Verizon Communications Inc. ($VZ)

Bond Recommendation

Initiating with an outperform recommendation on the 2.95% bond and an outperform recommendation on the 4.13% bond (Figure 1, *1)

Coupon	Issue	Maturity	Moody's/ S&P	Amt. Out. ($MM)	Next Call	Call Price	Recent Price*	Current Yield	YTW	Spread	CDS Levels
2.95%	28-Apr-21	15-Mar-22	Baa1/BBB+	712,530	N/A	N/A	102.23	2.882	6.03026	587.06	N/A
6.40%	18/09/2013	15-Sep-33	Baa1/BBB+	388,602	N/A	N/A	135.822	4.754	3.02128	140.75	N/A

Figure 1

Contents

Merits

1. Financial Priorities: Verizon has been responsible about its finances and has announced to target a leverage ratio of 1.75x-2.0x. On 10th March, 2021, Verizon made the initial 20% (or $8.2B) spectrum payment using cash on hand. On March 24th, the remaining 80% was paid using a combination of bank financing, public debt, cash on hand and commercial paper. The expected C-Band impact to cash payments between 2021-2023 is going to be a $10B higher capital expenditure for C-Band, -$4B higher cash interest and-$5B lower cash taxes.
2. Accelerated growth: Verizon has been making calculated investments towards C-Band spectrum in order to amplify and accelerate opportunity. Verizon has a $10B C-Band spending plan spread over the next 3 years. There have also already been efforts to initiate the C-band build on existing infrastructure which has

resulted in around 7000-8000 C-Band cell sites in 2021 alone. With an addition of more than 14000 mm Wave cell sites in 2021 and a targeted 30000+ by year end, over time, 50% of urban traffic is expected to be on the nn Wave. After the recent spectrum auction, Verizon has successfully doubled its mid-band spectrum holdings. The other key indicator of an accelerated growth is that more than 50% of 4G and 5G sites are on Verizon-owned fiber which drives growth by attracting more customers.

3. Expanding Consumer and Business 5G Consumer group: Through the adoption and rollout of 5G, Verizon is certainly going to experience a retail volume growth. There has been a sale of around 10M 5G Ultra-Wide Band smartphones out of which more than 70% are C-Band capable. More than 55% of postpaid consumers are expected to be on 5G phones by 2023.Verizon plans to increase unlimited adoption by expanding its premium value proposition. ARPA forecasts a 2%+ CAGR through 2023. Business group: Verizon has outperformed in every segment and is now a market leader. It is continuously growing wireless subscribers and is expected to continue is market dominance well beyond 2021. After recent addition of Chicago, Houston and LA the 5G business internet plan is expected to be available in more than 20 markets by the end of 2021. This results in more than a $30B Verizon addressable opportunity by 2025 in the form of Edge compute market, global private networks and enterprise solutions market. Verizon is on track of its three-year transformation. Through One Fiber monetization and scaling 5G opportunities, the Future segment EBITDA margin is expected to be around 25%. (*2)

Concerns

1. The telecommunications industry is a highly competitive and quickly changing landscape. Verizon needs to constantly adopt to the rapid development of new technologies to maintain a competitive edge against its competitors. Recent trends in streaming technology and messenger apps have blurred the lines between traditional wireless, cable, internet, and long/short distance communication companies. Additionally, Verizon must be able to keep with one of the most significant trends of the industry, the adoption of 5G into United States telecommunication network. Verizon needs to be able to monetize advanced wireless networks and profit from the rise in video streaming.
2. Verizon also carries a significant amount of debt that may further increase if old debt is not retired. As of March 31, 2021 Verizon's had a total debt of $158.5 billion, an increase of $19 billion from December 31, 2020 debt levels at $129.1 billion. Verizon stated in its 2020 10-K that they "require a significant amount of capital to operate and grow our business [and] we fund our capital needs in part through borrowings in public and private credit markets". Such high levels of debt can require Verizon to dedicate significant cash flows towards payment of debt interest or principle, may make it harder for Verizon to obtain favorable financing in the future, can reduce its ability to react and be flexible to market conditions, and ultimately makes Verizon vulnerable to downturns in business. Additionally, high levels of debt may cause independent credit agencies to decrease their rating of Verizon, further increasing cost of debt and making it even more difficult to acquire necessary financing. (*3)

