our tax position using the recognition threshold and the measurement attribute in accordance with the accounting guidance related to uncertain tax positions. Examples of these transactions include business acquisitions and dispositions, including consideration paid or received in connection with these transactions, certain financing transactions, and the allocation of income among state and local tax jurisdictions. Significant judgment is required in assessing and estimating the tax consequences of these transactions. We determine whether it is more likely than not that a tax position will be sustained on examination, including the resolution of any related appeals or litigation processes, based on the technical merits of the position. A tax position that meets the more-likely-than-not recognition threshold is measured to determine the amount of benefit to be recognized in our consolidated financial statements. We classify interest and penalties, if any, associated with our uncertain tax positions as a component of income tax (expense) benefit.

Components of Net Deferred Tax Liability

December 31 (in millions)	2020	2019
Deferred Tax Assets:		
Net operating loss and other loss carryforwards	\$ 2,609	\$ 2,017
Nondeductible accruals and other	3,253	2,779
Less: Valuation allowance	2,312	1,906
	3,550	2,890
Deferred Tax Liabilities:		
Differences between book and tax basis of property and equipment and intangible assets	29,829	29,387
Differences between book and tax basis of investments	405	702
Differences between book and tax basis of long-term debt	680	751
Differences between book and tax basis of foreign subsidiaries and undistributed foreign earnings	468	143
	31,382	30,983
Net deferred tax liability	\$ 27,832	\$ 28,093

The following table presents changes in our valuation allowance for deferred tax assets:

(in millions)	Beginning Balance	Additions Charged to Income Tax Expense and Other Accounts	Deductions from Reserves	Ending Balance
2020	\$ 1,906	\$ 430	\$ 24	\$ 2,312
2019	\$ 632	\$ 1,403	\$ 129	\$ 1,906
2018	\$ 377	\$ 367	\$ 112	\$ 632

Changes in our net deferred tax liability in 2020 that were not recorded as deferred income tax benefit (expense) are primarily related to an increase of \$330 million associated with items included in other comprehensive income (loss).

As of December 31, 2020, we had federal net operating loss carryforwards of \$196 million, and various state net operating loss carryforwards, the majority of which expire in periods through 2040. As of December 31, 2020, we also had foreign net operating loss carryforwards of \$7.6 billion related to the foreign operations of Sky and NBCUniversal, the majority of which can be carried forward indefinitely. The determination of the realization of the state and foreign net operating loss carryforwards is dependent on our subsidiaries' taxable income or loss, apportionment percentages, redetermination from taxing authorities, and state and foreign laws that can change from year to year and impact the amount of such carryforwards. We recognize a valuation allowance if we determine it is more likely than not that some portion, or all, of a deferred tax asset will not be realized. As of December 31, 2020 and 2019, our valuation allowance was primarily related to foreign and state net operating loss carryforwards.

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Uncertain Tax Positions

Reconciliation of Unrecognized Tax Benefits

(in millions)	2020	2019	2018
Gross unrecognized tax benefits, January 1	\$ 1,422	\$ 1,543	\$ 1,497
Additions based on tax positions related to the current year	436	230	229
Additions based on tax positions related to prior years	152	133	125
Additions from acquired subsidiaries	—	1	130
Reductions for tax positions of prior years	(31)	(344)	(346)
Reductions due to expiration of statutes of limitations	(76)	(117)	(75)
Settlements with tax authorities	(24)	(24)	(17)
Gross unrecognized tax benefits, December 31	\$ 1,879	\$ 1,422	\$ 1,543

Our gross unrecognized tax benefits include both amounts related to positions for which we have recorded liabilities for potential payment obligations and those for which tax has been assessed and paid. The amounts exclude the federal benefits on state tax positions that were recorded to deferred income taxes. If we were to recognize our gross unrecognized tax benefits in the future, \$1.4 billion would impact our effective tax rate and the remaining amount would increase our deferred income tax liability. The amount and timing of the recognition of any such tax benefit is dependent on the completion of examinations of our tax filings by the various tax authorities and the expiration of statutes of limitations. It is reasonably possible that certain tax contests could be resolved within the next 12 months that may result in a decrease in our effective tax rate. As of December 31, 2020 and 2019, accrued interest and penalties associated with our liability for uncertain tax positions were not material.

The IRS has completed its examination of our income tax returns for all years through 2016. Various states are examining our state tax returns and the tax years of those tax returns currently under examination vary by state, with most of the periods relating to tax years 2000 and forward. Various foreign jurisdictions are examining our tax returns and the tax years of those tax returns currently under examination vary by country, with most of the periods relating to tax years 2010 and forward.

Note 6: Long-Term Debt

Long-Term Debt Outstanding

December 31 (in millions)	Weighted-Average Interest Rate as of December 31, 2020	Weighted-Average Interest Rate as of December 31, 2019	2020 ^(b)	2019 ^(b)
Term loans	2.07 %	1.87 %	7,641	8,078
Senior notes with maturities of 5 years or less, at face value	3.41 %	3.29 %	19,190	26,378
Senior notes with maturities between 5 and 10 years, at face value	3.47 %	3.74 %	23,114	21,683
Senior notes with maturities greater than 10 years, at face value	4.03 %	4.54 %	54,203	46,653
Other, including finance lease obligations			1,261	1,098
Debt issuance costs, premiums, discounts, fair value adjustments for acquisition accounting and hedged positions, net ^(a)			(1,649)	(1,673)
Total debt	3.60 % (a)	3.78 % (a)	103,760	102,217
Less: Current portion			3,146	4,452
Long-term debt			\$ 100,614	\$ 97,765

(a) Includes the effects of our derivative financial instruments.

(b) As of December 31, 2020, included in our outstanding debt were foreign currency denominated borrowings with principal amounts of £4.7 billion, €7.3 billion, ¥238.5 billion and ¥16.4 billion RMB. As of December 31, 2019, included in our outstanding debt were foreign currency denominated borrowings with principal amounts of £4.9 billion, €4.9 billion, ¥267 billion and ¥9 billion RMB.

Our senior notes are unsubordinated and unsecured obligations and are subject to parent and/or subsidiary guarantees. As of December 31, 2020 and 2019, our debt had an estimated fair value of \$125.6 billion and \$115.8 billion, respectively. The estimated fair value of our publicly traded debt was primarily based on Level 1 inputs that use quoted market value for the debt. The estimated fair value of debt for which there are no quoted market prices was based on Level 2 inputs that use interest rates available to us for debt with similar terms and remaining maturities.

Comcast Corporation**Principal Maturities of Debt**

(in millions)

2021	\$	3,133
2022	\$	4,028
2023	\$	3,925
2024	\$	6,746
2025	\$	6,953
Thereafter	\$	80,624

We use cross-currency swaps as cash flow hedges for foreign currency denominated debt obligations when those obligations are denominated in a currency other than the functional currency. Cross-currency swaps effectively convert foreign currency denominated debt to debt denominated in the functional currency, which hedge currency exchange risks associated with foreign currency denominated cash flows such as interest and principal debt repayments. As of December 31, 2020 and 2019, we had cross-currency swaps designated as cash flow hedges on \$1.7 billion and \$3.7 billion of our foreign currency denominated debt, respectively. As of December 31, 2020 and 2019, the aggregate estimated fair values of cross-currency swaps designated as cash flow hedges were a net liability of \$45 million and a net asset of \$373 million, respectively.

We are also exposed to foreign exchange risk on the consolidation of our foreign operations. We have foreign currency denominated debt and cross-currency swaps designated as hedges of our net investments in certain of these subsidiaries. Transaction gains and losses resulting from currency movements on debt and changes in fair value of cross-currency swaps designated as net investment hedges are recorded within the currency translation adjustments component of accumulated other comprehensive income (loss). As of December 31, 2020 and 2019, the amount of our net investment in foreign subsidiaries hedged using foreign currency denominated debt was \$10.3 billion and \$9.2 billion, respectively, and the amount of our net investment in foreign subsidiaries hedged using cross-currency swaps was \$4.0 billion and \$4.8 billion, respectively. As of December 31, 2020 and 2019, the aggregate estimated fair value of these cross-currency swaps was a net liability of \$376 million and \$373 million, respectively. The amount of pre-tax gains (losses) related to net investment hedges recognized in the cumulative translation adjustments component of other comprehensive income (loss) were losses of \$686 million in 2020, gains of \$343 million in 2019 and losses of \$3 million in 2018.

Revolving Credit Facilities and Commercial Paper Programs

As of December 31, 2020, we had \$9.2 billion of revolving credit facilities due 2022 with a syndicate of banks that may be used for general corporate purposes. In June 2019, we amended the terms of our revolving credit facilities to extend their expiration dates from May 26, 2021 to May 26, 2022. We may increase the commitment under the revolving credit facilities up to a total of \$12 billion, as well as extend the expiration dates to no later than 2023, subject to approval of the lenders. The interest rates on the revolving credit facilities consist of a base rate plus a borrowing margin that is determined based on Comcast's credit rating. As of December 31, 2020, the borrowing margin for borrowings based on the London Interbank Offered Rate was 1.00%. Our revolving credit facilities require that we maintain certain financial ratios based on debt and EBITDA, as defined in the revolving credit facilities. We were in compliance with all financial covenants for all periods presented.

