Equity Research Report
Amazon.com Inc.

November 5, 2019

Student Investment Management Fund
Fisher College of Business
Analyst: Gregg Berry

Profile:

Founded in Seattle, Washington in 1994 by current CEO Jeffery Bezos, Amazon.com Inc (AMZN) was established as an online retailer for physical books [1]. Since 1994, Amazon.com has undergone juggernaut level growth, now one of the world's most valuable companies with total 2018 sales of $232.8 billion. The company now lists hundreds of millions of products on its online marketplace, ranging from physical merchandise to digital content [1]. Amazon also sells consumer electronics under its Kindle and Alexa-Echo brands. Amazon Web Services (AWS), the company's fastest growing business segment, is a market leader in enterprise cloud computing and storage. It accounted for 12% of the company's net sales in the third quarter of 2019 [2]. Amazon is also looking to expand its physical store sales with its recent acquisition of Whole Foods Market and the development of Amazon Go [3].

Analyst Rating:

At the time of writing, Amazon.com's traded market value is $1,791.44 per share. I forecast AMZN's intrinsic value to be $2,234.36 per share, with an implied upside of 24.72%. This indicates that Amazon is significantly undervalued and possesses a wide margin of safety. For this reason, I have issued a "BUY" rating for AMZN. Amazon is an innovative company that has repeatedly realized high returns on its available capital and is a bargain at its current market price.

Key Assumptions

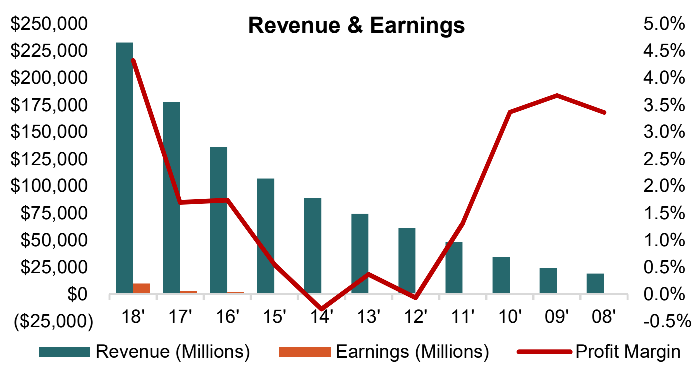
Amazon's intrinsic value is based upon assumed average annual revenue growth of 13.31% over the next twelve years beginning in 2019, converging to 6% in perpetuity. The projected rate is based on assumptions of stable consumer spending over the period and management's continued ability to expand market share through new and attractive offerings such as advertising and fast shipping.

Key Risks

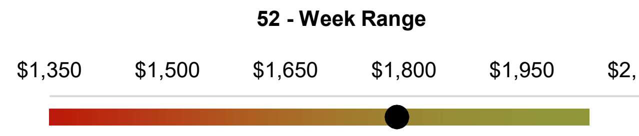
Amazon.com's key revenue driver, online retail, is heavily dependent upon strong consumer confidence and spending. Additionally, Amazon is reliant on healthy business spending for growth in its AWS and third-party seller segments. As the company expands into foreign markets, international consumer adoption of services and foreign currency exchange rates will have a significant impact on earnings. In the event of a severe economic downturn, Amazon would likely be required to substantially impair the value of its receivables from consumers and vendors [1].

Amazon.com Inc				
Ticker	**Market Sector**	**Industry**	**Market Cap**	**Shares Outstanding**
AMZN	Consumer Disc.	Retail	$873.95B	495.8M

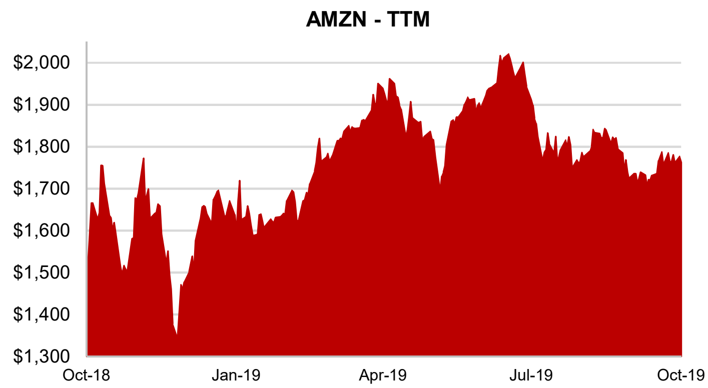
Recommendation			
Rating	**Last Price**	**Target Price**	**Implied Upside**
BUY	$1,791.44	$2,234.36	+24.72%



Key Metrics				
Dividend Yield	**Average Daily Vol.**	**52-Week High**	**52-Week Average**	**52-Week Low**
None	3.24M	$2,035.80	$1,757.00	$1,307.00



Historic Performance				
YTD	**1-Yr**	**3-Yr**	**5-Yr**	**10-Yr**
+8.30%	+10.16%	+134.54%	+473.06%	+1,143.23%



Analyst: Gregg Berry | Max M. Fisher College of Business

Contact: berry.710@osu.edu | (419) 921 – 6756 | LinkedIn

Table of Contents

PROFILE: 1
ANALYST RATING: 1
- KEY ASSUMPTIONS 1
- KEY RISKS 1

COMPANY OVERVIEW 2
BUSINESS SEGMENTS 3
- NORTH AMERICA 3
- INTERNATIONAL 3
- AMAZON WEB SERVICES 4
- PRODUCTS AND RETAIL 4
- SERVICES 5
- ADDRESSABLE MARKET 6
- MARKET COMPARISON PERFORMANCE 7
- COMPETITION ANALYSIS 8
- VALUE DRIVERS 10

SIGNIFICANT RECENT EVENTS 11
INVESTMENT THESIS 12
- FUNDAMENTAL DRIVERS 12
- INDUSTRY OUTLOOK 12
- ECONOMIC OUTLOOK 13

FINANCIAL FORECASTING 14
- PROJECTED EARNINGS 14
- COMPETITOR MARGINS 15

VALUATION 16
- VALUATION MULTIPLES 16
- DISCOUNTED CASH FLOWS PROJECTION 16

RISK ASSESSMENT 17
CONCLUSION 17
APPENDIX I: FORECASTED INCOME STATEMENT 18
APPENDIX II: DISCOUNTED CASHFLOW PROJECTION 19
BIBLIOGRAPHY 20

Company Overview

Amazon.com, founded to be the leading e-commerce website originally specializing in books at the dawn of the "dot-com" era, now operates in many sectors including technology, cloud computing, communications, logistics, fulfillment, advertising, and even physical retail [1]. Today, as the world's third largest public company by market capitalization, Amazon has experienced unprecedented growth in the 25 years since its founding [4]. Amazon has a reputation for fierce competition and obsession over the consumer experience [5]. Commitment to a great customer experience, operational efficiency, low prices, and frugality is the strategy that allowed Amazon.com to take on large opponents like Barnes & Noble, Walmart, and Ebay.com. The company remains as one of the few surviving internet companies of the late 1990s and early 2000s [5].

Founder and CEO, Jeff Bezos, is famous for enforcing the strategy that encompasses Amazon's Flywheel. Bezos and

***Figure 1**: Amazon's Flywheel - The Everything Store, Brad Stone*

the management team use the flywheel as a framework for investing the company's resources and improving its products and services. Amazon strengthens revenue by generating more traffic in its online marketplace. To do this, the company focuses on attracting more sellers and offering a greater selection of goods. Great selections, low prices, and better efficiency, such as fast and free shipping, lead to a better customer experience which generates more traffic causing the cycle to repeat [5]. Amazon's recent investment in one day shipping, in new functions and features, and in new content and devices are a direct result of this framework.

Amazon has a reputation as a fierce competitor. When Amazon enters a new industry or line of business, the company exerts its brand and cost structure on legacy firms to rapidly gain market share and challenge traditional business models [5]. As a young company, Amazon fought with publishers, resellers, and physical retail merchants. Today, Amazon competes with many of the same companies but has added many new industries to this list. Amazon's aggressive tactics and continued success have made it the target of political and legislative scrutiny [8].

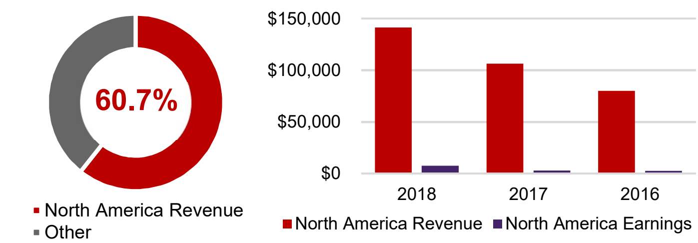
Business Segments

Amazon.com segments its business in two distinct ways. The first is to separate operations between North America, International, and AWS operations. Secondly, Amazon breaks down operations among product sales, distinguishing between online and physical retail, and among services such as third-party sellers, subscription and prime membership programs, AWS, and advertising (Other) [1].

North America

North America, Amazon's original market, is still the primary source of revenue for the company. Amazon reported $141.37 billion in revenue from North America in 2018, up 33.23% YoY. North America comprised of over 60.70% of Amazon's total revenue in 2018 [1].

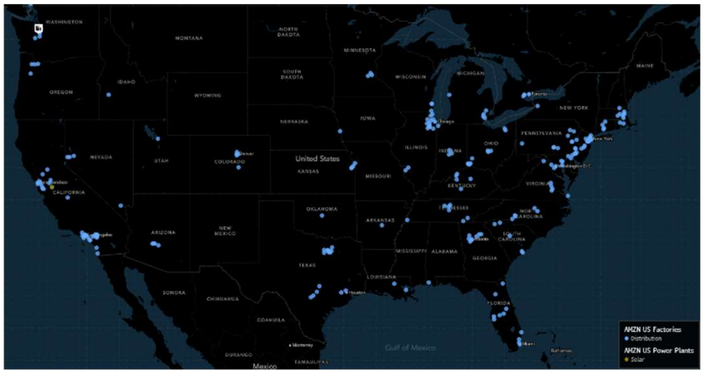
***Figure 2**: Amazon North America Revenue & Earnings (in millions) - 10-K*



North America revenue has grown at a compounded annual growth rate (CAGR) of 33% over the past three years. I forecast this trend to continue but taper to 25% - 28% CAGR by 2025. I predict growth will slow long-term as Amazon will likely find it more difficult to gain greater market share in its aging operating segments.

Amazon operates most of its facilities in the Unites States and North America. These facilities are primarily fulfillment centers. However, since the launch of AWS, Amazon has constructed many data centers in North America to provide better service to its cloud customers. The 2017 acquisition of Whole Foods Market also increased Amazon's North America footprint, in addition to the opening of 10 Amazon Go storefronts in Chicago, San Francisco, and Seattle [3].

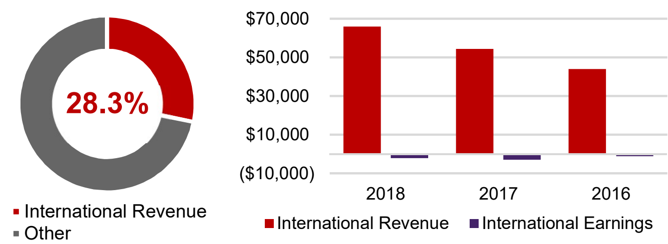
***Figure 3**: Amazon North American Facilities - Bloomberg*



International

Amazon's international operations accounted for 28.28% ($65.87 billion) of the company's total revenue in 2018 but amounted to a $2.14 billion operating loss for the year. International operations have continued to yield operating losses in each quarter of 2019 to date. Revenues have grown at 22.38% CAGR over the past three years, but I forecast this will increase to 25% - 28% CAGR by 2025 as Amazon continues to invest heavily in expanding its international operations [7].

***Figure 4**: International Revenue & Earnings (in millions) - 10-K*



Aside from North America, Amazon also operates facilities in the European Union (including the United Kingdom), India, China, and Japan. While Amazon is banned from retail operations in the People's Republic of China (PRC), it still owns data and logistics centers in the nation to improve the quality of its AWS and fulfillment operations.