Credit Analysis

Current Verizon Credit Rating: As seen in the *Bond Recommendation* section of this paper, Verizon Communications Inc. has been given a Baa1 rating by rating agency Moody's and a BBB+ by the agency, Standard & Poor's (S&P). Bond ratings function as an assessment of the creditworthiness of a business performed by a third party. Agencies such as the ones listed above (or several others) must be contracted by a business to assign a rating to their note issues. The rating is meant to represent the risk of credit default. Ultimately, ratings will determine the bond's yield and investor's perceptions.

No	S&P	Moody's	Fitch	Meaning and Color
1	AAA	Aaa	AAA	Prime
2	AA+	Aa1	AA+	High Grade
3	AA	Aa2	AA	
4	AA-	Aa3	AA	
5	A+	A1	A+	Upper Medium Grade
6	A	A2	A	
7	A-	A3	A-	
8	BBB+	Baa1	BBB+	Lower Medium Grade
9	BBB	Baa2	BBB	
10	BBB-	Baa3	BBB-	
11	BB+	Ba1	BB+	Non Investment Grade Speculative
12	BB	Ba2	BB	
13	BB-	Ba3	BB-	
14	B+	B1	B+	Highly Speculative
15	B	B2	B	
16	B-	B3	B-	
17	CCC+	Caa1	CCC+	Substantial Risks
18	CCC	Caa2	CCC	Extremely Speculative

Figure 2

Cumulative Historic Default Rates (in percent)

Rating categories	Moody's		S&P	
	Municipal	Corporate	Municipal	Corporate
Aaa/AAA	0.00	0.52	0.00	0.60
Aa/AA	0.06	0.52	0.00	1.50
A/A	0.03	1.29	0.23	2.91
Baa/BBB	0.13	4.64	0.32	10.29
Ba/BB	2.65	19.12	1.74	29.93
B/B	11.86	43.34	8.48	53.72
Caa-C/CCC-C	16.58	69.18	44.81	69.19
Investment Grade	0.07	2.09	0.20	4.14
Non-Invest Grade	4.29	31.37	7.37	42.35
All	0.10	9.70	0.29	12.98

Figure 3

Following Verizon's credit rating, both bonds being analyzed were given the 8th highest rating on the Moody's scale and the S&P scale. As seen in Figure 2 (*4), these ratings are lower medium grade, and are one upward bump from being considered Upper Medium Grade. Given that these bonds are in the investment grade category, this should make them liquid on the open-market and give investors confidence. Default Rates for debt securities of various ratings are listed above. For corporate debt securities rated as Lower Medium Grade, the cumulative historic defaults have been one-third as frequent as those in the class below, supporting the creditworthiness of Verizon Communications Incorporated (Figure 3, *5).

In March of 2021, Moody's affirmed their BAA1 credit issuer rating for Verizon by classifying the company's outlook as 'stable'. The outlook was previously 'positive'.

Covenant Analysis: The covenants for the specific bonds from Verizon are included in the *Bond Covenants* section of this paper. Verizon's Bond Covenant regulations should be efficiently monitored by the corporation's financial management

Collateral Review: Both bonds that we are analyzing are unsecured. An unsecured bond is a debt instrument backed by no collateral. A secured bond would be backed by some of Verizon's assets such as the Plant, Property, and Equipment owned by the firm. In the case of a credit default by Verizon, unsecured bondholders run the risk of receiving nothing from their investment.

Capacity: To review Verizon's capacity to generate cash flows and pay back creditors, many aspects of Verizon's performance and operations must be analyzed. This will include an analysis of Verizon's Business Risk (Cyclicality, R&D, Competition, Regulation), and Financial Risks. Figure 4 displays Verizon's quarterly EBITDA growth as well as the GDP growth of the

