Krause Fund Research

Spring 2024

April 16, 2024

Stock Rating: **HOLD**	**Target Range: $41 - $45**	**Current Price: $40.11**

Analysts

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Investment Thesis

We recommend a HOLD rating for Verizon. Due to heightened geopolitical risks, we believe the U.S will continue to hold rates higher for longer. Verizon is primarily financed by debt and higher rates will continue to have an impact on borrowing rates thus preventing VZ from refinancing its debts. Despite VZ being a leader in the telecommunications industry, the current market price appears to be fairly valued.

Drivers of Thesis

• We forecast revenue for Verizon to decrease by 0.30% for the next five years due to the current geopolitical environment. This is because we estimate inflation will remain at 3.50% thus outpacing our estimated telecom growth rate of 3.20%.

• VZ focuses on domestic and international communication, information, technology, and entertainment products and services. The high revenue growth rates associated with artificial intelligence, cloud computing, and quantum gaming are not applicable to VZ because they do not have a large presence in these markets. We project future growth at 3.2% instead of the overall communication services industry growth rate of 8-12%.

• VZ has continued to invest heavily in 5G infrastructure to ensure they can continue to stay competitive with their largest peers T-Mobile and AT&T. These investments consist of roughly 20 billion invested in capital expenditures over each of the past few years.

Risks to Thesis

• VZ has potential liability when it comes to old lead cable infrastructure. This liability could amount to just over 8 billion dollars related to remediation costs should it be determined that these cables are contaminating the groundwater.

• Verizon has a significant debt-load and had a very high dividend payout ratio of 95.47% in 2023. If they experience economic hardship in future years, they may struggle to maintain their dividend yield of 6.34% while meeting debt obligations. If the dividend payout is cut the stock price will be severely punished.

• VZ has a significant amount of debt on its balance sheet. Geopolitical tensions caused by the Russian war in Ukraine and the conflict in Palestine could affect oil prices therefore impacting inflation. If inflation stays stagnant VZ will have to borrow at higher rates and will not be able to refinance its debt at lower rates.

1 Year Stock Performance vs. Communications Sector and S&P 500

Company Information

Company: Verizon Communications Inc.

Sector: Communications

Industry: Telecommunications

Exchange: NYSE [VZ]

Financial Snapshot

Model Price Projections

DCF: $40.89
DDM: $45.32
Relative Valuation: $33.34

Price Data

Current Price: $40.11
52-Week Range: $30.14 - $43.42
YTD Performance: 2.28%

Key Statistics

Shares Outstanding: 4.23B
2022 EPS: $5.06
2023 EPS: $2.76
P/E: 14.49
1Y Forward P/E: 8.74
Dividend Yield: 6.34%
Market Capitalization: 169.76B
Beta: 0.57
WACC: 5.50
2022 Revenue: 136.84B

Ratios

Profit Margin: 9.03%
ROE: 13.08%
ROA: 3.18%

Company Overview

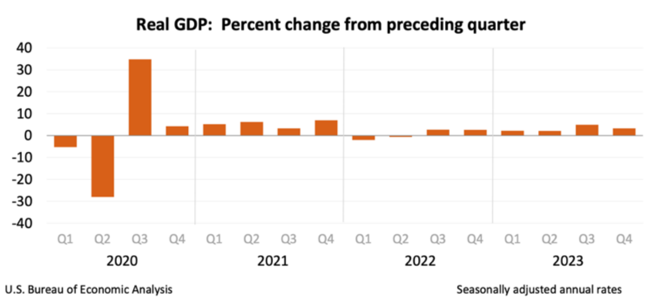
Verizon Communications Inc. (VZ) is a telecommunications company headquartered in New York City, New York. It conducts business in three segments, consumer, business, & corporate and other eliminations. VZ sells its telecom services both domestically and internationally. Verizon is one of the world's largest telecom companies and provides communication, information, technology, and entertainment products and services to individual consumers, businesses, and government entities.

Economic Analysis

United States Real GDP Growth

The United States Gross Domestic Product (GDP) plays a major role in influencing the communications sector of the market. As a key economic variable, GDP reflects the overall health and performance of the economy. It serves as an indicator of consumer spending, business investment, and government expenditures. In recent years, the communications sector has been closely tied to economic growth, with increased GDP often leading to higher demand for telecommunications and technology services. In a recent example, the surge in remote work and online presence during the COVID-19 pandemic showcased the sector's resilience and adaptability, contributing to its growth.

In recent history, as shown in the graph below, real GDP has been growing slowly. We expect this trend to change over the next few quarters. Although individuals' pandemic savings are running out, job openings in the U.S. are substantial, and wages have been rising over the past few years, oftentimes outpacing the rate of inflation. At a minimum, we expect consumer demand to remain largely consistent and to likely grow. As consumer demand grows, GDP will rise with it. This is evidenced by the most recent report for Q4 2023 real GDP, which came in at 3.3%, which was above analysts' expectations. We agree with the Conference Board and expect real GDP to slow to around 1-2 % over the next four quarters (Conference Board). Based on this forecast, we expect the communication services industry to remain resilient over the next few quarters as the economy continues to expand and wage growth outpaces inflation. As GDP increases, individuals and businesses will continue spending on non-essential services offered by the communications sector. We believe media advertising and telecom services will see increased spending as the economy continues to moderate after the COVID-19 stimulus, which helped cause the strong inflation that has been experienced in recent years.



(McCulla, 2023)

Our short-term outlook is that GDP will continue to stay positive between 1-2% over the next four quarters, which will help maintain current or slightly elevated spending in the communications sector. Our long-term outlook is that the economy is headed into a period of expansion influenced by the AI boom (a minimum of 3.2 % annual growth in real GDP each year). We feel this expansionary period will be great for demand across the communications sector, including but not limited to advertising, telecommunication, entertainment, etc.

Technological Advancements

Technological advancements constitute a crucial economic variable for the communications sector. Recent innovations have played a pivotal role in transforming the sector with developments such as the widespread adoption of 5G technology, the expansion of smart devices, and the introduction of Artificial Intelligence (AI) into the sector. Shown below is a graph from Yahoo Finance that depicts the communications sector compared to the S&P 500 and its growth over the past year. From this graph, we can see that over the last year, the communications services industry has been consistently outperforming the index. Additionally, one of the main reasons the S&P 500 has been doing so well is because of the giant boost it is receiving from the communications services and technology sectors.

(Yahoo Finance)

Our short-term outlook is that excitement surrounding the utilization of AI will slow. However, we still expect the communications sector to grow 8-12% over the coming year. Over the long term, we expect the communications services industry's revenue growth to moderate at roughly 1.43% annually, which aligns with Statista estimates. We believe AI has been overhyped and that this industry will not continue to experience significant outperformance of the S&P 500. As revenue and overall growth within the communication services sector moderate, we believe industry growth will begin aligning with the S&P 500 instead of outpacing it. This means growth will slow and moderate within the communications services industry.

Regulatory Environment

The regulatory environment serves as a pivotal economic variable for the communications sector, profoundly impacting its operations and competition. Recent cases of regulatory intervention have posed challenges for sector expansion. For instance, stringent regulations regarding net neutrality have sparked debates on how internet service providers manage data traffic, potentially limiting their ability to prioritize certain services or content. Such regulations, while aiming to ensure fair and equal access to the Internet, have raised concerns among industry players about potential limitations on innovation and investment. Government organizations such as the Justice Department and the Federal Communications Commission closely regulate companies in the sector to ensure no unfair advantages are ascertained.

A recent example includes how Google has been hit with an antitrust lawsuit from the Justice Department and will pay $700 million to settle allegations of monopoly (CBS News). Since the government has the final say in the regulatory environment, companies in the communications services industry must abide by all new regulations or face significant consequences such as fines and legal battles. However, these regulations are typically industry-wide and should not give an unfair advantage to one specific company. That said, they could hurt or benefit certain industries in the communications sector.

Our short-term outlook is that the regulatory environment will not have a specific impact on the communication services industry but does have the potential to impact individual companies that ignore regulations or subindustries that experience increased or decreased regulation. When it comes to the long term, we are even more uncertain about future regulatory environment changes and are unsure of whether the impacts will benefit or damage industry profits. It is hard to quantify the likelihood of regulatory changes, the significance of their impact, and what industries will be impacted. For this reason, we don't currently expect huge or significant regulatory changes in the communication services industry, but we will continue to watch for potential regulatory changes.

Personal Income and Outlays

Personal income and outlays are integral economic variables that significantly influence the communications sector. As consumers' disposable income and spending patterns fluctuate, so does their demand for communication services. The rise of telecommuting and online education has fueled the demand for robust communication infrastructure. Variations in personal income, influenced by factors like employment rates and government stimulus measures, impact consumers' ability to afford communication services. In the data collected by the Bureau of Economic Analysis, the table below shows that personal income as well as personal consumption have only grown over the past five months.

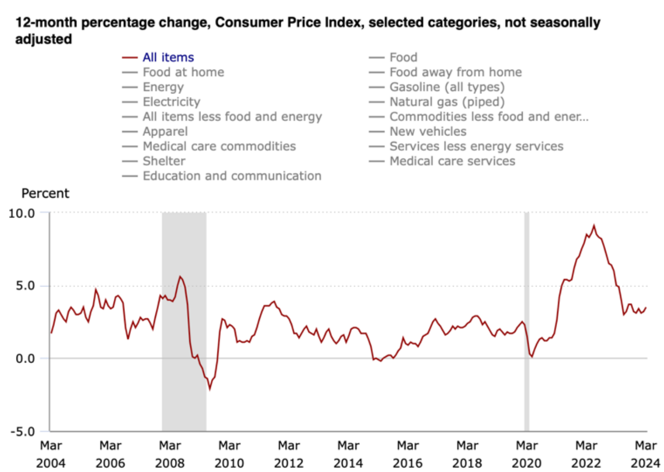
	2023			2024	
	Oct.	Nov.	Dec.	Jan.	Feb.
	Percent change from preceding month				
Personal income:					
Current dollars	0.2	0.4	0.3	1.0	0.3
Disposable personal income:					
Current dollars	0.2	0.4	0.3	0.4	0.2
Chained (2017) dollars	0.2	0.4	0.2	0.0	-0.1
Personal consumption expenditures (PCE):					
Current dollars	0.2	0.4	0.6	0.2	0.8
Chained (2017) dollars	0.2	0.4	0.5	-0.2	0.4
Price indexes:					
PCE	0.0	0.0	0.1	0.4	0.3
PCE, excluding food and energy	0.1	0.1	0.2	0.5	0.3
Price indexes:	Percent change from month one year ago				
PCE	2.9	2.7	2.6	2.4	2.5
PCE, excluding food and energy	3.4	3.2	2.9	2.9	2.8

(Bureau of Economic Analysis)

Based on the recent historical data, we believe that in the short term, incomes will continue to rise at a rate of around 0.3% per month. As incomes slowly increase, we believe that people will be willing to spend more money in the communications services industry. In the long term, we expect consumers' wages to keep growing at a rate that outpaces inflation. This is evidenced by the fact there are more jobs than people are looking for jobs. This causes employers to raise wages to attract talent, in turn increasing consumers' ability to spend on a variety of services and products. This lack of employees is being further exacerbated by the birth rate (1.64 births per woman) in the U.S. being lower than the replacement rate (which is 2.1) and the fact that many baby boomers are reaching retirement age and leaving the workforce. For these reasons, we feel that income growth will continue to significantly outpace inflation, enabling consumers to increase spending across various products and services, including those in the communication service industry.

The Consumer Price Index

The Consumer Price Index (CPI) is a vital economic variable for the communications sector as it reflects the overall inflationary trends affecting consumer goods and services, including communication services. The CPI measures the average change over time in the prices paid by urban consumers for a basket of goods and services, providing insights into the cost of living. In the context of the communications sector, fluctuations in the CPI can impact pricing strategies, consumer affordability, and overall demand for services. When the CPI rises, signaling inflation, it may lead to increased costs for communication providers, potentially influencing service pricing. Conversely, during periods of deflation or low inflation, the communications sector may face pressures to maintain competitiveness while dealing with potentially lower revenue growth. Shown in the graph below is the percentage change in consumer prices over the last twenty years.



(U.S. Bureau of Labor Statistics)

While CPI is very volatile, we agree with the Federal Planning Bureau that CPI will remain around 3-4%. This means that, in general, prices for all items will continue to rise, but at a slower rate. This is evidenced by the fact that streaming services like Disney+ and Telecom companies like T-Mobile, Verizon, and AT&T have recently implemented and announced price increases. Therefore, in the short term, consumers can continue to expect price increases as many have already been announced or put into place. In the long term, as inflation decreases and rate cuts are implemented, we expect price increases to be less frequent and in smaller denominations. However, in the long term, prices will continue to rise (likely with the Fed's long-term target inflation rate of 2%).