Our commercial paper programs are supported by our revolving credit facility and provides a lower cost source of borrowing to fund short-term working capital requirements.

As of December 31, 2020 and 2019, we had no borrowings outstanding under our commercial paper programs or revolving credit facilities. As of December 31, 2020, amounts available under our revolving credit facilities, net of amounts outstanding under our commercial paper programs and outstanding letters of credit and bank guarantees, totaled \$9.2 billion.

Letters of Credit and Bank Guarantees

As of December 31, 2020, we and certain of our subsidiaries had undrawn irrevocable standby letters of credit and bank guarantees totaling \$320 million to cover potential fundings under various agreements.

Note 7: Significant Transactions**Sky Transaction**

In the fourth quarter of 2018, we acquired Sky for £17.28 per Sky share and total cash consideration of £30.2 billion (approximately \$39.4 billion using the exchange rates on the purchase dates). We financed the acquisition through a combination of fixed and floating rate senior notes, the issuance of term loans and cash on hand.

Comcast Corporation**Acquisition-Related Costs**

As a result of the Sky transaction, we incurred expenses in 2018 related to legal, accounting, valuation and other professional services, which are reflected in other operating and administrative expenses. We also incurred certain financing costs associated with our borrowings, which are reflected in interest expense. The table below presents the amounts related to these expenses included in our consolidated statement of income. The amounts below do not reflect the costs of any integration activities or costs related to synergies that may be achieved as a result of the acquisition.

(in millions)	Year ended December 31, 2018	
Other operating and administrative expenses	\$	339
Interest expense	\$	63

Unaudited Pro Forma Information

The following unaudited pro forma information has been presented as if the Sky transaction occurred on January 1, 2017. This information is based on historical results of operations, adjusted for allocation of purchase price and other acquisition accounting adjustments, and is not necessarily indicative of what the results would have been had we operated the business since January 1, 2017. For pro forma purposes, 2018 earnings were adjusted to exclude acquisition-related costs noted above. No pro forma adjustments have been made for cost savings or synergies that have been or may be achieved by the combined businesses. The years ended December 31, 2020 and 2019 are not presented as Sky is included in the consolidated results for those periods.

Year ended December 31 (in millions, except per share data)	2018	
Revenue	\$	109,518
Net income attributable to Comcast Corporation	\$	12,176
Basic earnings per common share attributable to Comcast Corporation shareholders	\$	2.66
Diluted earnings per common share attributable to Comcast Corporation shareholders	\$	2.62

Universal Beijing Resort

In 2018, we entered into an agreement with a consortium of Chinese state-owned companies to build and operate Universal Beijing Resort, a theme park and resort in Beijing, China. We own a 30% interest in Universal Beijing Resort and the construction is being funded through a combination of debt financing and equity contributions from the investors in accordance with their equity interests. The debt financing, which is being provided by a syndicate of Chinese financial institutions, contains certain covenants and a maximum borrowing limit of ¥26.6 billion RMB (approximately \$4 billion). The debt financing is secured by the assets of Universal Beijing Resort and the equity interests of the investors. As of December 31, 2020, Universal Beijing Resort had \$2.5 billion principal amount of a term loan outstanding under the debt financing agreement.

We have concluded that Universal Beijing Resort is a variable interest entity based on its governance structure, and we consolidate it because we have the power to direct activities that most significantly impact its economic performance. There are no liquidity arrangements, guarantees or other financial commitments between us and Universal Beijing Resort, and therefore our maximum risk of financial loss is our 30% interest. Universal Beijing Resort's results of operations are reported in our Theme Parks segment. Our consolidated statement of cash flows includes the costs of construction and related borrowings in the "construction of Universal Beijing Resort" and "proceeds from borrowings" captions, respectively, and equity contributions from the noncontrolling interests are included in other financing activities.

In March 2018, Universal Beijing Resort received initial equity investments through a combination of cash and noncash contributions from the investors. As of December 31, 2020, our consolidated balance sheet included assets, primarily property and equipment, and liabilities, including the term loan, of Universal Beijing Resort totaling \$5.1 billion and \$3.6 billion, respectively.

Note 8: Recent Accounting Pronouncements

Film and Television Content

In March 2019, the Financial Accounting Standards Board ("FASB") updated the accounting guidance related to film and television content. The updated guidance aligned the accounting for production costs of owned episodic television series with those of films, allowing for costs to be capitalized in excess of amounts of revenue contracted for each episode. The guidance also updated certain presentation and disclosure requirements for capitalized film and television content, and when content is predominantly monetized with other owned or licensed content the guidance requires impairment testing for capitalized film and television content to be performed at a film group level and amortization to be based on usage. We adopted the updated guidance on January 1, 2020 on a prospective basis and as a result, prior period amounts were not adjusted.

Following the adoption, we now present all capitalized film and television content, including licensed content and sports advances previously classified as current programming rights, as noncurrent film and television costs in the consolidated balance sheet. The adoption of the updated accounting guidance did not have a material impact on our consolidated results of operations or financial position. See Note 4 for further information.

Credit Losses

In June 2016, the FASB updated the accounting guidance related to the measurement of credit losses on financial instruments, including trade receivables and loans. The updated guidance requires the recognition of credit losses on financial instruments based on an estimate of expected losses, replacing the incurred loss model in the prior guidance. We adopted the updated guidance on January 1, 2020 on a prospective basis, recording \$124 million, net of tax, as a cumulative effect adjustment to retained earnings and as a result, prior period amounts were not adjusted. The adoption of the updated accounting guidance did not have a material impact on our consolidated results of operations or financial position for any periods presented.

Note 9: Investments

Investment and Other Income (Loss), Net

Year ended December 31 (in millions)	2020	2019	2018
Equity in net income (losses) of investees, net	\$ (113)	\$ (505)	\$ (364)
Realized and unrealized gains (losses) on equity securities, net	1,014	656	(187)
Other income (loss), net	259	287	326
Investment and other income (loss), net	\$ 1,160	\$ 438	\$ (225)

The amount of unrealized gains (losses) recognized in 2020, 2019 and 2018 that related to marketable and nonmarketable equity securities still held as of the end of each reporting period was \$339 million, \$237 million and \$(200) million, respectively.

Investments

December 31 (in millions)	2020	2019
Equity method	\$ 6,006	\$ 5,347
Marketable equity securities	460	353
Nonmarketable equity securities	1,950	1,896
Other investments	143	1,796
Total investments	8,559	9,392
Less: Current investments	292	1,709
Less: Investment securing collateralized obligation	447	694
Noncurrent investments	\$ 7,820	\$ 6,989

Comcast Corporation**Equity Method**

We use the equity method to account for investments in which we have the ability to exercise significant influence over the investee's operating and financial policies, or in which we hold a partnership or limited liability company interest in an entity with specific ownership accounts, unless we have virtually no influence over the investee's operating and financial policies. Equity method investments are recorded at cost and are adjusted to recognize (1) our share, based on percentage ownership or other contractual basis, of the investee's net income or loss after the date of investment, (2) amortization of the recorded investment that exceeds our share of the book value of the investee's net assets, (3) additional contributions made and dividends received, and (4) impairments resulting from other-than-temporary declines in fair value. For some investments, we record our share of the investee's net income or loss one quarter in arrears due to the timing of our receipt of such information. Gains or losses on the sale of equity method investments are recorded to other income (loss), net. If an equity method investee were to issue additional securities that would change our proportionate share of the entity, we would recognize the change, if any, as a gain or loss to other income (loss), net.

Atairos

On January 1, 2016, we established Atairos Group, Inc., a strategic company focused on investing in and operating companies in a range of industries and business sectors, both domestically and internationally. Atairos is controlled by management companies led by our former CFO through interests that carry all of the voting rights. We are the only third-party investor in Atairos.

In November 2020, we amended our agreement with Atairos, which primarily extended the investment term of the agreement from up to 12 years to up to 16.5 years, extended the period in which capital can be recycled to the full investment period and decreased our commitment to fund Atairos from up to \$5 billion to up to \$4.5 billion in the aggregate at any one time, subject to certain offsets, with the maximum amount of annual capital calls reduced to \$400 million, plus certain amounts previously distributed. In addition, we have separately committed to fund Atairos \$45 million annually for a management fee, subject to certain adjustments. The management company investors have committed to fund from \$50 million to \$100 million, with at least \$40 million to be funded by our former CFO, subject to his continued role with Atairos. Our economic interests do not carry voting rights and obligate us to absorb approximately 99% of any losses and they provide us the right to receive approximately 86% of any residual returns in Atairos, in either case on a cumulative basis.