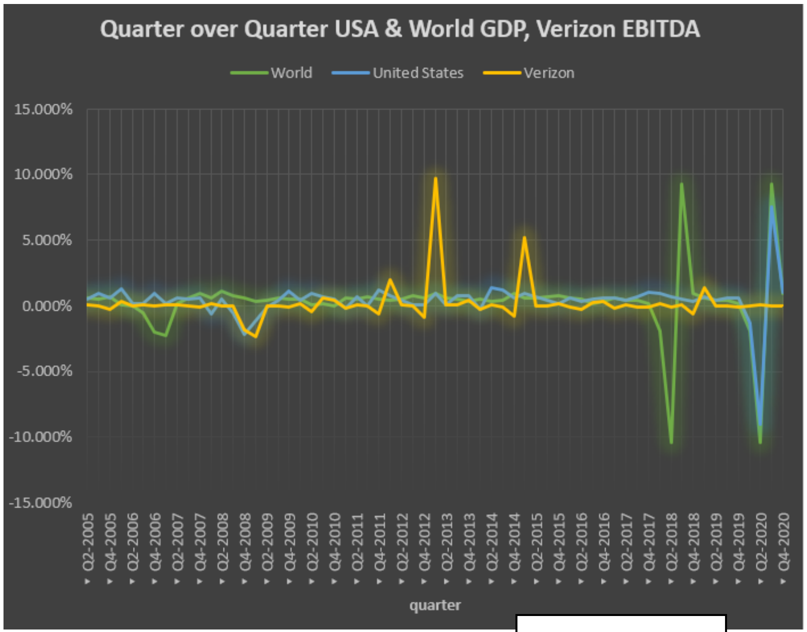


Figure 4

world and USA. Verizon Communications Inc. primarily serves American customers and businesses. This likely results in a higher positive correlation between Verizon's EBITDA gains and USA GDP (10.3%) than the almost non-existent correlation between Verizon EBITDA gains and World GDP (1.6%). However, both figures represent very weak correlations and Verizon's EBITDA gains can be viewed, for all intents and purposes, as untethered from the quarterly GDPs of its operational domains. (*6)

Notable data points on the figure include Verizon's EBITDA tumbling in the latter half of 2008 along with United States GDP, onset by the financial crisis. 3 large EBITDA gains spikes occurred for Verizon between 2011 and 2015, the largest of which, occurring in Q1 of 2013. This is primarily attributed to poor EBITDA growth in the prior period as well as massive volume of post-holiday iPhone purchases and service activations. Verizon also experienced little to no EBITDA growth in the past year, which is an optimistic note considering the massive disruptions to world and USA GDPs over the past 2 years.

In Figure 5, Verizon's cyclicality can be analyzed. In the past 15 years, Verizon's best performing quarter for EBITDA growth has clearly been Q1 with the following quarters typically experiencing little or negative growth.