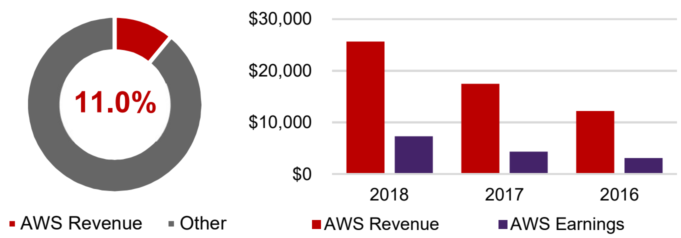
***Figure 5**: Amazon Global Facilities - Bloomberg*

Amazon Web Services

In 2006 Amazon pioneered into the cloud computing industry, and it quickly became the dominate firm by market share [7]. This move put the company in direct competition with legacy computer technology companies such as Microsoft, Google, and IBM. Amazon Web Services initially launched as a centralized, remote, data center, allowing companies to purchase processing and storage as needed. This gave enterprises the ability to scale IT infrastructure on demand (IaaS). Today, AWS also provides a platform for developers to create content ranging from mobile applications to video games. These services are housed and operated on AWS servers (PaaS). Amazon's suite of enterprise applications and other analytical tools allow clients to better interpret their data and forecast their performance (SaaS) [9].

Amazon Web Services, with 2018 revenue of $25.66 billion, which is 11.02% of total revenue for the year, is the smallest of the three segments in terms of gross revenue. However, AWS has the fastest growing revenue with a three-year CAGR of 48.30%. I forecast that AWS' revenue CAGR will fall between 36% and 38% by 2025, as Amazon faces increased competition from Microsoft and Google in the commercial cloud space [10]. AWS' operating margin is also the highest of the three categories at 28.44%, compared to 5.14% for North America and -3.25% for International. Amazon Web Services' steep growth rate and wide margins make it the most valuable of Amazon's operating segments.

***Figure 6**: AWS Revenue & Earnings (in millions) – 10-K*



Amazon continues to invest heavily in AWS research and development. The platform gives clients access to features such as data security, IoT, machine learning, automation, blockchain, and data visualization and analysis [9]. AWS' primary constraint continues to be locating and hiring the top talent in engineering and computer science [7]. Amazon Web Services is also Amazon's most global service line with locations in North America, South America, Europe, Asia, Australia, and the Middle East. Amazon also has plans to expand its AWS network to South Africa [9]. AWS' global presence makes it the most susceptible to global climate and political risks, as well as foreign exchange risks [1].

***Figure 7**: AWS Global Facilities – aws.amazon.com*

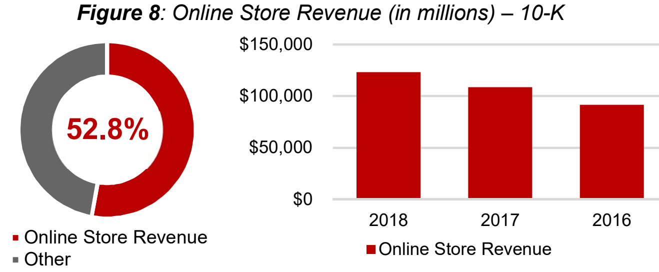
Products and Retail

In addition to separating operating activity between North America operations, International operations, and AWS, Amazon also differentiates operating activity by product sales (Online and Physical Retail) and services (Third-Party Sellers, Subscriptions, and Other/Advertising). Amazon does not directly disclose operating expenses for these sub-categories, making it impossible to precisely determine earnings or operating margins.

Online Stores

Amazon's e-commerce platform is its most iconic and legacy service line. This segment includes all items sold directly by Amazon: the "Fulfilled by Amazon" category, "Amazon Basics", and purchases of digital content (without a subscription). Online sales also include orders for pickup or delivery made online for any of Amazon's physical retail locations [1]. Online store sales are the biggest subcategory for Amazon's revenue, with $122.99 billion in 2018, representing 52.81% of the year's entire revenue. Online sales have a three-year CAGR of 16.99%, and I forecast that this will tapper to 7% by 2022 due to constrained growth in the ecommerce industry.

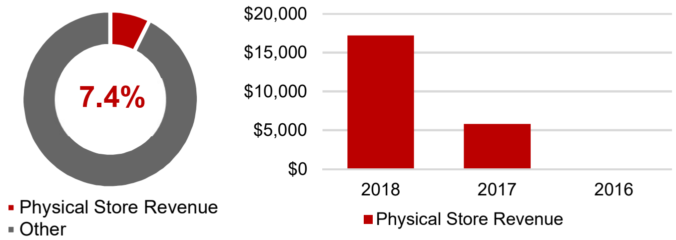
***Figure 8**: Online Store Revenue (in millions) – 10-K*



Physical Stores

Amazon began disclosing physical store sales in 2017 after the acquisition of Whole Foods. In 2018, physical store sales only represented 7.40% or $10.11 billion in revenue. It is not possible to determine a precise revenue CAGR for this category because of its brief history. However, I have forecasted this category's revenue CAGR to be 22% in 2019 and fall to 19% by 2022. Physical store sales will be a difficult market for Amazon to gain users in [10]. I initially anticipate strong growth (22% CAGR) for this category as many early adopters will rush to use Amazon's new services. However, I believe that the average consumer will be slow to embrace Amazon for physical retail, and Amazon may find it difficult to compete against heavily entrenched competitors such as Walmart, Target, Costco, and Kroger.

***Figure 9**: Physical Store Revenue (in millions) – 10-K*



Alexa and Connected Devices

Amazon has become the leader in the "smart speaker" and virtual assistant market [6]. The company announced a line of new smart devices in Q3 2019. The new line includes better performing speakers, home security devices, and Alexa-enabled glasses, earbuds, microwave, and ring [7]. Amazon reports that there are over 150 Alexa enabled devices available to consumers to date, and consumers have purchased over 100 million echo devices [3]. Amazon does not yet disclose specific revenue for its line of smart devices.

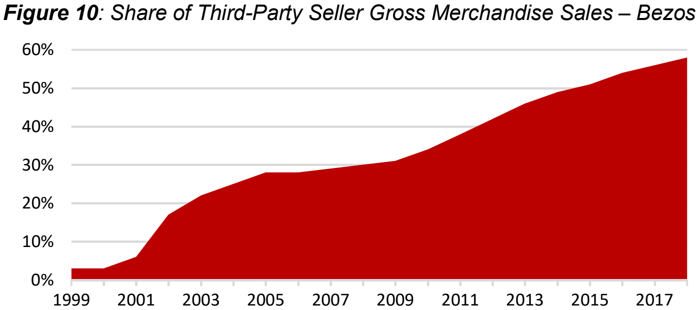
Services

Aside from Amazon Web Services, Amazon also earns revenue from fees assessed to third-party sellers on its e-commerce market place, from consumer subscriptions for "Prime Membership" and other digital content subscriptions and from advertising services [1].

Third-Party Seller Services

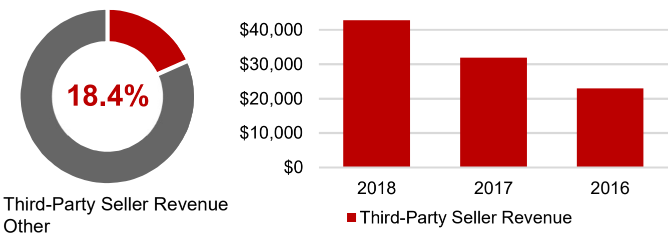
Third-party sellers have steadily grown in significance for Amazon's marketplace. In 1999, third-party sellers only represented 3% of gross physical merchandise sold on

***Figure 10**: Share of Third-Party Seller Gross Merchandise Sales – Bezos*



Amazon.com. By 2018, third-party sellers accounted for 58% of gross physical merchandise sold on the platform [3].

***Figure 11**: Third-Party Seller Services Revenue (in millions) – 10-K*



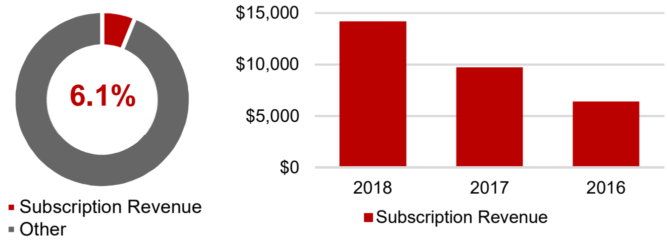
Revenue recorded from third-party seller services includes fixed and variable fees, shipping and fulfillment fees, and commissions charged to third-party sellers [1]. In 2018, third-party seller services accounted for $42.75 billion or 18.35% of total revenue. Revenue earned from third-party sellers has a three-year CAGR of 38.56%, and the YoY growth for this service has declined recently. I have forecasted revenue CAGR of 26% for third-party seller revenue by 2022. In order to attract more merchants to their platform, Amazon will likely have to reduce their merchant fees. A steady growth decline in this category will likely be offset by falling expenses, as a portion of sales, for third-party merchants as well. Expenses will decrease because most expenses for the e-commerce platform are fixed, including server infrastructure, initial software development, etc. Increased activity from third-party merchants will also increase fulfillment costs, but Amazon has invested over $1.6 billion as of Q3 2019 and anticipates spending an additional $1.5 billion in Q4 2019 to improve the efficiency of their supply chain and enable one-day delivery to consumers [7].

Subscription Services

Amazon has focused on developing an ecosystem of products and services to keep its customers engaged with its platform. Amazon offers a paid "Prime Membership" to consumers, which entitles members to free expedited shipping, exclusive product deals, and access to digital content. Amazon has over 100 million prime subscribers [3]. This number is growing, and prime members are spending more on the platform than ever before [6].

Revenue from subscription services has grown substantially, with a 46.97% three-year CAGR, and subscription revenue is among the fastest growing streams. 2018 subscription revenue was $14.17 billion or 6.08% of all revenue for the year. Amazon will have an estimated 145 million Prime subscribers by the end of 2019. Amazon.com has about 320 million active users, meaning about 45% are Prime subscribers [10]. Amazon has increased the cost of its annual Prime membership. This is because the company has improved the services it provides for its subscribers. However, for a company that differentiates itself with low prices, increased membership costs are a sign that user growth may be stalling, and Amazon has begun to cash in on its loyal member base. Amazon does not regularly disclose its Prime membership enrollment, which makes it difficult to determine if revenue growth is due to increased fees or a growing user base. Due to this uncertainty I have forecasted subscription revenue CAGR to be 26% by 2022.

***Figure 12**: Subscription Services Revenue (in millions) – 10-K*

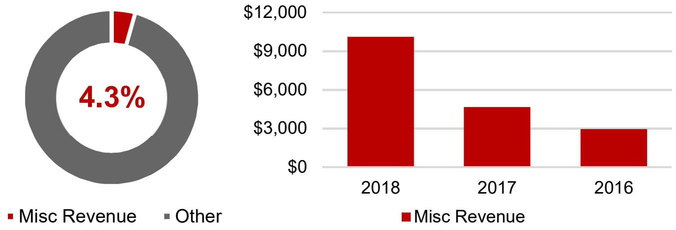


Advertising and Miscellaneous Revenue

As of Q3 2019, Amazon.com does not directly disclose the portion of revenue attributable to advertising services. Amazon has indicated that it includes advertising revenue in the "Other" category of its financial statements.

Amazon's vast ownership of consumer data makes it one of the only companies capable of competing with Facebook and Google in the digital advertisements space. Data collected from consumer shopping habits along with data obtained from the increasing use of connected devices is used to generate personalized advertisements that can be featured in many channels across the Amazon platform, including in Prime Video [6]. Amazon has a reported 200 million third-party vendors on its platform, each with individual marketing needs. Amazon's independent merchants are ideal consumers for Amazon's advertisement services. Amazon has all the necessary components to be a leading player in the digital advertisement industry [10].

***Figure 13**: Misc. & Advertising Services Revenue (in millions) – 10-K*



Amazon's miscellaneous income category "Other" includes revenue earned through selling advertisements. In 2018 the "Other" revenue category grew over 3,500% YoY. It is expected that this surge is attributable to Amazon's push into the digital advertising space. Miscellaneous income and advertising contributed to a combined $10.1 billion in revenue in 2018, or 4.34% of total revenue for that year. With the category being heavily exposed to advertisement income, I have forecasted that the category's revenue will grow to above a 19% CAGR by 2022.

Addressable Market

Amazon competes in four pertinent global markets: e-commerce (excluding China), digital advertising, cloud computing, and smart speaker sales.

E-commerce

With online sales revenue in excess of $122 billion, Amazon has an estimated 4.3% market share in the current $2.81 trillion (excluding China) global e-commerce market. Global e-commerce has a CAGR of 22.81% [13].

Digital Advertising

Amazon is rapidly entering the digital advertisement industry where margins are typically between 25% and 30% [10]. The industry is currently dominated by Facebook and Google. Amazon is uniquely situated to be the dominate player in the trade marketing space and can leverage its "Amazon Video" and Twitch platforms to reach wider audiences [10]. Global digital advertising is a $283 billion industry with a CAGR of 12.8% [13]. Amazon's estimated advertisement revenues are between $8 billion and $9 billion, indicating potential market share of 2% to 3%.