We have concluded that Atairos is a VIE, that we do not have the power to direct the activities that most significantly impact the economic performance of Atairos as we have no voting rights and only certain consent rights, and that we are not a related party with our former CFO or the management companies. We therefore do not consolidate Atairos and account for our investment as an equity method investment. Atairos may pledge our remaining unfunded capital commitment as security to lenders in connection with certain financing arrangements. This has no effect on our funding commitments. There are no other liquidity arrangements, guarantees or other financial commitments between Comcast and Atairos, and therefore our maximum risk of financial loss is our investment balance and our remaining unfunded capital commitment of \$1.3 billion as of December 31, 2020.

Atairos follows investment company accounting and records its investments at their fair values each reporting period with the net gains or losses reflected in its statement of operations. We recognize our share of these gains and losses in equity in net income (losses) of investees, net. In 2020, 2019 and 2018, we made cash capital contributions totaling \$383 million, \$571 million and \$282 million, respectively, to Atairos. As of December 31, 2020 and 2019, our investment was \$ 3.9 billion and \$3.2 billion, respectively.

In April 2018, we sold a controlling interest in our arena management-related businesses to Atairos and received as consideration additional equity interests in Atairos. In connection with the sale of the businesses, we recognized a pre-tax gain of \$200 million in other operating gains.

Hulu and Collateralized Obligation

In May 2019, we entered into a series of agreements (the "Hulu Transaction") with The Walt Disney Company and certain of its subsidiaries, whereby we relinquished our board seats and substantially all voting rights associated with our investment in Hulu, and Disney assumed full operational control. We also acquired our proportionate share of the approximate 10% interest in Hulu previously held by AT&T for approximately \$477 million, increasing our ownership interest to approximately 33% from approximately 30%.

Following the Hulu Transaction, future capital calls are limited to \$1.5 billion in the aggregate each year, with any excess funding requirements funded with member loans. We have the right, but not the obligation, to fund our proportionate share of these capital calls, and if we elect not to fund our share of future equity capital calls, our ownership interest will be diluted, subject to an ownership floor of 21%. The Hulu Transaction agreements include put and call provisions regarding our

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ownership interest in Hulu, pursuant to which, as early as January 2024, we can require Disney to buy, and Disney can require us to sell our interest, in either case, for fair value at that future time subject to a minimum equity value of \$27.5 billion for 100% of the equity of Hulu. The minimum total equity value and ownership floor guarantee minimum proceeds of approximately \$5.8 billion upon exercise of the put or call.

In connection with the Hulu Transaction, we agreed to extend certain licenses of NBCUniversal content until late 2024. We can terminate most of our content license agreements with Hulu beginning in 2022, and beginning in 2020, we have the right to modify certain content licenses that are currently exclusive to Hulu, so that we can exhibit the content on our platforms in return for reducing the license fee.

In August 2019, we entered into a financing arrangement with a syndicate of banks whereby we received proceeds of \$5.2 billion under a term loan facility due March 2024. The principal amount of the term loan is secured by the proceeds guaranteed by Disney under the put/call provisions related to our investment in Hulu. The proceeds from the put/call provisions are available only for the repayment of the term loan and are not available to us unless and until the bank lenders are fully paid under the term loan provisions. The bank lenders have no rights to proceeds from the put/call provisions in excess of amounts owed under the term loan. As a result of this transaction, we now present our investment in Hulu and the term loan separately in our consolidated balance sheet in the captions "investment securing collateralized obligation" and "collateralized obligation", respectively. The recorded value of our investment reflects our historical cost in applying the equity method, and as a result, is less than its fair value. As of December 31, 2020, our collateralized obligation had both a carrying value and estimated fair value of \$5.2 billion. The estimated fair value was based on Level 2 inputs that use interest rates for debt with similar terms and remaining maturities.

Marketable Equity Securities

We classify investments with readily determinable fair values that are not accounted for under the equity method as marketable equity securities. The changes in fair value of our marketable equity securities between measurement dates are recorded in realized and unrealized gains (losses) on equity securities, net. The fair values of our marketable equity securities are based on Level 1 inputs that use quoted market prices.

Nonmarketable Equity Securities

We classify investments without readily determinable fair values that are not accounted for under the equity method as nonmarketable equity securities. The accounting guidance requires nonmarketable equity securities to be recorded at cost and adjusted to fair value at each reporting period. However, the guidance allows for a measurement alternative, which is to record the investments at cost, less impairment, if any, and subsequently adjust for observable price changes of identical or similar investments of the same issuer. We apply the measurement alternative, adjusting the investments for observable price changes of identical or similar investments of the same issuer, to a majority of our nonmarketable equity securities. When an observable event occurs, we estimate the fair values of our nonmarketable equity securities primarily based on Level 2 inputs that are derived from observable price changes of similar securities adjusted for insignificant differences in rights and obligations. The changes in value are recorded in realized and unrealized gains (losses) on equity securities, net.

Other Investments**AirTouch**

During the second quarter of 2020, Verizon Americas, Inc., formerly known as AirTouch Communications, Inc. ("AirTouch"), redeemed the two series of preferred stock held by the Company and we received cash payments totaling \$1.7 billion. As of December 31, 2019, our investment in AirTouch was \$1.6 billion, and was included in other current assets.

During the second quarter of 2020, we redeemed and repurchased the related three series of preferred shares issued by one of our consolidated subsidiaries and made cash payments totaling \$1.8 billion. As of December 31, 2019, the two series of redeemable subsidiary preferred shares and the one series of nonredeemable subsidiary preferred shares were recorded at \$1.7 billion and \$100 million, respectively, and were included in other current liabilities and in noncontrolling interests, respectively, in our consolidated balance sheet.

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Impairment Testing of Investments

We review our investment portfolio, other than our marketable equity securities, each reporting period to determine whether there are identified events or circumstances that would indicate there is a decline in the fair value. For our nonpublic investments, if there are no identified events or circumstances that would have a significant adverse effect on the fair value of the investment, then the fair value is not estimated. For our equity method investments and held to maturity investments, if an investment is deemed to have experienced an other-than-temporary decline below its cost basis, we reduce the carrying amount of the investment to its quoted or estimated fair value, as applicable, and establish a new cost basis for the investment. For our nonmarketable equity securities, we record the impairment to realized and unrealized gains (losses) on equity securities, net. For our equity method investments and our held to maturity investments, we record the impairment to other income (loss), net.

Note 10: Property and Equipment

December 31 (in millions)	Weighted-Average Original Useful Life as of December 31, 2020	2020	2019
Distribution systems	11 years	\$ 40,861	\$ 40,639
Customer premise equipment	6 years	26,323	26,065
Buildings, theme park infrastructure and leasehold improvements	31 years	15,885	15,104
Other equipment	9 years	14,371	13,025
Construction in process	N/A	7,095	5,245
Land	N/A	1,848	1,483
Property and equipment, at cost		106,383	101,561
Less: Accumulated depreciation		54,388	53,239
Property and equipment, net		\$ 51,995	\$ 48,322

Property and equipment are stated at cost. We capitalize improvements that extend asset lives and expense repairs and maintenance costs as incurred. We record depreciation using the straight-line method over the asset's estimated useful life. For assets that are sold or retired, we remove the applicable cost and accumulated depreciation and, unless the gain or loss on disposition is presented separately, we recognize it as a component of depreciation expense. Capital expenditures for the construction of Universal Beijing Resort are presented separately in our consolidated statement of cash flows.

Cable Communications capitalizes the costs associated with the construction of and improvements to our cable transmission and distribution facilities, including scalable infrastructure and line extensions; costs associated with acquiring and deploying new customer premise equipment; and costs associated with installation of our services, including the customer's connection to our network, in accordance with the accounting guidance related to cable television companies. Costs capitalized include all direct costs for labor and materials, as well as various indirect costs. Costs incurred in connection with subsequent disconnects, and reconnects of previously deployed customer premise equipment, are expensed as they are incurred.

We evaluate the recoverability of our property and equipment whenever events or substantive changes in circumstances indicate that the carrying amount may not be recoverable. The evaluation is based on the cash flows generated by the underlying asset groups, including estimated future operating results, trends or other determinants of fair value. If the total of the expected future undiscounted cash flows were less than the carrying amount of the asset group, we would recognize an impairment charge to the extent the carrying amount of the asset group exceeded its estimated fair value. Unless presented separately, the impairment charge is included as a component of depreciation expense.

Certain of our cable franchise agreements and lease agreements contain provisions requiring us to restore facilities or remove property in the event that the franchise or lease agreement is not renewed. We expect to continually renew our cable franchise agreements and therefore cannot reasonably estimate liabilities associated with such agreements. A remote possibility exists that franchise agreements could be terminated unexpectedly, which could result in us incurring significant expense in complying with restoration or removal provisions. We do not have any material liabilities related to asset retirement obligations recorded in our consolidated financial statements.

