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Verizon Wireless Communications: A Financial Analysis

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Verizon Wireless Communications: A Financial Analysis

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EXECUTIVE SUMMARY

Verizon Communications, Inc. (VZ) operates the largest wireless and second largest wireline telecom networks in the United States. These two segments focus on providing communication, information, and entertainment to consumers, businesses, and government agencies. Verizon is based out of New York, New York and was incorporated in 2000.

In recent news, the company has added 603,000 postpaid wireless customers, which was well above the consensus estimate of 438,000 subscriber additions. The solid customer additions were partially due to a significant year-over-year drop in churn (percentage of consumers leaving Verizon). Verizon also announced that Marni Walden, executive vice president and president of global media, left the company in February 2018.

Through both, qualitative and quantitative analysis, this report contains detailed information regarding the industry in which Verizon Communications competes, the market and sector it functions through, and the current growth structure it holds. A detailed valuation model from historical data, market statistics, and pro forma forecasts is attached. From this valuation model, the calculated stock value as of November 23, 2018 was USD 58.64. Per quantitative valuation, Verizon's stock price is fair to undervalued. Taking into consideration all the parts of the analysis, I initiate a hold recommendation for the common stock of Verizon Communications.

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INTRODUCTION

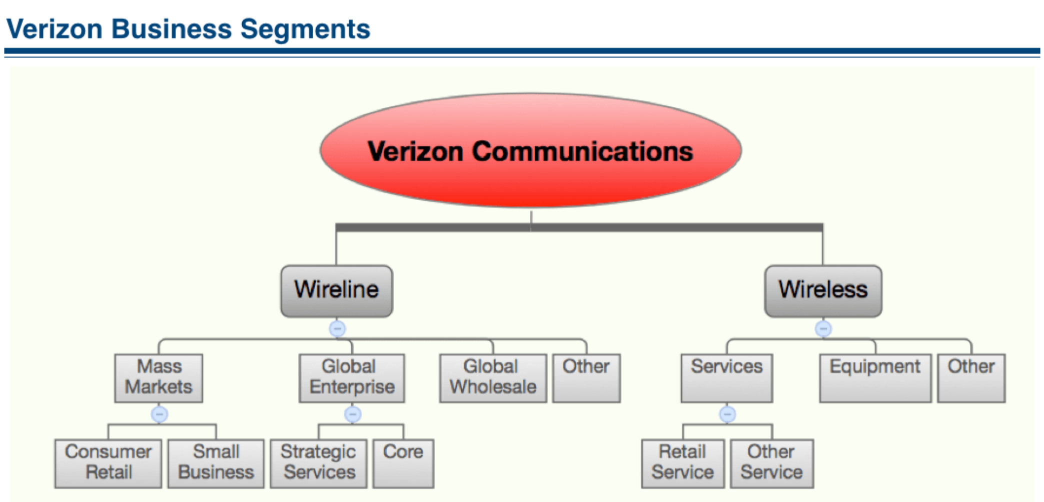
The communications sector is continuing to evolve and change in our everyday life. This research paper will analyze the financial performance of Verizon Communications by using a number of accounting and financial measures to determine whether the company is a quality investment to recommend to clients. The information gathered in this research paper is cited from the company's 10-K financial statements, company documents, and quality websites.

FIRM CHARACTERISTCS

GENERAL INFORMATION

Verizon Communications (VZ) operates the largest wireless and second-largest wireline telecom network. This company, through its subsidiaries, provides communications, information, and entertainment products and services to consumers, businesses, and governmental agencies. Headquartered in New York, New York and incorporated on October 7th, 1983, Verizon has expanded their operations and has two reportable segments – Wireless and Wireline.

FIGURE 1. VERIZON BUSINESS SEGMENTS



Source: Verizon Communications, Inc.

Verizon Wireless voice and data services offer wireless services on a postpaid and prepaid basis. Verizon offers these products and services to consumers, business, and government customers across the United States. The wireless segment offers messaging services access internet wirelessly at broadband speeds, and enhanced value-added services to support telemetry-type applications, which are characterized by machine-to-machine (M2M) wireless connections. In additional to these services, Verizon offers several categories of wireless devices, including smartphones and basic phones, tablets, and other internet access devices. The wireline segment focuses on global enterprise, consumer retail, and small businesses.

FIRM HISTORY AND ACQUISITIONS

"Mr. Watson come here. I want to see you." Those are the first words Alexander Graham Bell transmits to his assistant, Thomas Watson, using his invention, the electric telephone. In July 1877, The Bell Telephone Company is formed in Boston by Alexander Graham Bell and his father-in-law. At the time of its founding, there are seven original shareholders and one full-time employee. In March 1885, American Telephone and Telegraph Company, otherwise known as AT&T, is officially incorporated as the long line's division of American Bell. Starting in New York, its goal was to build the first long distance telephone network. In a corporate restructuring in December 1899, AT&T becomes the parent company of the Bell System. In the years to come, AT&T would take on the nickname "Ma Bell" as the brand becomes synonymous with its local Bell operating companies.

In April 2000, Bell Atlantic Corporation and Vodafone Airtouch combined their United States wireless interest to create Verizon Wireless. The joint venture soon became the nation's largest wireless carrier. In June 2000, Bell Atlantic merged with GTE Corporation and changed its name to Verizon Communications, Inc. In April 2004, Verizon was named to the Dow Jones

Industrial Average – a list of 30 public companies that serves as a key benchmark for the overall stock market. In January 2006, Verizon acquired MCI and in July 2007, Verizon acquires Cybertrust. The MCI acquisition provides Verizon with an international long-distance network and several large corporate customers. A new corporate division, Verizon Business, was created to serve medium and large businesses and government customers. With the acquisition of Cybertrust, a global information security firm, Verizon Enterprise Solutions became the leading provider of managed security services to business and government customers worldwide.

DIVESTITURES

At the same time Verizon made significant network investments and acquisitions, the company shed non-strategic assets and investments to focus on nationwide wireless, global enterprise, and wireline broadband services concentrated in Northeast and Mid-Atlantic states. In all of the 2000's, Verizon sold wireline access lines and spun off of wireline business in multiple states. Not only has Verizon been completing divestitures domestically, they also participated in international sales with the Dominican Republic, Puerto Rico, and Venezuela.