Cloud Computing

Amazon Web Services operates in the $207 billion cloud computing industry, with a CAGR of 17.5% [13]. With over $25 billion in cloud related revenues, Amazon has an estimated 12% market share of the global cloud industry. This includes IaaS, PaaS, and SaaS. Amazon primarily competes in the $50 billion IaaS space, where it is expected to have over 40% market share. However, I have included the entire cloud computing market in Amazon's addressable market because it is continually expanding into all three sectors of the cloud computing industry.

Smart Speaker and Connected Devices Sales

Amazon is also expected to have 60% market share in the $14 billion smart speaker industry, and this industry is expected to grow at a 23.09% CAGR. Amazon has released a wide line of Alexa-Echo products and licenses the Alexa technology, which runs on the AWS cloud, to other manufacturers to include in their connected devices.

Physical Retail

Amazon also entered the physical retail industry with its 2017 acquisition of Whole Foods Market. However, 2018 revenue of just over $14 billion represents less than 0.05% of the greater than $26 trillion physical retail industry [12]. For this reason, I have decided to exclude physical retail from Amazon's addressable market until it becomes a more controlling player in the industry.

Industry	Current Market Size	CAGR
E-commerce	$2,807 B	22.81%
Digital Advertising	$283 B	12.80%
Cloud Computing	$207 B	17.50%
Smart Speaker	$14 B	23.09%

***Figure 14**: Addressable Market Growth (2019 – 2025) - Various*

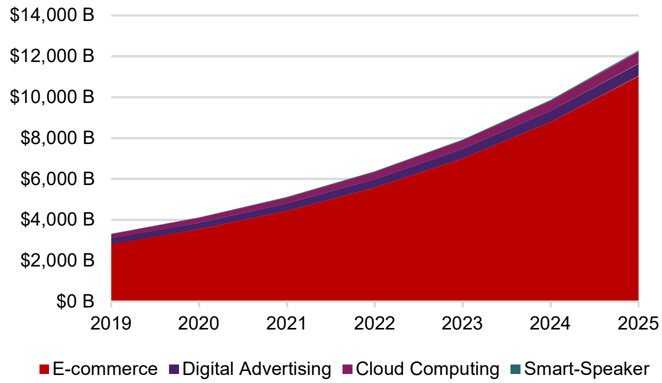
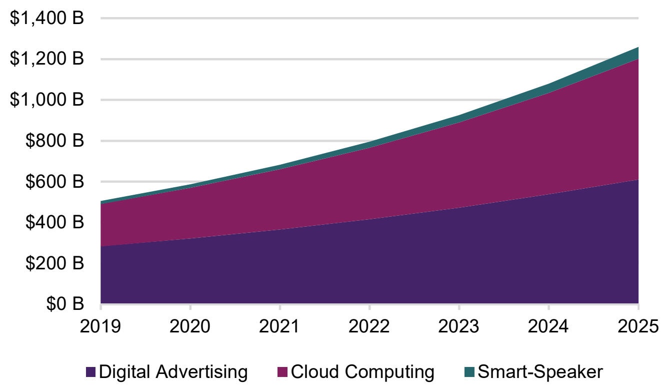


***Figure 15**: Addressable Market Growth (excluding e-commerce) (2019 – 2025) - Various*



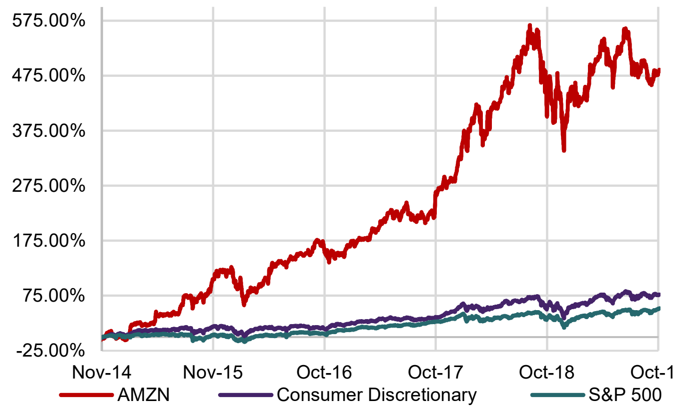
Amazon's 2019 addressable market, size weighted, CAGR is 21.62%. In 2019, Amazon's total addressable market is estimated to be $3.31 trillion and will grow to $12.29 trillion by 2025. Based on total 2018 revenue, Amazon currently converts 7% to 8% of its accessible market to revenue. This indicates that the company still has plenty of room to grow in the long-term.

Industry	2019	2022	2025
E-commerce	$2,807 B	$5,564 B	$11,031 B
Digital Advertising	$283 B	$415 B	$610 B
Cloud Computing	$207 B	$350 B	$592 B
Smart Speaker	$14 B	$29 B	$58 B
Total	**$3,311 B**	**$6,358 B**	**$12,290 B**

Market Comparison Performance

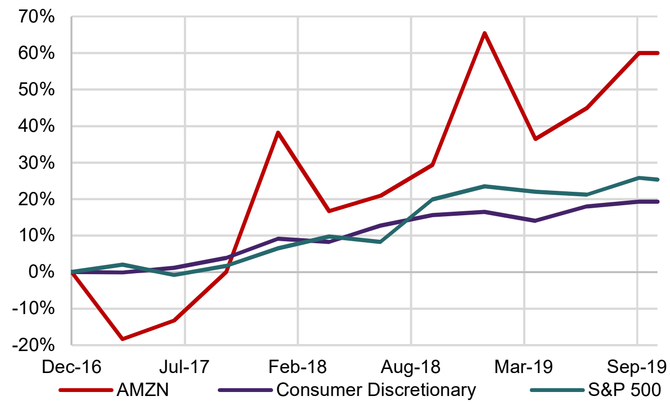
Amazon.com has consistently outperformed the Consumer Discretionary industry and the S&P 500. Over the past five years, Amazon's value has grown 486%, while its sector only appreciated 77%, and the index grew 52% over the same five-year period.

***Figure 16**: AMZN 5yr Performance, Compared to S&P 500 and Consumer Discretionary Sector - Bloomberg*



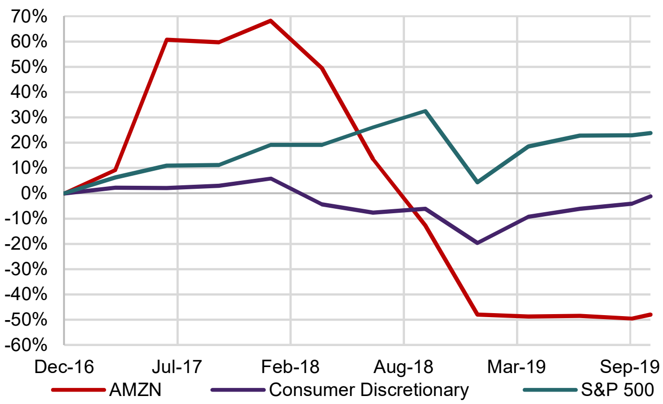
Over the past three years, Amazon's gross revenue has grown faster than both the consumer discretionary sector and the S&P 500 index. AMZN's revenue has grown over 60% from three years ago, while the sector only grew 20%, and the index grew 27% over the same three-year period.

***Figure 17**: AMZN 3yr Revenue Performance, Compared to S&P 500 and Consumer Discretionary Sector - Bloomberg*



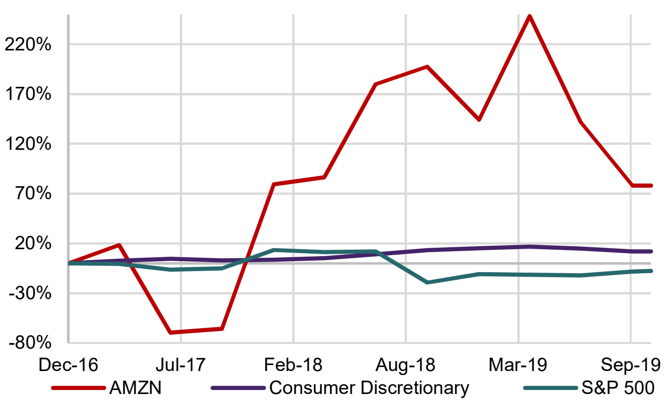
Amazon has become a less expensive investment over the past three years. Since December 2016, AMZN's price to earnings ratio has fallen nearly 50%. Meanwhile, the sector has remained nearly constant. The S&P 500 index's price to earnings grew over 23% over the same three-year period.

***Figure 18**: AMZN 3yr Price to Earnings Ratio Performance, Compared to S&P 500 and Consumer Discretionary Sector - Bloomberg*



While it contracted throughout 2017, Amazon's profit margin has expanded relative to three years ago. As of Q3 2019, AMZN's profit margin has grown over 78% in the last three years. Meanwhile, the consumer discretionary sector has seen profit margins contract over 7% during the same period, and the S&P 500 index has only seen profit margin growth of 12% over the same three-year period.

***Figure 19**: AMZN 3yr Profit Margin Performance, Compared to S&P 500 and Consumer Discretionary Sector - Bloomberg*



Competition Analysis

To assess Amazon's competition, I have conducted a Porter's Five Forces analysis for each of the five industries in which Amazon operates: online retail, physical retail, cloud computing, digital advertising, and smart speaker sales.

Online Retail (e-commerce)

*1. Threat of Competition (**HIGH**):* Amazon faces steep competition in the e-commerce space. Primary well-funded and legacy competitors such as Walmart, Shopify, Ebay.com, and Rakuten in Japan are all real threats to Amazon's growth in the industry.

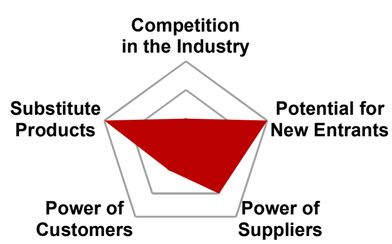
*2. Threat of New Entrants (**LOW**):* While the barrier to entry for listing a website is low, it will be difficult for new entrants to match Amazon's fulfillment capabilities, vast selection, and low prices. There is room to compete in luxury markets, but Amazon has little exposure to luxury goods.

*3. Threat of Suppliers (**MEDIUM**):* While the threat of suppliers for Amazon's own goods "Amazon Basics" is low; third-party merchants, who now encompass over 58% of Amazon.com's gross product sales, could threaten Amazon's e-commerce revenue by delisting their products or moving to their own or a competitor's website.

*4. Threat of Customers (**HIGH**):* Amazon has always differentiated itself from competitors on price and efficiency. If a competitor were to surpass Amazon in either or both categories, Amazon's e-commerce growth would be in jeopardy. Even Amazon's most loyal customers, "Prime Members", purchase memberships in one-year or one-month increments, making them susceptible to leaving the platform if they find a better service.

*5. Threat of Substitutes (**LOW**):* Currently no competitor offers the speed, selection, and pricing that Amazon.com offers to consumers. To compete at the same level competitors would be required to invest billions of dollars in new infrastructure and logistics networks. Walmart is the only competitor with the resources to compete in the short-term, but Amazon's strong network effects in the e-commerce space will make it difficult for Walmart to gain market share.

***Figure 20**: Summary of E-commerce Competitive Strengths & Competitors*



Key Competitors
Walmart
Shopify
Ebay.com
Rakuten

Physical Retail

*1. Threat of Competition (**HIGH**):* Amazon faces heavier competition in physical retail than it does in any of its other operating segments. Domestically, where its current operations are located, Amazon faces competition from long-standing brands such as Walmart & Sam's Club, Target, Costco, Best Buy, Kroger, and many others.

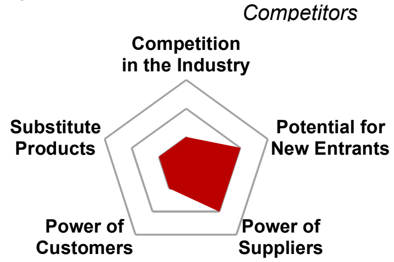
*2. Threat New Entrants (**MEDIUM**):* While the barriers to entry are high for developing a national retail chain, there can still be many competitors at the local level. Amazon's main physical retail brands are focused on groceries. The grocery category is highly susceptible to local competitors, which may command higher customer loyalty than Amazon can obtain as a global brand.

*3. Threat of Suppliers (**MEDIUM**):* As a new entrant to the physical retail space, Amazon has not proven itself on a mass scale and may find it difficult to demand more favorable terms from suppliers. However, Amazon may be able to leverage its strong e-commerce brand to negotiate with some suppliers.

