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Verizon Communications Inc.

Ticker: NYSE: VZ

Sector: Communication Services

Industry: Telecom Services

Recommendation: **Long-Term Bullish (Buy) (5-year estimate)**

Current Price: \$42.54

Target Price: \$52.49 (5-year estimate)

Last Updated: 04/03/24



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Business Overview

Verizon Communications Inc. (VZ) is an American telecommunications conglomerate. Originally founded in 1984 as the Bell Atlantic Corporation because of the mandated breakup of AT&T, Verizon Communications, as it is known today, was formed in 2000 through a merger between Bell Atlantic and GTE. Headquartered in New York City, Verizon operates in two segments, Verizon Consumer and Verizon Business. Verizon Consumer provides high-speed internet, wireless network, television, Voice over Internet Protocol (VoIP), landline phone, DSL internet, and device financing services to households and individuals, accounting for 76% of Verizon's total revenue. Verizon Business provides network, cybersecurity, network, and Internet of Things (IoT) services to businesses, governments, the public sector, and educational institutions.

Guided by the mission of "deliver[ing] the promise of the digital world" and led by CEO Hans Vestberg, Verizon has grown to become the largest American telecommunications company by total revenue, with nearly 1,500 retail locations across the world and services in over 150 countries. Its Fios and FWA broadband products have displayed sustained growth, with an improvement from 7.4 million subscribers in 2022 to 9.1 million in 2023.

Revenue Streams

Verizon's two segments, Consumer and Business, generated a total of **\$131.7 billion** in external operating revenues in 2023. Verizon Consumer generated \$101.6 billion in revenues, 77.1% of Verizon's external operating revenues. Verizon Business generated \$30.1 billion in revenues, 22.9% of Verizon's external operating revenues. Verizon defines Verizon Consumer's revenue streams with three categories: service, wireless equipment, and others. Verizon Business' revenue streams are categorized as enterprise and public sector, business markets and other, and wholesale. Both segments also generate intersegment revenues.

Service (Consumer) - 56.83%

Verizon's primary sources of revenue are the wireless and wireline communications services it provides. These services often come in the form of monthly subscriptions and include DSL (Digital Subscriber Line) Internet, Fios Internet, television subscriptions, home phone services, and VoIP (Voice over Internet Protocol) services. Fios, Verizon's internet, phone, and television service portfolio, generated a total of **\$12.849 billion** in revenue in 2023. Verizon Consumer's Service revenue stream generated a total of **\$74.87 billion** in revenue in 2023.

Wireless Equipment (Consumer) - 15.67%

Verizon's second largest source of revenue is its wireless equipment. This includes products like Wi-Fi routers, Wi-Fi extenders, VoIP phones, TV equipment, and more. Revenue generated from wireless equipment totaled **\$20.65 billion** in 2023.

Other (Consumer) - 4.48%

Verizon classifies all other sources of revenue in this category. Revenue from this category includes device sales and financing, device protection plans, roaming fees, and regulatory and industry compliance fees. This totaled **\$5.90 billion** in 2023.

Enterprise and Public Sector (Business) - 11.44%

Verizon's largest source of revenue from its business segment comes from enterprise and public sector sales. Services provided include network, cybersecurity, cloud, and communications solutions, which are powered by Verizon's 5G technology. Revenue from these services totaled **\$15.08 billion** in 2023.

Business Markets and Other (Business) - 9.64%

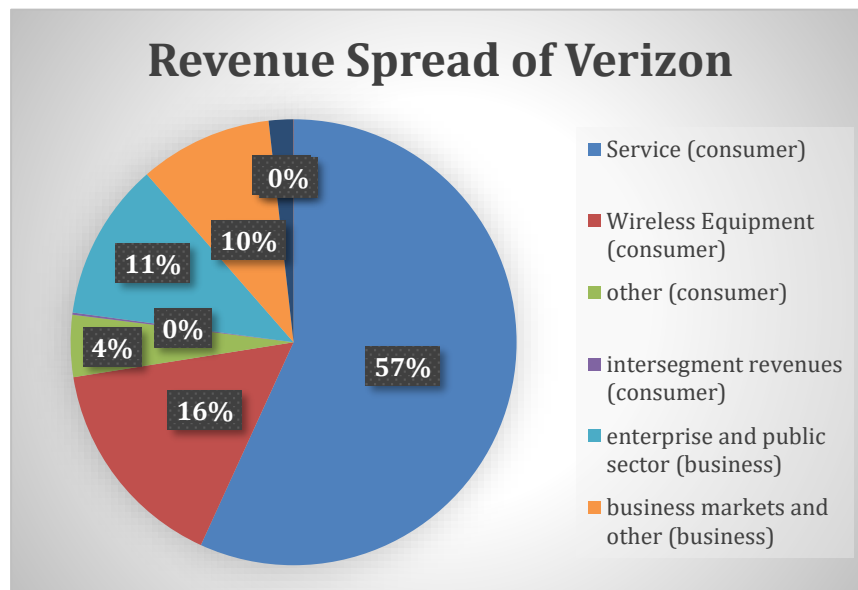
Verizon's second-largest source of revenue from its business segment is "Business Markets and Other." According to Verizon, Verizon Business Markets (VBM), launched in 2017, provides "FiOS (voice, broadband and TV service), IP networking, advanced voice solutions, security, managed IT services, etc." for businesses, governments, and educational institutions. This revenue stream generated **\$12.70 billion** in 2023.