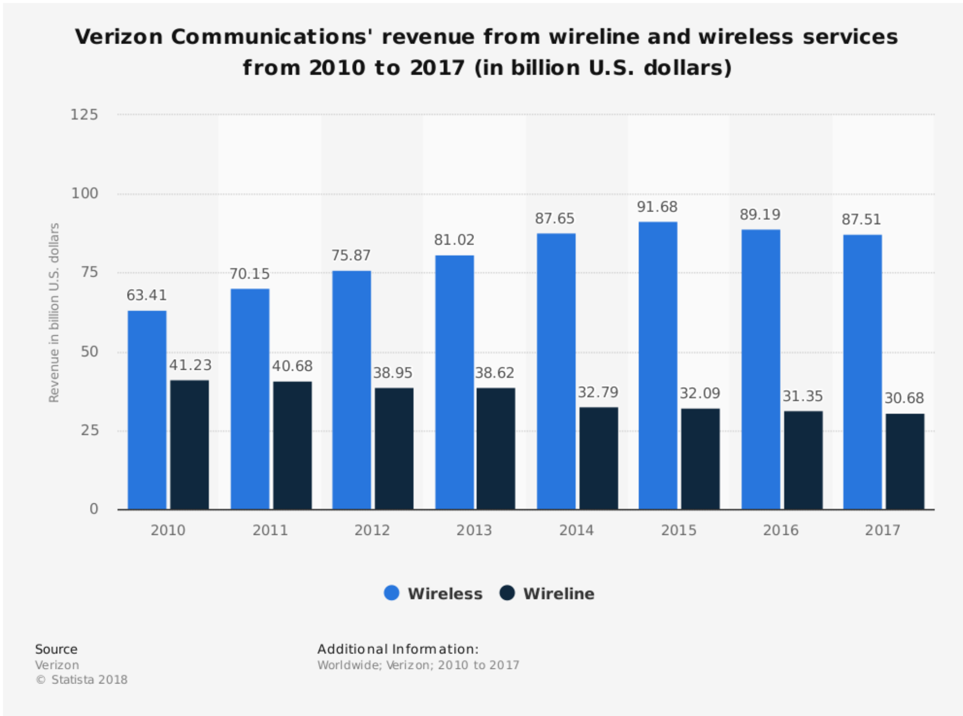
GENERAL OPERATIONS

Verizon Wireline voice, data, and video communication products and services include broadband video and data, corporate networking solutions, data center and cloud services, security and managed network services, and local and long-distance voice services. Verizon offers these products and services to consumers in the United States, as well as to carriers, businesses, and government customers, both, in the United States and around the world. Verizon Wireline segment has three sub segments: Mass Markets, Global Enterprise, and Global Wholesale.

- **Mass Markets Operations** provides broadband services, local exchange and long-distance voice services to residential and small business customers.
- **Global Enterprise** offers strategic services and other core communication services to medium and large business customers, multinational corporations, and state and federal government customers.
- **Global Wholesale** provides communication services including data, voice, and local dial tone and broadband services primarily to local, long-distance, and other international markets.

Verizon provides communication, information, and entertainment products and services to consumers, businesses, and government agencies through two segments, Wireless and Wireline. The Wireless segment offers communication products and services, including, wireless voice and data services and equipment sales, to consumer, business and government customers across the United States. The Wireline segment offers voice, data, and video communication product and services, security, and managed network services, and local and long-distance voice services.

FIGURE 2. VERIZON COMMUNICATIONS' REVENUE

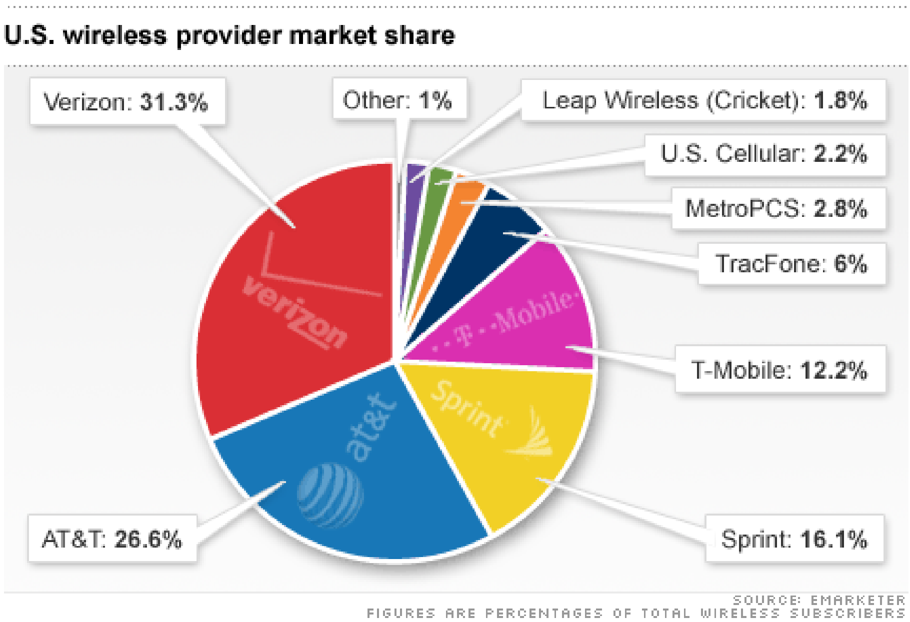


Source: Verizon Communications, Inc.

MAIN COMPETITORS

Verizon's main three competitors are AT&T, T-Mobile US, Inc., and Sprint Corporation. One of Verizon's competitive advantages is their high service quality which enhances brand image. Also, they have strong growth strategies which has shaped their overall approach to grow their business. To attract and retain customers, Verizon focuses on quality and differentiation. Verizon's generic strategy is differentiating from its competitors.

FIGURE 3. U.S. WIRELESS PROVIDER MARKET SHARE (2014)



Source: Mayfield's Economic Blog

AT&T

Along with Verizon Wireless, AT&T is a world leader in communications, media and entertainment, and technology. AT&T dates back to the invention of the telephone. AT&T has been involved in company buy outs and acquisitions that has benefited them throughout many years. AT&T's biggest acquisition was acquiring Time Warner. One of AT&T's competitive advantages is their continued investments and improvements. They have invested in more than USD 140 billion of capital investments which include wireless and wireline networks.

T-MOBILE US, INC.

T-Mobile operates the fourth largest wireless network in the United States. T-Mobile has turned their weakness into a competitive advantage. T-Mobile's strategy is to scale as rapidly as possible while maintaining average revenue per user. T-Mobile offers a competitive pricing structure compared to their main competitors. This has forced Verizon and AT&T to play catch up with the competitive decisions that T-Mobile is making in the communications sector.

SPRINT CORPORATION

On a small scale, Sprint Corporation focuses on the idea of having strategic connections. Among many of the different competitive advantages, Sprint offers a commitment to the industry-solutions approach, integrated offering, relentless flexibility, collaborative personality, dependability, and reliability. By providing powerful and flexible voice and date interconnectivity between manufacturers, their trading partners and other stakeholders, Sprint can enable companies to innovate rapidly, hear and respond to customers, keep prices in check, and rise to the challenges and opportunities of global markets.