*4. Threat of Customers (**HIGH**):* The physical retail industry, particularly grocery, is saturated with alternative providers. Customers who find better deals elsewhere or have poor experiences at an Amazon store are highly likely to leave and do business with a competitor.

*5. Threat of Substitutes (**HIGH**):* Physical retail and grocery are not new industries. Amazon will need to find a way to differentiate itself from competitors. Amazon can leverage its logistics network and technology platform to bring change to an old industry but how consumers will respond to change is uncertain.

***Figure 21**: Summary of Physical Retail Competitive Strengths & Competitors*



Key Competitors
Walmart
Target
Costco
Best Buy
Kroger

Cloud Computing

*1. Threat of Competition (**HIGH**):* Amazon faces heavy competition from well-known competitors: Microsoft, Google, Alibaba, and IBM.

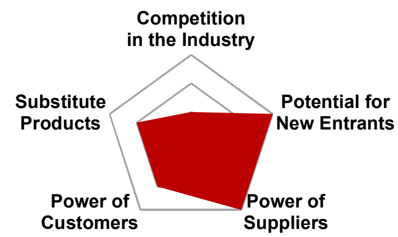
*2. Threat of New Entrants (**LOW**):* As a provider in the cloud computing industry, especially as an IaaS provider, it is very expensive to reach the necessary scale. Building the required data storage facilities and hiring talented engineers requires large amounts of up-front capital.

*3. Threat of Suppliers (**LOW**):* Manufacturers of the hardware required for the cloud industry are increasingly reliant on the cloud providers for business. As more consumers and enterprises transition to fully operating on the cloud, individual consumers and enterprises require less data storage and processing power. This gives leverage to the cloud providers and enables them to negotiate more favorable terms with hardware manufacturers.

*4. Threat of Customers (**MEDIUM**):* For customers with little data on the cloud, price and quality of service will be key determinates in signing and resigning contracts, as they can easily move between providers. However, clients with large amounts of data already on a provider's servers are likely to stay with that provider because the cost and time associated with switching is too great.

*5. Threat of Substitutes (**MEDIUM**):* While many basic features of cloud computing are highly similar, providers are beginning to differentiate themselves through additional feature offerings. Access to artificial intelligence, machine learning, block chain, and quantum computing will drive user growth.

***Figure 22**: Summary of Cloud Computing Competitive Strengths & Competitors*



Key Competitors
Microsoft
Google
Alibaba
IBM

Digital Advertising

*1. Threat of Competition (**HIGH**):* Amazon, recently becoming a key provider of digital advertising, faces steep competition from Google and Facebook. The two companies who substantially rely on advertisement revenue hold a combined 60% market share for the industry.

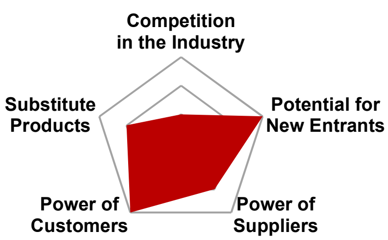
*2. Threat of New Entrants (**LOW**):* Google, Facebook, and Amazon lead the market in digital advertising because they have legions of loyal users who provide personal and behavioral data. The companies then use their proprietary databases to sell individualized advertisements at a premium because they are more effective.

*3. Threat of Suppliers (**MEDIUM**):* The supplier in the digital advertisement industry is the general consumer and population. Platform users supply providers with their data. Recently consumers have been demanding greater protections on their data and restrictions on targeted advertisements. Despite this trend and new legislation, it is unlikely that users will boycott platforms entirely as their "free" nature is very attractive to most users.

*4. Threat of Customers (**LOW**):* Firms generally run marketing campaigns on multiple platforms. Amazon benefits due to its unique ability to utilize data on personal purchasing habits for its advertisements. Making it the most attractive service for merchants and manufacturers.

*5. Threat of Substitutes (**MEDIUM**):* While Google and Facebook will be fierce competitors in this industry, Amazon has a value proposition that neither company can entirely match. Targeted merchant ads will allow Amazon to differentiate itself among competitors.

***Figure 23**: Summary of Digital Advertisement Competitive Strengths & Competitors*



Key Competitors
Google
Facebook

Smart Speaker Sales (connected devices)

*1. Threat of Competition (**MEDIUM**):* Amazon's main competitors in the smart speaker market are Google, Apple, and Samsung. While these competitors are well-funded and well-established, the smart speaker market is very segmented. Each provider, to date, has a loyal customer base, and Amazon has the largest base of the four.

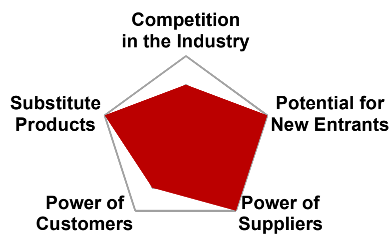
*2. Threat of New Entrants (**LOW**):* Breaking into the smart speaker market would require both the design and manufacturing of the hardware and the development of the voice assistant. Developing and manufacturing a speaker does not have a high barrier to entry but developing an intelligent voice assistant requires great resources and top engineering and computer science talent. Amazon allows some manufacturers to license its "Alexa voice assistant", effectively reducing the risk posed by manufacturers.

*3. Threat of Suppliers (**LOW**):* Amazon's 60% market share in the industry gives it the bargaining power to ensure favorable terms from its suppliers. Additionally, Amazon can leverage its Kindle supply chain to order hardware in larger quantities and do business with suppliers they already trust.

*4. Threat of Customers (**MEDIUM**):* While the market is currently segmented, it is still likely that Google, Apple, or Samsung could introduce features or pricing that makes their products much more appealing. However, as consumers begin to build smart home networks centered around their intelligent assistants, it becomes increasingly unlikely that they would want to switch brands, as doing so would require them to entirely reconfigure their network.

*5. Threat of Substitutes (**LOW**):* It is likely that the necessity for a smart speaker will fade in the short-term. However, the intelligent assistant that differentiates the speakers will likely remain in demand in the long-term. Amazon's licensing for its voice assistant will allow the company to earn revenue from Alexa's use in any number of connected devices.

***Figure 24**: Summary of Smart Speaker Sales Competitive Strengths & Competitors*



Key Competitors
Google
Apple
Samsung

Value Drivers

Continued Investment in Differentiating Qualities

Despite operating as a well-established and global company, Amazon continues to reinvent itself and redefine its capabilities. A company's ability and willingness to seek out opportunities for growth is critical to realizing continued exponential growth. Amazon's over $3 billion in expenditures, for scaling their logistics network to handle one-day shipping and offering of free grocery delivery, signals commitment to driving the company's flywheel and boosting engagement on its e-commerce platform [13].

Expansion in High Growth and Wide Margin Segments

As Amazon pushes into new operating segments, such as digital advertising and smart speaker and connected device sales, it increases the likelihood of uncovering a treasure trove of wide-margin revenue [10]. Amazon's initial push into AWS was met with skepticism and controversy over increased spending, but today, the segment represents over half of the company's operating margin while only making up 11% of net sales [5] [1].

Dynamic Revenue Structure

Amazon's legacy e-commerce segment is transforming from a digital retail site to an online marketplace matching merchants and consumers. Third-party sellers now account for nearly 60% of all physical product sales on the platform [3]. This shift in operating structure allows Amazon to earn revenue from fees and commissions related to transactions and fulfillment but never assume the liability of true inventory ownership. Additionally, AWS, Amazon Video, Amazon Music, and similar services are sold on a subscription basis. This has the effect of generating predictable cashflows, further improving its valuation.

Expanding Consumer and Operating Markets

Amazon continues to expand investment and operations internationally. Expanding geographically has two main effects on Amazon's top line. The first is increasing user growth and associated revenue from driving user traffic. Secondly, expanding to international markets allows Amazon's top and bottom line performance to be less reliant on broad consumer-economic trends in the United States. Expanding into new geographic and operational markets results in a diversified revenue stream.

Significant Recent Events

One-day Shipping

Throughout 2019, beginning in Q2, Amazon began rolling out free one-day shipping. Management reported associated costs of $800 million in both Q2 and Q3. Following Q3 earnings, management disclosed that an additional $1.5 billion in expense would be required for one-day shipping in Q4 of 2019, bringing the total anticipated cost to $3.1 billion [7]. Despite seeing shipping and fulfillment costs rise by 46%, leading to a 16% decline in operating income, online store sales rose 22%. One-day shipping is expected to shrink margins in the short-term but will likely spur online sales growth in the long-run.

New research polling Amazon customers finds that less consumers are shopping at Amazon for low prices alone. More and more consumers are citing convenience as the key differentiator. This indicates that Amazon will be able to gradually charge a premium for its services and expand its online sales margins even further in the long-run [14].

Microsoft Beats AWS for Pentagon Cloud Contract

On October 26th, the Pentagon awarded a 10-year, $10 billion defense contract to Microsoft's Azure cloud. The Joint Enterprise Defense Infrastructure (JEDI) contract was expected to be awarded to AWS - the clear leader in the cloud computing industry by size and capability. President Donald Trump and Republican Congressmen voiced criticism of Amazon's potential procurement of the contract. The president is on poor terms with the company and CEO Jeff Bezos, as the company undergoes anti-trust investigations by the DOJ and the FTC [6]. Amazon is also under political pressure because of its low tax bill, despite being one of America's largest and most profitable companies [15]. Amazon is expected to challenge the Pentagon's decision.

Google Claims Quantum Supremacy

In late October 2019, Google claimed to have been the first company to achieve an important milestone in Quantum Computing, quantum supremacy. Quantum computing uses qubits representing one of many values, rather than binary bits which represent only one of two possible values, to solve complex problems many orders of magnitude faster than today's super computers built on the traditional binary framework [16].

Google's quantum processor, Sycamore, used 53 qubits (representing the processing power of 9 quadrillion traditional bits). The processor solved an algorithm in 3 minutes and 20 seconds that would have taken the most advanced supercomputer over 10,000 years to complete. Google's feat is significant not only because it proves the capabilities of quantum computing, but also that it proved early stage devices are functional [16]. The technology will only improve. The ability to integrate quantum computing with Google's cloud platform and machine learning initiatives could unlock use cases that are yet unknown.

Amazon Announced Free Grocery Delivery

On October 29th, Amazon announced that Prime members are eligible for free delivery from Amazon Fresh and Whole Foods. The delivery service used to cost $14.99. This move competes directly with Walmart who seriously began rolling out grocery delivery in early 2019. Walmart also offers a subscription program which allows members to save money on delivery. This is a program which is in direct conflict with Amazon's Prime member program [17].

Market research indicates that only 6% of U.S. adults have made an online grocery purchase in the past three months. However, in other nations, such as the U.K., online usage of grocery ordering is much higher. With high adoption rates in the U.K. it is expected that Americans will follow a similar path of growth. Amazon is hoping that incurring increased costs in the short-term will drive user growth in the long-run, allowing Amazon to significantly expand its market share in the physical retail and grocery business [17].

Investment Thesis

AMZN's market share price of $1,791.44 is a steep discount to its $2,234.36 intrinsic value. Amazon.com Inc. possesses an observable upside of 24.72%.

Fundamental Drivers

The main factors driving Amazon's premium valuation are:

1. High top and bottom line CAGR, as a result of user growth from geographic and operational expansion.
2. Continued investment in core business drivers such as one-day shipping and free grocery delivery.
3. Expansion into lucrative high margin industries, such as digital advertisements and smart devices.
4. Transition to a dynamic subscription and fee-based revenue stream.

Amazon's growth trajectory is not guaranteed, but management has demonstrated the ability to understand the end-user. This understanding will lead to increased adoption of services, directly driving revenue growth.

Industry Outlook

Across all industries, Amazon faces general headwinds from uncertainty around trade negotiations with the United States and China, regulatory pressures, foreign exchange risk, and global macroeconomic trends [18].

E-commerce

Trade tensions could damage areas of Amazon's supply chain in China, as well as deter Chinese merchants from listing their products on Amazon's marketplace. Additionally, trade tensions have correlated with high volatility in currency exchange rates, and a strengthening U.S. Dollar relative to the Chinese Renminbi could put pressure on Amazon's earnings in the near-term [18].

By the end of 2019, half of the world's population will have access to the internet, driving an expected $3 trillion in online sales, and 80% of which will be in e-commerce. The increasing market for e-commerce may draw additional competition from Google and Facebook as their ad revenue faces regulatory and economic pressure. Google is heavily invested in JD.com, and Facebook is attempting to issue a global cryptocurrency, Libra, to break into the digital payments industry on a global scale [18].