Wholesale (Business) - 1.76%

Verizon's wholesale revenues from its business segment come from the telecommunications services it provides to businesses who in turn resell these services under their name. Revenue from these services totaled \$2.31 billion in 2023.

Intersegment Revenues (Consumer and Business) - 0.18%

Intersegment revenues are those generated by transactions between Verizon Consumer and Verizon Business. In 2023, Verizon Consumer generated \$209 million and Verizon Business generated \$36 million from these transactions.



Industry Overview:

The global communication network has undoubtedly been one of the prominent areas for continued technological advancements over the past few decades.

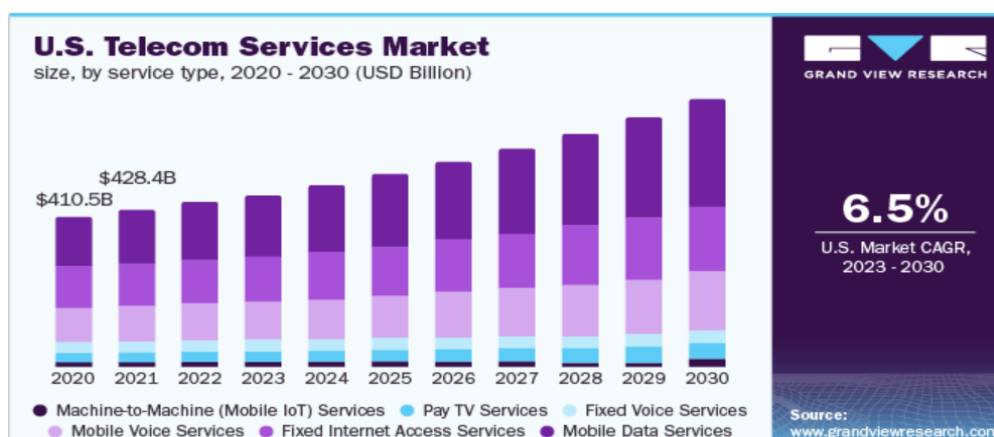


Figure 1

From Figure 1 we can see that the global telecom services market size is expected to expand at a compound annual growth rate (CAGR) of 6.5% from 2023 to 2030 from a base value in 2020 of \$410.5 billion. Rising spending on the deployment of 5G infrastructures due to the shift in customer inclination toward next-

generation technologies and smartphone devices is one of the key factors driving this industry. An increasing number of mobile subscribers, soaring demand for high-speed data connectivity, and the growing demand for value-added managed services are the other potential factors fueling the market growth.

Porter's 5 Forces Analysis

5

Porter's Five Forces business model reveals that the biggest problems for Verizon lie within its competitors and the low cost and effort of switching from one service provider to the next. Each force is evaluated on a scale of 1 to 5, 1 being the strongest and 5 being the weakest.

Competitors – 2.5 (moderately high)

When considering firms based on their expansion and market share, the wireless communication market is very competitive. Companies like T-Mobile and Sprint are swiftly catching up because of their proactive market expansion and aggressive price promotions, even if AT&T remains Verizon's primary rival. Even though Verizon has been able to provide the best network coverage since the start of this decade, its competitors have begun to invest in and enhance their infrastructure to raise the caliber of service. The other companies could develop this coverage and quality gap within the projected time range of five to ten years. For this reason, Verizon's rivals are constructing additional towers and associated equipment. As a result, the business might need to come up with fresh ideas to strengthen its edge over competitors.

- Low Product Differentiation
- High aggressiveness of telecommunications firms
- High exit barriers

Bargaining Power of Consumers – 2 (high)

Consumers have strong bargaining power in the wireless communication industry. Switching carriers is often easy and inexpensive, sometimes even beneficial due to absurd deals offered by companies. Verizon's competitors constantly run promotions offering perks specifically to customers who switch from Verizon. For example, Sprint ran a campaign in late 2015 and early 2016 to cut Verizon customers' bills by half. The promotion even covered the cost of terminating a Verizon contract early.