The Consumer Confidence Index

The Consumer Confidence Index (CCI) is a critical economic variable for the communications sector as it gauges consumers' perceptions of current and future economic conditions, influencing their spending behavior. A high CCI generally indicates optimistic consumer sentiments, potentially leading to increased demand for communication services. Variations in consumer confidence can impact subscription rates, upgrade decisions, and the adoption of new communication technologies. For the communications sector, understanding the CCI is crucial for anticipating shifts in consumer behavior. Shown below is a graph of the Consumer Confidence Index for the last 20 years.

One can see the index has been very volatile over time. Most recently, the Conference Board saw a jump in consumer confidence, which has led us to believe that in the short term, optimism will continue to rise with job availability projections. We expect the index to rise another 4 to 8 points in the short term. Over the long term, we expect consumer confidence to continue increasing and that it will return to almost 140, which is where it was before the global pandemic. We believe this will happen because consumer confidence is expected to increase as inflation decreases and the Fed begins cutting rates. This is because consumers will have more confidence in their purchasing power and will not have to worry about rampant inflation, which has led to high prices over the past few years. With higher consumer confidence, we expect the communication services industry to experience more demand, causing the sector to grow.

Capital Markets Outlook

How has this industry compared recently relative to the market?

As mentioned previously in the market comparison, the communication services sector has outperformed almost all other sectors. Over the past year, the communications sector has grown by over thirty-five percent, while the market has grown just over twenty percent.

Is it a good time to invest in this industry? Why or why not?

Currently, it may be easy to believe that it is not a good time to invest in this industry as it is hovering around its all-time high, but with the excitement of expanding 5G networks and the integration of Artificial Intelligence, we believe there are many opportunities for large growth. Furthermore, there are stocks in the communications sector that are below all-time and 52-week highs, which could be good investment opportunities. Examples include DIS, VZ, and T, which could all be analyzed further to determine if they are undervalued. In the end, we would not invest in the broader industry. Instead, we plan to focus on attractive companies within the communications sector.

Do you believe the industry will outperform or underperform going forward? What will drive this result?

We believe the industry will fail to perform at the level that investors expect. While there are many innovations to be taken advantage of, many of them will take large amounts of time and resources. Furthermore, companies with AI exposure (google) could be overvalued if AI does not prove to be the game-changer many expect it to be. For these reasons, the broader communication services industry could be unattractive to some investors. Although we feel the broader industry may underperform, we do believe certain subindustries and companies offer attractive entry points.

Which characteristics of firms or industries are most likely to benefit from your current economic outlook? Which industries will your group focus its efforts on to identify potential companies for further analysis?

One area of the communications industry that our group finds compelling is firms that are taking advantage of generative AI to hyperfocus ads based on consumer history. These would include, but are not limited to, firms like Meta and Alphabet. However, we are also somewhat skeptical of all the market hype surrounding AI and wonder if these companies are reaching overvalued territory.

Another industry we find to be compelling is the telecom industry. More specifically Verizon, T-Mobile, and AT&T. It is important to note these companies could face increased competition if the FCC engages in more C-band auctions. They could also be found liable for a combined 60 billion dollars if lead cables used in the past are causing groundwater contamination (AT&T carries the most potential liability for this). AT&T and Verizon appear to be attractive due to their high dividend yields and the fact that they increase them relatively regularly. These firms are also cash cows in a well-established and mature industry. Their relative stability and low stock prices appear attractive compared to past price levels (this is especially true as rate cuts are implemented, and their dividend payouts offer much more than rates on newly issued bonds and other fixed-income securities).

Lastly, we believe that Disney's Disney Plus is likely on the cusp of profitability and will soon stop eating up much of the business's profitability. Disney also has announced plans to make an ESPN streaming service which could also prove to be very interesting. Furthermore, Disney's parks have been performing very well in recent quarters and Disney plans to invest 60 billion in its parks business over the next 10 years, which could help further this strong performance. However, they do have significant exposure to the ailing cable/legacy TV business, which could be a downside. Disney has also come under fire for their poor performance in recent quarters by activist investors like Nelson Peltz. This necessary pressure could result in important new change initiatives which could result in a return to stock prices last seen in 2021. The Disney turnaround story could prove to be very interesting, and we look forward to applying valuation models to this company shortly.

Industry Analysis

Telecom Industry:

In recent years, telecom companies have deployed an immense amount of capital in the push for 5G adoption. Although this resulted in a heavy debt load on the companies' balance sheets, these companies should be able to reap the benefits of these investments for the foreseeable future. Furthermore, these significant investments should enable telecoms like Verizon, T-Mobile, and AT&T to stay at the forefront of the industry while enabling Verizon and AT&T to continue raising and paying out healthy dividends. Telecom companies focus on wireless and wireline services, corporate networking solutions, data centers, cloud services, security and managed network services, IoT services and products, and local & long-distance voice communication services. These voice communication services can be local, national, international, or long-distance.

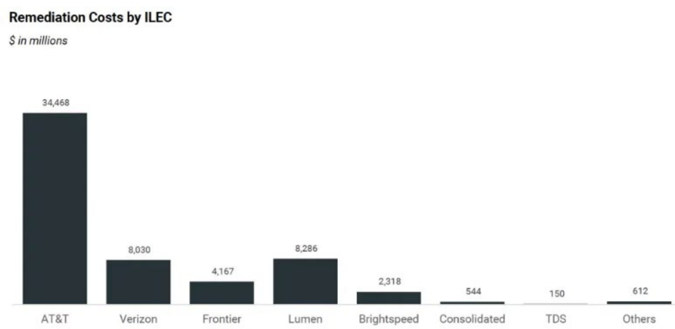
Recent Developments and Industry Trends

Technological Changes:

The expansion of 5G is a major industry trend, as telecom companies have spent significant sums of money on building out 5G infrastructure in recent years. They have done this to obtain greater transmission speed, lower latency, better capacity for remote execution, more connected devices, and the possibility of implementing virtual networks. Another area where technological change has occurred has been cloud computing. Cloud computing has been a key driver for AI, the Internet of Things (IOT), and remote and hybrid work in recent years. Going forward, cloud computing will enable things like virtual and augmented reality, the metaverse, cloud gaming, and even quantum computing. Verizon does have Verizon cloud, but it is important to note that all the companies we are looking at are not in the top ten when it comes to cloud computing. This signals that, although this could affect the telecom industry, they do not currently have a large presence in the cloud computing space. Examples from the balance sheet of the significant capital expenditures for 5G mentioned above (long-term debt) are Verizon 141 billion, AT&T 128 billion, T-Mobile 71 billion, & Comcast 95 billion.

Government or Regulatory Changes:

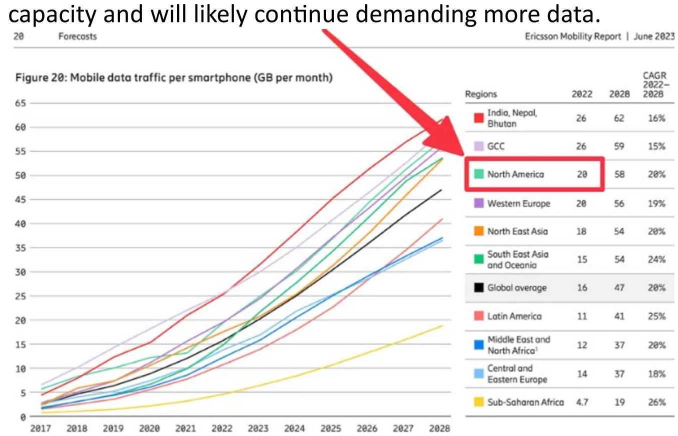
Important considerations regarding the regulatory environment specific to the telecom sub-industry include the auction of C-band frequencies to telecommunications companies and the recent discovery of lead cables contaminating groundwater that were used in the telecom industry in the 1960s. Future Federal Communications Committee C-band auctions could lead to the threat of new entrants or current players having to spend billions to prevent others from gaining C-band rights and entering the market. Lead cables from the 1960s could also represent a significant financial liability should telecom companies such as VZ, LUMN, T, and many others be required to remove the lead cables due to the risk of contaminating groundwater suppliers. The company with the largest potential liability when it comes to lead cable remediation is AT&T. Only time will tell if the telecom industry must engage in cable remediation and if new frequencies on the C-band will be auctioned off. In the end, although these situations could occur and be bad for the industry, we are unsure if and when they will impact the industry. Quantitative remediation costs for various telecom companies are detailed in the graph below.



(Engebretson, 2023)

Social and Demographic Changes:

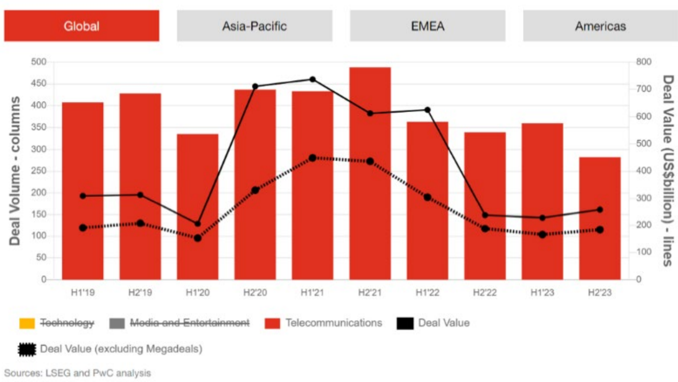
As detailed in the graph on the next page, one can see how the usage of gigabytes per phone per month has increased across various countries throughout the world and is expected to continue increasing through the year 2028. This shows how consumers are using more data than ever and proves that consumers are shifting towards phone plans that offer more gigabytes and even unlimited data plans. Overall, data usage seems to be increasing in importance each year, showing that consumers are unlikely to move to cheaper plans or cancel their mobile data plans. The reason for this is related to the fact that people continually do more and more on their mobile phones from social media, to paying bills online, to submitting timesheets, and much more. Individuals perform many routine and important tasks on their mobile devices. We do not believe this social change is going anywhere, as people enjoy having this capacity and will likely continue demanding more data.



(Ericsson Mobility Report)

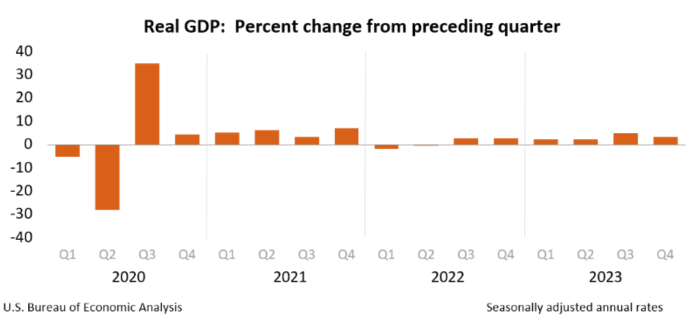
Mergers and Acquisitions within the Industry:

The graph below details how there were 642 mergers and acquisitions in the global telecom market in 2023. The deals in 2023 alone amounted to 486 billion dollars. Of that, 174 of the deals were in America and amounted to 255 billion dollars. Although America had less than one-third of the deals by volume, it made up over 50% of the overall value of the deals. One of the larger mergers of 2023 occurred in the United Kingdom and involved Vodafone and the Hutchinson Group. The merger brought the combined enterprise value of the two firms to $19 billion. This merger resulted in the formation of the largest mobile network operator in the United Kingdom (Bain & Company).



(PwC)

Economic Changes:
Recent economic changes affecting the telecom industry include a GDP report that came in above expectations and the Fed signaling they likely will not cut rates until late in 2024 if at all. The GDP report signals a strong U.S. economy, which bodes well for consumer telecom spending. With the recent expansion of 5G, competitors in the telecom industry have taken on significant debt to build out their 5G infrastructure. When the Fed cuts interest rates, telecom companies will be able to borrow at lower rates and refinance current debts that were obtained in the high interest rate environment. The gra-h below details quarterly GDP growth/decline for each quarter since 2020.



(McCulla, 2023)

Competition and Peer Comparisons

Financial Metrics:
Compared to the internet content and information industry, the telecommunications industry has a much lower Price to Book, Price to Sales, and Price to Earnings ratio. This is the case because this industry takes fewer risks, and there isn't as much growth in this industry as compared to the internet content and information industry. These companies tend to pay a higher dividend to investors, which makes sense as these companies are mature. Telecom companies also have a higher debt to equity ratio than the internet industry, meaning they finance more of their operations from debt than they do from equity. Higher debt levels are likely due to the expansion of 5G, which has been a capital-intensive endeavor for these companies in recent years. When comparing these companies to each other, one can see that AT&T has the lowest price to book and price to sales ratios. It also has the second-highest dividend and profit margin. Verizon, on the other hand, has the highest annual sales and the most attractive dividend yield but has the highest debt to equity ratio.