In 2019, internet users are expected to spend $800 each online, with 85% of their spending still occurring offline. This translates to an additional $300 billion in global online spending per $100 added to each internet user's spending ability [18]. With half of the world's population online, it will be more difficult to generate greater annual user growth. Instead, companies will be required to focus on increasing the amount each user spends online. U.S based users spend $1,870 each year on e-commerce platforms, comprising only 11.7% of their total retail spending.

Physical Retail and Grocery

Spending in retail will, in perpetuity, migrate online. Current physical retail spending is $14,128 per American. Globally the market is over $20 trillion. Market growth would slow in the event of a recession, but it would not halt entirely [18]. In a recession, Amazon stands to gain market share. Large merchants will flock to its reliable platform to increase sales from the company's loyal customer base.

Cloud Computing

Valuations in the SaaS space are skyrocketing, causing acquisitions to be expensive [18]. This will slow acquisitions in the cloud space for the near-term. Legacy IaaS providers may decide to build out software internally rather than acquire existing companies. However, in an economic downturn, young SaaS companies would incur sizeable valuation impairments, making them prime acquisition targets for Amazon, Google, or Microsoft. Acquisitions in a recession could drive cloud industry growth in the early economic cycle.

Digital Advertisement

Paid subscription services like Netflix and Amazon Video are currently only accessed by 6% of global internet users. Video content will drive advertising revenue in the short run. Currently, YouTube comprises 17% of Google's total advertising revenue [18].

Advertising in the near-term will also be driven by small and medium sized companies trying to leverage digital advertising to raise awareness for their brands and break into competitive markets [18]. This puts the category's revenue stream at high risk in a recessionary period. Small and medium sized businesses feel the effects of economic slowdowns the most. International advertising clients, large and small, open the industry up to currency exchange risk. High volatility in rates, or additional costs for hedging, could dampen earnings results from the digital advertisement industry.

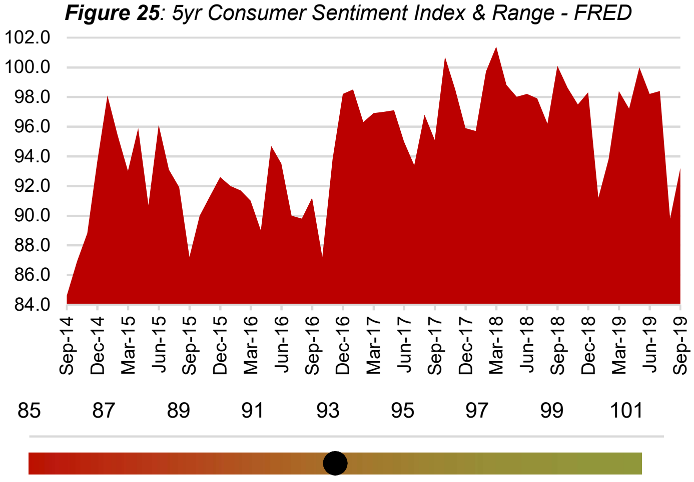
Smart Speaker and Connected Device Sales

Consumer electronics currently makes up 22% of total e-commerce spending [18]. This amount is expected to grow as smart-home and internet of things devices are expected to increase in popularity in the near term.

Economic Outlook

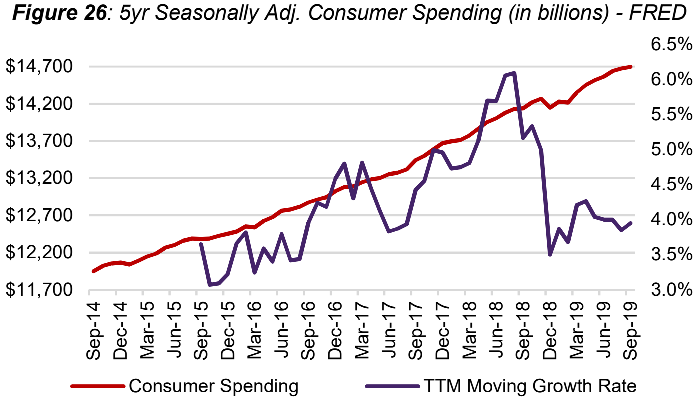
Amazon's primary business e-commerce is highly reliant on strong consumer sentiment and spending. The most recent results from the Consumer Sentiment Index survey indicate a sharp drop since early 2019. At 93.2, consumer sentiment is just below its five-year average of 94.6 and is near the center of its five-year range. This number is not concerning but may foreshadow muted consumer spending for the 2019 holiday season.

***Figure 25**: 5yr Consumer Sentiment Index & Range - FRED*



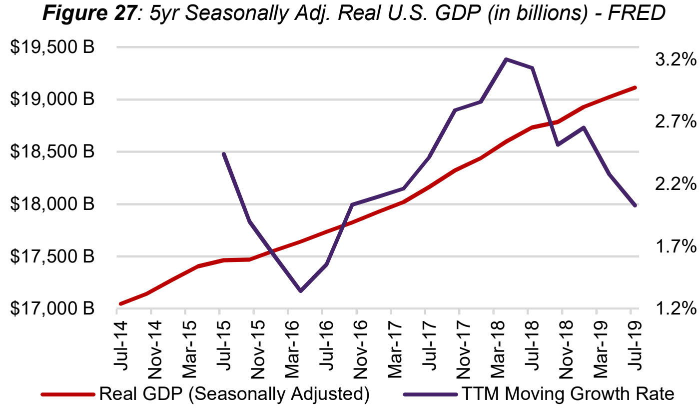
Consumer spending has steadily increased over the past five years. Spending's YoY growth rate has also steadily increased over the same period. However, between mid and late 2018, consumer spending's YoY growth rate fell from a high of over 6% to 3.5%. Annual spending growth has remained nearly constant around 4% throughout 2019. The recent correction in consumer spending growth is concerning. The trend may be indicative of a tight wage environment or could represent increased savings as a result of rising interest rates over the period and wide-spread market uncertainty. Consumer spending is up 22.99% over the previous five years.

***Figure 26**: 5yr Seasonally Adj. Consumer Spending (in billions) - FRED*



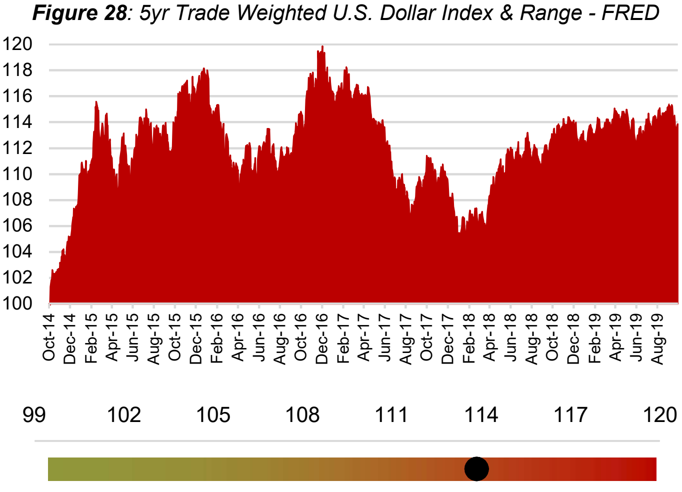
Real seasonally adjusted GDP is up 12.12% over the past five years. While GDP has grown steadily, the YoY GDP growth rate has fluctuated between 1.3% and 3.2%. As with consumer spending, real GDP YoY growth rate began to fall in mid-2018. However, GDP's growth rate continues to fall in 2019. Again, this is concerning, as falling GDP growth can be indicative of slowing economic conditions. However, it is also likely that GDP growth has been due to less corporate CAPEX spending. Corporations have delayed CAPEX in the short-term, expecting lower interest rates in the future. GDP growth may pick up in Q4 as the Federal Reserve hinted at a potential stop to its recent rate cutting activity.

***Figure 27**: 5yr Seasonally Adj. Real U.S. GDP (in billions) - FRED*



The U.S. Dollar Trade Weighted Index is up 13.96% over the prior five years. A strong dollar hurts domestic firms, like Amazon, doing business internationally. The index currently sits at the upper end of its five-year range and slightly above the five-year average of 112. The index, generally falling in 2017, reversed course in early 2018 and has continued to rise in 2019. This is likely due to the falling value of the Chinese Renminbi, the British Pound, and the Euro.

***Figure 28**: 5yr Trade Weighted U.S. Dollar Index & Range - FRED*

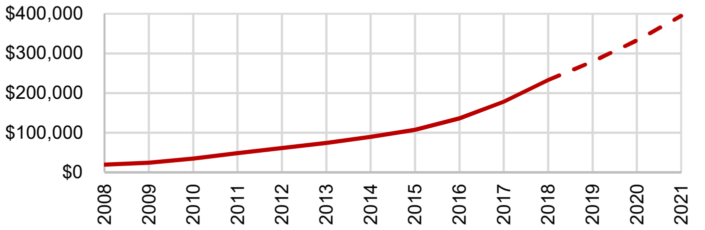


Financial Forecasting

Projected Earnings

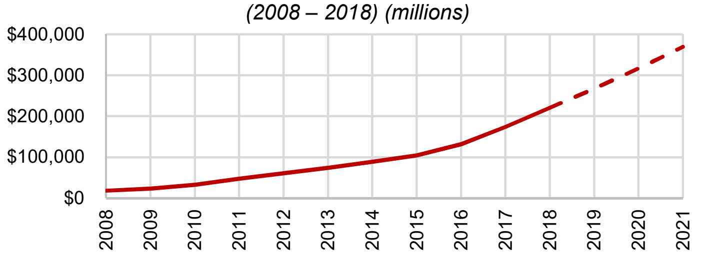
I forecast 2018 revenues of $232.89 billion to grow at a 19.20% CAGR to $394.46 billion by 2021.

***Figure 29**: AMZN Historic & Forecasted Revenue (2008 – 2018) (millions)*



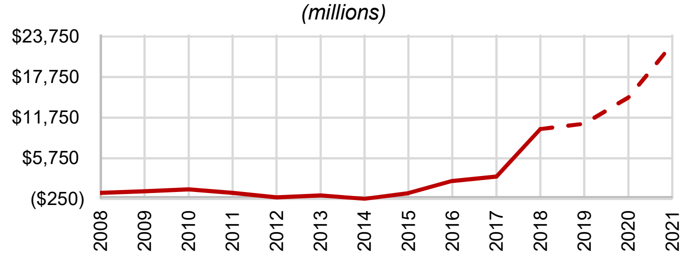
I forecast operating expenses to grow at a 18.77% CAGR from $220.47 billion in 2018 to $ 369.41 billion by 2021.

***Figure 29**: AMZN Historic & Forecasted Operating Expenses (2008 – 2018) (millions)*



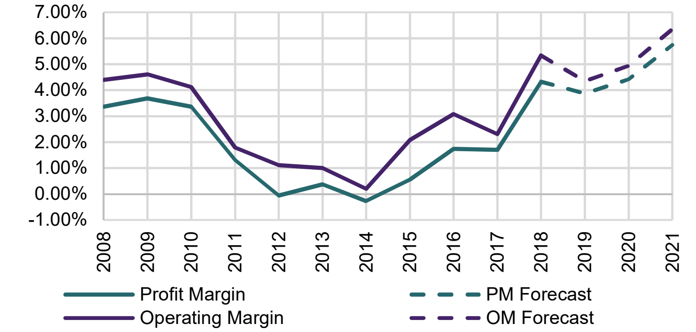
I predict Amazon's net income to grow at a 30.98% CAGR from $10.07 billion in 2018 to $22.63 billion by 2021.

***Figure 30**: AMZN Historic & Forecasted Net Income (2008 – 2018) (millions)*



My forecasts yield an operating margin of 6.35% and profit margin of 5.74% by 2021.