- Low information asymmetry
- Moderate switching costs
- Moderate price sensitivity

Threat of Substitutes – 2 (high)

The threat of substitutes goes hand in hand with the bargaining power of consumers and poses a huge risk. While Verizon argues that it can't be replaced by its competitors due to its less extensive coverage and inferior customer service (according to surveys), the lower prices of its competitor's boat are a constant temptation for current and future Verizon customers.

- Low Switching Costs
- High availability of substitutes
- Low performance-to-price ratio for substitutes

Bargaining Power of Suppliers – 5 (very low)

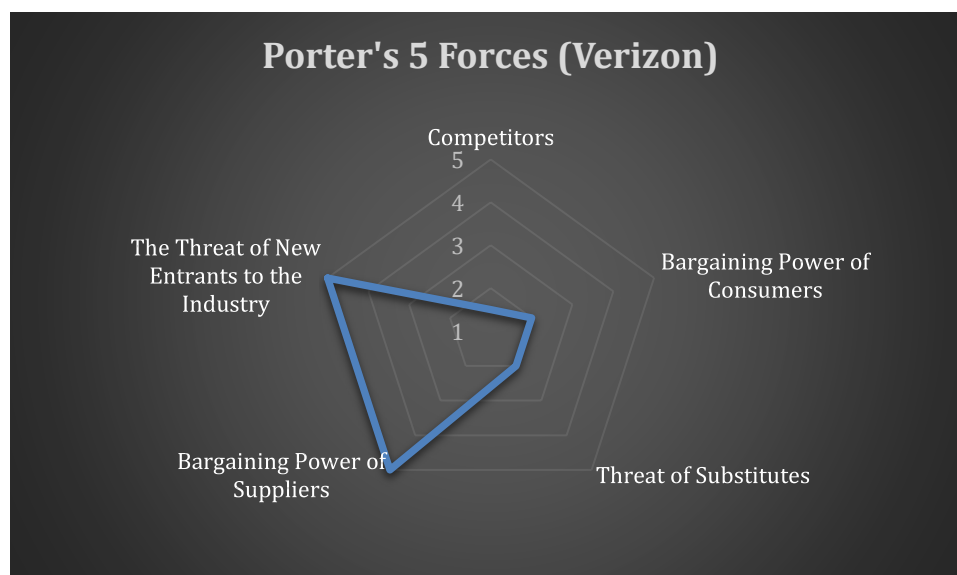
The suppliers to Verizon are not a major threat to the firm and have minimal negotiating strength. Verizon requests products from a plethora of suppliers to aid in the construction and expansion of network infrastructure as well as components to produce tangible goods. In contrast, these suppliers do not have the option to conduct business with a significant number of corporations that are as large and well-funded as Verizon. Due to this disparity, Verizon holds a disproportionate amount of leverage. Verizon can bargain from a position of strength, and if necessary, it can quickly move from one provider to another.

- Large size of individual suppliers
- Large population of suppliers
- Large Overall supply

The Threat of New Entrants to the Industry – 5 (very low)

New entrants to the marketplace pose a very low threat to Verizon. The cost of establishing a wireless company and building a network that can compete with a low-budget carrier, much less an industry behemoth such as Verizon, is substantial. Additionally, a wireless service company must navigate a labyrinth of government regulations before earning a dime. Even if a new player can bear the cost and get past the regulations, next comes the process of building a brand name that can compete. Verizon has been around since the early days of the industry and has spent years building its name. It is unlikely that a new company can arrive on the scene and clear the necessary hurdles to compete with Verizon.

- Moderate Switching Cost
- High capital requirement
- Government Regulations
- High competition



Moat Analysis (Wide Moat)

Brand Reputation and Scale

Verizon has built a strong brand reputation over the years, known for its [reliability](#), [network quality](#), and [customer service](#). This positive brand perception acts as a moat, as customers are often willing to pay a premium for Verizon's services due to the perceived value and trust associated with the brand. Verizon's vast subscriber base and infrastructure scale provide it with [cost advantages](#) and [economies of scale](#). The company can spread its network maintenance and upgrade costs across a large customer base, making it difficult for smaller competitors to match its level of investment and service quality.

Pace of Innovation

Verizon's competitive edge is significantly bolstered by its commitment to innovation. The company has made [substantial investments in pioneering technologies](#) like 5G, positioning itself at the forefront of the industry. For example, in

2021, Verizon bid \$45.4 billion on C-Band spectrum, which it hoped to deploy in its cell towers, in an auction hosted by the Federal Communications Commission (FCC). This was substantially more than AT&T's \$23.4 billion and T-Mobile's \$9.3 billion bids. Since then, Verizon has implemented this technology to cover approximately 242 million people in the United States. This vital technology helped Verizon's pioneering launch of the first commercial 5G network in the United States, granting it a considerable lead over its rivals.