Note 11: Goodwill and Intangible Assets
Goodwill

	NBCUniversal								
(in millions)	Cable Communications	Cable Networks	Broadcast Television	Filmed Entertainment	Theme Parks	Sky	Corporate and Other	Total	
Balance, December 31, 2018	\$ 12,784	\$ 13,407	\$ 843	\$ 3,184	\$ 6,684	\$ 29,250	\$ 2	\$ 66,154	
Acquisitions	86	162	14	—	—	17	—	279	
Dispositions	—	—	—	—	—	(12)	—	(12)	
Adjustments ^(a)	2,166	490	199	138	—	(1,616)	2	1,379	
Foreign currency translation	38	8	3	(1)	55	822	—	925	
Balance, December 31, 2019	15,074	14,067	1,059	3,321	6,739	28,461	4	68,725	
Acquisitions	122	—	—	27	—	—	—	149	
Dispositions	—	—	—	—	—	—	(4)	(4)	
Adjustments	(5)	(85)	—	—	—	(8)	2	(96)	
Foreign currency translation	73	12	3	(4)	314	1,497	—	1,895	
Balance, December 31, 2020	\$ 15,264	\$ 13,994	\$ 1,062	\$ 3,344	\$ 7,053	\$ 29,950	\$ 2	\$ 70,669	

(a) Adjustments in 2019 primarily included 1) measurement period adjustments resulting from finalization of acquisition accounting for Sky and 2) the final assignment of goodwill resulting from the Sky transaction to our reporting units.

Goodwill is calculated as the excess of the consideration transferred over the identifiable net assets acquired in a business combination and represents the future economic benefits expected to arise from anticipated synergies and intangible assets acquired that do not qualify for separate recognition, including increased footprint, assembled workforce, noncontractual relationships and other agreements. We assess the recoverability of our goodwill annually, or more frequently whenever events or substantive changes in circumstances indicate that the carrying amount of a reporting unit may exceed its fair value. We test goodwill for impairment at the reporting unit level. To determine our reporting units, we evaluate the components one level below the segment level and we aggregate the components if they have similar economic characteristics. We evaluate the determination of our reporting units used to test for impairment periodically or whenever events or substantive changes in circumstances occur. The assessment of recoverability may first consider qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. A quantitative assessment is performed if the qualitative assessment results in a more-likely-than-not determination or if a qualitative assessment is not performed. The quantitative assessment considers whether the carrying amount of a reporting unit exceeds its fair value, in which case an impairment charge is recorded to the extent the reporting unit's carrying value exceeds its fair value. Unless presented separately, the impairment charge is included as a component of amortization expense. We have not recognized any material impairment charges.

Intangible Assets

		2020		2019	
December 31 (in millions)	Weighted-Average Original Useful Life as of December 31, 2020	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Indefinite-Lived Intangible Assets:					
Franchise rights	N/A	\$ 59,365	\$	59,365	
Trade names	N/A	—		8,809	
FCC licenses	N/A	2,804		2,337	
Finite-Lived Intangible Assets:					
Customer relationships	14 years	22,197	\$ (8,914)	22,884	\$ (8,295)
Software	5 years	17,819	(9,518)	15,357	(7,287)
Other agreements and rights	28 years	12,394	(1,393)	3,958	(1,635)
Total		\$ 114,579	\$ (19,825)	\$ 112,710	\$ (17,217)

Comcast Corporation**Indefinite-Lived Intangible Assets**

Indefinite-lived intangible assets consist primarily of our cable franchise rights. Our cable franchise rights represent the values we attributed to agreements with state and local authorities that allow access to homes and businesses in cable service areas acquired in business combinations. We do not amortize our cable franchise rights because we have determined that they meet the definition of indefinite-lived intangible assets since there are no legal, regulatory, contractual, competitive, economic or other factors which limit the period over which these rights will contribute to our cash flows. We reassess this determination periodically or whenever events or substantive changes in circumstances occur. The purchase of spectrum rights is presented separately in our consolidated statement of cash flows.

We assess the recoverability of our cable franchise rights and other indefinite-lived intangible assets annually, or more frequently whenever events or substantive changes in circumstances indicate that the assets might be impaired. Our three Cable Communications divisions represent the unit of account we use to test for impairment of our cable franchise rights. We evaluate the unit of account used to test for impairment of our cable franchise rights and other indefinite-lived intangible assets periodically or whenever events or substantive changes in circumstances occur to ensure impairment testing is performed at an appropriate level. The assessment of recoverability may first consider qualitative factors to determine whether it is more likely than not that the fair value of an indefinite-lived intangible asset is less than its carrying amount. A quantitative assessment is performed if the qualitative assessment results in a more-likely-than-not determination or if a qualitative assessment is not performed. When performing a quantitative assessment, we estimate the fair value of our cable franchise rights and other indefinite-lived intangible assets primarily based on a discounted cash flow analysis that involves significant judgment. When analyzing the fair values indicated under the discounted cash flow models, we also consider multiples of Adjusted EBITDA generated by the underlying assets, current market transactions and profitability information. If the fair value of our cable franchise rights or other indefinite-lived intangible assets were less than the carrying amount, we would recognize an impairment charge for the difference between the estimated fair value and the carrying value of the assets. Unless presented separately, the impairment charge is included as a component of amortization expense. We did not recognize any material impairment charges in any of the periods presented.

Finite-Lived Intangible Assets**Estimated Amortization Expense of Finite-Lived Intangible Assets**

(in millions)		
2021	\$	4,589
2022	\$	4,087
2023	\$	3,472
2024	\$	2,774
2025	\$	2,412

Finite-lived intangible assets are subject to amortization and consist primarily of customer relationships acquired in business combinations, software, trade names and intellectual property rights. Our finite-lived intangible assets are amortized primarily on a straight-line basis over their estimated useful life or the term of the associated agreement.

We capitalize direct development costs associated with internal-use software, including external direct costs of material and services and payroll costs for employees devoting time to these software projects. We also capitalize costs associated with the purchase of software licenses. We generally amortize them on a straight-line basis over a period not to exceed five years. We expense maintenance and training costs, as well as costs incurred during the preliminary stage of a project, as they are incurred. We capitalize initial operating system software costs and amortize them over the life of the associated hardware.

We evaluate the recoverability of our finite-lived intangible assets whenever events or substantive changes in circumstances indicate that the carrying amount may not be recoverable. The evaluation is based on the cash flows generated by the underlying asset groups, including estimated future operating results, trends or other determinants of fair value. If the total of the expected future undiscounted cash flows were less than the carrying amount of the asset group, we would recognize an impairment charge to the extent the carrying amount of the asset group exceeded its estimated fair value. Unless presented separately, the impairment charge is included as a component of amortization expense.

Note 12: Employee Benefit Plans**Deferred Compensation Plans**

Year ended December 31 (in millions)		2020	2019	2018
Benefit obligation	\$	3,648	\$ 3,273	\$ 2,885
Interest expense	\$	293	\$ 285	\$ 222

We maintain unfunded, nonqualified deferred compensation plans for certain members of management and nonemployee directors. The amount of compensation deferred by each participant is based on participant elections. Participant accounts are credited with income primarily based on a fixed annual rate. Participants are eligible to receive distributions from their account based on elected deferral periods that are consistent with the plans and applicable tax law.

We have purchased life insurance policies to recover a portion of the future payments related to our deferred compensation plans. As of December 31, 2020 and 2019, the cash surrender value of these policies, which is recorded to other noncurrent assets, net, was \$481 million and \$423 million, respectively.

Pension and Postretirement Benefit Plans

We sponsor several 401(k) defined contribution retirement plans that allow eligible employees to contribute a portion of their compensation through payroll deductions in accordance with specified plan guidelines. We make contributions to the plans that include matching a percentage of the employees' contributions up to certain limits. In 2020, 2019 and 2018, expenses related to these plans totaled \$599 million, \$573 million and \$546 million, respectively.

We participate in various multiemployer benefit plans, including pension and postretirement benefit plans, that cover some of our employees and temporary employees who are represented by labor unions. We also participate in other multiemployer benefit plans that provide health and welfare and retirement savings benefits to active and retired participants. If we cease to be obligated to make contributions or were to otherwise withdraw from participation in any of these plans, applicable law would require us to fund our allocable share of the unfunded vested benefits, which is known as a withdrawal liability. In addition, actions taken by other participating employers may lead to adverse changes in the financial condition of one of these plans, which could result in an increase in our withdrawal liability. In 2020, 2019 and 2018, the total contributions we made to multiemployer benefit plans were not material.

Note 13: Equity**Common Stock**

In the aggregate, holders of our Class A common stock have 66²/3% of the voting power of our common stock and holders of our Class B common stock have 33¹/3% of the voting power of our common stock, which percentage is generally non-dilutable under the terms of our articles of incorporation. Each share of our Class B common stock is entitled to 15 votes. The number of votes held by each share of our Class A common stock depends on the number of shares of Class A and Class B common stock outstanding at any given time. The 33¹/3% aggregate voting power of our Class B common stock cannot be diluted by additional issuances of any other class of common stock. Our Class B common stock is convertible, share for share, into Class A common stock, subject to certain restrictions.