Symbol	VZ	TMUS	T	CMCSA
Company	Verizon Communications Inc	T-Mobile US	AT&T Inc	Comcast Corp A
Price Information				
Key Statistics				
Market Capitalization, $K	173,965,744	187,360,496	126,769,848	180,605,344
Annual Sales	133,974,000,000	78,558,000,000	122,428,000,000	121,572,000,000
Annual Net Income	11,614,000,000	8,317,000,000	14,400,000,000	15,389,000,000
Per-Share Information				
Dividend Yield	6.37%	0.40%	6.26%	2.59%
Ratios				
Price/Earnings ttm	8.94	23.34	7.40	11.36
Profit Margin %	8.67%	10.59%	11.76%	12.66%
Debt/Equity	1.61	1.16	1.17	1.17
Price/Sales	1.32	2.38	1.04	1.49
Price/Book	1.90	2.90	1.10	2.26

(Yahoo Finance)

Operating Metrics:
Capital Expenditure is important in the telecommunications industry because firms require lots of capital to acquire and maintain physical assets such as network infrastructure.

Market share is crucial in this industry, as there are a few top firms that have a wide customer base. Having a large market share relative to peers may indicate effective marketing or competitive offerings, while a declining market share can signal challenges in retaining a loyal customer base.

Considering this, subscriber growth is another important operating metric in this industry. Positive subscriber growth can indicate a strong demand for the company's services and how it is performing compared to its peers.

Different network performance metrics can also be important, as consumers mainly select which network to join and stay loyal to that network based on how quick the network is, its reliability, etc. Some key network metrics can include download/upload speeds, the duration of outages, churn rates, and latency (which is how long it takes data to transfer across the network).
In its fourth-quarter results Verizon reported a 12.5% increase in year-over-year postpaid phone gross additions, while AT&T reported a decline of 3.6%. This shows Verizon is taking market share (Barron's).

Current Competitive Landscape

Threat of New Entrants:
There is a high barrier to entry in the telecommunications industry due to significant capital requirements for building and maintaining network infrastructure and establishing brand

loyalty. Large companies, like Verizon, AT&T, and T-Mobile, have a vast majority of the market share, and their current investments in network infrastructure act as significant barriers to entry, as new entrants would need huge amounts of capital to compete at scale. All in all, the telecom space does appear to be an economy of scale, which makes it extremely difficult for competitors to enter the market at scale.

<u>Bargaining Power of Suppliers:</u>
Suppliers are much more concentrated than consumers, and for that reason, suppliers have some freedom in setting their prices (although they must be in line with what other telecom companies are doing). Suppliers also have deals that require consumers to sign contracts that last for multiple years in exchange for the best deals on purchasing new phones. These contracts act as switching costs, as consumers must buy out the contract to switch to another service provider.

<u>Bargaining Power of Buyers:</u>
The bargaining power of buyers is semi-strong. Consumers have the freedom to switch between suppliers due to cost, service reliability, etc. However, buyers often sign contracts, which make it harder to switch and require them to buy out the contract if they wish to switch providers prior to the contract's expiration. Besides contracts, there are not many other obstacles preventing consumers from switching to a provider of their preference. We feel the bargaining power of buyers is semi-strong due to the reasons listed above.

<u>Threat of Substitutes:</u>
The threat of substitutes is relatively low in the industry, as it takes a lot of resources and capital to create new technologies to disrupt an industry. A substitute for wireless data service is Wi-Fi, but this is not very practical for an individual who must travel distances that a router cannot cover. A bigger potential threat is Elon Musk's development of an emerging technology known as a satellite constellation connection. His company, Starlink, has been rigorously deploying satellites to try to make this a reality. Starlink does have the potential to interrupt the telecom industry.

<u>Intensity of Company Rivalry:</u>
Like the internet content and information industry, company rivalry is high as top firms fight for market share. This does have the potential to significantly push down profit margins, especially if firms compete solely on price. Verizon, AT&T, and T-Mobile engage in aggressive pricing strategies and marketing efforts to attract and retain their customers. Examples include new phone deals where consumers can get phones at steeply discounted prices in exchange for signing contracts to use that provider for a designated period.

Industry leaders include Verizon, AT&T, and T-Mobile, as they have a large market share and extensive infrastructure across the country. On the other hand, smaller, more regional firms lack the scale and resources to compete with industry leaders and instead compete in more niche markets and are thus followers or price takers. For the foreseeable future, we believe that these large firms are the ripest for continued success, as they have large customer bases and are well positioned to capitalize on any growth within their current markets and even the emergence of new markets. Furthermore, they have the borrowing capacity and resources to navigate future challenges effectively.

Catalysts for Growth/Change

<u>Industry drivers going forward:</u>
Liability related to lead telecom cables and their potential to contaminate groundwater supplies.

Federal Communication Commission C-band auctions which could enable a new entrant as unused frequencies are put up for auction on the open market.

Falling rates which could make borrowing to fund 5G expansion cheaper and allow current debt to be refinanced.

Continuance of mergers and acquisitions as the industry continues to get more concentrated. This could lead to antitrust litigation associated with the formation of a monopoly (especially if any of the big three tried to merge).

Continued usage of more and more data as consumers become more reliant on their phones to do everyday tasks. Also, the emergence of new technologies becoming widely adopted by consumers such as (augmented reality, the metaverse, cloud gaming, and even quantum computing) as these will require increased connectivity and data usage.

<u>Best Investment Opportunities:</u>
We believe the best investment opportunities for the telecommunications industry will be large firms with well-established business models. This because they have already built a brand reputation, have satisfied the economy of scale requirement for non-niche firms, have a loyal customer base who use their services each and every day, and have built out much of the infrastructure necessary to effectively operate their business. The firms we believe will provide the best investment opportunity include Verizon and T-Mobile. We like Verizon for its healthy dividend and the fact that it has the largest market share of any U.S. Telecom (has the highest annual sales). We do acknowledge their high book/equity ratio but with their healthy earnings per share (excluding the dividend) they should be able to cover their debt repayments/obligations. We also like Verizon because Morningstar's fair values estimate is $54 a share and Verizon is currently trading at $40.43. We also like T-Mobile as they have experienced significant growth in the past few years which has led to much higher share price appreciation in comparison to AT&T and Verizon. This also makes sense as to why their dividend is so small. We are firm believers of the fact that companies should reinvest most or all of their earnings if they can earn a higher rate of return than we can (if the earnings had been paid out as a dividend). Lastly, we like T-Mobile's debt to equity ratio as it is lower than the other three companies we looked at.

Company Analysis

Company Overview:

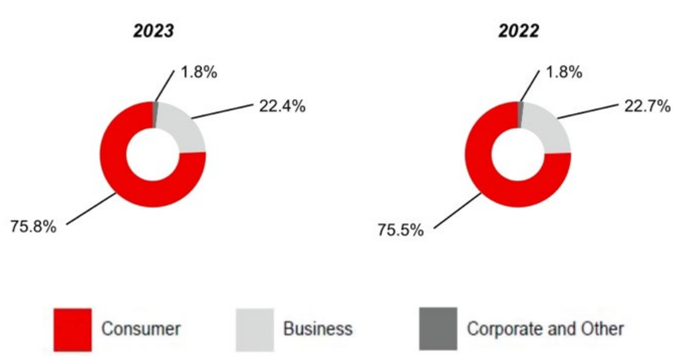
Verizon Telecommunication Incorporated is a leading provider of telecommunication services and is headquartered in New York City, New York. Verizon is one of the world's largest telecom companies and provides communication, information, technology, and entertainment products and services to individual consumers, businesses, and government entities.

Revenue Analysis & Decomposition

Revenue Summary:

VZ's revenue in 2023 was 133.974 billion. Revenue was down 2.09% from 2022 revenue of 136.835 billion, and up 0.027% from VZ's 2021 revenue. These revenues come from multiple segments and are categorized as business, consumer, and corporate & other. In 2023, 75.8% of VZ's revenue came from the consumer segment, 22.4% came from the business segment, and 1.8% came from the corporate and other segment. See the graph below.

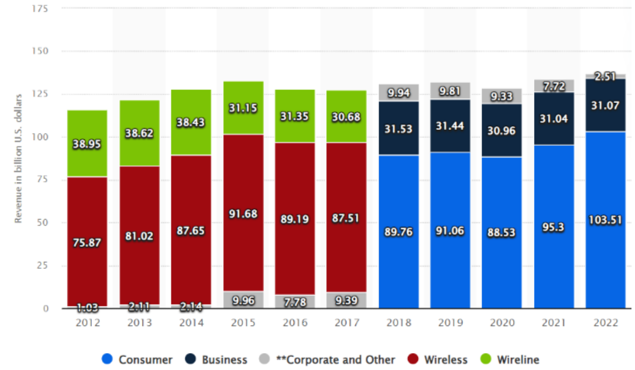
Revenue by Segment 2022 & 2023



Revenue Analysis:

Verizon has two reportable segments that it operates and manages as strategic business units. They include Verizon Consumer Group and Verizon Business Group. Verizon also has a much smaller segment called Corporate & Other. This segment has decreased significantly in importance over the past few years. This is likely due to Verizon's recent (2021) divestiture of Verizon Media. The following graph emphasizes how prior to 2018 Verizon had a different method of revenue segmentation which focused on Wireless, Wireline, and Corporate & Other.

Historical Revenue by Segment



Consumer Group:

The consumer group has access to wireless and wireline products and services including residential fixed connectivity solutions - internet, video and voice services, and wireless network access to resellers on a wholesale basis.

Business Group:

The business group has access to the aforementioned products from the consumer segment as well as additional products and services. The additional products and services that are offered to the Business Group include data, video and conferencing services, corporate networking solutions, security and managed network services, local and long-distance voice services, and network access to deliver different IoT services. The business segment sorts the offerings according to the primary customer group being targeted. This includes the Enterprise and Public Sector, Business Markets and Other, and Wholesale.

Recent M&A Activity:

On November 23, 2021, Verizon completed the acquisition of TracFone Wireless. Verizon acquired the entirety of TracFone's outstanding stock in exchange for approximately $3.5 billion in cash, net of cash acquired, working capital, and other adjustments. Additionally, Verizon agreed to pay $650 million in a future cash contingent consideration related to the achievement of certain revenue and operational targets, measured over a two-year earn out period. Payouts related to these contingent considerations include 188 million in 2022 and 257 million in 2023.

Recent Divestitures:

Verizon's last major divestiture occurred on September 1, 2021, when they completed the sale of Verizon Media. As of the close of the transaction, cash proceeds, the fair value of the non-convertible preferred limited partnership units of an affiliate of Apollo Global Management Inc., and the fair value of 10% of the fully diluted common limited partnership units of the Apollo Affiliate were $4.3 billion, $496 million, and $124 million. Verizon recorded a pre-tax gain on the sale of approximately $1.0 billion in selling general and administrative expenses in their consolidated statement of income for the year ended December 31, 2021. While under Verizon's ownership, Verizon Media generated revenues from contracts with customers of $5.3 billion for the year ended December 31, 2021.

Margin & Profit Analysis:

When looking at Verizon's earnings releases one can see that besides Q4 in which they were pretty much in-line with analyst expectations for EPS, Verizon beat in quarters one, two, and three in 2023. They beat by an average of 2.46%. When it came to analyst revenue expectations Verizon missed by 2.12% in Q1, missed by 2.11% in Q2, beat by 0.08% in Q3, and beat by 1.53% in Q4. If Verizon can continue to beat revenue expectations like it did in the last two quarters and beat or at least be in line with EPS expectations it should bode well for the stock. It is also important to note that in 2023 Verizon raised its dividend for the 17th consecutive year. This signifies that Verizon's board feels confident that they will be able to pay down debt related to 5G expansion while continuing to payout a healthy dividend. Verizon's dividend happens to have the highest dividend of any stock in the Dow Jones Industrial Average.

In Q4 of 2023 Verizon posted EPS on an adjusted basis of $1.08 per share which was pretty much in-line with analyst expectations. For Q4 they also reported revenue of 35.13 billion, which beat analysts' expectations of 34.6 billion. For the full year 2023, Verizon reported EPS of $2.75 and revenue of 37.5 billion. In 2022 Verizon's full year results included EPS of $5.06 and revenue of 37.1 billion. This shows that full year EPS fell significantly while revenue increased slightly.

For 2024, Verizon has provided the following outlook/guidance:

- Total wireless service revenue growth[2] of 2.0 percent to 3.5 percent.
- Adjusted EBITDA growth[1] of 1.0 percent to 3.0 percent.
- Adjusted EPS[1] of $4.50 to $4.70.
- Capital expenditures between $17.0 billion and $17.5 billion.
- Adjusted effective income tax rate[1] in the range of 22.5 percent to 24.0 percent.