Innovation holds paramount importance within the telecommunications sector due to its perpetual evolution. With new technologies and services constantly emerging, companies that fail to swiftly adapt face the risk of lagging behind. Through its dedication to innovation, Verizon has successfully maintained its leadership position by outpacing competitors and continuously staying ahead of the curve.

Customer Service

Verizon's dedication to customer service is a significant advantage in the competitive telecommunications market. Through substantial investments in a comprehensive support infrastructure, including call centers, online assistance, and in-store support, the company has earned a reputation for providing top-tier service. This recognition is underscored by numerous awards for excellence in customer service. Given the abundance of choices available to consumers in the telecommunications sector, maintaining high-quality customer service is paramount. By consistently delivering exceptional support, Verizon has fostered customer loyalty and upheld its position as an industry leader.

Customer Retention

As the percentage of households with home internet connection grows closer to 100% (see Appendix Figure A), the customer growth rate of the telecommunications industry will decrease, rendering the need to build a strong brand image and loyal customer base increasingly important. Verizon has recognized this, and, in addition to its first-rate customer support, offers various customer loyalty programs such as its [55+ Unlimited Plan for seniors](#) and [loyalty discounts](#) to customers who have stayed with the provider for more than 3 months.

Investment Risks:

- **Competition and Brand Reputation:** At their core, the main services offered by Verizon, AT&T, Comcast, T-Mobile, and other telecommunications companies are very similar: consumers choose a provider with the expectation of obtaining a reliable internet connection, cellular service, and/or cable television. Thus, given these factors and the ease of switching providers, these companies must make efforts to maintain a [positive reputation](#) and [retain their customers](#).
- **Dependency on and Vulnerability of Infrastructure:** One of Verizon's flagship products is its 5G cellular service. Verizon has implemented cell tower technology to cover approximately 242 million people in the United States. However, cell towers are [vulnerable to natural disasters and hostile acts](#). These events may lead to interruptions in cellular service, which would lower revenues and damage Verizon's reputation. Thus, Verizon has implemented various measures such as barriers and backup power systems to mitigate this risk.
- **Labor disputes:** 24% of Verizon's workforce is a member of the Communications Workers of America or the International Brotherhood of Electrical Workers [labor unions](#). Though Verizon states that it has collective bargaining agreements with these labor unions, there have been numerous disputes between the company and these labor unions in recent years. Most notably, on April 13, 2016, [40,000 workers](#) (24.6% of Verizon's workforce at the time) embarked on a 45-day strike over concerns regarding wages, job security, pension, healthcare contributions, and work assignments to different locations. As a result of this, Verizon's revenue fell from \$32.2 billion in its first quarter to \$30.5 billion in its second quarter and its earnings per share fell from \$1.06 to \$0.17 (see Appendix Figure B). In the telecommunications industry, the high threat posed by substitutes makes labor shortages especially consequential given the potential decline in customer service and ease of switching providers for consumers. Thus, given the continued presence of Verizon employees in these labor unions, Verizon must ensure that it's able to meet the demands of its workers to prevent labor strikes and their consequences from occurring.
- **Regulation:** Verizon has faced numerous [class action lawsuits](#) in past years over claims of data throttling, cramming charges, and privacy concerns, for which it has reached multiple settlements. Most recently, it has reached a [\\$100 million settlement](#) for improperly disclosing a monthly administration fee for its services, which Verizon customers can claim until April 15, 2024. Although such lawsuits aren't uncommon for companies of

Verizon's scale, Verizon must be careful to ensure that it doesn't obtain a reputation for the malpractices alleged by these lawsuits.

- **Debt:** The external fund manager Li Lu stated, "The biggest investment risk is not the volatility of prices, but whether you will suffer a permanent loss of capital." And as we can see from Verizon, debt is present but is it a concern to shareholders? Verizon currently carries 148 billion dollars of debt as of its last quarterly financial statement. We think so as if we are just looking at balance sheet health, Verizon's liabilities outweigh the sum of its cash and near-turn receivables. We'd go so far as to say Verizon Communications' level of total liabilities was disappointing. But on the bright side, its interest cover is a good sign and makes us more optimistic.

ESG Considerations

CSHub ranks Verizon's ESG rating in the [96th percentile](#). Verizon's longstanding commitment to addressing each of the three pillars (Environment, Social, Governance) is displayed through its annual ESG reports, which it has published since 2004. These efforts have consistently placed it 10-20 percentile points above the industry average (see [Appendix Figure C](#)).