Shares of Common Stock Outstanding

(in millions)	Class A	Class B
Balance, December 31, 2017	4,635	9
Stock compensation plans	15	—
Repurchases and retirements of common stock	(140)	—
Employee stock purchase plans	7	—
Balance, December 31, 2018	4,517	9
Stock compensation plans	21	—
Employee stock purchase plans	6	—
Balance, December 31, 2019	4,544	9
Stock compensation plans	20	—
Employee stock purchase plans	7	—
Balance, December 31, 2020	4,571	9

Comcast Corporation
Weighted-Average Common Shares Outstanding

Year ended December 31 (in millions)	2020	2019	2018
Weighted-average number of common shares outstanding – basic	4,574	4,548	4,584
Effect of dilutive securities	50	62	56
Weighted-average number of common shares outstanding – diluted	4,624	4,610	4,640

Weighted-average common shares outstanding used in calculating diluted earnings per common share attributable to Comcast Corporation shareholders (“diluted EPS”) considers the impact of potentially dilutive securities using the treasury stock method. Our potentially dilutive securities include potential common shares related to our stock options and our restricted share units (“RSUs”). Diluted EPS excludes the impact of potential common shares related to our stock options in periods in which the combination of the option exercise price and the associated unrecognized compensation expense is greater than the average market price of our common stock. The amount of potential common shares related to our share-based compensation plans that were excluded from diluted EPS because their effect would have been antidilutive was not material in any of the periods presented.

Accumulated Other Comprehensive Income (Loss)

December 31 (in millions)	2020	2019
Cumulative translation adjustments	\$ 1,790	\$ 637
Deferred gains (losses) on cash flow hedges	(109)	139
Unrecognized gains (losses) on employee benefit obligations and other	203	271
Accumulated other comprehensive income (loss), net of deferred taxes	\$ 1,884	\$ 1,047

Note 14: Share-Based Compensation

The tables below provide information on our share-based compensation.

Recognized Share-Based Compensation Expense

Year ended December 31 (in millions)	2020	2019	2018
Restricted share units	\$ 628	\$ 564	\$ 402
Stock options	294	231	205
Employee stock purchase plans	38	30	32
Total	\$ 960	\$ 825	\$ 639

Our share-based compensation plans consist primarily of awards of RSUs and stock options to certain employees and directors as part of our approach to long-term incentive compensation. Awards generally vest over a period of 5 years and, in the case of stock options, have a 10 year term. Additionally, through our employee stock purchase plans, employees are able to purchase shares of our common stock at a discount through payroll deductions. As of December 31, 2020, all of our stock options outstanding were net settled stock options, which result in fewer shares being issued and no cash proceeds being received by us when the options are exercised.

Stock Options and Restricted Share Units

As of December 31, 2020, unless otherwise stated (in millions, except per share data)	Stock Options	RSUs
Awards granted during 2020	61	18
Weighted-average exercise price of awards granted during 2020	\$ 42.42	
Stock options outstanding and nonvested RSUs	210	49
Weighted-average exercise price of stock options outstanding	\$ 35.94	
Weighted-average fair value at grant date of nonvested RSUs	\$	38.87

The cost associated with our share-based compensation is based on an award’s estimated fair value at the date of grant and is recognized over the period in which any related services are provided. RSUs are valued based on the closing price of our common stock on the date of grant and are discounted for the lack of dividends, if any, during the vesting period. We use the Black-Scholes option pricing model to estimate the fair value of stock option awards.

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The table below presents the weighted-average fair value on the date of grant of RSUs and stock options awarded under our various plans and the related weighted-average valuation assumptions.

Year ended December 31	2020		2019		2018
RSUs fair value	\$	41.71	\$	40.42	\$ 35.56
Stock options fair value	\$	6.61	\$	7.91	\$ 7.14
Stock Option Valuation Assumptions:					
Dividend yield		2.2 %		2.1 %	2.1 %
Expected volatility		21.0 %		22.0 %	22.0 %
Risk-free interest rate		1.0 %		2.5 %	2.7 %
Expected option life (in years)		6.0		6.0	6.0

As of December 31, 2020, we had unrecognized pretax compensation expense of \$1.2 billion related to nonvested RSUs and unrecognized pretax compensation expense of \$560 million related to nonvested stock options that will be recognized over a weighted-average period of approximately 1.5 years and 1.7 years, respectively. In 2020, 2019, and 2018, we recognized \$150 million, \$196 million and \$75 million, respectively, as a reduction to income tax expense as a result of excess tax benefits associated with our share-based compensation plans.

Note 15: Supplemental Financial Information

Cash Payments for Interest and Income Taxes

Year ended December 31 (in millions)	2020		2019		2018
Interest	\$	3,878	\$	4,254	\$ 2,897
Income taxes	\$	3,183	\$	3,231	\$ 2,355

Noncash Activities

During 2020:

- we acquired \$1.9 billion of property and equipment and intangible assets that were accrued but unpaid
- we recorded a liability of \$1.1 billion for a quarterly cash dividend of \$0.23 per common share paid in January 2021

During 2019:

- we acquired \$1.9 billion of property and equipment and intangible assets that were accrued but unpaid
- we recorded a liability of \$956 million for a quarterly cash dividend of \$0.21 per common share paid in January 2020

During 2018:

- we acquired \$2.1 billion of property and equipment and intangible assets that were accrued but unpaid
- we recorded a liability of \$860 million for a quarterly cash dividend of \$0.19 per common share paid in January 2019
- we received noncash contributions from noncontrolling interests totaling \$391 million related to Universal Beijing Resort (see Note 7)

Cash, Cash Equivalents and Restricted Cash

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported in the consolidated balance sheet to the total of the amounts reported in our consolidated statement of cash flows.

December 31 (in millions)	2020		2019	
Cash and cash equivalents	\$	11,740	\$	5,500
Restricted cash included in other current assets		14		42
Restricted cash included in other noncurrent assets, net		14		47
Cash, cash equivalents and restricted cash, end of year	\$	11,768	\$	5,589

Our cash equivalents consist primarily of money market funds and U.S. government obligations, as well as commercial paper and certificates of deposit with maturities of three months or less when purchased. The carrying amounts of our cash equivalents approximate their fair values, which are primarily based on Level 1 inputs.

Note 16: Commitments and Contingencies**Sports Rights and Licensed Content**

Our most significant fixed-price purchase obligations relate to long-term commitments for sports rights and licensed content. Refer to Note 4 for additional information.

Leases

Our leases consist primarily of real estate, vehicles and other equipment. We determine if an arrangement is a lease at inception. Lease assets and liabilities are recognized upon commencement of the lease based on the present value of the future minimum lease payments over the lease term. The lease term includes options to extend the lease when it is reasonably certain that we will exercise that option. We generally utilize our incremental borrowing rate based on information available at the commencement of the lease in determining the present value of future payments. The lease asset also includes any lease payments made and initial direct costs incurred and excludes lease incentives. Lease assets and liabilities are not recorded for leases with an initial term of one year or less. Lease expense for operating leases recorded in the balance sheet is included in operating costs and expenses and is based on the future minimum lease payments recognized on a straight-line basis over the term of the lease plus any variable lease costs. Operating lease expenses, inclusive of short-term and variable lease expenses, recognized in our consolidated statement of income for both the periods ended December 31, 2020 and 2019 was \$1.1 billion. These amounts do not include lease costs associated with production activities or other amounts capitalized in our consolidated balance sheet, which are not material.

The table below summarizes the operating lease assets and liabilities recorded in our consolidated balance sheet.

Consolidated Balance Sheet

(in millions)	December 31, 2020	December 31, 2019
Other noncurrent assets, net	\$ 3,784	\$ 4,038
Accrued expenses and other current liabilities	\$ 718	\$ 715
Other noncurrent liabilities	\$ 3,740	\$ 3,891

The table below summarizes our future minimum lease commitments for operating leases as of December 31, 2020.

(in millions)	December 31, 2020
2021	\$ 873
2022	778
2023	683
2024	560
2025	444
Thereafter	2,043
Total future minimum lease payments	5,381
Less: imputed interest	923
Total liability	\$ 4,458

The weighted-average remaining lease terms for operating leases and the weighted-average discount rates used to calculate our operating lease liabilities as of December 31, 2020 were 9 years and 3.58%, respectively, and as of December 31, 2019 were 10 years and 3.74%, respectively.

In 2020 and 2019, cash payments for operating leases recorded in the consolidated balance sheet were \$936 million and \$914 million, respectively. Lease assets and liabilities associated with leases entered into during the year were not material.

Our 2018 rent expense for operating leases using the accounting guidance in effect at that time was \$779 million.

Contractual Obligation

We are party to a contractual obligation that involves an interest held by a third party in the revenue of certain theme parks. The arrangement provides the counterparty with the right to periodic payments associated with current period revenue which are recorded as an operating expense, and beginning in June 2017, the option to require NBCUniversal to purchase the interest for cash in an amount based on a contractual formula. The contractual formula is based on an average of specified historical theme park revenue at the time of exercise, which amount could be significantly higher than our carrying value. As of December 31,

Comcast Corporation

2020, our carrying value was \$1.1 billion, and the estimated value of the contractual obligation was \$1.7 billion based on inputs to the contractual formula as of that date.