This guidance appears to be raised when comparing it to the full year 2023. They expect adjusted EPS to be significantly more than it was in 2023 (an increase of at least $1.75 per share on an adjusted basis). Furthermore, they expect capital expenditure to be roughly a billion dollars less, which is a positive and may enable Verizon to pay down more of its debt. Verizon projects adjusted EBITDA growth of 1-3 percent, which is a positive as Verizon is in a mature industry and this will help ensure they can continue to cover the cost of the dividend while paying down debt. Service revenue growth is projected to grow 2 to 3.5 percent and could mean Verizon believes it can steal market share from its competitors such as AT&T and T-Mobile.

Capital Expenditures:

In 2023 Verizon continued to invest heavily in its wireless networks, high-speed fiber, and other advanced technologies to position itself at the center of future growth trends. During the year ended December 31, 2023, Verizon made investments including $18.8 billion in capital expenditures. These cash flows were used to enhance the operating efficiency and productivity of Verizon's networks, maintaining existing infrastructure, to facilitate the introduction of new products and services, and to enhance responsiveness to competitive challenges. In the second quarter of 2023, Verizon completed its accelerated $10 billion capital program related to C-Band spectrum deployment which is funded through its general capital expenditure program. Verizon's 2024 capital expenditure program includes capital to fund advanced networks and services, including expansion and the addition of capacity and density to core networks, deploying C-Band spectrum, and advancing network architecture. Verizon anticipates cash requirements for its 2024 capital expenditure program to be between $17.0 billion and $17.5 billion.

Capital Structure:

Verizon's management has not disclosed a target capital structure. However, it is important to note that Verizon has a relatively heavy debt load with a debt-to-equity ratio of 1.61. This demonstrates that they have more debt than equity. If business conditions deteriorate for an unforeseen reason, it may be difficult for Verizon to pay down its debt obligations. Verizon's current annual dividend for 2024 is $2.68 a share while its full year EPS was $2.75 for 2023. This is a cause for concern as this past year Verizon paid out most of its earnings as dividends and could signal that Verizon may have a hard time paying down its debts in the future (unless it suspends or lowers its dividend which could significantly damage its stock price). However, there was a one-time charge in Q4 that significantly hurt Verizon's EPS and being that it was a one-time charge it should not have an effect in future quarters.

Verizon's current credit ratings are Moody's Baa1, S&P BBB+, and Fitch A-. These are good ratings and well above junk status. Verizon has not had any major changes in Verizon's credit ratings in recent quarters.

Corporate Governance:

According to Yahoo finance there are not any insiders who own a significant portion of the company (insider ownership amounts to 0.03%) which is insignificant. On the other hand, 63.16% of the shares are held by institutions which shows that Verizon is favored by institutional investors such as mutual funds, endowments, etc. According to TD Ameritrade the short interest on Verizon stock is 1.20% which shows that not very many people are betting against Verizon, which is another good sign.

Verizon does not currently have any interest from activist investors like Nelson Peltz of Trian Partners. This can be interpreted as a good sign as activist investors typically begin buying up stakes in companies they feel are poorly run. When activist investors buy up large positions, they gather power when it comes to voting and may even gain board seats which enables them to appoint new company management that aligns with strategies, they feel would be best for the business. Given Verizon does not currently have interest from activist investors, we feel this shows that management is properly running the company.

S.W.O.T Analysis

Strengths:
Verizon has built out significant 5G infrastructure and continues to invest in leading edge technologies to ensure it maintains and even gains market share (like it did with postpaid subscribers in Q4 of 2023).

Verizon has raised its dividend for the last 17 consecutive years which is very attractive to income investors and signals that the company believes they can continue to meet their debt obligations and expansion goals while paying out a healthy dividend.

Annual sales are higher than their competitors AT&T and T-Mobile, showing they have the most market share and are the predominant company in the Telecom space.

Weaknesses:
Verizon's debt to assets ratio is a little concerning at 1.61 and is higher than competitors such as AT&T and T-Mobile. It would be nice to see this ratio going down or at the very least stabilizing at 1.61 and not increasing. Their dividend is also very high and could make it hard for Verizon to pay down all its debt as they must pay out earnings instead of reinvesting them into the business to pay off debt or engage in other business activities.

Opportunities:
Consumers are using more and more data as they become more reliant on their phones to do everyday tasks like paying bills etc... Also, new technologies may become widely adopted by consumers such as augmented reality, the metaverse, cloud gaming, and even quantum computing. This will require more data usage and likely benefit Verizon.

If the FCC does not offer C-band auctions for a significant period Verizon will not have to worry about new entrants or having to bid on C-band to block new entrants or outbid competitors. Another opportunity that could present itself would be deregulation, which would give telecom companies more freedom in how they operate and may enable improvements (such as cost savings) in their business models.

Threats:
Regulatory liability related to copper telecom cables which could be contaminating groundwater resources. Telecom companies may have to pay billions to remove and properly dispose of this old infrastructure. Verizon's projected liability is projected to be up to just over 8 billion dollars. It is unclear if they will be required to remove these cables in the future. However, it would be a material event if it should occur.

Federal Communication Commission C-band auctions also could be a threat and could enable a new entrant to use previously unused frequencies that are put up for auction on the open market.

If T-Mobile continues to grow and expand like it has in recent years it could be a threat. T-Mobile's stock price has increased 415% over the past 10 years, while Verizon has fallen 13.77%, and AT&Ts has fallen 32.54%.

Valuation Discussion

Revenue:
Current expectations for VZ's future growth are roughly in-line with GDP growth of 3.20%. These moderate growth projections are related to the fact that Verizon is a mature company and is not experiencing rapid growth. However, when inflation is assumed to be 3.50% and is subtracted from GDP growth Verizon growth rate can be assumed to be -0.30%. We feel this assumption fully considers the effects of inflation while using a growth rate supported by industry expectations. Current analysts' expectations are in-line with our expectations, and we don't see any reason to disagree. Geopolitical conflicts could affect Verizon's operations directly through the destruction of infrastructure (depending on what countries are affected by war) and indirectly if oil prices are pushed up. This is because oil prices could have a profound impact on inflation across the world. Revenue would be negatively affected by this as wages would increase and input costs related to building out infrastructure would also increase. If Verizon cannot pass these costs on to consumers it will hurt their revenues. Telecom companies typically compete on price so passing on higher costs to customers may not be a viable or realistic option unless all the major competitors implement increases in tandem.

Cost of Revenue:
VZ management provides little guidance for many operating expenses. When it came to cap-ex management only guided for 2024. Verizon has not provided guidance on the cost of revenues, so we used the average percentage of revenue over the most recent four years, or 89.28% for cost of wireless equipment and 29.28% for cost of services.

R&D and SG&A:
Verizon does not have a line item called R&D as they are not in a Research & Development heavy industry. However, our group estimates that around $20.1 billion will be spent on CapEx in 2024. VZ states that a large portion of these funds will be used for their 5G expansion. Management did not provide guidance for SG&A expenses. Our forecast of SG&A was produced using an average of the four historical years (2020-2023) of SG&A divided by the same four years of operating revenues. This gave us a value of 23.11% for SG&A as a percentage of operating revenue.

Cost of Equity:
We calculated Verizon's cost of equity using the Capital Asset Pricing Model (CAPM). For the risk-free rate, we used the current yield on a 10-year treasury which was 4.63% upon market close on April 15th, 2024. For the Beta, we used an average daily beta over the last three years provided by FactSet. This resulted in a beta value of 0.57 for VZ. We did this because we believe it avoids taking too narrow of an outlook. For the equity risk premium, we used the 1928-2020 geometric average over the 10-year Treasury, which was 5.26%. Using these values, we calculated a cost of equity of 7.63%.

Cost of Debt:

For the pre-tax cost of debt, we used FINRA's corporate and agency bonds database to find the YTM on Verizon's 30-year corporate bond, which was 5.00%. Then we took the marginal tax rate of 24.77% (average marginal corporate tax rate 2018-20023) to calculate the after-tax cost of debt which was 3.76%. To calculate the Implied Default Premium, we subtracted the Risk-Free Rate from the Pre-Tax Cost of Debt to get 0.37%.

Weighted Average Cost of Capital:

To calculate the Weighted Average Cost of Capital, we used the cost of equity, cost of debt, market value of equity, and market value of debt. We found the market value of common equity (170B) by multiplying the current stock price by the total shares outstanding. To find the market value of debt (208B) we combined debt maturing within one year, current operating lease liabilities, dividends payable, long-term debt, employee benefit obligations, non-current operating lease liabilities, and other liabilities. By taking the MV of Equity and MV of Debt and dividing each by the MV of the Firm we found the MV Weight for each. We took those weights and multiplied them by the cost of equity and cost of debt to find WACC to be 5.50%

Valuation Models Discounted Cash Flow & Economic Profit

Discounted Cash Flow & Economic Profit Analysis:

Forecast period: 2024-2028. With the use of the Discounted Cash Flow and Economic Profit models, the projected price for the Verizon share is $40.89. For the models, we used assumptions like the CV Growth of NOPLAT, CV Year ROIC, WACC, and Cost of Equity. We came up with an estimate for our CV Growth of NOPLAT to be 1.42%, our CV Year ROIC to be 6.12%, our WACC to be 5.50%, and the Cost of Equity 7.63%. The implied prices as of today projected by our models give an estimate close to the current intrinsic value. Since the calculations were made based on our assumptions, the implied price reflects our beliefs related to the value of the stock.

Dividend Discount Model Analysis:

Forecast period: 2024-2028. With the use of the Dividend Discount Model, we estimated the price for VZ's share as $45.32. Over the last 8 years, Verizon has consistently increased its dividends by 5 cents annually, making it easy to project future dividend payouts. In 2020, Verizon authorized a share buyback program to repurchase up to 100 million shares of common stock. However, since then no shares were repurchased. For 2023 the dividend payout ratio was at 95.5%, making us question VZ's ability to maintain the high dividend payout while meeting debt obligations. The consistent increase in the dividends paid makes the DDM model useful when calculating the target price, however, the large increase in the payout ratio is concerning.

Relative Valuation Analysis:

Forecast period: 2024-2028. With the use of the Relative Valuation, we calculated the implied price to be $33.34. We compared four companies including Verizon, AT&T, Charter Communications, and Comcast Corporation. We calculated the P/E 2024 and P/E 2025 averages among those companies to be 8.70 and 8.23 respectively. Which turns out to be lower than the forecasted VZ's ratios, where P/E 24 is 10.5 and P/E 25 is 12.0. When using the average ratio to come up with the target price, we get an implied price that is a lot lower than the current stock price, therefore when making our investment recommendation, we don't put a lot of emphasis on the relative valuation.

Sensitivity Analysis

Beta vs. Equity Risk Premium:

The variables BETA and ERP are crucial to calculating a firm's WACC. When ERP and BETA decline, the stock experiences less volatility, and the intrinsic value of VZ's stock price increases. Increasing or decreasing the BETA or ERP by small amounts affects the stock price by a semi-large amount. An example of this can be seen with decreasing the ERP by .20% and decreasing the Beta by .10 which increases the value of the stock by about $3.75.

		Beta						
	40.89	0.42	0.47	0.52	0.57	0.63	0.68	0.73
Equity Risk Premium	4.66%	52.40	49.58	46.91	44.38	41.51	39.25	37.10
	4.86%	51.36	48.48	45.76	43.19	40.28	37.99	35.81
	5.06%	50.35	47.41	44.64	42.03	39.07	36.75	34.55
	5.26%	49.35	46.36	43.55	40.89	37.90	35.56	33.33
	5.46%	48.38	45.34	42.48	39.79	36.76	34.39	32.15
	5.66%	47.42	44.33	41.44	38.71	35.65	33.26	31.00
	5.86%	46.48	43.35	40.42	37.66	34.57	32.16	29.88

Marginal Tax Rate vs. Inflation rate:

The marginal tax rate is an important factor in determining a firm's revenue. The inflation rate can greatly influence the cost of inputs for firms. Inflation is an important factor because Verizon typically has cap-ex expenses between 17 billion and 20 billion dollars that are financed with debt. This causes the cost of borrowing to increase as debt is financed at higher interest rates. These factors have a moderate impact on the valuation of VZ. Decreasing the inflation rate by .20% and decreasing the marginal tax rate by 1% raises the valuation by about $2.78.