Environment

- **Carbon Reduction Strategy:** Since 2019, Verizon has voluntarily reported its scope 1 (direct sources), 2 (indirect emissions from energy purchased by Verizon), and 3 (indirect emissions from Verizon's upstream and downstream value chain) emissions (see [Appendix Figure D](#)). Verizon expects to reach [net-zero emissions by 2035](#).
 - Through initiatives to decarbonize its infrastructure and fleet, Verizon has reduced its scope 1 emissions by [24%](#) from 2019 to 2022.
 - Through initiatives to more efficiently manage energy and transition to renewable energy, Verizon has reduced its scope 2 emissions by [10.9%](#) from 2020 to 2022.
 - Through initiatives to reduce the emissions of suppliers and products, Verizon has reduced its scope 3 emissions by [15%](#) from 2019 to 2022.
- **Resource Management:** Verizon has implemented water conservation measures, reducing its water consumption by [15.7%](#) from 2019 to 2022. Furthermore, Verizon sustainably sources at least 50% of its paper and holds a strong commitment to reducing, reusing, and recycling materials such as plastic. In 2023, Verizon recycled and reused almost [79 million pounds](#) of materials.
- **Technology Solutions:** Through Verizon's IoT solutions, Verizon and its customers can reduce their emissions. These solutions prevented the emission of [20.13 million metric tons of CO₂](#) in 2023 (see [Appendix Figure E](#)).

Social

- **Digital Equity:** Verizon summarizes its strategy to promote digital equity with four categories: advocacy, access, affordability, and adoption.
 - Verizon's CEO chairs the [World Economic Forum's EDISON Alliance](#) and is a member of the [UN Broadband Commission for Sustainable Development](#). Both initiatives work to give each person an opportunity to participate in the digital world.
 - Through the Investment in Infrastructure and Jobs Act, Verizon obtained funding to help improve internet access in rural and underserved areas. Its 4G LTE network covers [99%](#) of the U.S. Population. Verizon also participates in the [Lifeline program](#), which subsidizes internet services for low-income individuals.
 - Verizon uses its resources to equip students, teachers, and small businesses with the digital skills necessary to succeed.
 - [Verizon Small Business Digital Ready](#) provides support through courses, coaching, networking, and grants to small businesses.
 - Since 2012, Verizon has invested \$1.2 billion into [Verizon Innovative Learning](#), a program that provides schools with access to technology, internet access, and STEM courses (see [Appendix Figure F](#)).
- **Welfare:** Verizon has made numerous efforts to provide communities with resources for financial security and opportunities for professional success. It also encourages its employees to engage with their communities.
 - The [Verizon Forward for Good Accelerator](#) is a 16-week program where startups receive \$50,000 in funding, coaching, mentoring, and networking opportunities.

- In 2023, Verizon invested \$27 million into [Verizon Skill Forward](#), a program that is designed to train participants in skills needed to achieve occupational success. Since 2019, the program has provided training for 45,000 individuals.
 - Since 2019, Verizon employees have dedicated 2.1 million hours to volunteering efforts.
 - The [Verizon Foundation](#) matches employee donations up to \$1,000. If an employee volunteers for at least 50 hours at an approved nonprofit organization during a year, the Verizon Foundation makes a \$750 donation to that nonprofit organization.
 - Verizon employees are provided with various [employee resource groups \(ERGs\)](#) like the Verizon ADVANCE (Advocates for Disability, Accessibility, Neurodiversity and Caregiver Empowerment) ERG, BOLD (Black Originators, Leaders and Doers) ERG, and VALOR (Veterans and Advocates Leading the Organization Responsibly) ERG.
 - Verizon's [Pro Bono program](#) supports victims of domestic abuse, veterans, and immigrants. The program provides legal guidance to small businesses, nonprofits, and students from disadvantaged communities.
- **Diversity:** Verizon scored 100% on the Disability Equality Index, is listed as the [third-most military-friendly company](#) on the 2023 Military Friendly Company List, and has spent [\\$55 billion](#) with “diverse suppliers” in the past decade.

Corporate Governance

- **CEO:** The current CEO of Verizon is [Hans Vestberg](#), who has been leading the company since August 2018. Under his leadership, Verizon has focused on innovation, expanding its network infrastructure, and delivering superior customer experiences.
- **Board of Directors:** Verizon's Board of Directors comprises a diverse group of experienced professionals from various industries. They provide strategic guidance and oversight to ensure the company's long-term success. Some notable members include [Marni Walden](#), former Executive Vice President and President of Global Media at Verizon, and [Melody Barnes](#), Co-Founder and Principal at MB2 Solutions LLC.
- **Shareholders:** Notable shareholders of Verizon include [Vanguard](#) (8.326%), [BlackRock](#) (6.363%), [State Street](#) (4.357%), and [Charles Schwab](#) (2.212%). Institutional investors own 61.6% of Verizon's outstanding shares.

Verizon also shares an employee code of conduct which helps their employees put the company's core values into their work and actions.