Redeemable Subsidiary Preferred Stock

NBCUniversal Enterprise is a holding company that we control and consolidate whose principal assets are its indirect interests in NBCUniversal. The holders of the Series A cumulative preferred stock of NBCUniversal Enterprise have the right to cause NBCUniversal Enterprise to redeem their shares at a price equal to the \$725 million aggregate liquidation preference plus accrued but unpaid dividends for a 30 day period beginning March 19, 2020 and thereafter on every third anniversary of such date (each such date, a “put date”). The NBCUniversal Enterprise preferred stock pays dividends at a fixed rate of 5.25% per year. Shares of preferred stock can be called for redemption by NBCUniversal Enterprise at a price equal to the liquidation preference plus accrued but unpaid dividends one year following the put date applicable to such shares. Because certain of these redemption provisions are outside of our control, the NBCUniversal Enterprise preferred stock is presented outside of equity under the caption “redeemable noncontrolling interests and redeemable subsidiary preferred stock” in our consolidated balance sheet. Its initial value was based on the liquidation preference of the preferred stock and is adjusted for accrued but unpaid dividends. As of December 31, 2020 and 2019, the fair value of the NBCUniversal Enterprise redeemable subsidiary preferred stock was \$731 million and \$749 million, respectively. The estimated fair values are based on Level 2 inputs that use pricing models whose inputs are derived primarily from or corroborated by observable market data through correlation or other means for substantially the full term of the financial instrument.

Contingencies

We are subject to legal proceedings and claims that arise in the ordinary course of our business. While the amount of ultimate liability with respect to such actions is not expected to materially affect our results of operations, cash flows or financial position, any litigation resulting from any such legal proceedings or claims could be time-consuming and injure our reputation.

Note 17: Quarterly Financial Information (Unaudited)

(in millions, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
2020					
Revenue	\$ 26,609	\$ 23,715	\$ 25,532	\$ 27,708	\$ 103,564
Operating income	\$ 4,852	\$ 4,647	\$ 4,076	\$ 3,918	\$ 17,493
Net income attributable to Comcast Corporation	\$ 2,147	\$ 2,988	\$ 2,019	\$ 3,380	\$ 10,534
Basic earnings per common share attributable to Comcast Corporation shareholders	\$ 0.47	\$ 0.65	\$ 0.44	\$ 0.74	\$ 2.30
Diluted earnings per common share attributable to Comcast Corporation shareholders	\$ 0.46	\$ 0.65	\$ 0.44	\$ 0.73	\$ 2.28
Dividends declared per common share	\$ 0.23	\$ 0.23	\$ 0.23	\$ 0.23	\$ 0.92
2019					
Revenue	\$ 26,859	\$ 26,858	\$ 26,827	\$ 28,398	\$ 108,942
Operating income	\$ 5,182	\$ 5,356	\$ 5,340	\$ 5,247	\$ 21,125
Net income attributable to Comcast Corporation	\$ 3,553	\$ 3,125	\$ 3,217	\$ 3,162	\$ 13,057
Basic earnings per common share attributable to Comcast Corporation shareholders	\$ 0.78	\$ 0.69	\$ 0.71	\$ 0.69	\$ 2.87
Diluted earnings per common share attributable to Comcast Corporation shareholders	\$ 0.77	\$ 0.68	\$ 0.70	\$ 0.68	\$ 2.83
Dividends declared per common share	\$ 0.21	\$ 0.21	\$ 0.21	\$ 0.21	\$ 0.84

Minor differences may exist due to rounding.

Item 9: Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A: Controls and Procedures

Conclusions regarding disclosure controls and procedures

Our principal executive and principal financial officers, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this report, have concluded that, based on the evaluation of these controls and procedures required by paragraph (b) of Exchange Act Rules 13a-15 or 15d-15, such disclosure controls and procedures were effective.

Management's annual report on internal control over financial reporting

Refer to Management's Report on Internal Control Over Financial Reporting on page 69.

Attestation report of the registered public accounting firm

Refer to Report of Independent Registered Public Accounting Firm on page 70.

Changes in internal control over financial reporting

There were no changes in internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15 that occurred during the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part III

Item 10: Directors, Executive Officers and Corporate Governance

Except for the information regarding executive officers required by Item 401 of Regulation S-K, we incorporate the information required by this item by reference to our definitive proxy statement for our annual meeting of shareholders. We refer to this proxy statement as the 2021 Proxy Statement.

The term of office of each of our executive officers continues until his successor is selected and qualified or until his earlier death, resignation or removal. The following table sets forth information concerning our executive officers, including their ages, positions and tenure, as of December 31, 2020.

Name	Age	Officer Since	Position with Comcast
Brian L. Roberts	61	1986	Chairman and Chief Executive Officer; President
Michael J. Cavanagh	54	2015	Chief Financial Officer
Jeffrey S. Shell	55	2020	Chief Executive Officer, NBCUniversal
Adam L. Miller	50	2020	Chief Administration Officer; Executive Vice President, NBCUniversal
David N. Watson	62	2017	President and Chief Executive Officer, Comcast Cable
Thomas J. Reid	56	2019	Chief Legal Officer and Secretary
Daniel C. Murdock	47	2017	Executive Vice President; Chief Accounting Officer and Controller

Brian L. Roberts has served as a director and as our President, Chairman of the Board and Chief Executive Officer for more than five years. As of December 31, 2020, Mr. Roberts had sole voting power over approximately 33 1/3% of the combined voting power of our two classes of common stock. He is a son of our late founder, Mr. Ralph J. Roberts.

Michael J. Cavanagh has served as the Chief Financial Officer of Comcast Corporation since July 2015. Prior to joining our company, Mr. Cavanagh had been Co-President and Co-Chief Operating Officer for The Carlyle Group, a global investment firm, since 2014. Prior to that, Mr. Cavanagh was the Co-Chief Executive Officer of the Corporate & Investment Bank of JPMorgan Chase & Co. from 2012 until 2014; the Chief Executive Officer of JPMorgan Chase & Co.'s Treasury & Securities Services business from 2010 to 2012; and the Chief Financial Officer of JPMorgan Chase & Co. from 2004 to 2010.

Jeffrey S. Shell has served as the Chief Executive Officer of NBCUniversal since January 2020. Previously, Mr. Shell was the Chairman of NBCUniversal Film and Entertainment since January 2019. Prior to that, Mr. Shell served as the Chairman of Universal Filmed Entertainment Group (UFG) since 2013 and Chairman of NBCUniversal International prior to joining UFG. Prior to joining NBCUniversal, Mr. Shell served as President of Comcast Programming Group for six years. Prior to joining our company, Mr. Shell was the CEO of Gemstar TV Guide International and President of FOX Cable Networks Group.

Adam L. Miller has served as Chief Administration Officer of Comcast since February 2020 and Executive Vice President of NBCUniversal since 2012. Prior to joining our company, Mr. Miller was President of The Abemathy MacGregor Group, a leading strategic communications firm headquartered in New York.

David N. Watson has served as Chief Executive Officer, Comcast Cable since April 2017 and previously had served as Chief Operating Officer, Comcast Cable for more than five years. Mr. Watson is also a director of Amkor Technology, Inc.

Thomas J. Reid has served as our Chief Legal Officer and Secretary since April 2019. Prior to joining our company, Mr. Reid had served as the Chairman and Managing Partner of Davis Polk & Wardwell LLP, a global law firm, since 2011. Prior to that, Mr. Reid was a partner at Davis Polk & Wardwell LLP from 2003 to 2011 and a Managing Director in the Investment Banking Division of Morgan Stanley from 2000 to 2003.

Daniel C. Murdock has served as an Executive Vice President since March 2020, our Chief Accounting Officer since March 2017 and our Controller since July 2015. Prior to joining our company, Mr. Murdock had been with the U.S. Securities and Exchange Commission where he served as the Deputy Chief Accountant in the agency's Office of the Chief Accountant since 2013. Prior to that, he was Deloitte & Touche's Audit/Industry Professional Practice Director for media and entertainment.

Item 11: Executive Compensation

We incorporate the information required by this item by reference to our 2021 Proxy Statement.

Item 12: Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

We incorporate the information required by this item by reference to our 2021 Proxy Statement.

Item 13: Certain Relationships and Related Transactions, and Director Independence

We incorporate the information required by this item by reference to our 2021 Proxy Statement.

Item 14: Principal Accountant Fees and Services

We incorporate the information required by this item by reference to our 2021 Proxy Statement.

Part IV

Item 15: Exhibits and Financial Statement Schedules

(a) Our consolidated financial statements are filed as a part of this report on Form 10-K in Item 8, Financial Statements and Supplementary Data, and a list of Comcast's consolidated financial statements are found on page 68 of this report. Financial statement schedules are omitted because the required information is not applicable, or because the information required is included in the consolidated financial statements and notes thereto.