***Figure 31**: AMZN Historic & Forecasted Profit Margin & Operating Margin (2008 – 2018)*



Comparison to Consensus

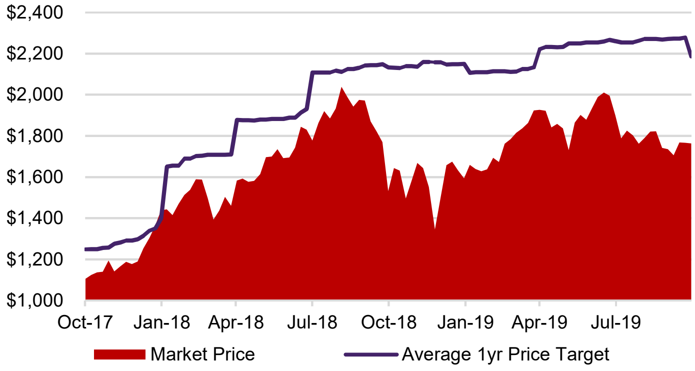
	2018	2019	2020	2021
Revenue	**$232,887**	**$279,691**	**$332,648**	**$394,455**
%YoY	*30.93%*	*20.10%*	*18.93%*	*18.58%*
Consensus		*$278,884*	*$330,128*	*$385,802*
Difference		*$807*	*$2,520*	*$8,653*
Operating Expense	**$220,466**	**$267,524**	**$316,215**	**$369,407**
% of Sales	*94.67%*	*95.65%*	*95.06%*	*93.65%*
Net Inc.	**$10,073**	**$10,834**	**$14,714**	**$22,633**
%YoY	*227.34%*	*7.55%*	*35.82%*	*53.82%*
Diluted EPS	**$20.15**	**$21.36**	**$28.59**	**$43.35**
Consensus		*$20.93*	*$28.18*	*$42.69*
Difference		*$0.43*	*$0.41*	*$0.66*

My revenue and earnings estimates are slightly above the industry average. My revenue forecast is 0.2% above the industry consensus for 2019 and gradually climbs to exceed consensus by 2% for 2021. The +2% error to the consensus is consistent with the intrinsic value I calculated for Amazon using the discounted cashflow process. I believe Amazon's revenue growth will grow faster than the industry expects as it expands its share of the digital advertising market and realizes increased consumer traffic as a result of one-day shipping.

Likewise, my earnings estimate of $21.36 for 2019 exceeds the industry average by 3%. I am more bullish on Amazon's ability to maintain wide margins in its AWS segment, despite increased hiring of sales associates and representatives.

Projected operating and profit margins sink in 2019 as a direct result of rising fulfillment and hiring costs associated with one-day shipping. Following 2019, I anticipate both operating margin and profit margin to regain healthy growth. I anticipate operating margin above 600 basis points by 2021 and profit margin above 550 basis points.

***Figure 32**: AMZN Market Price & Average 1yr Analyst Price Target*



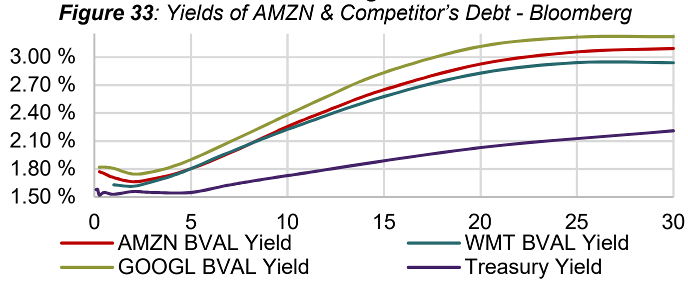
Performance Metrics

	2016	2017	2018
Inventory	$11,461	$16,047	$17,174
Inventory Turnover	**7.70**	**6.98**	**8.10**
Inventory Life (days)	**47.39**	**52.33**	**45.05**
Total Current Assets	$45,781	$60,197	$75,101
Total Assets	$83,402	$131,310	$162,648
Return on Assets	**2.84%**	**2.31%**	**6.19%**
Current Liabilities	$43,816	$57,883	$68,391
Current Ratio	**1.04**	**1.04**	**1.10**
Total Liabilities	$64,117	$103,601	$119,099
Net Cash from Ops.	$17,203	$18,365	$30,723
Operating Cashflow Ratio	**0.39**	**0.32**	**0.45**
Cost of Sales	$88,265	$111,934	$139,156
Net Income	$2,371	$3,033	$10,073
Total Equity	$19,285	$27,709	$43,549
Return on Equity	**12.29%**	**10.95%**	**23.13%**
Debt to Equity	**3.32**	**3.74**	**2.73**

Amazon has improved its operations over the past three years. As of 2018, inventory was turning over 8.1 times per year with a mean inventory life of just over 45 days. Amazon also has more than doubled its return on assets, 2.84% in 2016 up to 6.19% in 2018. The company's current ratio has remained constant, but above 1.0, indicating it can easily meet its current debt obligations. Amazon has improved its operating cash flow ratio over the past three years and should see it grow more significantly in the next three years as net income increases. Return on Equity has also nearly doubled over the past three years from 12.29% to 23.13% in 2018. Amazon has gradually deleveraged over the past three years, bringing its 2016 debt to equity ratio down from 3.32 to 2.73 in 2018.

Amazon also has a competitive cost of capital. Yield on AMZN's 30-year debt trades just 88 basis points above U.S. Treasuries. Amazon's debt yields are higher than its competitor Walmart's but are lower than its competitor Google's. This is within expectations as technology companies have higher cost of capital, and Amazon's operations are more reliant on technology than Walmart and more reliant on retail than Google.

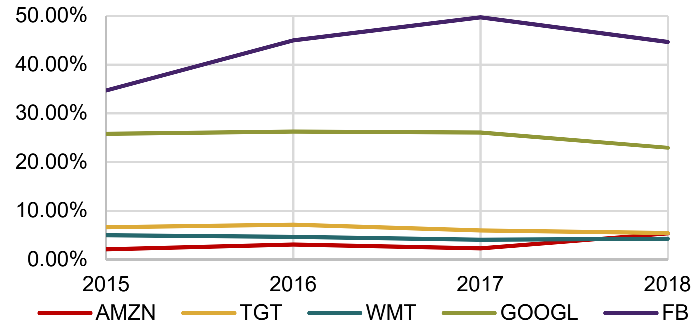
***Figure 33**: Yields of AMZN & Competitor's Debt - Bloomberg*



Competitor Margins

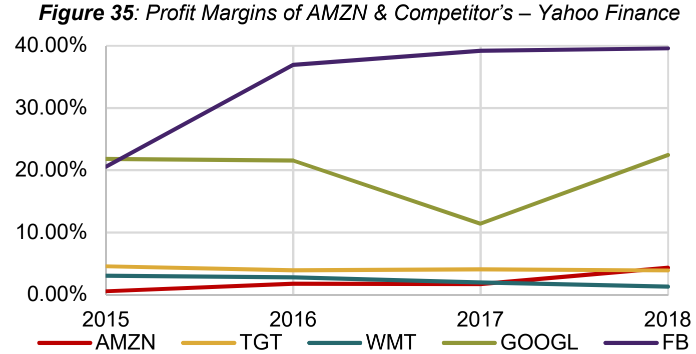
Amazon's competitors exist in two primary industries, which are technology (cloud computing, consumer electronics, digital advertising) and retail (e-commerce, physical). Facebook (FB), who competes with Amazon in the digital ads space has significantly higher operating and profit margins. This is because Amazon's retail business has very tight margins and weighs on overall performance. However, Facebook demonstrates how entering the digital advertisement space could significantly improve Amazon's margins. Google, who competes in the cloud, consumer electronics, and digital advertising space, has thinner margins than Facebook and a lower operating margin than AWS (28.44%) in 2018.

***Figure 34**: Operating Margins of AMZN & Competitor's – Yahoo Finance*



Walmart (WMT) and Target (TGT) are Amazon's largest U.S. competitors, dealing in both physical retail and e-commerce. From 2015 to 2017, both competitors reported higher operating and profit margins than Amazon. However, in 2018 Amazon changed this narrative. In 2018, Amazon surpassed Walmart's operating and profit margins. AMZN reported an operating margin with 107 basis points and a profit margin 303 basis points above WMT's. AMZN also surpassed the profit margin of TGT by 43 basis points, while only losing to their operating margin by 12 basis points. In 2018, AMZN reported North America specific operating margin of 5.14%, beating WMT's by 88 basis points but just underperforming TGT's by 30 basis points.

***Figure 35**: Profit Margins of AMZN & Competitor's – Yahoo Finance*



	2018	2017	2016	2015
AMZN				
Operating Margin	5.33%	2.31%	3.08%	2.09%
Profit Margin	4.33%	1.71%	1.74%	0.56%
WMT				
Operating Margin	4.27%	4.08%	4.69%	5.00%
Profit Margin	1.30%	1.97%	2.81%	3.05%
TGT				
Operating Margin	5.45%	6.00%	7.15%	6.65%
Profit Margin	3.90%	4.08%	3.94%	4.56%
GOOGL				
Operating Margin	22.94%	26.05%	26.27%	25.82%
Profit Margin	22.46%	11.42%	21.58%	21.80%
FB				
Operating Margin	44.62%	49.70%	44.96%	34.72%
Profit Margin	39.60%	39.20%	36.97%	20.57%

Valuation

Valuation Multiples

Retail Competitors

	P/E	P/B	P/S	P/EBITDA
AMZN	88.90	15.69	3.18	23.85
BABA	59.12	59.20	6.27	6.29
BBY	13.80	5.90	0.44	6.25
COST	35.55	8.54	0.79	20.90
EBAY	20.77	8.83	2.66	9.66
Rakuten	9.71	1.60	1.19	4.93
TGT	1.83	4.62	0.70	7.89
WMT	1.27	4.47	0.60	9.46

Amazon trades at a significantly higher price to earnings and price to EBITDA multiple compared to its retail competitors. This is because Amazon's earnings are forecasted to grow significantly in the next three years.

Technology Competitors

	P/E	P/B	P/S	P/EBITDA
AMZN	88.90	15.69	3.18	23.85
AAPL	21.51	12.56	4.16	15.48
FB	25.58	5.88	7.85	18.92
GOOGL	29.40	4.51	6.63	19.44
IBM	10.01	6.68	1.56	7.03
MSFT	30.69	10.34	7.82	18.58
Samsung	899.00	1.16	1.27	4.19

Again, Amazon leads its peers in price to earnings and price to EBITDA measures. With future earnings expected to grow at nearly 31% CAGR, there is significant growth priced into Amazon's share price.

Sector Comparisons

	P/E	P/B	P/S	P/EBITDA
AMZN	88.90	15.69	3.18	23.85
Con. Dis.	24.14	7.86	1.72	12.14
Con. Stp.	21.20	6.11	1.52	14.98
Retail	31.24	12.22	1.93	15.03
Cloud	101.59	5.59	3.53	41.13
IT	24.01	7.75	4.45	15.58
Telecom	20.99	3.35	3.04	10.02
S&P 500	20.24	3.45	2.20	11.37

Amazon continues to trade at high multiples relative to most other industry sectors. The one notable difference is the CPQ Cloud Computing Index trades at a price to earnings multiple of 101.6 and price to EBITDA of 41.13. In addition to high anticipated earnings growth, Amazon's exposure to cloud computing may be driving its high valuation multiples.

Discounted Cash Flows Projection

I have decided to use a discounted cash flow model to determine Amazon's intrinsic value. Amazon's relatively smooth historic revenue and earnings growth allow the discounted cash flow model to be an accurate assessment of the company's fair value.

Forecast Assumptions

I anticipate revenue growth to be strong in the near-term. I have forecasted 20.1% YoY revenue growth for 2019, and my estimate gradually slows to 19% YoY revenue growth in 2022. With uncertainty about Amazon's investment and growth opportunities past 2022, I predicted revenue growth to thin sharply to 6% YoY by 2027. It is likely that Amazon will continue to innovate and grow past 2022, but its long-term growth capabilities are uncertain.

As Amazon continues to build out more infrastructure for its fulfillment and cloud services, encounters greater competition in its operating segments, and is required to make greater investments for its future, operating expenses will rise. I anticipate operating expenses, as a portion of sales to grow to 8% by 2022. Past 2022, I anticipate operating costs, as a portion of sales, to gradually increase to between 13% and 13.5% by 2028.

While Amazon has infamously paid little to no corporate tax, I predict that this trend will not be sustainable. Pressure from politicians and closing loopholes in the tax code will force Amazon to pay greater taxes while it is under public scrutiny. In addition to federal taxes, Amazon is subject to state taxes and international taxes. While the current federal corporate tax rate is 21%, I have forecasted an effective tax rate of 7.25% for Amazon in perpetuity. It is highly likely that actual effective tax rates will vary significantly year to year, but I believe that 7.25% is a fair approximation.

Current capital expenditures account for approximately 5% of sales, while depreciation and amortization account for 6.8% of sales. I anticipate these two amounts to converge in the long-term to 6% by 2024.

My projections for free cash flow anticipate a 28% CAGR between 2019 and 2022. After 2022, projected free cashflow growth slows with an average YoY growth rate of 13.86% between 2022 and 2029. I anticipate the long-term growth rate of free cash flow to be consistent with 6% revenue growth in perpetuity. Given the uncertainty surrounding Amazon's growth, I have assigned a reasonable discount rate of 11%.

My model yields a net present value of cash flows of $330.48 billion and a terminal value with a net present value of $777.32 billion. Combined, the two values imply an equity value of $1.108 trillion. With 495.8 million shares outstanding, my model yields an implied share price of $2,235.36. With a market traded price of $1,791.44 I anticipate 24.72% upside to AMZN's current market price. A more detailed analysis of the DCF model can be found in appendix 2.