		Inflation						
	40.89	2.90%	3.10%	3.30%	3.50%	3.70%	3.90%	4.10%
Marginal Tax Rate	21.77%	49.27	46.42	43.60	40.79	37.99	35.21	32.44
	22.77%	49.30	46.46	43.63	40.82	38.02	35.24	32.48
	23.77%	49.34	46.50	43.67	40.86	38.06	35.28	32.51
	24.77%	49.38	46.54	43.71	40.89	38.10	35.31	32.54
	25.77%	49.42	46.58	43.75	40.93	38.14	35.35	32.58
	26.77%	49.47	46.62	43.79	40.98	38.18	35.39	32.62
	27.77%	49.51	46.67	43.84	41.02	38.22	35.43	32.66

Cost of Revenue as a % Sales vs. A/R as a % Sales:

Cost of revenue and A/R include two of VZ's larger expense and asset accounts. Decreasing these percentages moderately affects the intrinsic value of the stock. Decreasing A/R by 1% while decreasing the Cost of revenue by 2% raises the intrinsic value of VZ by about $3.42.

		AR as % Sales						
	40.89	15.59%	16.59%	17.59%	18.59%	19.59%	19.59%	20.59%
COR % Sales	76.92%	60.59	60.13	59.68	59.23	58.77	58.77	58.32
	78.92%	57.62	57.17	56.72	56.26	55.81	55.81	55.36
	80.92%	54.66	54.20	53.75	53.30	52.84	52.84	52.39
	82.92%	51.69	51.24	50.78	50.33	49.88	49.88	49.42
	84.92%	48.72	48.27	47.82	47.36	46.91	46.91	46.46
	86.92%	45.76	45.30	44.85	44.40	43.94	43.94	43.49
	88.92%	42.79	42.34	41.89	41.43	40.98	40.98	40.53

WACC vs. Pre-Tax cost of Debt:

WACC and the pre-tax cost of debt both focus on Verizon's cost of borrowing. Increasing or decreasing these rates moderately impacts the intrinsic value of the stock. By decreasing the pre-tax cost of debt by .20% and decreasing the WACC by .10%, the intrinsic value of the stock rises by about $2.04.

Pre-tax Cost of Debt		WACC					
40.89	5.20%	5.30%	5.40%	5.50%	5.60%	5.70%	5.80%
4.40%	47.37	44.89	42.53	40.29	38.15	36.11	34.17
4.60%	47.60	45.11	42.75	40.50	38.36	36.32	34.37
4.80%	47.83	45.34	42.97	40.71	38.57	36.52	34.56
5.00%	48.06	45.56	43.19	40.93	38.77	36.72	34.76
5.20%	48.29	45.78	43.40	41.14	38.98	36.92	34.96
5.40%	48.52	46.01	43.62	41.35	39.19	37.13	35.16
5.60%	48.75	46.23	43.84	41.56	39.40	37.33	35.36

<u>Risk Free Rate vs. The Cost of Equity:</u>

The CV growth of NOPLAT and the cost of equity are the main drivers in both the DCF and EP valuation models and cost of equity also affects the WACC. Small changes in these variables moderately affect VZ's intrinsic value. FCFs are discounted by our WACC, and the future revenues are all determined by our continuing value. Decreasing the cost of equity by .10% and decreasing the CV growth of the company by .10% increases the value of the stock by $0.73.

CV Growth NOPLAT		Cost of Equity					
40.89	7.33%	7.43%	7.53%	7.63%	7.73%	7.83%	7.93%
1.12%	43.03	42.07	41.13	40.20	39.30	38.41	37.54
1.22%	43.32	42.33	41.37	40.42	39.49	38.59	37.70
1.32%	43.62	42.61	41.62	40.65	39.70	38.77	37.86
1.42%	43.93	42.90	41.88	40.89	39.92	38.97	38.04
1.52%	44.26	43.20	42.16	41.14	40.15	39.17	38.22
1.62%	44.61	43.52	42.45	41.41	40.39	39.39	38.41
1.72%	44.98	43.85	42.76	41.69	40.64	39.62	38.62

<u>Risk Free Rate vs. SG&A as a % sales:</u>

The risk-free rate identifies the return investors can earn without taking on risk. U.S. government debt is an example of a risk-free investment due to the U.S.'s ability to raise taxes. SG&A is an asset account related to how VZ conducts its operations. This shows that Verizon has large expenses related to SG&A. Decreasing the percentage that we forecasted by significantly affects the intrinsic value of the stock. Decreasing SG&A by 1% while decreasing the risk-free rate by 0.10% raises the intrinsic value of VZ by about $7.66.

Risk Free Rate		SG&A % Sales					
40.89	20.11%	21.11%	22.11%	23.11%	24.11%	25.11%	26.11%
4.33%	64.38	57.57	50.75	43.94	37.12	30.31	23.49
4.43%	63.12	56.38	49.64	42.90	36.16	29.42	22.68
4.53%	61.89	55.22	48.56	41.89	35.22	28.55	21.89
4.63%	60.68	54.09	47.49	40.90	34.30	27.71	21.11
4.73%	59.51	52.98	46.45	39.93	33.40	26.88	20.35
4.83%	58.35	51.89	45.44	38.98	32.52	26.06	19.61
4.93%	57.22	50.83	44.44	38.05	31.66	25.27	18.88

Important Disclaimer

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Verizon

Revenue Decomposition

Fiscal Years Ending Dec. 31	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Consumer Segment									
Service	64,884	67,723	73,139	74,874	74,649	74,425	74,202	73,980	73,758
Growth Rate	-0.76%	4.38%	8.00%	2.37%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Wireless Equipment	15,492	19,781	23,168	20,645	20,583	20,521	20,460	20,398	20,337
Growth Rate	-14.16%	27.69%	17.12%	-10.89%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Other	7,916	7,568	6,996	5,898	5,880	5,863	5,845	5,828	5,810
Growth Rate	7.20%	-4.40%	-7.56%	-15.69%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Intersegment Revenues	241	228	203	209	208	208	207	207	206
Growth Rate	0.42%	-5.39%	-10.96%	2.96%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Total Verizon Consumer/Total Wireless	88,533	95,300	103,506	101,626	101,321	101,017	100,714	100,412	100,111
Growth Rate	-2.77%	7.64%	8.61%	-1.82%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Business Segment									
Enterprise & Public Sector	-	16,387	15,692	15,076	15,031	14,986	14,941	14,896	14,851
Growth Rate	-	-	-4.24%	-3.93%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Business Markets & Other	-	11,906	12,753	12,697	12,659	12,621	12,583	12,545	12,508
Growth Rate	-	-	7.11%	-0.44%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Wholesale	3,013	2,680	2,584	2,313	2,306	2,299	2,292	2,285	2,279
Growth Rate	-5.78%	-11.05%	-3.58%	-10.49%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Intersegment Revenues	70	69	43	36	36	36	36	36	35
Growth Rate	14.75%	-1.43%	-37.68%	-16.28%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Total Verizon Business	30,962	31,042	31,072	30,122	30,032	29,942	29,852	29,762	29,673
Growth Rate	-1.53%	0.26%	0.10%	-3.06%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Corporate & Other Eliminations	8,797	7,271	2,257	2,226	2,219	2,213	2,206	2,199	2,193
Growth Rate	-6.11%	-17.35%	-68.96%	-1.37%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Total Operating Revenues	128,292	133,613	136,835	133,974	133,572	133,171	132,772	132,374	131,976
Growth Rate	-2.71%	4.15%	2.41%	-2.09%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Implied Revenue Per Segment									
Consumer Connections	94,373	115,395	114,520	114,972	115,426	115,881	116,339	116,798	117,259
Growth Rate	-0.18%	22.28%	-0.76%	0.39%	0.39%	0.39%	0.39%	0.39%	0.39%
Revenue Per Customer Consumer	0.94	0.83	0.90	0.88	0.88	0.87	0.87	0.86	0.85
Growth Rate	-2.59%	-11.97%	9.44%	-2.20%	-0.69%	-0.69%	-0.69%	-0.69%	-0.69%
Bunsiness Connections	26,507	27,411	28,733	29,779	30,863	31,987	33,151	34,358	35,609
Growth Rate	5.40%	3.41%	4.82%	3.64%	3.64%	3.64%	3.64%	3.64%	3.64%
Revenue Per Business Segment	1.17	1.13	1.08	1.01	0.97	0.94	0.90	0.87	0.83
Growth Rate	-6.58%	-3.05%	-4.51%	-6.46%	-3.80%	-3.80%	-3.80%	-3.80%	-3.80%
Churn Rate									
Wireless Retail Postpaid Churn	0.87%	1.27%	1.38%	1.03%	1.14%	1.14%	1.14%	1.14%	1.14%
Growth Rate	-17.14%	45.98%	8.66%	-25.36%	10.44%	0.00%	0.00%	0.00%	0.00%

Verizon

Income Statement

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Operating Revenues											
Consume Segement Revenues	89,762	91,056	88,533	95,300	103,506	101,626	101,321	101,017	100,714	100,412	100,111
Business Segement Revenues	31,534	31,443	30,962	31,042	31,072	30,122	30,032	29,942	29,852	29,762	29,673
Corporate & Other Eliminations Revenue	9,567	9,369	8,797	7,271	2,257	2,226	2,219	2,213	2,206	2,199	2,193
Total Operating Revenues	**130,863**	**131,868**	**128,292**	**133,613**	**136,835**	**133,974**	**133,572**	**133,171**	**132,772**	**132,374**	**131,976**
Operating Expenses											
Cost of services	32,185	31,772	31,401	31,234	28,637	28,100	29,041	28,954	28,867	28,780	28,694
Cost of wireless equipment	23,323	22,954	19,800	25,067	30,496	26,787	26,813	26,732	26,652	26,572	26,492
Selling, general & administrative expense	31,083	29,896	31,573	28,658	30,136	32,745	30,869	30,776	30,684	30,592	30,500
Depreciation & amortization expense	17,403	16,682	16,720	16,206	17,099	17,624	19,827	22,056	21,826	21,771	21,864
Verizon Business Group goodwill impairment	4,591	186	-	-	-	5,841	-	-	-	-	-
Total Operating Expenses	**108,585**	**101,490**	**99,494**	**101,165**	**106,368**	**111,097**	**106,550**	**108,518**	**108,028**	**107,715**	**107,550**
Operating Income	**22,278**	**30,378**	**28,798**	**32,448**	**30,467**	**22,877**	**27,022**	**24,653**	**24,743**	**24,659**	**24,426**
Equity in earnings (losses) of unconsolidated businesses	(186)	(15)	(45)	145	44	(53)	43	39	39	39	39
Other income & (expense), net	2,364	(2,900)	(539)	312	1,373	(313)	153	392	842	625	565
Interest expense	(4,833)	(4,730)	(4,247)	(3,485)	(3,613)	(5,524)	(5,810)	(6,375)	(6,384)	(6,418)	(6,480)
Income (loss) before provision (benefit) for income taxes	**19,623**	**22,733**	**23,967**	**29,420**	**28,271**	**16,987**	**21,408**	**18,709**	**19,241**	**18,905**	**18,551**
Provision (benefit) for income taxes	(3,584)	(2,945)	(5,619)	(6,802)	(6,523)	(4,892)	(5,303)	(4,634)	(4,766)	(4,683)	(4,595)
Net Income (loss)	**16,039**	**19,788**	**18,348**	**22,618**	**21,748**	**12,095**	**16,105**	**14,075**	**14,475**	**14,222**	**13,956**
Net income attributable to noncontrolling interests	511	523	547	553	492	481	452	395	406	399	392
Net income (loss) attributable to Verizon Communications Inc.	15,528	19,265	17,801	22,065	21,256	11,614	15,653	13,679	14,068	13,823	13,564
Net Income (loss)	**16,039**	**19,788**	**18,348**	**22,618**	**21,748**	**12,095**	**16,105**	**14,075**	**14,475**	**14,222**	**13,956**
Basic Earning per Common Share	**3.76**	**4.66**	**4.30**	**5.32**	**5.06**	**2.76**	**3.83**	**3.35**	**3.44**	**3.38**	**3.32**
Weighted average shares outstanding - basic	4,128	4,138	4,140	4,148	4,202	4,211	4,204	4,204	4,204	4,204	4,204
Dividends declared	**2.385**	**2.435**	**2.485**	**2.535**	**2.585**	**2.635**	**2.685**	**2.735**	**2.785**	**2.835**	**2.885**
Year end shares outstanding	**4,132**	**4,136**	**4,138**	**4,198**	**4,200**	**4,204**	**4,204**	**4,204**	**4,204**	**4,204**	**4,204**