(b) Exhibits required to be filed by Item 601 of Regulation S-K (all of which are under Commission File No. 001-32871, except as otherwise noted):

- [3.1](#) Amended and Restated Articles of Incorporation of Comcast Corporation (incorporated by reference to Exhibit 3.1 to Comcast's Current Report on Form 8-K filed on December 15, 2015).
- [3.2](#) Amended and Restated By-Laws of Comcast Corporation (incorporated by reference to Exhibit 3.2 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2018).
- [4.1](#) Specimen Class A Common Stock Certificate (incorporated by reference to Exhibit 4.1 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2002).
- [4.2](#) Indenture, dated January 7, 2003, between Comcast Corporation, the subsidiary guarantor party thereto, and The Bank of New York Mellon (f/k/a The Bank of New York), as trustee (incorporated by reference to Exhibit 4.4 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2008).
- [4.3](#) First Supplemental Indenture, dated March 25, 2003, to the Indenture between Comcast Corporation, the subsidiary guarantors party thereto, and The Bank of New York Mellon (f/k/a The Bank of New York), as trustee, dated January 7, 2003 (incorporated by reference to Exhibit 4.5 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2008).
- [4.4](#) Second Supplemental Indenture, dated August 31, 2009, to the Indenture between Comcast Corporation, the subsidiary guarantors party thereto, and The Bank of New York Mellon, as Trustee, dated January 7, 2003, as supplemented by a First Supplemental Indenture dated March 25, 2003 (incorporated by reference to Exhibit 4.1 to Comcast's Current Report on Form 8-K filed on September 2, 2009).
- [4.5](#) Third Supplemental Indenture, dated March 27, 2013, to the Indenture between Comcast Corporation, the subsidiary guarantors party thereto, and The Bank of New York Mellon (f/k/a The Bank of New York), as trustee, dated January 7, 2003, as supplemented by a First Supplemental Indenture dated March 25, 2003 and a second Supplemental Indenture dated August 31, 2009 (incorporated by reference to Exhibit 4.4 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).
- [4.6](#) Fourth Supplemental Indenture, dated October 1, 2015, to the Indenture dated January 7, 2003 between Comcast Corporation, the subsidiary guarantors party thereto, and The Bank of New York Mellon (f/k/a The Bank of New York), as trustee, as supplemented by a First Supplemental Indenture dated March 25, 2003, a second Supplemental Indenture dated August 31, 2009 and a Third Supplemental Indenture dated March 27, 2013 (incorporated by reference to Exhibit 4.1 to Comcast's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015).
- [4.7](#) Senior Indenture dated September 18, 2013, among Comcast Corporation, the guarantors party thereto and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.3 to Comcast's Registration Statement on Form S-3 filed September 18, 2013).
- [4.8](#) First Supplemental Indenture dated as of November 17, 2015, to the Senior Indenture dated September 18, 2013, among Comcast Corporation, the guarantors party thereto, and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.4 to Post Effective Amendment No. 2 to Comcast's Registration Statement on Form S-3 filed November 23, 2015).
- [4.9](#) Indenture, dated as of April 30, 2010, between NBC Universal, Inc. (n/k/a NBCUniversal Media, LLC) and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4 to the Registration Statement on Form S-4 of NBCUniversal Media, LLC (Commission File No. 333-174175) filed on May 13, 2011).
- [4.10](#) First Supplemental Indenture, dated March 27, 2013, to the Indenture between NBCUniversal Media, LLC (f/k/a NBC Universal, Inc.) and The Bank of New York Mellon, as trustee, dated April 30, 2010 (incorporated by reference to Exhibit 4.3 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).

- [4.11](#) Second Supplemental Indenture, dated October 1, 2015, to the Indenture dated April 30, 2010 between NBC Universal, Inc. (n/k/a NBCUniversal Media, LLC) and The Bank of New York Mellon, as trustee, as supplemented by a First Supplemental Indenture dated March 27, 2013 (incorporated by reference to Exhibit 4.2 to Comcast's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015).
- [4.12](#) Indenture, dated March 19, 2013, among NBCUniversal Enterprise, Inc. (f/k/a Navy Holdings, Inc.), Comcast Corporation, the Cable Guarantors party thereto, and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.1 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).
- [4.13](#) Trust Deed dated September 5, 2014 among BSKYB Finance UK plc, British Sky Broadcasting Group plc, the initial guarantors party thereto and BNY Mellon Corporate Trustee Services Limited, as trustee (incorporated by reference to Exhibit 4.13 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2018).
- [4.14](#) Supplemental Trust Deed dated March 18, 2015 among Sky Group Finance plc (f/k/a BSKYB Finance UK plc), Sky plc (f/k/a British Sky Broadcasting Group plc), the initial guarantors party thereto and BNY Mellon Corporate Trustee Services Limited, as trustee (incorporated by reference to Exhibit 4.14 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2018).
- [4.15](#) Description of Comcast Corporation's securities registered pursuant to Section 12 of the Securities Exchange Act.
- Certain instruments defining the rights of holders of long-term obligation of the registrant and certain of its subsidiaries (the total amount of securities authorized under each of which does not exceed ten percent of the total assets of the registrant and its subsidiaries on a consolidated basis), are omitted pursuant to Item 601(b)(4)(iii)(A) of Regulation S-K. We agree to furnish copies of any such instruments to the SEC upon request.
- [10.1](#) Credit Agreement dated as of May 26, 2016, among Comcast Corporation, the financial institutions party thereto, JPMorgan Chase Bank, N.A., as administrative agent, Citibank, N.A., as syndication agent, Morgan Stanley MUFG Partners, LLC, Wells Fargo Bank, National Association and Mizuho Bank, Ltd., as co-documentation agents (incorporated by reference to Exhibit 10.1 to Comcast's Current Report on Form 8-K filed on May 31, 2016).
- [10.2](#) Amendment No. 1 dated April 27, 2018, to Credit Agreement dated as of May 26, 2016, among Comcast Corporation, the financial institutions party thereto, JPMorgan Chase Bank, N.A., as administrative agent, Citibank, N.A., as syndication agent, Morgan Stanley MUFG Partners, LLC, Wells Fargo Bank, National Association and Mizuho Bank, Ltd., as co-documentation agents (incorporated by reference to Exhibit 10.1 to Comcast's Current Report on Form 8-K filed on April 30, 2018).
- [10.3](#) Amendment No. 2 dated June 18, 2019, to Credit Agreement dated as of May 26, 2016, among Comcast Corporation, the financial institutions party thereto, JPMorgan Chase Bank, N.A., as administrative agent, Citibank, N.A., as syndication agent, Morgan Stanley MUFG Partners, LLC, Wells Fargo Bank, National Association and Mizuho Bank, Ltd., as co-documentation agents (incorporated by reference to Exhibit 10.1 to Comcast's Current Report on Form 8-K filed on June 20, 2019).
- [10.4](#) Second Amended and Restated Certificate of Incorporation of NBCUniversal Enterprise, Inc. (f/k/a/ Navy Holdings, Inc.), dated March 19, 2013 (incorporated by reference to Exhibit 10.3 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).
- [10.5](#) Certificate of Designations for Series A Cumulative Preferred Stock of NBCUniversal Enterprise, Inc. (f/k/a/ Navy Holdings, Inc.), dated March 19, 2013 (incorporated by reference to Exhibit 10.4 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).
- [10.6](#) Amendment to Certificate of Designations for Series A Cumulative Preferred Stock of NBCUniversal Enterprise, Inc. dated March 19, 2013 (incorporated by reference to Exhibit 10.5 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013).
- [10.7](#) Term Loan Credit Agreement among Comcast, the financial institutions party thereto, Bank of America, N.A., as administrative agent, Wells Fargo Bank, National Association, as syndication agent, and Merrill Lynch, Pierce, Fenner & Smith Incorporated and Wells Fargo Securities LLC, as joint lead arrangers and joint bookrunners, dated April 25, 2018 (incorporated by reference to Exhibit 10.1 to Comcast's Current Report on Form 8-K filed on April 25, 2018).
- [10.8](#) Amendment No. 1 dated September 23, 2018, to Term Loan Credit Agreement dated as of April 25, 2018 (incorporated by reference to Exhibit 10.3 to Comcast's Current Report on Form 8-K filed on September 24, 2018).
- [10.9](#) Comcast Revolving Credit Agreement Increased Revolving Commitment Activation Notice, dated September 21, 2018 (incorporated by reference to Exhibit 10.1 to Comcast's Current Report on Form 8-K filed on September 24, 2018).
- [10.10](#) Comcast Revolving Credit Agreement New Lender Supplement, dated September 21, 2018 (incorporated by reference to Exhibit 10.2 to Comcast's Current Report on Form 8-K filed on September 24, 2018).