DCF Sensitivity

Varying the growth rate of the discount rate by 50 basis points in either direction gives a potential share price range of $1,892.28 (+5.63% upside) and $2,744.61 (+53.21% upside). A more detailed analysis of sensitivity can be seen in appendix 2.

Analysis of Current Price

AMZN's current share price of $1,791.44 includes both macro-economic uncertainty and uncertainty around Amazon's ability to grow from its recent investments.

Risk Assessment

Economic Risk

Amazon's growth is reliant on strong macro-economic growth. As a global firm, Amazon is sensitive to changing trends across the world. Domestically Amazon is held captive by trade uncertainty with China and slowing GDP growth.

Industry Risk

Amazon's core businesses are heavily reliant on adoption of the internet and the collection of consumer data. The global population is increasingly becoming connected to the internet. However, as adoption growth slows, it may impact Amazon's top line growth. New regulations restricting the collection of consumer data could also force Amazon to rethink how it does business.

Operational Risk

Amazon is facing increasing challanges from business competitors, governments, and society. More well-established businesses are encroaching on Amazon's operating sectors. This will limit Amazon's ability to grow. Politicians and regulators are cracking down on Amazon and other tech companies in new anti-trust suits. These cases will take years to complete and will be difficult, from the perspective of the regulators, the large tech companies are in violation of anti-trust law. However, the legal battles will be a headwind to growth. Public opinion can have a material effect on Amazon's ability to realize growth. Amazon's reputation could be significantly impaired if it is on the wrong side of social issues or is proven to contribute to global climate change.

Conclusion

Rating
BUY

Price Target
$2,234.36

Implied Upside: **+24.72%**

With a reasonable range between **$1,892.28** and **$2,745.61**

Assumptions

The growth case established in this report assumes that management will continue to find innovative new ways to drive user growth in an increasingly competitive environment. I assume that Amazon's expensive investment into one-day shipping will provide benefits to the company in the form of increased user growth and marketplace spending. I also assume that Amazon will break into the digital advertisement industry and that this move will allow Amazon to be more profitable. Finally, I assume that Amazon will maintain its dominance in both e-commerce and smart speaker sales.

Appendix I: Forecasted Income Statement

AMZN Millions (Except per Share Data)	FY 2021E	FY 2020E	FY 2019E	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009	FY 2008
Estimate Rates														
SALES														
Online Stores	157,047	146,773	135,901	122,987	108,354	91,431	76,863	68,513	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	7.00%	8.00%	10.50%	13.50%	18.51%	18.95%	12.19%	n/a						
Physical Stores	30,007	25,216	21,013	17,224	5,798	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	19.00%	20.00%	22.00%	197.07%	n/a	n/a	n/a	n/a						
Other	2,147	1,988	1,840	1,704	4,421	3,234	2,405	1,567	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	8.00%	8.00%	8.00%	-61.46%	36.70%	34.47%	53.48%	n/a						
Net Product Sales	189,200	173,976	158,754	141,915	118,573	94,665	79,268	70,080	60,903	51,733	42,000	30,792	24,509	19,166
% YoY	8.75%	9.59%	11.87%	19.69%	25.26%	19.42%	13.11%	15.07%	17.73%	23.17%	36.40%	25.64%	27.88%	n/a
Third-Party Seller Services	91,711	72,786	56,423	42,745	31,881	22,993	16,086	11,747	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	26.00%	29.00%	32.00%	34.08%	38.66%	42.94%	36.94%	n/a						
Subscription Services	29,705	23,576	18,418	14,168	9,721	6,394	4,467	2,762	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	26.00%	28.00%	30.00%	45.75%	52.03%	43.14%	61.73%	n/a						
AWS	70,383	51,002	36,430	25,655	17,459	12,219	7,880	4,644	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	38.00%	40.00%	42.00%	46.94%	42.88%	55.06%	69.68%	n/a						
Other	13,456	11,308	9,665	8,404	232	(284)	(695)	(245)	n/a	n/a	n/a	n/a	n/a	n/a
% YoY	19.00%	17.00%	15.00%	3522.41%	-181.69%	-59.14%	183.67%	n/a						
Net Service Sales	205,255	158,671	120,937	90,972	59,293	41,322	27,738	18,908	13,549	9,360	6,077	3,412	0	0
% YoY	29.36%	31.20%	32.94%	53.43%	43.49%	48.97%	46.70%	39.55%	44.75%	54.02%	78.11%	n/a	n/a	n/a
TOTAL NET SALES	394,455	332,648	279,691	232,887	177,866	135,987	107,006	88,988	74,452	61,093	48,077	34,204	24,509	19,166
Consensus	385,802	330,128	278,884											
% YoY	18.58%	18.93%	20.10%	30.93%	30.80%	27.08%	20.25%	19.52%	21.87%	27.07%	40.56%	39.56%	27.88%	n/a
OPERATING EXPENSES														
Cost of Sales	223,656	192,936	166,136	139,156	111,934	88,265	71,651	62,752	54,181	45,971	37,288	26,561	18,978	14,896
% of Sales	56.70%	58.00%	59.40%	59.75%	62.93%	64.91%	66.96%	70.52%	72.77%	75.25%	77.56%	77.65%	77.43%	77.72%
Fulfillment	59,168	51,228	43,352	34,027	25,249	17,619	13,410	10,766	8,585	6,419	4,576	2,898	2,052	1,658
% of Sales	15.00%	15.40%	15.50%	14.61%	14.20%	12.96%	12.53%	12.10%	11.53%	10.51%	9.52%	8.47%	8.37%	8.65%
Marketing	28,401	23,285	17,621	13,814	10,069	7,233	5,254	4,332	3,133	2,408	1,630	1,029	680	482
% of Sales	7.20%	7.00%	6.30%	5.93%	5.66%	5.32%	4.91%	4.87%	4.21%	3.94%	3.39%	3.01%	2.77%	2.51%
Technology & Content	51,279	42,912	35,521	28,837	22,620	16,085	12,540	9,275	6,565	4,564	2,909	1,734	1,240	1,033
% of Sales	13.00%	12.90%	12.70%	12.38%	12.72%	11.83%	11.72%	10.42%	8.82%	7.47%	6.05%	5.07%	5.06%	5.39%
General & Administrative, Net	6,311	5,322	4,475	4,336	3,674	2,432	1,747	1,552	1,129	896	658	470	328	279
% of Sales	1.60%	1.60%	1.60%	1.86%	2.07%	1.79%	1.63%	1.74%	1.52%	1.47%	1.37%	1.37%	1.34%	1.46%
Other	592	532	420	296	214	167	171	133	114	159	154	106	102	(24)
% of Sales	0.15%	0.16%	0.15%	0.13%	0.12%	0.12%	0.16%	0.15%	0.15%	0.26%	0.32%	0.31%	0.42%	-0.13%
TOTAL OPERATING EXPENSES	369,407	316,215	267,524	220,466	173,760	131,801	104,773	88,810	73,707	60,417	47,215	32,798	23,380	18,324
% YoY	16.82%	18.20%	21.34%	26.88%	31.84%	25.80%	17.97%	20.49%	22.00%	27.96%	43.96%	40.28%	27.59%	n/a
% of Sales	93.65%	95.06%	95.65%	94.67%	97.69%	96.92%	97.91%	99.80%	99.00%	98.89%	98.21%	95.89%	95.39%	95.61%
OPERATING INCOME	25,048	16,433	12,167	12,421	4,106	4,186	2,233	178	745	676	862	1,406	1,129	842
% YoY	52.43%	35.07%	-2.05%	202.51%	-1.91%	87.46%	1154.49%	-76.11%	10.21%	-21.58%	-38.69%	24.53%	34.09%	n/a
Operating Margin	6.35%	4.94%	4.35%	5.33%	2.31%	3.08%	2.09%	0.20%	1.00%	1.11%	1.79%	4.11%	4.61%	4.39%
NON-OPERATING INCOME (EXPENSE)														
Interest Income	789	665	559	440	202	100	50	39	38	40	61	51	37	83
% of Sales	0.20%	0.20%	0.20%	0.19%	0.11%	0.07%	0.05%	0.04%	0.05%	0.07%	0.13%	0.15%	0.15%	0.43%
Interest Expense	(2,761)	(2,329)	(1,958)	(1,417)	(848)	(484)	(459)	(210)	(141)	(92)	(65)	(39)	(34)	(71)
% of Sales	-0.70%	-0.70%	-0.70%	-0.61%	-0.48%	-0.36%	-0.43%	-0.24%	-0.19%	-0.15%	-0.14%	-0.11%	-0.14%	-0.37%
Other Income (Expense), Net	1,183	998	839	(183)	346	90	(256)	(118)	(136)	(80)	76	79	29	47
% of Sales	0.30%	0.30%	0.30%	-0.08%	0.19%	0.07%	-0.24%	-0.13%	-0.18%	-0.13%	0.16%	0.23%	0.12%	0.25%
TOTAL NON-OPERATING INCOME (EXPENSE)	(789)	(665)	(559)	(1,160)	(300)	(294)	(665)	(289)	(239)	(132)	72	91	32	59
% YoY	18.58%	18.93%	-51.78%	286.66%	2.04%	-55.79%	130.10%	20.92%	81.06%	-283.33%	-20.88%	184.38%	-45.76%	n/a
% of Sales	-0.20%	-0.20%	-0.20%	-0.50%	-0.17%	-0.22%	-0.62%	-0.32%	-0.32%	-0.22%	0.15%	0.27%	0.13%	0.31%
EBIT U.S.	24,016	15,610	11,491	11,157	5,630	4,551	2,186	292	704	882	658	886	529	436
% of EBIT	99.00%	99.00%	99.00%	99.08%	147.92%	116.93%	139.41%	-263.06%	139.13%	162.13%	70.45%	59.19%	45.56%	48.39%
EBIT International	243	158	116	104	(1,824)	(659)	(618)	(403)	(198)	(338)	276	611	632	465
% of EBIT	1.00%	1.00%	1.00%	0.92%	-47.92%	-16.93%	-39.41%	363.06%	-39.13%	-62.13%	29.55%	40.81%	54.44%	51.61%
EBIT	24,259	15,767	11,607	11,261	3,806	3,892	1,568	(111)	506	544	934	1,497	1,161	901
Current U.S. Federal	(1,698)	(1,104)	(813)	129	137	(1,136)	(215)	(214)	(99)	(528)	(65)	(196)	(94)	(143)
Effective Rate	-7.00%	-7.00%	-7.00%	1.15%	3.60%	-29.19%	-13.71%	192.79%	-19.57%	-97.06%	-6.95%	-13.09%	-8.09%	-15.87%
Current U.S. State	(243)	(158)	(116)	(322)	(211)	(208)	(237)	(65)	(45)	(34)	(38)	(115)	(55)	(84)
Effective Rate	-1.00%	-1.00%	-1.00%	-2.86%	-5.54%	-5.34%	-15.11%	58.56%	-8.89%	-6.25%	-4.08%	-7.69%	-4.75%	-9.32%
Current International	970	631	464	(563)	(724)	(327)	(417)	(204)	(173)	(131)	(52)	(37)	(23)	(25)
Effective Rate	4.00%	4.00%	4.00%	-5.00%	-19.02%	-8.40%	-26.59%	183.78%	-34.19%	-24.08%	-5.57%	-2.47%	-1.98%	-2.77%
Deferred U.S. Federal	(1,213)	(788)	(580)	(565)	202	(116)	(473)	125	114	129	(137)	(1)	(77)	(3)
Effective Rate	-5.00%	-5.00%	-5.00%	-5.02%	5.31%	-2.98%	-30.17%	-112.61%	22.53%	23.71%	-14.62%	-0.06%	-6.67%	-0.29%
Deferred U.S. State	182	118	87	(5)	26	31	171	11	19	27	(20)	(0)	(12)	(0)
Effective Rate	0.75%	0.75%	0.75%	-0.04%	0.68%	0.80%	10.91%	-9.91%	3.75%	4.96%	-2.19%	-0.01%	-1.00%	-0.04%
Deferred International	364	237	174	129	(199)	331	221	180	23	109	21	(3)	8	8
Effective Rate	1.50%	1.50%	1.50%	1.15%	-5.23%	8.50%	14.09%	-162.16%	4.55%	20.04%	2.25%	-0.20%	0.69%	0.89%
Provision for Income Taxes	(1,637)	(1,064)	(783)	(1,197)	(769)	(1,425)	(950)	(167)	(161)	(428)	(291)	(352)	(253)	(247)
Effective Rate	-6.75%	-6.75%	-6.75%	-10.63%	-20.20%	-36.61%	-60.59%	150.45%	-31.82%	-78.68%	-31.16%	-23.51%	-21.79%	-27.41%
Equity Method Investment Activity, Net of Tax	12	11	10	9	(4)	(96)	(22)	37	(71)	(155)	(12)	7	(6)	(9)
% YoY	10.00%	10.00%	10.00%	-325.00%	-95.83%	336.36%	-159.46%	-152.11%	-54.19%	1191.67%	-271.43%	-216.67%	-33.33%	n/a
NET INCOME	22,633	14,714	10,834	10,073	3,033	2,371	596	(241)	274	(39)	631	1,152	902	645
BASIC EPS	44.55	29.37	21.93	20.68	6.32	5.00	1.28	(0.52)	0.60	(0.09)	1.39	2.58	2.08	1.52
% YoY	51.67%	33.92%	6.04%	227.34%	26.32%	291.95%	-344.65%	-187.01%	-796.40%	-106.18%	-45.95%	23.72%	36.62%	n/a
DILUTED EPS	43.35	28.59	21.36	20.15	6.15	4.90	1.25	(0.52)	0.59	(0.09)	1.37	2.53	2.04	1.49
Consensus	42.69	28.18	20.93											
% YoY	51.62%	33.88%	6.01%	227.46%	25.59%	292.07%	-339.52%	-188.53%	-784.42%	-106.29%	-45.82%	23.80%	36.68%	n/a
NUMBERS USED FOR EPS CALCULATION														
Basic Shares	508	501	494	487	480	474	467	462	457	453	453	447	433	423
% YoY	1.42%	1.42%	1.42%	1.46%	1.27%	1.50%	1.08%	1.09%	0.88%	0.00%	1.34%	3.23%	2.36%	n/a
Diluted Shares	522	515	507	500	493	484	477	462	465	453	461	456	442	432
% YoY	1.45%	1.45%	1.45%	1.42%	1.86%	1.47%	3.25%	-0.65%	2.65%	-1.74%	1.10%	3.17%	2.31%	n/a