Artificial Intelligence (AI) Considerations

Opportunities

- **Efficiency:** The implementation of AI will allow Verizon to automate mundane and repetitive tasks such as customer service and network configurations. This will reduce the likelihood of human error and allow its employees to allocate more time toward more complex issues. Furthermore, AI may help Verizon hasten its maintenance procedures and optimize its data systems through simulations and checks, which may reduce the likelihood of outages and improve network efficiency.
- **New Technologies:** Historically, Verizon has higher quarter 4 revenues ([see Appendix Figure G](#)), due to increased consumer spending on electronics in the holiday season and product launches like the iPhone. As tech companies race to implement new features into their products, a sizable device upgrade cycle is likely to occur, which will translate to increased revenues for Verizon through its device sales and financing revenue stream.

Risks

- **Competition:** Given the powerful capabilities of artificial intelligence and its projected growth in the telecommunications industry ([see Appendix Figure H](#)), Verizon must effectively navigate new developments to ensure it retains its firm standing in the market.
- **Regulation:** As of now, AI regulation is sparse. However, according to a Pew Research Center survey, [70%](#) of Americans have little to no trust in companies to responsibly integrate AI into their products. Thus, we can expect

companies to be hit with regulations in the future, though the extent of them can only be speculated upon as of now.

We believe that if Verizon can keep up with developments in the AI industry and stay in line with regulations, the development of artificial intelligence will have a net positive effect on its business.

Financial Analysis

Stock Chart Analysis

Verizon has hit four peaks in 1999, 2013, 2015, and 2020 apparent from its all-time chart ([see Appendix Figure H](#)). It recently has fallen due to the evidence of the company using lead-sheathed telecom cables which pose a large health risk to users (lead exposure). However, we found their ESG score so high (especially the environmental) that we feel we can ignore this as they practice ethical business actions. It was also not immune to the aftermath of the global financial crisis where it fell from its 1999 peak of 61 dollars slowly down to around the 32.5-dollar mark, but it was proven to recover again and again. Thus, although it has recently been on a downward spiral, past trends along with the company's ethical practices prove that the stock will rebound.

Discounted Cash Flow Model

We performed a simple DCF analysis on Verizon, using a 5-year Growth Rate of 6.2% (what we found the industry was estimated to grow at according to our research) and a Market Return Rate of 13.50% (we believe it will be this aggressive because of the Rise of AI). The following graphs depict Verizon's 5-Year Unlevered Cash Flow Forecast and a 5-Year DCF Revenue Model (as well as the statistics used in the DCF Spreadsheet):

Discounted Cash Flow Verizon (In Millions)						
Assumptions pt1		Assumptions pt2				
Growth rate	6.2%	Beta		0.4		
EV/EBITDA Multiple	8.66x	Market Return		14%		
Cost of Debt	7%	Equity value		178,850		
Tax Rate	23%	Debt value		148,609		
5y Treasury	4.3%					
Period	0	1	2	3	4	5
Free Cash Flows						
EBIT		30,378	28,798	32,448	30,467	22,877
Tax		(2,126)	(2,016)	(2,271)	(2,133)	(1,601)
DeA		16,682	16,720	16,206	17,099	17,624
CapEx		(17,939)	(18,192)	(20,266)	(23,087)	(18,767)
Non-cash Work. Capital (inc) / dec		(9,989)	(7,237)	(13,353)	(14,919)	(18,474)
FCF		17,006	18,073	12,744	7,427	1,659
WACC						
Cost of Equity	7.82%					
D/D+E	45.38%					
E/D+E	54.62%					
WACC	6.53%					
Terminal Value						
EBITDA						40,501
Exit Multiple (EV/EBITDA)						350,880
Perpetuity Growth						528,343
Average						439,612
Discounting						
Discount Factor		0.94	0.88	0.83	0.78	0.73
PV of FCF		15,963	15,924	10,540	5,766	1,209
PV of TV						320,362
Enterprise Value	369,763					
Enterprise Value to Equity Value						
Cash	2,065					
Marketable Securities	7					
Short term Debt	12,973					
Long term Debt	137,701					
Equity Value	221,161					
Shares Outstanding	4,213					
Implied Share Price	52.49					

Future Valuation – DCF Model Flaws & Target Price

The current price of Verizon is heavily undervalued due to the recent lead-sheathed wires fiasco which resulted in public panic and disapproval. However, Verizon is such a prominent brand and has such a large MOAT that we are certain the price will rebound. Not only does it hold a competitive advantage over its competitors using its brand, but it also has superior ESG guidelines as it falls into CSRHub's 96th percentile in ESG rating. We have no doubt this will boost the company not only in rebounding from the recent panic but also in helping the company grow in the future. This is why we had such an aggressive Market Return rate when using the DCF model and along with the industry's high growth rate due to AI we reached the estimated price of \$52.49.