FIGURE 4. COMMUNICATION SECTOR INFORMATION (2017)

COMPANY	TICKER SYMBOL	MARKET CAP	PE RATIO	P/BV	EV /EBITDA	DEBT /ASSETS	ROA	ROE
VERIZON	VZ	236.31B	7.59	4.54	7.51	.46	7.14%	78.25%
AT&T	T	223.39B	6.00	1.22	9.22	.37	3.11%	20.82%
T-MOBILE	TMUS	58.9B	12.77	2.51	8.02	.19	4.62%	21.91%
SPRINT	S	26.03B	3.54	.92	4.83	.48	2.37%	31.28%

Source: Morningstar

KEY EXECUTIVES

The Verizon leadership team blends a history of industry expertise with visionary thinking. Verizon is currently being led by CEO Lowell C. McAdam, who is a leading provider of wireless, fiber-optic, and global internet networks and services. He was named CEO on August 1, 2011, and chairman on January 1, 2012. Prior to McAdam becoming CEO, he was

Verizon's COO responsible for internal services and technology management. McAdam has previous leadership experience with PrimeCo Personal Communications, Bell Atlantic, and Vodafone. "Under his leadership as CEO, Verizon took over complete ownership of Verizon Wireless by purchasing Vodafone's 45 percent stake in the company, positioning Verizon for a new phase of wireless growth. He is also leading the company's push into growth markets in the Internet of Things and digital media.

INCENTIVES AND TRAINING

Verizon Wireless offers a Short-Term Incentive plan that encourages employees to remain working with Verizon. The philosophy of the plan is to provide a percentage on the employee's total compensation with successful completion of annual goals and individual performance objectives. The Short-Term Incentive plan is designed to increase awareness, understanding, and commitment to Verizon Wireless business goals.

In 2012, Verizon Communications was ranked No. 1 for having the best training programs for their employees. "Verizon is committed to building a business as good as our networks and to do that we depend on our highly skilled and committed employees," said Marc Reed, executive vice president and chief administrative officer at Verizon (Verizon Communications Inc.). Verizon uses multiple training techniques that have benefit their employees. For example, the company uses videos, podcasts, blogs, and its enterprise learning management system to deliver crucial information to their employees. They also offer a variety of training in the form of classroom studies to self-directed online training.

SUCCESSION PLAN

According to CNBC, Verizon Communications announced their CEO succession plan in June that was effective on August 1st. Former CEO, Lowell McAdam was succeeded by Hans Vestberg, former executive vice president, president of global networks, and chief technology officer for the company. McAdam was Verizon's CEO for 7 years. "I strongly believe in the power of change to drive long-term growth and innovation. For Verizon, the time for a change in leadership is now, and I am confident that Hans is the right person to bring Verizon through its next chapter," said McAdam (Verizon Communications, Inc.).

BOARD OF DIRECTORS

Verizon Communications is made up of twelve board of directors. Of the twelve members, there are four females and 8 males representing the company. Verizon has shown gender diversification that reflect a wide range of viewpoints, backgrounds, and expertise. Each director is up for re-election every year.

Part of Verizon Communications being publicly traded is that the company is made up of institutional investors. An institutional investor can be made up of a multitude of different pools of money coming together from banks, investment advisors, endowments, pensions, etc. According to Nasdaq, Verizon Communications has 2,639 (in millions) shares that are institutional ownership shares outstanding. This makes up about 66.63% held by institutions.

RETURN ON INVESTMENT CAPITAL

An investor's return on investment capital (ROIC), indicates how well the company is using their money to generate returns. The calculation for ROIC is the company's net income – dividends divided by the total capital. The total capital of a company is the company's equity minus their debt. Below is the last five years of Verizon Communications and their biggest competitor, AT&T's, ROIC.

FIGURE 5. ROIC

YEAR	ROIC: VZ	ROIC: T
2017	14.4%	5.8%
2016	16.0%	7.5%
2015	20.0%	9.0%
2014	9.6%	5.6%
2013	13.0%	5.0%

Source: Morningstar

Based on the above table, Verizon has proven to have an advantage over AT&T by generating a higher ROIC. An economic moat is defined as a structural feature that allows a firm to sustain excess profits over a long period of time. Excess economic profits are defined as returns on investment capital. The return on investment capita calculation helps determine if the company is creating value when compared to the cost of funding. According to Verizon Communications Morningstar Report, the concept of an economic moat plays a vital role in qualitative assessment and the firm's long-term investment potential.

INDUSTRY CHARATERISTICS

RISK FACTORS RELATED TO VERIZON WIRELESS COMMUNICATIONS.

Risks include slowing growth in the wireless market, a lack of improvement in the wireline business, competition, heavy capital spending, regulatory risks, large pension and retirement obligations, and the impact of rising interest rates on telecom shares. Prior to 2015, Verizon customers would sign a two-year contract for service and were offered a new handset for free or at a discounted price. Now, customers can choose a lower price for monthly service but have to either pay the full price of the phone up-front or purchase the phone on a monthly installment plan. As a result of this transition plus the introduction of unlimited data plans, Verizon's wireless revenue has not grown in recent quarters.

Technology has increased the competition for telephone services in the past two decades. Traditional home service is threatened with wireless substitution, cable telephone services, and Voice-over-the-Internet (VoIP) providers. Similarly, cable TV faces competition from Internet video distribution (such as Hulu and Netflix), satellite television and also TV offerings from traditional telecom companies.

Due to competitive threats and the need to address wireless data growth, communications companies spend heavily on capital improvements to grow and enhance their networks. AT&T, Verizon, and T-Mobile are the largest wireless providers in the U.S. and on average, spend 15% of annual revenues on capital investment.

The communications industry is highly regulated. Changes in laws or regulations could result in surprising upside or downside to companies in the industry. Some particular issues include "Net Neutrality," rural subsidies and market concentration. Challenges in the wireless business include FCC policy regarding spectrum auctions and Verizon's ability to acquire spectrum.

PORTER’S FIVE FORCES

Porter’s Five Forces is a tool to understand the competitive forces between rival companies. Porter’s Five Forces include the following: threat of competition, threat of new entrants, threat of substitutes, bargaining power of suppliers, and bargaining power of buyers. The following section will determine how each of these areas affect Verizon Communications.

Threat of Competition: Strong Force

Verizon’s market environment is highly competitive due to the following external factors: low product differentiation, high aggressiveness of firms, and high exit barriers. The telecommunications industry has a low degree of product differentiation because competing products are highly similar. Verizon focuses on differentiating with quality to attract customers. Verizon and other aggressive firms compete through marketing campaigns and technological upgrades. This external factor discourages established firms from leaving the information and communications technology and services industry, thereby keeping competition high.

Threat of New Entrants: Weak Force

The threat of new entrants in the telecommunication industry is weak due to the following external factors: moderate switching costs, high capital requirement, and high aggressiveness of existing firms. New wireless communication firms will find it difficult to readily compete against Verizon Wireless because of the high capital needed to establish competitive telecommunications infrastructure. Established firms, like Verizon, are aggressive in competing in the market, thereby weakening the effects of new entry in the industry.

Threat of Substitutes: Moderate Force

Verizon Communications experiences the moderate threat of substitutes based on the following external factors: moderate switching costs, moderate availability of substitutes, and low performance to price ratio of substitutes. These factors are subject to potential disruptions in the industry environment through technological advancements. Thus, Verizon must strategically be aware of the latest technologies and continue to update their systems to remain strong against potential substitutions.