Verizon

Balance Sheet

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Assets											
Cash & cash equivalents	2,745	2,594	22,171	2,921	2,605	2,065	6,749	15,602	11,280	10,062	16,293
Accounts receivable, net	25,102	25,429	23,917	23,846	24,506	25,085	24,833	24,759	24,684	24,610	24,536
Inventories	1,336	1,422	1,796	3,055	2,388	2,057	2,477	2,470	2,462	2,455	2,448
Prepaid expenses and other	5,453	8,028	6,710	6,906	8,358	7,607	7,554	7,531	7,509	7,486	7,464
Total Current Assets	**34,636**	**37,473**	**54,594**	**36,728**	**37,857**	**36,814**	**41,613**	**50,362**	**45,935**	**44,613**	**50,741**
Property, plant & equipment, gross	252,835	265,734	279,737	289,897	307,689	320,108	352,110	372,907	394,433	416,712	439,771
Less accumulated depreciation	163,549	173,819	184,904	190,201	200,255	211,798	231,625	253,681	275,507	297,277	319,141
Property, plant & equipment, net	89,286	91,915	94,833	99,696	107,434	108,310	120,484	119,226	118,927	119,435	120,630
Investments in unconsolidated businesses	671	558	589	1,061	1,071	953	996	1,035	1,074	1,113	1,152
Wireless licenses	94,130	95,059	96,097	147,619	149,796	155,667	158,496	161,376	164,309	167,295	170,335
Goodwill	24,614	24,389	24,773	28,603	28,671	22,843	22,843	22,843	22,843	22,843	22,843
Other intangible assets, net	9,775	9,498	9,413	11,677	11,461	11,057	8,417	6,061	3,945	2,376	1,213
Operating lease right-of-use assets	-	22,694	22,531	27,883	26,130	24,726	27,505	27,218	27,150	27,266	27,539
Other assets	11,717	10,141	13,651	13,329	17,260	19,885	21,379	22,986	24,713	26,570	28,566
Total Assets	**264,829**	**291,727**	**316,481**	**366,596**	**379,680**	**380,255**	**401,734**	**411,107**	**408,895**	**411,510**	**423,019**
Liabilities											
Debt maturing within one year	7,190	10,777	5,889	7,443	9,963	12,973	12,253	17,783	10,586	7,189	12,467
Accounts payable & accrued liabilities	22,501	21,806	20,658	24,833	23,977	23,453	23,043	22,974	22,905	22,837	22,768
Current operating lease liabilities	-	3,261	3,485	3,859	4,134	4,266	4,217	4,173	4,162	4,180	4,222
Dividends payable	2,512	2,566	2,618	2,709	2,764	2,821	2,890	2,962	3,034	3,109	3,186
Other current liabilities	8,239	9,024	7,010	8,316	9,333	9,710	9,999	10,296	10,603	10,918	11,243
Total Current Liabilities	**37,930**	**44,868**	**39,660**	**47,160**	**50,171**	**53,223**	**52,403**	**58,188**	**51,291**	**48,233**	**53,886**
Long-term debt	105,873	100,712	123,173	143,425	140,676	137,701	151,112	151,311	152,118	153,585	155,604
Employee benefit obligations	18,599	17,952	18,657	15,410	12,974	13,189	11,788	10,107	8,468	7,491	6,517
Deferred income taxes	33,795	34,703	35,711	40,685	43,441	45,781	48,287	50,476	52,728	54,940	57,112
Non-current operating lease liabilities	-	18,393	18,000	23,203	21,558	20,002	22,445	22,210	22,154	22,249	22,472
Other liabilities	13,922	12,264	12,008	13,513	18,397	16,560	17,083	17,622	18,179	18,753	19,345
Total long-term liabilities	**172,189**	**184,024**	**207,549**	**236,236**	**237,046**	**233,233**	**250,714**	**251,727**	**253,648**	**257,019**	**261,049**
Common stock & APIC	13,866	13,848	13,833	14,290	13,849	14,060	14,060	14,060	14,060	14,060	14,060
Retained earnings (accumulated deficit)	43,542	53,147	60,464	71,993	82,380	82,915	87,733	90,309	93,076	95,380	97,207
Accumulated other comprehensive income (loss)	2,370	998	(71)	(927)	(1,865)	(1,380)	(1,380)	(1,380)	(1,380)	(1,380)	(1,380)
Common stock in treasury	6,986	6,820	6,719	4,104	4,013	3,821	3,821	3,821	3,821	3,821	3,821
Deferred compensation - employee stock ownership plans & other	353	222	(335)	538	793	656	656	654	652	650	648
Noncontrolling interests	1,565	1,440	1,430	1,410	1,319	1,369	1,369	1,369	1,369	1,369	1,369
Total Equity	**54,710**	**62,835**	**69,272**	**83,200**	**92,463**	**93,799**	**98,617**	**101,192**	**103,956**	**106,258**	**108,083**
Total Liabilities & Shareholder's Equity	**264,829**	**291,727**	**316,481**	**366,596**	**379,680**	**380,255**	**401,734**	**411,107**	**408,895**	**411,510**	**423,019**

Verizon

Historical Cash Flow Statement

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023
Net income (loss)	**16,039**	**19,788**	**18,348**	**22,618**	**21,748**	**12,095**
Depreciation & amortization expense	17,403	16,682	16,720	16,206	17,099	17,624
Employee retirement benefits	(4,336)	(584)	840	(3,391)	(2,046)	1,206
Deferred income taxes	389	1,232	1,553	4,264	2,973	2,388
Provision for expected credit losses	980	1,588	1,380	789	1,611	2,214
Equity in losses (earnings) of unconsolidated businesses, net of dividends received	231	74	91	36	(10)	84
Accounts receivable	(2,667)	(1,471)	189	(1,592)	(1,978)	(2,198)
Inventories	(324)	(76)	(369)	(905)	627	287
Prepaid expenses & other assets	37	(2,807)	1,202	150	928	(435)
Accounts payable & accrued liabilities & other current liabilities	1,777	(2,359)	(966)	1,457	(33)	2,079
Other operating activities, net	219	3,493	2,780	(93)	(3,778)	(3,710)
Verizon Business Group goodwill impairment	4,591	186	-	-	-	5,841
Net cash flows from operating activities	**34,339**	**35,746**	**41,768**	**39,539**	**37,141**	**37,475**
Capital expenditures (including capitalized software)	(16,658)	(17,939)	(18,192)	(20,286)	(23,087)	(18,767)
Cash received (paid) related to acquisitions of businesses & investments, net of cash acquired	(230)	(29)	(520)	(4,065)	(2,017)	850
Acquisitions of wireless licenses	(1,429)	(898)	(2,126)	(47,596)	(3,653)	(5,796)
Proceeds from disposition of business	-	28	-	4,122	33	-
Other investing activities, net	383	1,257	(2,674)	672	62	281
Net cash flows from investing activities	**(17,934)**	**(17,581)**	**(23,512)**	**(67,153)**	**(28,662)**	**(23,432)**
Proceeds from long-term borrowings	5,967	10,079	25,822	33,034	7,074	2,018
Proceeds from asset-backed long-term borrowings	4,810	8,576	5,635	8,383	10,732	6,594
Net proceeds from (repayments of) short-term commercial paper	-	-	-	-	106	(150)
Repayments of long-term borrowings & capital lease obligations	(10,923)	(17,584)	-	-	-	-
Repayments of long term borrowings & finance lease obligations	(10,923)	(17,584)	(9,775)	(14,063)	(8,616)	(6,181)
Repayments of asset-backed long-term borrowings	(3,635)	(6,302)	(7,413)	(4,800)	(4,948)	(4,443)
Decrease (increase) in short-term obligations, excluding current maturities	-	-	-	-	-	-
Dividends paid	(9,772)	(10,016)	(10,232)	(10,445)	(10,805)	(11,025)
Proceeds from sale of common stock	-	-	-	-	-	-
Purchase of common stock for treasury	-	-	-	-	-	-
Special distribution to noncontrolling interest	-	-	-	-	-	-
Acquisition of noncontrolling interest	-	-	-	-	-	-
Other financing activities, net	(1,824)	(2,917)	(2,712)	(3,832)	(2,072)	(1,470)
Net cash flows from financing activities	**(15,377)**	**(18,164)**	**1,325**	**8,277**	**(8,529)**	**(14,657)**
Increase (decrease) in cash, cash equivalents & restricted cash	1,028	1	19,581	(19,337)	(50)	(614)
Cash, cash equivalents & restricted cash, beginning of period	2,888	3,916	3,917	23,498	4,161	4,111
Cash, cash equivalents & restricted cash, end of period	3,916	3,917	23,498	4,161	4,111	3,497

Verizon

Forecasted Cash Flow Statement

Fiscal Years Ending Dec. 31	2024E	2025E	2026E	2027E	2028E
Net Income	**16,105**	**14,075**	**14,475**	**14,222**	**13,956**
Adjustments:					
Depreciation & Amoritization	19,827	22,056	21,826	21,771	21,864
Deferred Taxes	2,506	2,190	2,252	2,213	2,171
Changes in Current A/L:					
Accounts receivable, net	252	74	74	74	74
Inventories	(420)	7	7	7	7
Prepaid expenses and other	53	23	23	23	22
Accounts payable & accrued liabilities	(410)	(69)	(69)	(69)	(69)
Current operating lease liabilities	(49)	(44)	(10)	18	42
Other current liabilities	289	298	306	316	325
Cash Flow From Operating Activities	**38,154**	**38,609**	**38,883**	**38,574**	**38,392**
Property, plant & equipment, gross	(32,002)	(20,798)	(21,526)	(22,279)	(23,059)
Investments in unconsolidated businesses	(43)	(39)	(39)	(39)	(39)
Wireless licenses	(2,829)	(2,880)	(2,933)	(2,986)	(3,040)
Other intangible assets, net	2,640	2,356	2,116	1,569	1,163
Operating lease right-of-use assets	(2,779)	287	68	(116)	(273)
Other assets	(1,494)	(1,606)	(1,727)	(1,857)	(1,996)
Cash from Investing Activities	**(36,507)**	**(22,680)**	**(24,040)**	**(25,708)**	**(27,244)**
Long-term debt	13,411	199	807	1,467	2,019
Employee benefit obligations	(1,401)	(1,681)	(1,639)	(977)	(974)
Other liabilities	523	539	557	574	592
Deferred compensation - employee stock ownership plans & other	0	(2)	(2)	(2)	(2)
Noncontrolling interests	-	-	-	-	-
Purchase of common stock for treasury	-	-	-	-	-
Dividends Payable	69	71	73	75	76
Debt maturing within one year	(720)	5,530	(7,197)	(3,397)	5,278
Dividends Paid	(11,288)	(11,498)	(11,708)	(11,918)	(12,129)
Non-current operating lease liabilities	2,443	(234)	(56)	95	223
Cash from Financing Activities	**3,038**	**(7,076)**	**(19,165)**	**(14,084)**	**(4,916)**
Change in Cash	**4,684**	**8,853**	**(4,322)**	**(1,218)**	**6,232**
Cash at the Beginning of the Year	2,065	6,749	15,602	11,280	10,062
Cash at the End of the Year	**6,749**	**15,602**	**11,280**	**10,062**	**16,293**

Verizon

Common Size Income Statement

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Operating Revenues											
Service revenues & other revenues	68.59%	69.05%	69.01%	71.33%	75.64%	75.86%	75.86%	75.86%	75.86%	75.86%	75.86%
Wireless equipment revenues	24.10%	23.84%	24.13%	23.23%	22.71%	22.48%	22.48%	22.48%	22.48%	22.48%	22.48%
Total Operating Revenues	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Cost of services	24.59%	24.09%	24.48%	23.38%	20.93%	20.97%	21.74%	21.74%	21.74%	21.74%	21.74%
Cost of wireless equipment	17.82%	17.41%	15.43%	18.76%	22.29%	19.99%	20.07%	20.07%	20.07%	20.07%	20.07%
Selling, general & administrative expense	23.75%	22.67%	24.61%	21.45%	22.02%	24.44%	23.11%	23.11%	23.11%	23.11%	23.11%
Depreciation & amortization expense	13.30%	12.65%	13.03%	12.13%	12.50%	13.15%	14.84%	16.56%	16.44%	16.45%	16.57%
Verizon Business Group goodwill impairment	3.51%	0.14%				4.36%	-	-	-	-	-
Total Operating Expenses	**82.98%**	**76.96%**	**77.55%**	**75.71%**	**77.73%**	**82.92%**	**79.77%**	**81.49%**	**81.36%**	**81.37%**	**81.49%**
Operating Income	**17.02%**	**23.04%**	**22.45%**	**24.29%**	**22.27%**	**17.08%**	**20.23%**	**18.51%**	**18.64%**	**18.63%**	**18.51%**
Equity in earnings (losses) of unconsolidated businesses	-0.14%	-0.01%	-0.04%	0.11%	0.03%	-0.04%	0.03%	0.03%	0.03%	0.03%	0.03%
Other income & (expense), net	1.81%	-2.20%	-0.42%	0.23%	1.00%	-0.23%	0.11%	0.29%	0.63%	0.47%	0.43%
Interest expense	-3.69%	-3.59%	-3.31%	-2.61%	-2.64%	-4.12%	-4.35%	-4.79%	-4.81%	-4.85%	-4.91%
Income (loss) before provision (benefit) for income taxes	**15.00%**	**17.24%**	**18.68%**	**22.02%**	**20.66%**	**12.68%**	**16.03%**	**14.05%**	**14.49%**	**14.28%**	**14.06%**
Provision (benefit) for income taxes	-2.74%	-2.23%	-4.38%	-5.09%	-4.77%	-3.65%	-3.97%	-3.48%	-3.59%	-3.54%	-3.48%
Net Income (loss)	**12.26%**	**15.01%**	**14.30%**	**16.93%**	**15.89%**	**9.03%**	**12.06%**	**10.57%**	**10.90%**	**10.74%**	**10.57%**
Net income attributable to noncontrolling interests	0.39%	0.40%	0.43%	0.41%	0.36%	0.36%	0.34%	0.30%	0.31%	0.30%	0.30%
Net income (loss) attributable to Verizon Communications Inc.	11.87%	14.61%	13.88%	16.51%	15.53%	8.67%	11.72%	10.27%	10.60%	10.44%	10.28%
Net Income (loss)	**12.26%**	**15.01%**	**14.30%**	**16.93%**	**15.89%**	**9.03%**	**12.06%**	**10.57%**	**10.90%**	**10.74%**	**10.57%**