Appendix II: Discounted Cashflow Projection

AMZN *Millions*	FY 2019E	FY 2020E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E	FY 2027E	FY 2028E	FY 2029E	Spark Line
Estimate Rates												
Revenue	279,691	332,648	394,455	469,402	549,200	631,580	707,369	771,033	817,294	866,332	918,312	
%YoY	20.10%	18.93%	18.58%	19.00%	17.00%	15.00%	12.00%	9.00%	6.00%	6.00%	6.00%	
Operating Expenses	(267,524)	(316,215)	(369,407)	(431,849)	(499,772)	(568,422)	(629,559)	(678,509)	(715,133)	(753,709)	(794,340)	
Operating Margin	4.35%	4.94%	6.35%	8.00%	9.00%	10.00%	11.00%	12.00%	12.50%	13.00%	13.50%	
Non-Operating Income (Expense)	(559)	(665)	(789)	(939)	(1,098)	(1,263)	(1,415)	(1,542)	(1,635)	(1,733)	(1,837)	
% of Sales	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%	
Taxes	(783)	(1,064)	(1,637)	(2,655)	(3,505)	(4,488)	(5,540)	(6,597)	(7,289)	(8,041)	(8,856)	
Effective Tax Rate	-7.23%	-7.23%	-7.23%	-7.25%	-7.25%	-7.25%	-7.25%	-7.25%	-7.25%	-7.25%	-7.25%	
Other	10	11	12	13	13	13	13	13	13	13	13	
Net Income	10,834	14,714	22,633	33,971	44,838	57,419	70,869	84,398	93,251	102,863	113,293	
%YoY	6.04%	35.82%	53.82%	50.09%	31.99%	28.06%	23.42%	19.09%	10.49%	10.31%	10.14%	
Add Depreciation & Amortization Expense	19,019	22,620	26,823	30,980	34,600	37,895	42,442	46,262	49,038	51,980	55,099	
% of Sales	6.80%	6.80%	6.80%	6.60%	6.30%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
Δ Net Working Capital	4,609	1,695	1,978	1,643	824	0	(1,768)	(3,855)	(6,130)	(8,663)	(9,183)	
% of Sales	1.65%	0.51%	0.50%	0.35%	0.15%	0.00%	-0.25%	-0.50%	-0.75%	-1.00%	-1.00%	
Subtract Capital Expenditures	(13,985)	(16,632)	(19,723)	(24,409)	(30,755)	(37,895)	(42,442)	(46,262)	(49,038)	(51,980)	(55,099)	
% of Sales	-5.00%	-5.00%	-5.00%	-5.20%	-5.60%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	
Free Cash Flow	20,477	22,396	31,712	42,185	49,506	57,419	69,101	80,543	87,121	94,200	104,110	
%YoY	n/a	9.37%	41.59%	33.03%	17.35%	15.99%	20.34%	16.56%	8.17%	8.12%	10.52%	
% of Sales	7.32%	6.73%	8.04%	8.99%	9.01%	9.09%	9.77%	10.45%	10.66%	10.87%	11.34%	

Terminal Discount Rate:	11.00%
Terminal Growth Rate:	6.00%
Implied PE:	21.20
Current Stock Price:	$ 1,791.44
Shares Outstanding:	495.80
Imp. Equity Value/Share:	$ 2,234.36
Consensus:	*$ 2,185.91*
Imp. Up/(Downside):	24.72%
Error to Consensus:	*2.22%*
Cash:	$ 31,750
Debt:	$ 119,099
Cash / Share:	$ 64.04
NPV of Cash Flow	330,480
NPV of Terminal Value	777,315
Projected Equity Value	1,107,795
Free Cash Flow Yield	2.31%
Terminal Value	2,207,124
Free Cash Yield	4.72%
Terminal P/E	19.48
Terminal EV/EBITDA	12.81

Price / Share - Sensativity Matrix

Growth Rate \ Discount Rate	10.50%	10.60%	10.70%	10.80%	10.90%	11.00%	11.10%	11.20%	11.30%	11.40%	11.50%
5.50%	$ 2,317.15	$ 2,267.05	$ 2,218.90	$ 2,172.60	$ 2,128.03	$ 2,085.11	$ 2,043.74	$ 2,003.85	$ 1,965.35	$ 1,928.18	$ 1,892.28
5.60%	$ 2,352.05	$ 2,300.31	$ 2,250.62	$ 2,202.87	$ 2,156.95	$ 2,112.75	$ 2,070.18	$ 2,029.15	$ 1,989.59	$ 1,951.41	$ 1,914.54
5.70%	$ 2,388.40	$ 2,334.92	$ 2,283.61	$ 2,234.33	$ 2,186.97	$ 2,141.43	$ 2,097.59	$ 2,055.38	$ 2,014.69	$ 1,975.45	$ 1,937.58
5.80%	$ 2,426.29	$ 2,370.97	$ 2,317.94	$ 2,267.05	$ 2,218.18	$ 2,171.21	$ 2,126.04	$ 2,082.57	$ 2,040.70	$ 2,000.34	$ 1,961.43
5.90%	$ 2,465.84	$ 2,408.56	$ 2,353.70	$ 2,301.10	$ 2,250.63	$ 2,202.17	$ 2,155.59	$ 2,110.79	$ 2,067.67	$ 2,026.15	$ 1,986.12
6.00%	$ 2,507.14	$ 2,447.78	$ 2,390.98	$ 2,336.57	$ 2,284.41	$ 2,234.36	$ 2,186.29	$ 2,140.10	$ 2,095.67	$ 2,052.91	$ 2,011.72
6.10%	$ 2,550.31	$ 2,488.75	$ 2,429.89	$ 2,373.56	$ 2,319.60	$ 2,267.86	$ 2,218.22	$ 2,170.55	$ 2,124.74	$ 2,080.67	$ 2,038.26
6.20%	$ 2,595.50	$ 2,531.58	$ 2,470.52	$ 2,412.15	$ 2,356.28	$ 2,302.77	$ 2,251.46	$ 2,202.23	$ 2,154.95	$ 2,109.51	$ 2,065.81
6.30%	$ 2,642.84	$ 2,576.40	$ 2,513.00	$ 2,452.45	$ 2,394.56	$ 2,339.15	$ 2,286.08	$ 2,235.19	$ 2,186.37	$ 2,139.48	$ 2,094.41
6.40%	$ 2,692.48	$ 2,623.35	$ 2,557.46	$ 2,494.59	$ 2,434.54	$ 2,377.12	$ 2,322.17	$ 2,269.53	$ 2,219.07	$ 2,170.64	$ 2,124.14
6.50%	$ 2,744.61	$ 2,672.59	$ 2,604.03	$ 2,538.68	$ 2,476.33	$ 2,416.78	$ 2,359.83	$ 2,305.34	$ 2,253.13	$ 2,203.08	$ 2,155.05

Ratio	2019	2020	2021
Current P/E:	81.99	60.36	39.24
Projected P/E:	102.26	75.29	48.94
Current EV/EBITDA:	31.28	24.98	18.81
Projected EV/EBITDA:	38.32	30.60	23.04

Bibliography

[1] AMAZON.COM INC, "Form 10-K," Securities and Exchance Comission, Washington, D.C., 2019.

[2] A. Inc, "Q3 2019 Financial Results Conference Call Slides," Amazon Investor Relations, Seattle, WA, 2019.

[3] J. Bezos, "2018 Letter to Shareholders," in *Amazon Earnings Conference*, Seattle, WA, 2018.

[4] S. Owuour, "worldatlas.com," WorldAtlas, 8 July 2019. [Online]. Available: https://www.worldatlas.com/articles/largest-companies-in-the-world-by-market-cap.html. [Accessed 31 October 2019].

[5] B. Stone, The Everything Store, New York: Little, Brown and Company, 2013.

[6] M. Schettenhelm and J. Rie, "Amazon Government Research," Bloomberg Intelligence, New York, 2019.

[7] Amazon.com, *Q3 2019 Earnings Call,* Seattle: Amazon.com, 2019.

[8] S. Carey, "Computer World," computerworld.com, 12 March 2019. [Online]. Available: https://www.computerworld.com/article/3412382/the-history-of-aws--a-timeline-of-defining-moments-from-2002-to-now.html. [Accessed 1 November 2019].

[9] Amazon.com, "Amazon Web Services," Amazon.com, 2019. [Online]. Available: https://aws.amazon.com/. [Accessed 1 November 2019].

[10] J. Waral and A. Kim, "Amazon Research," Bloomberg Intelligence, New York, 2019.

[11] G. Lynch and J. McCann, "TechRadar," Future US, Inc., 26 September 2019. [Online]. Available: https://www.techradar.com/news/amazon-2019-launch-liveblog. [Accessed 31 October 2019].

[12] A. Guttmann, "Statista," 18 June 2019. [Online]. Available: https://www.statista.com/statistics/237974/online-advertising-spending-worldwide/. [Accessed 1 November 2019].

[13] Morningstar Equity Research, "Amazon.com Inc Equity Research Report," Morningstar, Chicago, IL, 2019.

[14] A. Cheng, "Forbes.com," Forbes, 24 October 2019. [Online]. Available: https://www.forbes.com/sites/andriacheng/2019/10/24/why-amazons-costly-one-day-shipping-bet-may-pay-big-dividends/#3b2107bc7afb. [Accessed 3 November 2019].

[15] M. Anderson, "npr.org," National Public Radio, 29 October 2019. [Online]. Available: https://www.npr.org/2019/10/26/773706177/pentagon-awards-10-billion-contract-to-microsoft-over-front-runner-amazon. [Accessed 3 November 2019].

[16] S. Aaronson, "nytimes.com," The New York Times, 30 October 2019. [Online]. Available: https://www.nytimes.com/2019/10/30/opinion/google-quantum-computer-sycamore.html. [Accessed 3 November 2019].

[17] K. Masters, "Forbes.com," Forbes, 30 October 2019. [Online]. Available: https://www.forbes.com/sites/kirimasters/2019/10/30/what-amazons-new-free-ultrafresh-announcement-means-to-grocery-brands/#b5db0de7fde4. [Accessed 3 November 2019].

[18] J. Waral and A. Kim, "Global Internet Media 2019 Midyear Outlook," Bloomberg Intelligence, New York, 2019.

[19] M. Schettenhelm and A. Silverman, "Amazon Litigation Research," Bloomberg Intelligence, New York, 2019.

[20] B. Wire, "Business Wire," 24 October 2019. [Online]. Available: https://www.businesswire.com/news/home/20191024005725/en/. [Accessed 1 November 2019].