Bargaining Power of Suppliers: Moderate Force

Supplies for a company affect the supply chain costs, effectiveness, and efficiency. Verizon's moderate bargaining power of suppliers is based on the following external factors: moderate size of individual suppliers, moderate population of suppliers, and moderate overall supply. Because of their moderate population, suppliers exert a considerable force on the company and the industry condition. This condition enables suppliers to moderately influence Verizon's operations management strategy, such as the strategy for the supply chain management.

Bargaining Power of Buyers: Moderate Force

Buyers affect the company's revenue, profit margins, and business value. The following external factors contribute to the moderate bargaining power of customers on Verizon and the telecommunications industry environment: low information asymmetry, moderate switching costs, and moderate price sensitivity. The low information asymmetry represents the high quality of information that customers have access to know about products and services in the market. The potential shift from Verizon to a competitor is limited through differentiating variables, such as the company's high-quality service, which is among the main business strengths determined in the SWOT analysis of Verizon.

SHAREHOLDER ANALYSIS

As of June 29, 2018, the top 10 institutional investors make up 67.19% of Verizon's total shares. The top holders and the number of shares owned are as follows:

FIGURE 6. SHAREHOLDING INFORMATION

Institutional Holders	**Number of Shares**	**Percentage of Ownership**
Vanguard Group, Inc.	299,864,718	7.26%
Blackrock, Inc.	270,146,890	6.54%
State Street Corporation	158,425,683	3.83%
Capital Research Global Investors	120,565,587	2.92%
Wellington Management Company, LLP	115,498,312	2.80%
FMR, LLC	69,165,256	1.67%
Capital World Investors	65,248,940	1.58%
Bank of America Corporation	58,580,076	1.42%
Bank of New York Mellon Corporation	52,864,266	1.28%
Northern Trust Corporation	49,008,581	1.19%

Source: Morningstar

According to Yahoo! Finance, there have been 90,657 insider shares purchased and with 1.32 million of insider shares held. The percentage of shares purchased was 7.40%. Back in 2017, Verizon Communications announced a 100 million share buyback program that will last until February 28, 2020 until the total number of shares are purchased. This will reduce the outstanding shares in the market for further purchases from investors.

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Verizon Wireless and AT&T are both incorporated in the United States. Consolidated financial statements for both companies are prepared according to U.S. generally accepted accounting principles (GAAP). According to the most recent audit, Verizon and AT&T have been issued unmodified opinions by EY, LLC.

GOODWILL AND INTANGIBLE ASSETS

Goodwill is defined as the excess of the acquisition cost of businesses over the fair value of the identifiable net assets acquired (stock analysis-on.net). Impairment testing for goodwill is performed annually in the fourth fiscal quarter or more frequently if impairment indicators are present. In this case, Verizon has the option to perform a qualitative assessment. Verizon’s assessments in 2017, 2016, and 2015 indicated that the fair value of each of the Wireless, Wireline, Media and Telematics reporting units exceeded their carrying value and therefore did not result in an impairment.

A significant portion of Verizon’s intangible assets are wireless licenses that provide the wireless operations. Verizon re-evaluates the useful life determination for wireless licenses each year to determine whether events and circumstances continue to support an indefinite useful life. As with intangible assets not subject to amortization, intangible assets subject to amortization and long-lived assets are reviewed each year to determine if a revision is necessary.

AT&T has five major classes of intangible assets: goodwill, licenses, other indefinite-lived intangible assets, customer lists, and other finite-lived intangible assets. Like Verizon, AT&T some indefinite-lived intangible assets are not amortized but are tested at least annually for impairment. AT&T uses the sum-of-the-months-digits method of amortization over the period in which those relationships are expected to contribute to AT&T's future cash flow.

INVENTORIES

Verizon's inventory consists of wireless and wireline equipment held for sale, which is carried at the lower of cost or market. This is determined principally on either an average cost or first-in, first-out basis. Inventories, which are included in "other current assets" on AT&T's consolidated balance sheets, include devices and accessories. These are valued at the lower of cost or net realizable value. AT&T uses first-in, first-out for their accounting method.

PROPERTY, PLANT, AND EQUIPMENT

Verizon records property, plant, and equipment at cost and generally depreciated on a straight-line basis. Leasehold improvements are amortized over the shorter of the estimated life of the improvement or the remaining term of the related lease, calculated from the time the asset was placed in service. When depreciable assets are retired or otherwise disposed of, the related cost and accumulated depreciation are deducted from the plant accounts and any gains or losses on disposition are recognized in income.

AT&T states their property, plant, and equipment at cost, except for assets acquired using acquisition accounting, which are initially recorded at fair value. AT&T depreciates their assets using the straight-line method over their estimated economic lives. There is certain network software that allows the equipment to provide the features and functions unique to the AT&T

network, which AT&T includes in the cost of the equipment categories for financial reporting purposes.

REVENUE RECOGNITION

Verizon Wireless segment earns revenue primarily by providing access to and usage of its network, as well as the sale of equipment. In general, access revenue is billed one month in advance and recognized when earned. Usage revenue is generally billed in arrears and recognized when service is rendered. Equipment sales revenue associated with the sale of wireless devices and accessories is generally recognized when the products are delivered and accepted by the customer, as this is considered to be a separate earnings process from providing wireless services.

AT&T's revenues derived from wireless, fixed telephone, and data and video services are recognized when services are provided. This is based on either usage, period of time, or other established fee schedules. AT&T's service revenues are billed either in advance, arrears, or prepaid.

FINANCIAL PERFORMANCE, ANALYSIS, AND RATIOS

PROFITABILITY, PERFORMANCE, AND PROFIT MARGIN GROWTH

Over the last few years, both, Verizon and AT&T have seen significant declines in their service revenue for their wireless business. Their sales numbers were impacted by the move away from device subsidies and by the loss of postpaid phone subscribers at each carrier. Verizon became more attractive as they implemented the unlimited wireless data plan once again. Verizon's gross profit margin in 2017 and 2016 was 59.09% and 59.08%, respectively, compared to AT&T's which was 51.80% and 53.06%, respectively. This indicates that Verizon can make a more reasonable profit on sales, as long as it keeps overhead costs in control.

COST CONTROL

With Verizon's constant control on quality, Verizon has shown a consistent COGS of around 40% of sales in the last 5 years. Verizon has short-term and long-term debt which the company was able to maintain an average interest rate of 4.2% over the last 3 years. Verizon's assets, which help generate revenue, are increasing at a faster pace than their liabilities. Verizon is becoming less reliant on financing through debt and instead has begun a slow shift towards the use of financing through equity. With low levels of debt growth, Verizon has been able to generate more earnings and cash flow over the past year. The improvement of Verizon's operational cash flow has given the company a stronger ability to pay back short-term creditors.

In contrast, AT&T's average COGS was 48% over the last 5 years. Their interest expense was around 3% which is lower than Verizon's. Comparing Verizon's interest rate to AT&T's, a higher interest rate is to be expected because of a larger amount of financing. In the area of cost control, Verizon appears to be more efficient in managing their costs.