Verizon

Common Size Balance Sheet

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Assets											
Cash & cash equivalents	2.10%	1.97%	17.28%	2.19%	1.90%	1.54%	5.05%	11.72%	8.50%	7.60%	12.35%
Accounts receivable, net	19.18%	19.28%	18.64%	17.85%	17.91%	18.72%	18.59%	18.59%	18.59%	18.59%	18.59%
Inventories	1.02%	1.08%	1.40%	2.29%	1.75%	1.54%	1.85%	1.85%	1.85%	1.85%	1.85%
Prepaid expenses and other	4.17%	6.09%	5.23%	5.17%	6.11%	5.68%	5.66%	5.66%	5.66%	5.66%	5.66%
Total Current Assets	**26.47%**	**28.42%**	**42.55%**	**27.49%**	**27.67%**	**27.48%**	**31.15%**	**37.82%**	**34.60%**	**33.70%**	**38.45%**
Property, plant & equipment	193.21%	201.52%	218.05%	216.97%	224.86%	238.93%	263.61%	280.02%	297.08%	314.80%	333.22%
Less accumulated depreciation	124.98%	131.81%	144.13%	142.35%	146.35%	158.09%	173.41%	190.49%	207.50%	224.57%	241.82%
Property, plant & equipment, net	68.23%	69.70%	73.92%	74.62%	78.51%	80.84%	90.20%	89.53%	89.57%	90.23%	91.40%
Investments in unconsolidated businesses	0.51%	0.42%	0.46%	0.79%	0.78%	0.71%	0.75%	0.78%	0.81%	0.84%	0.87%
Wireless licenses	71.93%	72.09%	74.90%	110.48%	109.47%	116.19%	118.66%	121.18%	123.75%	126.38%	129.06%
Goodwill	18.81%	18.50%	19.31%	21.41%	20.95%	17.05%	17.10%	17.15%	17.20%	17.26%	17.31%
Other intangible assets, net	7.47%	7.20%	7.34%	8.74%	8.38%	8.25%	6.30%	4.55%	2.97%	1.79%	0.92%
Operating lease right-of-use assets	-	17.21%	17.56%	20.87%	19.10%	18.46%	20.59%	20.44%	20.45%	20.60%	20.87%
Other assets	8.95%	7.69%	10.64%	9.98%	12.61%	14.84%	16.01%	17.26%	18.61%	20.07%	21.64%
Total Assets	**175.90%**	**192.81%**	**204.13%**	**246.88%**	**249.81%**	**256.35%**	**269.61%**	**270.89%**	**273.37%**	**277.17%**	**282.08%**
Liabilities											
Debt maturing within one year	5.49%	8.17%	4.59%	5.57%	7.28%	9.68%	9.17%	13.35%	7.97%	5.43%	9.45%
Accounts payable & accrued liabilities	17.19%	16.54%	16.10%	18.59%	17.52%	17.51%	17.25%	17.25%	17.25%	17.25%	17.25%
Current operating lease liabilities	-	2.47%	2.72%	2.89%	3.02%	3.18%	3.16%	3.13%	3.13%	3.16%	3.20%
Other current liabilities	6.30%	6.84%	5.46%	6.22%	6.82%	7.25%	7.49%	7.73%	7.99%	8.25%	8.52%
Total Current Liabilities	**28.98%**	**31.55%**	**26.16%**	**30.38%**	**31.62%**	**34.44%**	**33.91%**	**38.34%**	**33.21%**	**30.93%**	**35.22%**
Long-term debt	80.90%	76.37%	96.01%	107.34%	102.81%	102.78%	113.13%	113.62%	114.57%	116.02%	117.90%
Employee benefit obligations	14.21%	13.61%	14.54%	11.53%	9.48%	9.84%	8.83%	7.59%	6.38%	5.66%	4.94%
Deferred income taxes	25.82%	26.32%	27.84%	30.45%	31.75%	34.17%	36.15%	37.90%	39.71%	41.50%	43.27%
Non-current operating lease liabilities	-	13.95%	14.03%	17.37%	15.75%	14.93%	16.80%	16.68%	16.69%	16.81%	17.03%
Other liabilities	10.64%	9.30%	9.36%	10.11%	13.44%	12.36%	12.79%	13.23%	13.69%	14.17%	14.66%
Total long-term liabilities	**131.58%**	**139.55%**	**161.78%**	**176.81%**	**173.23%**	**174.09%**	**187.70%**	**189.02%**	**191.04%**	**194.16%**	**197.80%**
Common stock & APIC	10.60%	10.50%	10.78%	10.70%	10.12%	10.49%	10.53%	10.56%	10.59%	10.62%	10.65%
Retained earnings (accumulated deficit)	33.27%	40.30%	47.13%	53.88%	60.20%	61.89%	65.68%	67.81%	70.10%	72.05%	73.65%
Accumulated other comprehensive income (loss)	1.81%	0.76%	-0.06%	-0.69%	-1.36%	-1.03%	-1.03%	-1.04%	-1.04%	-1.04%	-1.05%
Common stock in treasury	5.34%	5.17%	5.24%	3.07%	2.93%	2.85%	2.86%	2.87%	2.88%	2.89%	2.90%
Deferred compensation - employee stock ownership plans & other	0.27%	0.17%	-0.26%	0.40%	0.58%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%
Noncontrolling interests	1.20%	1.09%	1.11%	1.06%	0.96%	1.02%	1.02%	1.03%	1.03%	1.03%	1.04%
Total equity	**41.81%**	**47.65%**	**54.00%**	**62.27%**	**67.57%**	**70.01%**	**73.83%**	**75.99%**	**78.30%**	**80.27%**	**81.90%**

Verizon

Value Driver Estimation

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
NOPLAT:											
Revenues	130,863	131,868	128,292	133,613	136,835	133,974	133,572	133,171	132,772	132,374	131,976
Operating Expenses:											
(-) Cost of Services	32,185	31,772	31,401	31,234	28,637	28,100	29,041	28,954	28,867	28,780	28,694
(-) Cost of Wireless Equipment	23,323	22,954	19,800	25,067	30,496	26,787	26,813	26,732	26,652	26,572	26,492
(-) General & Administrative	31,083	29,896	31,573	28,658	30,136	32,745	30,869	30,776	30,684	30,592	30,500
(-) Depreciation & Amoritization	17,403	16,682	16,720	16,206	17,099	17,624	19,827	22,056	21,826	21,771	21,864
(+) Implied Interest on Operating Leases	70	1,135	1,127	1,394	1,307	1,236	1,375	1,361	1,357	1,363	1,377
EBITA	**26,939**	**31,699**	**29,925**	**33,842**	**31,774**	**29,954**	**28,398**	**26,014**	**26,101**	**26,022**	**25,803**
Provision (benefit) for income taxes	3,584	2,945	5,619	6,802	6,523	4,892	5,303	4,634	4,766	4,683	4,595
(+) Tax on Implied Interest on Operating Leases	17	280	281	346	325	304	418	414	413	414	418
(+) Interest Expense	1,194	1,168	1,058	864	900	1,359	1,766	1,938	1,940	1,950	1,969
(-) Equity in Earnings (Losses) of Unconsolidated Businesses	(46)	(4)	(11)	36	11	(13)	13	12	12	12	12
(-) Tax on Other Income	584	(716)	(134)	77	342	(77)	46	119	256	190	172
Total Adjusted Taxes	**4,257**	**5,114**	**7,102**	**7,899**	**7,395**	**6,645**	**7,427**	**6,854**	**6,851**	**6,846**	**6,799**
Change in Deferred Taxes	389	1,232	1,553	4,264	2,973	2,388	2,506	2,190	2,252	2,213	2,171
EBITA	26,939	31,699	29,925	33,842	31,774	29,954	28,398	26,014	26,101	26,022	25,803
Less Adjusted Taxes	4,257	5,114	7,102	7,899	7,395	6,645	7,427	6,854	6,851	6,846	6,799
Change in Deferred Taxes	389	1,232	1,553	4,264	2,973	2,388	2,506	2,190	2,252	2,213	2,171
NOPLAT	**23,071**	**27,817**	**24,375**	**30,207**	**27,351**	**25,697**	**23,476**	**21,349**	**21,502**	**21,389**	**21,175**
Invested Capital (IC):											
Operating Current Assets:											
Normal Cash (1.88%)	2,464	2,483	2,416	2,516	2,577	2,523	2,515	2,508	2,500	2,493	2,485
Accounts Recievable	25,102	25,429	23,917	23,846	24,506	25,085	24,833	24,759	24,684	24,610	24,536
Inventory	1,336	1,422	1,796	3,055	2,388	2,057	2,477	2,470	2,462	2,455	2,448
Prepaid Expenses & Other	5,453	8,028	6,710	6,906	8,358	7,607	7,554	7,531	7,509	7,486	7,464
Total Operating Current Assets	**34,355**	**37,362**	**34,839**	**36,323**	**37,829**	**37,272**	**37,379**	**37,267**	**37,155**	**37,044**	**36,933**
Operating Current Liabilities:											
Accounts Payable & Accrued Liabilities	22,501	21,806	20,658	24,833	23,977	23,453	23,043	22,974	22,905	22,837	22,768
Other Current Liabilities	8,239	9,024	7,010	8,316	9,333	9,710	9,999	10,296	10,603	10,918	11,243
Total Operating Current Liabilities	**30,740**	**30,830**	**27,668**	**33,149**	**33,310**	**33,163**	**33,042**	**33,271**	**33,508**	**33,755**	**34,011**
Total Net Operating Working Capital	**3615**	**6532**	**7,171**	**3,174**	**4,519**	**4,109**	**4,337**	**3,996**	**3,647**	**3,289**	**2,921**
(+) Property, Plant & Equipment, Net	89,286	91,915	94,833	99,696	107,434	108,310	120,484	119,226	118,927	119,435	120,630
Wireless Licenses	94,130	95,059	96,097	147,619	149,796	155,667	158,496	161,376	164,309	167,295	170,335
Other Intangible Assets, Net	9,775	9,498	9,413	11,677	11,461	11,057	8,417	6,061	3,945	2,376	1,213
Operating Lease Right-Of-Use Assets	-	22,694	22,531	27,883	26,130	24,726	27,505	27,218	27,150	27,266	27,539
Other Assets	11,717	10,141	13,651	13,329	17,260	19,885	21,379	22,986	24,713	26,570	28,566
Invested Capital	**208,523**	**235,839**	**243,696**	**303,378**	**316,600**	**323,754**	**340,619**	**340,864**	**342,690**	**346,230**	**351,204**
Free Cash Flow (FCF):											
NOPLAT	23,071	27,817	24,375	30,207	27,351	25,697	23,476	21,349	21,502	21,389	21,175
Change in IC	10,881	27,316	7,857	59,682	13,222	7,154	16,865	245	1,826	3,540	4,974
FCF	**12,190**	**501**	**16,518**	**(29,475)**	**14,130**	**18,543**	**6,612**	**21,104**	**19,676**	**17,849**	**16,201**
Return on Invested Capital (ROIC):											
NOPLAT	23,071	27,817	24,375	30,207	27,351	25,697	23,476	21,349	21,502	21,389	21,175
Beginning IC	197,643	208,523	235,839	243,696	303,378	316,600	323,754	340,619	340,864	342,690	346,230
ROIC	**11.67%**	**13.34%**	**10.34%**	**12.40%**	**9.02%**	**8.12%**	**7.25%**	**6.27%**	**6.31%**	**6.24%**	**6.12%**
Economic Profit (EP):											
Beginning IC	197,643	208,523	235,839	243,696	303,378	316,600	323,754	340,619	340,864	342,690	346,230
x (ROIC - WACC)	6.17%	7.84%	4.83%	6.89%	3.51%	2.62%	1.75%	0.77%	0.81%	0.74%	0.61%
EP	**12,198**	**16,345**	**11,401**	**16,801**	**10,661**	**8,280**	**5,665**	**2,611**	**2,750**	**2,536**	**2,128**