Metrics

Market Cap	\$179.093B
Enterprise Value	\$350.88B
Gross Margin	59.03%
Operating Margin	17.08%
P/E Ratio	8.98
P/Book Ratio	1.93
Dividend Yield	6.23%
Interest Coverage	4.08

Sources: Yahoo Finance, TradingView, and Macrotrends

Investment Thesis

We rate Verizon Communications Inc. (VZ) as a **BUY** with a target price of \$52.49. We make this rating because of the following factors:

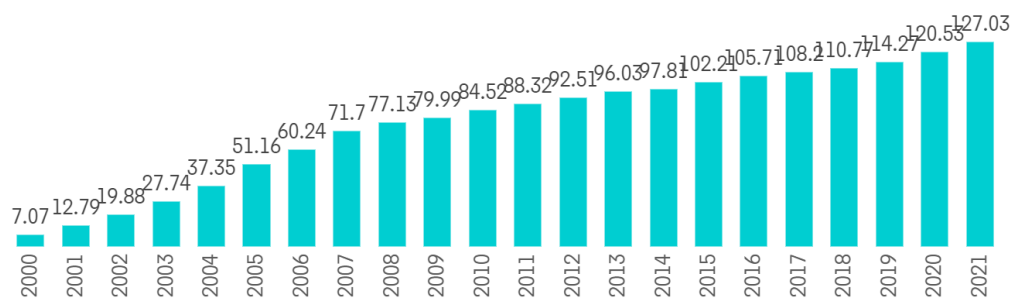
- Consistent Results and Financial Health:** Having been a key player in the telecommunications industry for decades, Verizon has a long track record of sustained success. In recent years, its annual gross profit has strictly increased year over year, rising from \$77.091 billion in 2020 to \$79.087 billion in 2023. Its broadband subscriber counts have also shown healthy growth—in 2023, Verizon gained 1.7 million broadband subscribers, an improvement from a 1.5 million net gain in 2022. Verizon's gross and operating margins, 59.03% and 17.08%, are indicative of an effective cost structure, especially given the scale of Verizon's business. With its continued growth and healthy cost structure, Verizon will be able to retain its position as an industry leader and have the means to further evolve its business.
- Competitive Positioning:** Verizon's focus on innovation and stellar customer service allows it to continuously outcompete its competitors and earn its spot as the largest US-based telecommunications company by revenue. The initiative Verizon took, being the first carrier to release 5G services and being the largest bidder in the FCC's C-Band auction, has cemented its position as a leading innovator in its industry and established a brand of reliability and quality. Verizon's stellar customer service, which was ranked #1 in customer satisfaction with small businesses by J.D. Power, and numerous customer loyalty programs, have also helped make it a consumer favorite. The attention Verizon has placed on these key aspects gives it the edge it needs to succeed in the competitive telecommunications market.
- Potential for Growth:** The recent explosion of AI provides an enormous opportunity for Verizon. Already, Verizon has begun using AI to improve its customer service department and optimize its data systems. These changes will greatly reduce Verizon's operating expenses, further improving its already stellar financials. Furthermore, many of Verizon Business' services, such as its IoT solutions, serve to benefit from the burgeoning market for AI. The recent appointment Jeffrey Hulse, who has expressed his intent to expand Verizon's wholesale revenue stream, to Senior Vice President of Verizon Partner Solutions is also indicative of Verizon's intention to use recent developments in technology to expand Verizon Business. These developments will likely expand

Verizon's business segment and improve the efficiency of Verizon's consumer segment, greatly increasing Verizon's potential consumer base and profitability.

Appendix

Figure A:

Number of fixed broadband subscriptions in the United States from 2000 to 2021



Source: ITU



Figure B:

Verizon Communications (NYSE:VZ) Earnings Per Share

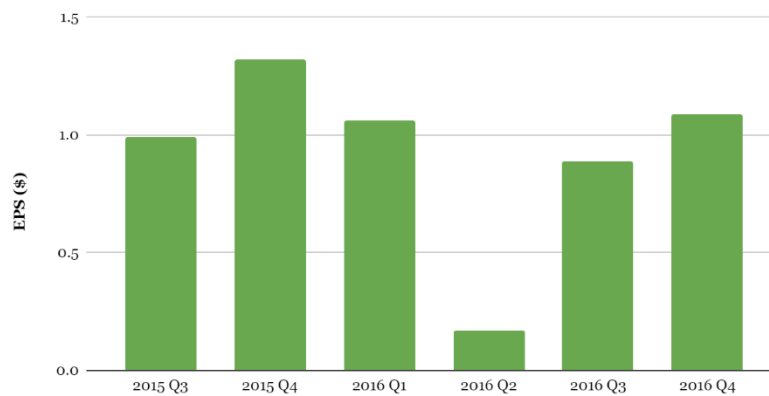


Figure C:

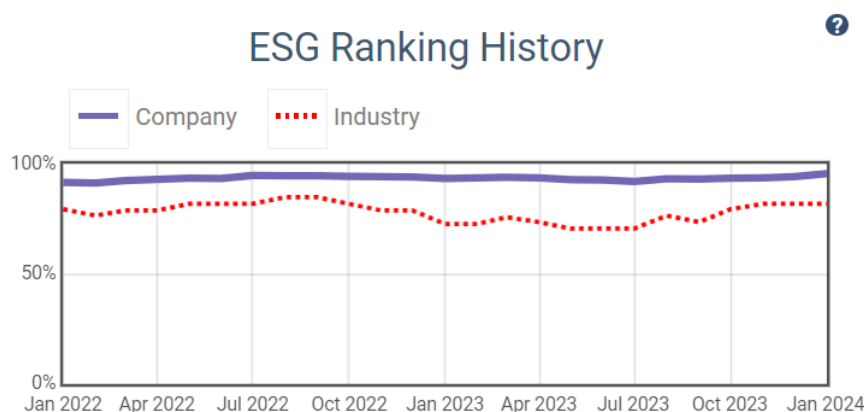


Figure D:

GHG emissions CO ₂ e	2020	2021	2022	% Change 2019 vs. 2022
Scope 1	336,831	310,145	273,904	-24%
Scope 2 (location-based)	3,753,660	3,554,155	3,498,643	-13%
Scope 2 (market-based)	3,627,972	3,222,342	3,075,077	-23%
Total scope 1 & 2 (location-based)	4,090,491	3,864,300	3,772,547	-14%
Total scope 1 & 2 (market-based)	3,964,803	3,532,488	3,348,981	-23%
Scope 3	15,640,414	15,267,192	14,401,431	-15%

Figure E:

Emission source	Verizon solution	Measurement	CO ₂ e avoided (metric tons)
Travel to work	Telecommuting	Reduction in miles driven (gallons of gas not used)	8,195,406
Transportation	Telematics		7,658,614
Parking	Smart parking meters		45,433
Building	Smart building management	Reduction in kilowatt hours (kWh) of energy used	1,694,950
Power grids	Smart meters and demand response units		2,039,474
Health care	Remote patient monitoring	Reduction in miles driven and number of days in hospital	497,565
2023 CO₂e avoided (metric tons)			20,131,442

Figure F:

Impact by the numbers**Verizon Innovative Learning Schools****592** total schools since 2014**64,217** students in 2023**84%** students in 2023 were eligible to receive free or reduced-cost lunch**Teacher feedback*****75%** said program enhanced student engagement**73%** said program enhanced ability to differentiate instruction**Verizon Innovative Learning Stem Achievers****11,775** middle school students in 2023**Student feedback*****90%** said they enjoyed learning new things that involved STEM**83%** said they can use STEM to impact issues affecting their communities, nation and the world

Figure G:

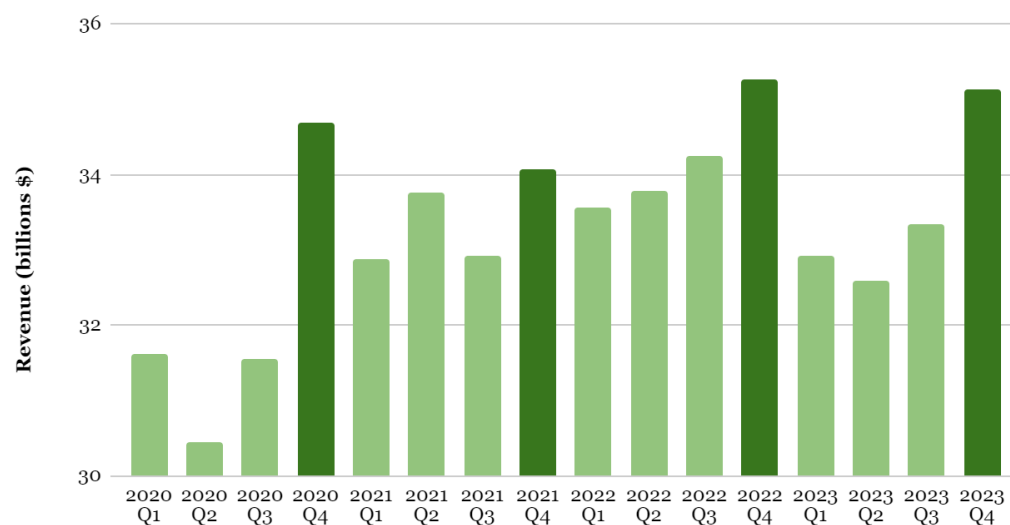
Verizon Communications (NYSE:VZ) Quarterly Earnings

Figure H:



Sources:

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[Verizon's stock slides toward lowest level in more than 12 years amid longest losing streak since 2017 - MarketWatch](#)

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