LIQUIDITY

Liquidity ratios provide another measure of financial condition and are measured by the current and quick ratios. Verizon and AT&T's average current ratio .91 and .97, respectively. Their quick ratio in 2017 was .77 and .97, respectively. A higher ratio is safer than a lower one because you have excess cash. AT&T has proven to have a stronger liquidity measure for the long-term. The growth in the quick ratio means that the company has more current assets to satisfy current liability needs.

TURNOVER

A company's ability to actively utilize assets and maximize activity turnovers is essential in the industry in which it competes. Over the last couple years, Verizon's inventory turnover has decreased substantially more than AT&T's. AT&T has a stronger position in accounts receivable turnover than Verizon does. From 2016 to 2017, Verizon's receivables turnover ratio went down from 7.19 to 5.36. AT&T's receivable turnover ratio went from 9.75 to 9.72. AT&T has proven to be more efficient when using their assets.

The operating cycle shows the adequacy of multiple turnover ratios within one measure. Overtime, Verizon has experienced an increase in their operating cycle where as AT&T has experienced more of a decline. Part of the difference in the operating cycle of AT&T and Verizon is that Verizon is larger than AT&T which needs to be taken into consideration.

LEVERAGE AND CAPITAL STRUCTURE

Both companies are highly leveraged compared to the industry sector. Verizon maintains capital structure of approximately 45% debt. This is common in telecommunications companies as they need to finance more products and for ever-changing technology. AT&T maintains capital structure of approximately 37% debt. Verizon does have a higher debt-to-equity ratio which is 2.72, while AT&T's is 1.17. AT&T does better as a company to keep their debt to equity lower than Verizon's.

CASH MANAGEMENT

While all ratios are an important part of the analysis of a company's financials, for valuation purposes the most important is cash flow management. Verizon's operating cash flow in 2017 was $25.3 billion where AT&T's was at $17.6 billion in 2017. Both companies had decreased their values from 2015 to 2016 but then increased from 2016 to 2017. AT&T proves to have a better representation of cash flow which would benefit the company through reinvestment.

Verizon has paid a dividend since 1984 and has consecutively increased it for the last 12 years. AT&T has paid a dividend since 1984 and has consecutively increased it for the last 34 years. The ability to maintain shareholders as the focus in returning value speaks to the reputations and values of a company as a whole.

PRICE PERFORMANCE

When comparing Verizon and AT&T's price performance from December 29, 2017 to November 30, 2018, Verizon has outperformed AT&T. If $10,000 was the initial investment, Verizon's final value was $11,933 and AT&T's final value was $8,511. The YTD return is 19.33% and -14.89%, respectfully. Comparing Verizon to the S&P 500, Verizon outperformed the S&P 500 with a final price of $11,933 and $10,465, respectfully. The YTD return for the S&P 500 is 4.65%. In that short time period, there have been many economic factors that could have affected the values, which include rising interest rates, the election, the tariff wars, and the political uncertainty.

VALUATION AND RECOMMENDATION

For the purpose of this project, I used the discounted free cash flow model to value the equity of Verizon. Through both industry and company specific information, estimates have been made for WACC. I forecasted five years of pro forma balance sheet and income statements. I also used the percentage of sales approach and my estimates are made based on historical data, market conditions, and changes within the company denoted in the FY2017 annual report.

I also used relative valuation metrics. For the terms of this valuation, I calculated several multiples, including price to sales, price to EBITDA, PE ratio, market-to-book ratio, and price-to-CF ratio to determine if Verizon shares are under or overvalued. In comparison to AT&T, both companies align well with one another. This analysis supports the price I obtained discounting cash flows at the average cost of funding. Therefore, I recommend holding shares of Verizon.

Through the use of financial stock websites such as Morningstar, Yahoo! Finance, and Reuters, an average beta of 1.3 was found. Verizon will typically move with the market volatility and is projected to have long-term growth potential. Based on increasing interest rates, the 10-year treasury rate was adjusted upward to estimate a risk-free rate of 4%. The market risk premium measure was also slightly increased due to rising interest rates and stated at a rate of 6%. Based on these measures, the calculated estimate of the cost of equity is 11.8%, while the after-tax cost of long-term debt was calculated to be 3.32%. The calculation of WACC based on these factors is 9.16%.

The model and all supporting documents can be found in Appendix C for reference. In this model, free cash flow was derived and discounted. The estimated price per share from the valuation model is $64.43. The relative valuation was $59.62/share. The price of Verizon was $60.30 on November 30, 2018. Based on the valuation and the company's annual reports, Verizon is considered fairly valued. In conclusion, I recommend holding shares of Verizon Communications.

INVESTMENT THESIS

Through both, quantitative and qualitative analysis, I rate Verizon Communications as a hold recommendation because its current market price per share is close to the intrinsic value I calculated. Verizon's network is often considered to be the best in the country. The company was the first U.S. wireless carrier to introduce 4^{th} generation technology, and its network is constantly ranked as the highest quality network among U.S. wireless provider. Verizon has also focused a lot of their attention on investing in building its fiber-optic network for high speed services. Verizon is expected to have moderate dividend growth due to the acquisition of Vodafone having 45% ownership in Verizon.

As with any company, Verizon has some risks. Some of the risks include slowing growth in the wireless market, a lack of improvement in the wireline business, competition, heavy capital spending, regulatory risks, large pension and retirement obligations, and the impact of rising interest rates on telecom shares. With all of that being said, I recommend holding Verizon Communications.

APPENDIX A: VERIZON WIRELESS COMMUNICATIONS

VZ - INCOME STATEMENT

Years Ended December 31,	2017	2016	2015	2014	2013
	(dollars in millions, except per share amounts)				
Operating Revenues					
Service revenues and other	$ 107,145	$ 108,468	$ 114,696	$ 116,122	$ -
Wireless equipment and revenues	18,889	17,512	16,924	10,957	-
Total Operating Revenues	**126,034**	**125,980**	**131,620**	**127,079**	**120,550**
Operating Expenses					
Cost of services (exclusive of items shown below)	29,409	29,186	29,438	28,306	44,931
Wireless cost of equipment	22,147	22,238	23,119	21,625	-
Selling, general and administrative expense, net	30,110	31,569	29,986	41,016	27,089
Depreciation and amortization expenses	16,954	15,928	16,017	16,533	16,606
Total Operating Expenses	**98,620**	**98,921**	**98,560**	**107,480**	**88,626**
Operating Income	**27,414**	**27,059**	**33,060**	**19,599**	**31,968**
Equity in (losses) earnings of unconsolidated businesses	(77)	(98)	(86)	1,780	142
Other income and (expense), net	(2,010)	(1,599)	186	(1,194)	(166)
Interest expense	(4,733)	(4,376)	(4,920)	(4,915)	(2,667)
Income Before Provision For Income Taxes	**20,594**	**20,986**	**28,240**	**15,270**	**29,277**
Provision for income taxes	9,956	(7,378)	(9,865)	(3,314)	(5,730)
Net Income	**30,550**	**13,608**	**18,375**	**11,956**	**23,547**
Net income attributable to noncontrolling interests	**449**	**481**	**496**	**2,331**	**12,050**
Net income attributable to Verizon	**30,101**	**13,127**	**17,879**	**9,625**	**11,497**
Net Income	**30,550**	**13,608**	**18,375**	**11,956**	**23,547**
Basic Earnings Per Common Share					
Net income attributable to Verizon	7	3.22	4.38	2.42	4.01
Weighted-average shares outstanding (in millions)	4,084	4,080	4,085	3,974	2,866
Diluted Earnings Per Common Share					
Net income attributable to Verizon	7	3.21	4.37	2.42	4.00
Weighted-average shares outstanding (in millions)	4,089	4,086	4,093	3,981	2,874