Verizon

Weighted Average Cost of Capital (WACC) Estimation

Cost of Equity:		*ASSUMPTIONS:*
Risk-Free Rate	4.63%	*10-year Treasury bond as of close on April 15th*
Beta	0.57	*5 Year Raw Beta (Factset)*
Equity Risk Premium	5.26%	*1928-2020 geometric average over 10-year Treasury*
Cost of Equity	**7.63%**	
Cost of Debt:		
Risk-Free Rate	4.63%	*10-year Treasury bond as of close on April 12th*
Implied Default Premium	0.37%	
Pre-Tax Cost of Debt	5.00%	*YTM on Verizon's 30 year corporate bond*
Marginal Tax Rate	24.77%	*Average marginal corporate tax rate 2018-2023*
After-Tax Cost of Debt	**3.76%**	

Market Value of Common Equity:		**MV Weights**
Total Shares Outstanding	4,232,298	
Current Stock Price	$40.11	
MV of Equity	**169,757,488**	45.00%
Market Value of Debt:		
Debt maturing within one year	12,973,000	
Current operating lease liabilities	4,266,000	
Dividends payable	2,821,000	
Long-term debt	137,701,000	
Employee benefit obligations	13,189,000	
Non-current operating lease liabilities	20,002,000	
Other liabilities	16,560,000	
MV of Total Debt	**207,512,000**	55.00%
Market Value of the Firm	**377,269,488**	100.00%

Estimated WACC	**5.50%**

Verizon

Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models

Key Inputs:

CV Growth of NOPLAT	1.42%
CV Year ROIC	6.12%
WACC	5.50%
Cost of Equity	7.63%

Fiscal Years Ending Dec. 31	2024E	2025E	2026E	2027E	2028E
DCF Model:					
Free Cash Flow (FCF)	6,612	21,104	19,676	17,849	16,201
Continuing Value (CV)					398,298
PV of FCF	6,267	18,961	16,755	14,407	321,496
Value of Operating Assets:	377,886				
Non-Operating Adjustments					
Excess Cash	-				
Investments in Unconsolidated Businesses	953				
Debt maturing within one year	(12,973)				
Current operating lease liabilities	(4,266)				
Dividends payable	(2,821)				
Long-term debt	(137,701)				
Employee benefit obligations	(13,189)				
Non-current operating lease liabilities	(20,002)				
Other liabilities	(16,560)				
Value of Equity	171,327				
Shares Outstanding	4,204				
Intrinsic Value of Last FYE	40.75				
Implied Price as of Today	40.89				
EP Model:					
Economic Profit (EP)	5,665	2,611	2,750	2,536	2,128
Continuing Value (CV)					52,068
PV of EP	5,370	2,345	2,342	2,047	42,028
Total PV of EP	54,132				
Invested Capital (last FYE)	323,754				
Value of Operating Assets:	377,886				
Non-Operating Adjustments					
Excess Cash	-				
Investments in Unconsolidated Businesses	953				
Debt maturing within one year	(12,973)				
Current operating lease liabilities	(4,266)				
Dividends payable	(2,821)				
Long-term debt	(137,701)				
Employee benefit obligations	(13,189)				
Non-current operating lease liabilities	(20,002)				
Other liabilities	(16,560)				
Value of Equity	171,327				
Shares Outstanding	4,204				
Intrinsic Value of Last FYE	40.75				
Implied Price as of Today	40.89				

Verizon

Dividend Discount Model (DDM) or Fundamental P/E Valuation Model

Fiscal Years Ending	2024E	2025E	2026E	2027E	2028E
EPS	$ 3.83	$ 3.35	$ 3.44	$ 3.38	$ 3.32
Key Assumptions					
CV growth of EPS	1.57%				
CV Year ROE	17.17%	14.27%	14.30%	13.68%	13.13%
Cost of Equity	7.63%				
Future Cash Flows					
P/E Multiple (CV Year)					14.53
EPS (CV Year)					$ 3.32
Future Stock Price					$ 48.24
Dividends Per Share	2.685	2.735	2.785	2.835	2.885
Discounted Cash Flows	2.49	2.36	2.23	2.11	35.95
Intrinsic Value as of Last FYE	$ 45.16				
Implied Price as of Today	$ 45.32				

Verizon

Relative Valuation Models

Ticker	Company	Price	EPS 2024E	EPS 2025E	P/E 24	P/E 25
VZ	Verizon	$40.11	$4.59	$4.70	8.74	8.53
T	AT&T	$17.44	$2.21	$2.30	7.89	7.58
CHTR	Charter Communication:	$283.05	$34.33	$37.03	8.24	7.64
CMCSA	Comcast Corporation	$42.12	$4.24	$4.60	9.93	9.16
				Average	**8.70**	**8.23**
VZ	Verizon	$40.11	$3.83	$3.35	10.5	12.0

Implied Relative Value:

P/E (EPS24)	**$ 33.34**
P/E (EPS25)	**$ 27.55**

Verizon

Key Management Ratios

Fiscal Years Ending Dec. 31	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Liquidity Ratios:											
Current Ratio (total current assets/total current liabilities)	0.91	0.84	1.38	0.78	0.75	0.69	0.79	0.87	0.90	0.92	0.94
Quick Ratio (cash & cash equivalents+accounts recievable)/total current liabilites	0.73	0.62	1.16	0.57	0.54	0.51	0.60	0.69	0.70	0.72	0.76
Cash Ratio (cash & cash equivalents/total current liabilites)	0.07	0.06	0.56	0.06	0.05	0.04	0.13	0.27	0.22	0.21	0.30
Asset-Management Ratios:											
Total Asset Turnover (total operating revenue/total assets)	0.49	0.45	0.41	0.36	0.36	0.35	0.33	0.32	0.32	0.32	0.31
Net Working Capital Turnover (total operating revenue/(total current assets-total current liabilities)	-39.73	-17.83	8.59	-12.81	-11.11	-8.16	-12.38	-17.02	-24.79	-36.56	-41.96
LT Asset Turnover (total operating revenues/(total assets-total current assets)	0.57	0.52	0.49	0.41	0.40	0.39	0.37	0.37	0.37	0.36	0.35
Financial Leverage Ratios:											
Debt to Equity (total long term liabilities/total equity)	3.15	2.93	3.00	2.84	2.56	2.49	2.54	2.49	2.44	2.42	2.42
Debt to Assets (total long-term liabilities/total assets)	0.65	0.63	0.66	0.64	0.62	0.61	0.62	0.61	0.62	0.62	0.62
Debt to Capital Ratio (total long term liabilities/(total long term liabilities+total equity)	0.76	0.75	0.75	0.74	0.72	0.71	0.72	0.71	0.71	0.71	0.71
Debt To EBITDA (total long term liabilities/(operating income+D&A)	4.34	3.91	4.56	4.86	4.98	5.76	5.35	5.39	5.45	5.54	5.64
Profitability Ratios:											
Return on Equity (NI/Beg TSE)	35.89%	36.17%	29.20%	32.65%	26.14%	13.08%	17.17%	14.27%	14.30%	13.68%	13.13%
Return on Invested Capital (NoPlat/beginning invested capital)	11.67%	13.34%	10.34%	12.40%	9.02%	8.12%	7.25%	6.27%	6.31%	6.24%	6.12%
Net Profit Margin (NI/total operating revenues)	12.26%	15.01%	14.30%	16.93%	15.89%	9.03%	12.06%	10.57%	10.90%	10.74%	10.57%
Payout Policy Ratios:											
Dividend Payout Ratio (Dividend/EPS)	63.40%	52.30%	57.79%	47.66%	51.10%	95.54%	70.09%	81.69%	80.89%	83.80%	86.91%
Total Payout Ratio ((Divs. + Repurchases)/NI)	61.44%	50.89%	56.05%	47.05%	49.92%	91.59%	70.09%	81.69%	80.89%	83.80%	86.91%
Retention Ratio (1-total payout ratio)	38.56%	49.11%	43.95%	52.95%	50.08%	8.41%	29.91%	18.31%	19.11%	16.20%	13.09%

Sensitivity Tables

Beta

Equity Risk Premium

40.89	0.42	0.47	0.52	0.57	0.63	0.68	0.73
4.66%	52.40	49.58	46.91	44.38	41.51	39.25	37.10
4.86%	51.36	48.48	45.76	43.19	40.28	37.99	35.81
5.06%	50.35	47.41	44.64	42.03	39.07	36.75	34.55
5.26%	49.35	46.36	43.55	40.89	37.90	35.56	33.33
5.46%	48.38	45.34	42.48	39.79	36.76	34.39	32.15
5.66%	47.42	44.33	41.44	38.71	35.65	33.26	31.00
5.86%	46.48	43.35	40.42	37.66	34.57	32.16	29.88

SG&A % Sales

Risk Free Rate

40.89	20.11%	21.11%	22.11%	23.11%	24.11%	25.11%	26.11%
4.33%	64.38	57.57	50.75	43.94	37.12	30.31	23.49
4.43%	63.12	56.38	49.64	42.90	36.16	29.42	22.68
4.53%	61.89	55.22	48.56	41.89	35.22	28.55	21.89
4.63%	60.68	54.09	47.49	40.90	34.30	27.71	21.11
4.73%	59.51	52.98	46.45	39.93	33.40	26.88	20.35
4.83%	58.35	51.89	45.44	38.98	32.52	26.06	19.61
4.93%	57.22	50.83	44.44	38.05	31.66	25.27	18.88

Cost of Equity

CV Growth NOPLAT

40.89	7.33%	7.43%	7.53%	7.63%	7.73%	7.83%	7.93%
1.12%	43.03	42.07	41.13	40.20	39.30	38.41	37.54
1.22%	43.32	42.33	41.37	40.42	39.49	38.59	37.70
1.32%	43.62	42.61	41.62	40.65	39.70	38.77	37.86
1.42%	43.93	42.90	41.88	40.89	39.92	38.97	38.04
1.52%	44.26	43.20	42.16	41.14	40.15	39.17	38.22
1.62%	44.61	43.52	42.45	41.41	40.39	39.39	38.41
1.72%	44.98	43.85	42.76	41.69	40.64	39.62	38.62

Inflation

Marginal Tax Rate

40.89	2.90%	3.10%	3.30%	3.50%	3.70%	3.90%	4.10%
21.77%	49.27	46.42	43.60	40.79	37.99	35.21	32.44
22.77%	49.30	46.46	43.63	40.82	38.02	35.24	32.48
23.77%	49.34	46.50	43.67	40.86	38.06	35.28	32.51
24.77%	49.38	46.54	43.71	40.89	38.10	35.31	32.54
25.77%	49.42	46.58	43.75	40.93	38.14	35.35	32.58
26.77%	49.47	46.62	43.79	40.98	38.18	35.39	32.62
27.77%	49.51	46.67	43.84	41.02	38.22	35.43	32.66

AR as % Sales

COR % Sales

40.89	15.59%	16.59%	17.59%	18.59%	19.59%	19.59%	20.59%
76.92%	60.59	60.13	59.68	59.23	58.77	58.77	58.32
78.92%	57.62	57.17	56.72	56.26	55.81	55.81	55.36
80.92%	54.66	54.20	53.75	53.30	52.84	52.84	52.39
82.92%	51.69	51.24	50.78	50.33	49.88	49.88	49.42
84.92%	48.72	48.27	47.82	47.36	46.91	46.91	46.46
86.92%	45.76	45.30	44.85	44.40	43.94	43.94	43.49
88.92%	42.79	42.34	41.89	41.43	40.98	40.98	40.53

WACC

Pre-tax Cost of Debt

40.89	5.20%	5.30%	5.40%	5.50%	5.60%	5.70%	5.80%
4.40%	47.37	44.89	42.53	40.29	38.15	36.11	34.17
4.60%	47.60	45.11	42.75	40.50	38.36	36.32	34.37
4.80%	47.83	45.34	42.97	40.71	38.57	36.52	34.56
5.00%	48.06	45.56	43.19	40.93	38.77	36.72	34.76
5.20%	48.29	45.78	43.40	41.14	38.98	36.92	34.96
5.40%	48.52	46.01	43.62	41.35	39.19	37.13	35.16
5.60%	48.75	46.23	43.84	41.56	39.40	37.33	35.36