10.11*	Comcast Corporation 2003 Stock Option Plan, as amended and restated April 10, 2020 (incorporated by reference to Exhibit 10.4 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020).
10.12*	Comcast Corporation 2002 Deferred Compensation Plan, as amended and restated effective October 22, 2020.
10.13*	Comcast Corporation 2005 Deferred Compensation Plan, as amended and restated effective October 22, 2020 (incorporated by reference to Exhibit 10.1 to Comcast's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
10.14*	Comcast Corporation 2002 Restricted Stock Plan, as amended and restated effective October 22, 2020 (incorporated by reference to Exhibit 10.3 to Comcast's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
10.15*	Comcast Corporation 2006 Cash Bonus Plan, as amended and restated effective February 18, 2015 (incorporated by reference to Exhibit 10.11 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2015).
10.16*	Comcast Corporation 2002 Non-Employee Director Compensation Plan, as amended and restated effective July 31, 2020 (incorporated by reference to Exhibit 10.2 to Comcast's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
10.17*	Comcast Corporation 2002 Employee Stock Purchase Plan, as amended and restated effective February 22, 2016 (incorporated by reference to Appendix C to our Definitive Proxy Statement on Schedule 14A filed on April 8, 2016).
10.18*	Comcast-NBCUniversal 2011 Employee Stock Purchase Plan, as amended and restated effective February 22, 2016 (incorporated by reference to Appendix D to our Definitive Proxy Statement on Schedule 14A filed on April 8, 2016).
10.19*	Employment Agreement with Brian L. Roberts, dated as of July 26, 2017 (incorporated by reference to Exhibit 10.2 to Comcast's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017).
10.20*	Amendment No. 1 to Employment Agreement with Brian L. Roberts, dated as of December 16, 2019 (incorporated by reference to Exhibit 10.20 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2019).
10.21*	Employment Agreement between Comcast Corporation and Stephen B. Burke, dated as of December 16, 2009 (incorporated by reference to Exhibit 99.1 to Comcast's Current Report on Form 8-K filed on December 22, 2009).
10.22*	Form of Amendment, dated as of December 14, 2012, to the Employment Agreement with Stephen B. Burke (incorporated by reference to Exhibit 10.41 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2012).
10.23*	Amendment No. 2 to Employment Agreement with Stephen B. Burke, dated as of August 16, 2013 (incorporated by reference to Exhibit 99.1 to Comcast's Current Report on Form 8-K filed on August 16, 2013).
10.24*	Amendment No. 3 to Employment Agreement with Stephen B. Burke dated as of July 25, 2016 (incorporated by reference to Exhibit 99.1 to Comcast's Current Report on Form 8-K filed on July 28, 2016).
10.25*	Amendment No. 4 to Employment Agreement with Stephen B. Burke, dated as of December 16, 2019 (incorporated by reference to Exhibit 10.24 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2019).
10.26*	Amendment No. 5 to Employment Agreement with Stephen B. Burke, dated as of July 27, 2020 (incorporated by reference to Exhibit 10.1 to Comcast's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020).
10.27*	Employment Agreement between Comcast Corporation and David L. Cohen, dated as of October 23, 2015 (incorporated by reference to Exhibit 10.1 to Comcast's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015).
10.28*	Amendment No. 1 to Employment Agreement with David L. Cohen, dated as of December 16, 2019 (incorporated by reference to Exhibit 10.26 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2019).
10.29*	Amendment No. 2 to Employment Agreement with David L. Cohen, dated as of July 27, 2020 (incorporated by reference to Exhibit 10.2 to Comcast's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020).
10.30*	Employment Agreement dated as of December 21, 2018 between Comcast Corporation and Michael J. Cavanagh (incorporated by reference to Exhibit 99.1 to Comcast's Current Report on Form 8-K filed on December 21, 2018).
10.31*	Amendment No. 1 to Employment Agreement with Michael J. Cavanagh, dated as of December 16, 2019 (incorporated by reference to Exhibit 10.29 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2019).

10.32*	Employment Agreement dated as of April 2, 2018 between Comcast Corporation and David N. Watson (incorporated by reference to Exhibit 10.4 to Comcast's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).
10.33*	Amendment No. 1 to Employment Agreement with David N. Watson, dated as of December 16, 2019 (incorporated by reference to Exhibit 10.31 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2019).
10.34*	Amendment No. 2 to Employment Agreement with David N. Watson, dated as of April 29, 2020 (incorporated by reference to Exhibit 10.5 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020).
10.35*	Form of Non-Qualified Stock Option and Long-Term Incentive Awards Summary Schedule under the Comcast Corporation 2003 Stock Option Plan.
10.36*	Form of Restricted Stock Unit Award and Long-Term Incentive Awards Summary Schedule under the Comcast Corporation 2002 Restricted Stock Plan.
10.37*	Form of Restricted Stock Unit Award and Long-Term Incentive Awards Summary Schedule under the Comcast Corporation 2002 Restricted Stock Plan.
10.38*	Form of Restricted Stock Unit Award and Long-Term Incentive Awards Summary Schedule under the Comcast Corporation 2002 Restricted Stock Plan.
10.39*	Form of Airplane Time Sharing Agreement (incorporated by reference to Exhibit 10.60 to Comcast's Annual Report on Form 10-K for the year ended December 31, 2014).
10.40*	Form of Director Indemnification Agreement (incorporated by reference to Exhibit 10.3 to Comcast's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009).
10.41	Third Amended and Restated Shareholders Agreement, dated as of November 26, 2020, among Atairos Group, Inc., Comcast AG Holdings, LLC, Comcast Spectacor Ventures, LLC, Atairos Partners, L.P., Atairos Management, L.P. and Comcast Corporation.
10.42	Consultant Agreement, dated as of January 20, 1987, between Steven Spielberg and Universal City Florida Partners (incorporated by reference to Exhibit 10.49 to the Registration Statement on Form S-4 of Universal City Development Partners, Ltd. and UCDP Finance, Inc. filed on January 20, 2010 (File No. 333-164431)).
10.43	Amendment dated February 5, 2001 to the Consultant Agreement dated as of January 20, 1987, between the Consultant and Universal City Florida Partners (incorporated by reference to Exhibit 10.50 to the Registration Statement on Form S-4 of Universal City Development Partners, Ltd. and UCDP Finance, Inc. filed on January 20, 2010 (File No. 333-164431)).
10.44	Amendment to the Consultant Agreement, dated as of October 18, 2009, between Steven Spielberg, Diamond Lane Productions, Inc. and Universal City Development Partners, Ltd. (incorporated by reference to Exhibit 10.52 to the Registration Statement on Form S-4 of Universal City Development Partners, Ltd. and UCDP Finance, Inc. filed on January 20, 2010 (File No. 333-164431)).
10.45	Letter Agreement dated July 15, 2003, among Diamond Lane Productions, Vivendi Universal Entertainment LLLP and Universal City Development Partners, Ltd. (incorporated by reference to Exhibit 10.51 to the Registration Statement on Form S-4 of Universal City Development Partners, Ltd. and UCDP Finance, Inc. filed on January 20, 2010 (File No. 333-164431)).
21	List of subsidiaries.
22	Subsidiary guarantors and issuers of guaranteed securities and affiliates whose securities collateralize securities of the registrant (incorporated by reference to Exhibit 22.1 to Comcast's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020).
23	Consent of Deloitte & Touche LLP.
31	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following financial statements from Comcast Corporation's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on February 3, 2021, formatted in Inline Extensible Business Reporting Language (iXBRL): (1) the Consolidated Statement of Income; (2) the Consolidated Statement of Comprehensive Income; (3) the Consolidated Statement of Cash Flows; (4) the Consolidated Balance Sheet; (5) the Consolidated Statement of Changes in Equity; and (6) the Notes to Consolidated Financial Statements.

104 Cover Page Interactive Data File (embedded within the iXBRL document)

* Constitutes a management contract or compensatory plan or arrangement.

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 in Philadelphia, Pennsylvania on February 3, 2021.

By: /s/ BRIAN L. ROBERTS

Brian L. Roberts

Chairman and Chief Executive Officer

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 and on the dates indicated.

Signature	Title	Date
<u>/s/ BRIAN L. ROBERTS</u> Brian L. Roberts	Chairman and Chief Executive Officer; Director (Principal Executive Officer)	February 3, 2021
<u>/s/ MICHAEL J. CAVANAGH</u> Michael J. Cavanagh	Chief Financial Officer (Principal Financial Officer)	February 3, 2021
<u>/s/ DANIEL C. MURDOCK</u> Daniel C. Murdock	Executive Vice President, Chief Accounting Officer and Controller (Principal Accounting Officer)	February 3, 2021
<u>/s/ KENNETH J. BACON</u> Kenneth J. Bacon	Director	February 3, 2021
<u>/s/ MADELINE S. BELL</u> Madeline S. Bell	Director	February 3, 2021
<u>/s/ NAOMI M. BERGMAN</u> Naomi M. Bergman	Director	February 3, 2021
<u>/s/ EDWARD D. BREEN</u> Edward D. Breen	Director	February 3, 2021
<u>/s/ GERALD L. HASSELL</u> Gerald L. Hassell	Director	February 3, 2021
<u>/s/ JEFFREY A. HONICKMAN</u> Jeffrey A. Honickman	Director	February 3, 2021
<u>/s/ MARITZA G. MONTIEL</u> Maritza G. Montiel	Director	February 3, 2021
<u>/s/ ASUKA NAKAHARA</u> Asuka Nakahara	Director	February 3, 2021
<u>/s/ DAVID C. NOVAK</u> David C. Novak	Director	February 3, 2021