VZ - BALANCE SHEET

(dollars in millions, except per share amounts)

At December 31,	2017	2016	2015	2014	2013
Assets					
Current assets					
Cash and cash equivalents	$ 2,079	$ 2,880	$ 4,470	$ 10,598	$ 53,528
Short-term investments	-	-	350	555	601
Accounts receivable, net allowances of $845 and $882	23,493	17,513	13,457	13,993	12,439
Inventories	1,034	1,202	1,252	1,153	1,020
Assets held for sale	-	882	792	-	-
Prepaid expenses and other	3,307	3,918	2,034	3,324	3,406
Total current assets	29,913	26,395	22,355	29,623	70,994
Plant, property and equipment	246,498	232,215	220,163	230,508	220,865
Less accumulated depreciation	157,930	147,464	136,622	140,561	131,909
Plant, property and equipment, net	88,568	84,751	83,541	89,947	88,956
Investments in unconsolidated businesses	1,039	1,110	796	802	3,432
Wireless licenses	88,417	86,673	86,575	75,341	75,747
Goodwil	29,172	27,205	25,331	24,639	24,634
Other intangable assets, net	10,247	8,897	7,592	5,728	5,800
Non-current assets held for sale	-	613	10,267	-	-
Other assets	9,787	8,536	7,718	6,628	4,535
Total assets	**$ 257,143**	**$ 244,180**	**$ 244,175**	**$ 232,708**	**$ 274,098**
Liabilities and Equity					
Current Liabilities					
Debt maturing within one year	$ 3,453	$ 2,645	$ 6,489	$ 2,735	$ 3,933
Accounts payable and accrued liabilities	21,232	19,593	19,362	16,680	16,453
Liabilities related to assets held for sale	-	24	463	-	-
Other	8,352	8,078	8,738	8,649	6,664

Total current liabilities	**33,037**	**30,340**	**35,052**	**28,064**	**27,050**
Long-term debt	113,642	105,433	103,240	110,536	89,658
Employee benefit obligations	22,112	26,166	29,957	33,280	27,682
Deferred income taxes	31,232	45,964	45,484	41,578	28,639
Non-current liabilities related to assets held for sale	-	6	959	-	-
Other liabilities	12,433	12,239	11,641	5,574	5,653
Equity					
Series preferred stock ($.10 par value, none issued)	-	-	-	-	-
Common stock ($.10 par value, 4,242,374,240 shares)	424	424	424	424	297
Contributed capital	11,101	11,182	11,196	11,155	37,939
Reinvested earnings	35,635	15,059	11,246	2,447	1,782
Accumulated other comprehensive income	2,659	2,673	550	1,111	2,358
Common stock in treasury, at cost	(7,139)	(7,263)	(7,416)	(3,263)	(3,961)
Deferred compensation - ESOP's	416	449	428	424	421
Noncontrolling interests	1,591	1,508	1,414	1,378	56,580
Total equity	44,687	24,032	17,842	13,676	95,416
Total liabilities and equity	**$ 257,143**	**$ 244,180**	**$ 244,175**	**$ 232,708**	**$ 274,098**

VZ RATIO ANALYSIS

LIQUIDITY	2017	2016	2015	2014	2013
Current Ratio	0.91	0.87	0.64	1.06	2.62
Quick Ratio	0.77	0.67	0.52	0.9	2.46
Cash Ratio	0.06	0.09	0.14	0.4	2
Inventory Turnover	49.86	42.78	41.98	43.31	44.01
Receivables Turnover	5.36	7.19	9.78	9.08	9.69
Payables Turnover	7.3	7.26	8.22	8.92	9.06
Working Capital Turnover	-	-	-	81.51	2.74
Average Inventory Processing Period	7	9	9	8	8
Add: Average Receivable Collection Period	68	51	37	40	38
Operating Cycle	75	60	46	48	46
Less: Average Payables Payment Period	50	50	44	41	40
Cash Conversion Cycle	25	10	2	7	6

LONG-TERM DEBT-PAYING ABILITY	2017	2016	2015	2014	2013
Debt to Equity	2.72	4.8	6.71	9.21	2.41
Debt to Capital	0.73	0.83	0.87	0.9	0.71
Interest Coverage	5.35	5.8	6.74	4.11	11.98

PROFITABILITY	2017	2016	2015	2014	2013
Net Fixed Asset Turnover	1.42	1.49	1.58	1.41	1.36
Total Asset Turnover	0.49	0.52	0.54	0.55	0.44
Equity Turnover	2.92	5.59	8.01	10.33	3.1

Return on Sales					
Gross Profit Margin	59.09%	59.08%	60.07%	60.71%	62.76%
Operating Profit Margin	21.75%	21.48%	25.12%	15.42%	26.52%
Net Profit Margin	23.88%	10.42%	13.58%	7.57%	9.54%
Return on Investment					
Return on Equity	69.85%	58.28%	108.83%	78.26%	29.60%
Return on Assets	11.71%	5.38%	7.31%	4.14%	4.19%

INVESTOR ANALYSIS	**2017**	**2016**	**2015**	**2014**	**2013**
Degree of Financial Leverage	5.97	10.84	14.89	18.92	7.06
Earnings per Share	7.36	3.21	4.37	2.42	4
Price/Earnings Ratio	6.54	15.35	11.54	21.06	17.11
Dividend Payout	0.52	0.89	0.51	0.71	0.32
Dividend/Yield	4.25%	4.62%	4.82%	4.28%	4.41%
Book Value per Share	10.56	5.53	4.03	2.96	13.57
Year-End Market Price	51.09	49.12	40.69	39.27	39.49

GROWTH ANALYSIS	**2017**	**2016**	**2015**	**2014**	**2013**
GP Growth				-	
Sales Growth	-0.04%	-4.29	3.57%	5.42%	
NI Growth	124%	-25.94%	53.69%	-49.22%	
Operating Profit Margin	23.16%	22.28%	25.12%	15.42%	26.52%

COST CONTROL	**2017**	**2016**	**2015**	**2014**	**2013**
Growth in Operating Expenses	-0.30%	0.37%	-0.08%	21.27%	
COGS/Sales	40.90%	40.82%	39.93%	39.29%	37.27%
Interest Exp./Sales	3.76%	3.47%	3.74%	3.87%	2.21%

APPENDIX B: AT&T

T - INCOME STATEMENT

	dollars in millions				
Years Ended December 31,	2017	2016	2015	2014	2013
Operating Revenues					
Service	145,597	$ 148,884	131,677	118,437	
Equipment	14,949	14,902	15,124	14,010	
Total operating revenues	160,546	163,786	146,801	132,447	128,752
Operating Expenses					
Cost of services and sales					
Equipment	18,709	18,757	19,268	18,946	
Broadcast, programming and operations	21,159	19,851	11,996	4,075	
Other cost of services (exclusive of depreciation and amortization shown separately below)	37,511	38,276	35,782	37,124	51,464
Selling, general and administrative	34,917	36,347	32,919	39,697	28,414
Impairment of intangible assets		-	-	-	-
Asset abandonments and impairments	2,914	361	35	2,120	-
Depreciation and amortization	24,387	25,847	22,016	18,273	18,395
Total operating expenses	139,597	139,439	122,016	120,235	98,273
Operating Income	20,949	24,347	24,785	12,212	30,479
Other Income (Expense)					
Interest expense	(6,300)	(4,910)	(4,120)	(3,613)	(3,940)
Equity in net income of affiliates	(128)	98	79	175	642
Other income (expense) - net	618	277	(52)	1,581	596
Total other income (expense)	(5,810)	(4,535)	(4,093)	(1,857)	(2,702)
Income Before Income Taxes	15,139	19,812	20,692	10,355	27,777
Income tax expense	(14,708)	6,479	7,005	3,619	9,224
Net Income	29,847	13,333	13,687	6,736	18,553
Less: Net Income Attributable to Noncontrolling Interest	(397)	(357)	(342)	(294)	(304)
Net Income Attibutable to AT&T	29,450	12,976	13,345	6,442	18,249
Basic Earnings Per Share Attributable to AT&T	4.77	2.10	2.37	1.24	3.39
Diluted Earnings Per Share Attributable to AT&T	4.76	2.10	2.37	1.24	3.39

T - BALANCE SHEET

Year Ended December 31,	2017	2016	2015	2014	2013
Assets					
Current Assets					
Cash and cash equivalents	$ 50,498	$ 5,788	5,121	8,603	3,339
Accounts receivable - net allowances for doubtful accounts of $661 and $704	16,522	16,794	16,532	14,527	12,918
Prepaid expenses	1,369	1,555	1,072	831	960
Deferred income taxes				1,142	1,199
Other current assets	10,757	14,232	13,267	6,925	4,780
Total current assets	79,146	38,369	35,992	32,028	23,196
Property, Plant and Equipment - Net	125,222	124,899	124,450	112,898	110,968
Goodwill	105,449	105,207	104,568	69,692	69,273
Licenses	96,136	94,176	93,093	60,824	56,433
Customer Lists and Relationships - Net	10,676	14,243	18,208	-	-
Other Intangible Assets - Net	7,464	8,441	9,409	6,139	5,779
Investments in Equity Affiliates	1,560	1,674	1,606	250	3,860
Other Assets	18,444	16,812	15,346	10,998	8,278
Total Assets	444,097	403,821	402,672	292,829	277,787
Liabilities and Stockholder's Equity					
Current Liabilities					
Debt maturing within one year	38,374	9,832	7,636	6,056	5,498
Accounts payable and accrued liabilities	34,470	31,138	30,372	23,592	21,107
Advanced billings and customer deposits	4,213	4,519	4,682	4,105	4,212
Accrued taxes	1,262	2,079	2,176	1,091	1,774
Dividends payable	3,070	3,008	2,950	2,438	2,404
Total current liabilities	81,389	50,576	47,816	37,282	34,995
Long-Term Debt	125,972	113,681	118,515	76,011	69,290
Deferred Credits and Other Noncurrent Liabilities					
Deferred income taxes	43,207	60,128	56,181	37,544	36,308
Postemployement benefit obligation	31,775	33,578	34,262	37,079	29,946

Other noncurrent liabilites	19,747	21,748	22,258	17,989	15,766
Total deferred credits and other noncurrent liabilities	94,729	115,454	112,701	92,612	82,020
Stockholder's Equity					
Common stock ($1 par value, 14,000,000,000 authorized at Dec. 31, 2016 and 2015: issued, 6,495,231,088 at December 31, 2016 and 2015)	6,495	6,495	6,495	6,495	6,495
Additional paid-in capital	89,563	89,604	89,763	91,108	91,091
Retained earnings	50,500	34,734	33,671	27,736	31,141
Treasury stock (356,237,141 at December 31, 2016 and 350,291,239 at December 2015, at cost)	(12,714)	(12,659)	(12,592)	(47,029)	(45,619)
Accumulated other comprehensive income	7,017	4,961	5,334	8,060	7,880
Noncontrolling interest	1,146	975	969	554	494
Total stockholder's equity	142,007	124,110	123,640	86,924	91,482
Total Liabilities and Stockholder's Equity	444,097	403,821	402,672	292,829	277,787

T - RATIO ANALYSIS

LIQUIDITY	2017	2016	2015	2014	2013
Current Ratio	0.97	0.76	0.75	0.9	0.66
Quick Ratio	0.97	0.76	0.75	0.9	0.66
Cash Ratio	0.62	0.11	0.11	0.23	0.1
Inventory Turnover	34.78	37.71	16.62	31.36	44.83
Receivables Turnover	9.72	9.75	8.88	9.12	9.97
Payables Turnover	3.17	3.49	3.19	4.05	4.45
Working Capital Turnover	-	-	-	-	-
Average Inventory Processing Period	10	10	22	12	8
Add: Average Receivable Collection Period	38	37	41	40	37
Operating Cycle	48	47	63	52	45
Less: Average Payables Payment Period	115	105	115	90	82
Cash Conversion Cycle	-67	-58	-52	-38	-37

LONG-TERM DEBT-PAYING ABILITY	2017	2016	2015	2014	2013
Debt to Equity	1.17	1	1.03	0.95	0.82
Debt to Capital	0.54	0.5	0.51	0.49	0.45
Interest Coverage	3.4	5.04	6.02	3.76	8.05

PROFITABILITY	2017	2016	2015	2014	2013
Net Fixed Asset Turnover	1.28	1.31	1.18	1.17	1.16
Total Asset Turnover	0.36	0.41	0.36	0.45	0.46
Equity Turnover	1.14	1.33	1.2	1.53	1.42

	2017	2016	2015	2014	2013
Return on Sales					
Gross Profit Margin	51.80%	53.06%	54.33%	54.24%	60.03%
Operating Profit Margin	13.05%	14.87%	16.88%	8.87%	23.67%
Net Profit Margin	18.34%	7.92%	9.09%	4.70%	14.17%
Return on Investment					
Return on Equity	20.91%	10.54%	10.88%	7.21%	20.06%
Return on Assets	6.63%	3.21%	3.31%	2.13%	6.57%

INVESTOR ANALYSIS	**2017**	**2016**	**2015**	**2014**	**2013**
Degree of Financial Leverage	3.15	3.28	3.28	3.39	3.05
Earnings per Share	4.76	2.1	2.37	1.24	3.42
Price/Earnings Ratio	7.67	19.63	17.05	28.42	9.36
Dividend Payout	0.49	0.48	0.47	0.46	0.45
Dividend/Yield	5.10%	4.90%	5.70%	5.20%	5.40%
Book Value per Share	22.94	20.06	19.96	17.3	17.41
Year-End Market Price	27.38	27.56	29.86	38.78	37.25

GROWTH ANALYSIS	**2017**	**2016**	**2015**	**2014**	**2013**
GP Growth	-4.29%	8.96%	10.30%	-6.45% -	
Sales Growth	-1.98%	11.57%	10.83%	2.87% -	
NI Growth	123.86%	-2.59%	103.19%	-63.70%	
Operating Profit Margin	13.05%	14.87%	16.88%	8.87%	23.67%

COST CONTROL	**2017**	**2016**	**2015**	**2014**	**2013**
Growth in Operating Expenses	0.11%	14.28%	1.48%	22.35%	
COGS/Sales	48.20%	46.94%	45.67%	45.41%	39.97%
Interest Exp./Sales	3.92%	3.00%	2.81%	2.73%	3.06%

APPENDIX C: FINANCIAL VALUATION

PROJECTED PARAMETERS

	3-year Average	2018	2019	2020	2021	2022
Verizon Communications						
Ratios to calculate operating profit						
Sales growth rate	-0.25%	4.00%	4.00%	4.00%	4.00%	4.00%
COGS/Sales	40.55%	42%	42%	42%	42%	42%
Operating Expenses/Sales	36.66%	37.00%	37.00%	37.50%	37.50%	38.00%
Depreciation/Net PPE	19.04%	19%	19%	19%	19%	19%
Ratios to calulate operating capital						
Cash/Sales	2.44%	2.45%	2.45%	2.45%	2.45%	2.45%
Inventory and Other/Sales	0.91%	0.95%	0.98%	1%	1.02%	1.05%
Accts. Rec./Sales	14.25%	14%	13.50%	13.50%	13%	13%
Net PPE/Sales	67%	67%	67%	67%	67%	67%
Accts. Pay./Sales	15.70%	16%	16%	16%	16%	16%
Ratios to calculate operating taxes						
Tax Rate (Taxes/EBT)	21%	21%	21%	21%	21%	21%
Dividend and debt ratios						
Dividend policy: growth rate	2.60%	2.80%	2.80%	3.00%	3.00%	3.00%
Long-term debt/Operating assets	43.22%	44%	44%	44%	44%	44%
Interest Rates						
Interest rate on debt	4.20%	4.50%	4.50%	4.70%	4.70%	4.70%

VZ - WACC CALCULATION

Cost of Capital Calculation:

Proportions pf Long-Term Debt and Equity Financing	**Value**	**Source**
Market Price of Stock As of 11/23/2018	\$58.64	Given, per share
Shares of Common Stock Outstanding (millions)	4,140	Given, VZ 10-K
Current Market Value of Equity	\$242,769.60	Price Per Share x Shares Outstanding
Book Value of Long-Term Debt	\$109,537.50	Given, VZ 10-K, Most Recent Information
Current ratio of book value of debt to sum of book value of debt and market value of equity	31%	Calculated from above info.
Target ratio of book value of debt to sum of book value of debt and market value of equity	31.09%	Judgment, based on historical ratios in historical sheet and market conditions
Target ratio of market value of equity to sum of book value of debt and market value of equity	69%	1 minus the debt ratio

Estimate Cost of Equity

Beta	1.3	Given
Risk free rate	4.00%	Economic Indicators
Market risk premuim	6%	Personal Judgement Based on Other Scholars
Cost of Equity	11.800%	Calculated from Information Above
Cost of Debt		
Interest Rate on Debt	4.20%	From Inputs Worksheet
Tax Rate	21%	From Inputs Worksheet
After-Tax Cost of Long-Term Debt	3.32%	From Inputs Worksheet
Calculation of WACC		
WACC =	**9.16%**	Calculated from Information Above

VZ - HISTORICAL FREE CASH FLOW

Free Cash Flow Calculations	2017	2016	2015
Operating Income	$ 27,414	$ 27,059.00	$ 33,060.00
Tax on Operating Income	$ 13,253.07	$ (5,682.39)	$ (6,942.60)
NOPAT	$ 14,160.93	$ 32,741.39	$ 40,002.60
Net Operating WC	$ 329	2002	-183
Net Operating Long Ter Assets	$ 227,230	$ 226,898	$ 230,829
Invested Capital	$ 227,559	$ 228,900	$ 230,646
Net Investment	$ (1,341)	$ (1,745)	
Free Cash Flow	$ 15,502.40	$ 34,486.44	
Growth in FCF	-55.05%		
ROIC	6.19%	14.20%	

VZ - VALUATION

Enterprise Value (AT&T)	404122
EBITDA (AT&T)	52225
	7.74
EBITDA (Verizon)	43550
EV (Verizon)	336994.028
Financial Debt (Verizon)	212456
Intrinsic Equity Value	124538.028
Shares Outstanding	2089
Price Per Share	**$ 59.62**

VZ - PROJECTED FREE CASH FLOW

	2017 Actual	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022
Operating Income	$ 27,414	$ 29,331.81	$ 30,505.08	$ 31,725.29	$ 32,994.30	$ 34,314.07
Tax on Operating Income	$ 13,253	$ 6,159.68	$ 6,406.07	$ 6,662.31	$ 6,928.80	$ 7,205.95
NOPAT	$ 14,161	$ 23,172.13	$ 24,099.02	$ 25,062.98	$ 26,065.50	$ 27,108.12
Net Operating WC	$ 329	$ 2,594	$ (1,141)	$ (3,264)	$ (5,293)	$ (5,203)
Net Operating Long Ter Assets	$ 227,230	$ 226,898	$ 230,829	$ 234,900	$ 239,120	$ 243,492
Invested Capital	$ 227,559	$ 229,492	$ 229,688	$ 231,637	$ 233,826	$ 238,289
Net Investment	$ (1,341)	$ 1,933	$ 196	$ 1,949	$ 2,190	$ 4,462
Free Cash Flow	$ 15,502	$ 21,239.00	$ 23,903.12	$ 23,114.30	$ 23,875.72	$ 22,645.95
		$ 21,868.17	$ 24,148.68	$ 23,230.67	$ 23,689.08	$ 22,358.97
ROIC	**6.19%**	**10.18%**	**10.50%**	**10.91%**	**11.25%**	**11.59%**

VZ - VALUATION

WACC	9%	9%
NPV Explicit period	$ 88,706	$ 87,606.13
HV	$ 456,181	$ 381,017.62
NPV Horizon Value	$ 294,282	$ 245,794

Value Operations	$ 382,988
Debt	$ 117,095
Equity	$ 265,893
# shares	$ 4,127
Estimated Price/Share	**$ 64.43**

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