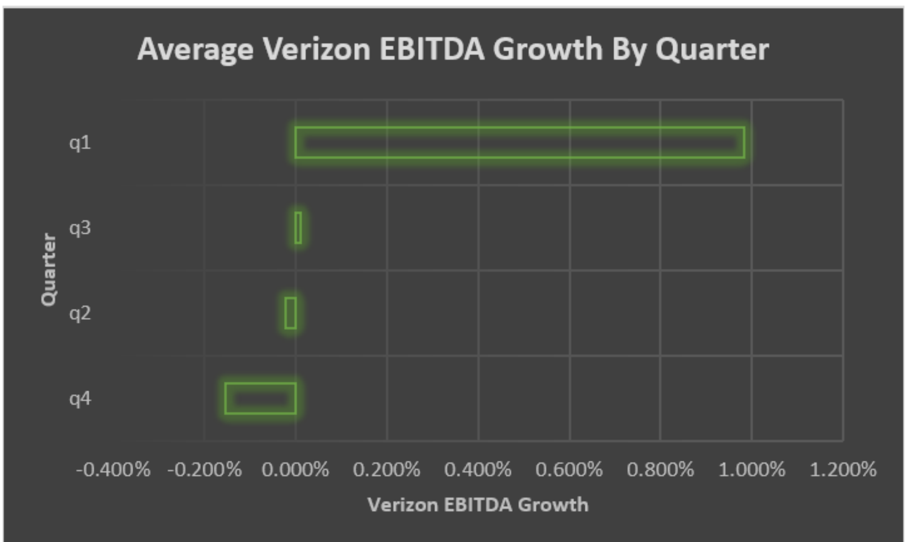


Figure 5

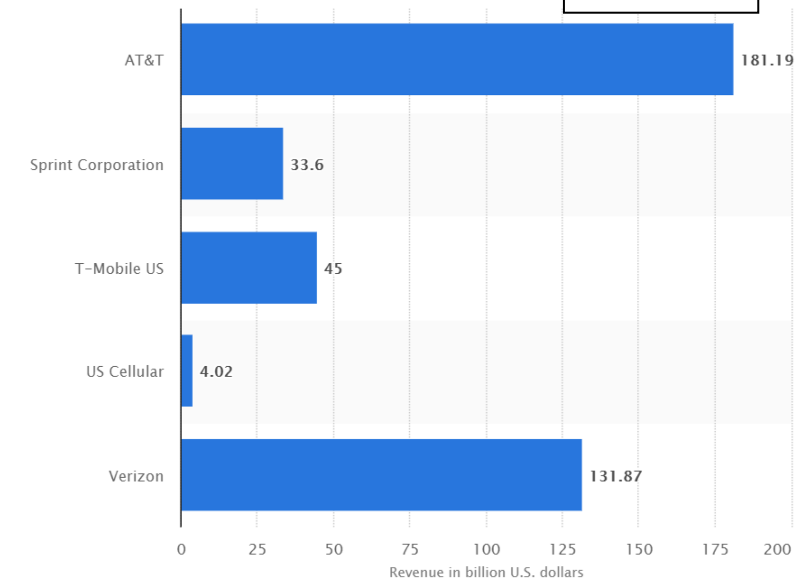
Investors may use this information to time their purchases and sales of Verizon securities for the most advantageous profit opportunity.

A positive for investors is Verizon's ability to remain leader in its field for the unforeseen future. Any industry leader typically holds higher confidence of longevity simply because of advantageous relative competitional positioning, yet in the telecommunications industry, that advantage is magnified. The reasoning for this is outlined by Meng Hui in her 2012 paper "The Research on Development Trends in the Telecommunications Industry". Dr. Hui states that natural monopolies are to arise in the telecommunications industry because of the massive "Economies of scale and scope of the initiative". Telecommunications companies have large, fixed costs in installing, operating, or purchasing network technology such as bands, satellites, and towers but have very low user-driven variable costs. Hence, it is only natural for few companies with rights to the majority of equipment to acquire large masses of customers to justify the initial infrastructure investment. In other words, Average cost is lower per user if the telecommunications provider serves more users.

Research and Development spending in the telecommunications industry results in product innovation and advanced integration of cellular, internet, and streaming services. Investing in user-focused innovation research, smaller telecommunications can remain competitive in the market with less infrastructure spending. Dr. Hui predicts that the monopoly that has been naturally birthed in the industry will be eroded by "growth in demand for technological development and diversification of the telecommunications market." To maintain leadership position over smaller competitors, Verizon must invest in technological innovation to offer more robust product packages.

Unfortunately, R&D spending metrics are not accounted for in Verizon or any of its major US competitors' 10-K's, except for AT&T. AT&T's R&D spending accounting for .7% of its total revenue between 2018 and 2020. AT&T claims that the primary targeted areas of research "include IP networking, network design and architecture, network and cyber security, network operations support systems, satellite technology, video platform development and data analytics". It can be assumed that Verizon is likely researching in the same areas as well with the intention of advancing its 5G infrastructure and implementation, a contemporarily pertinent area of development. (*7)

Figure 6



Verizon faces two main sources of competition in their industry. Telecommunications giant; AT&T, the top-revenue holder in the industry (Figure 6, *8), and the post-merger T-Mobile/Sprint (T-Mobile U.S.). Smaller telecommunications companies such as U.S. Cellular can also find success in the industry with competing market-coverage of the Midwest-United-States, however, the revenues of small industry competitors have been lackluster and are representative of a current state of monopoly.

In May of 2021, Verizon sold off the company's media holdings in a deal worth $5B to private equity firm; Apollo. The media assets include ownership of Yahoo and AOL. This remains inline with Verizon's distancing from its previous foray into digital advertising, which included the purchase and subsequent sale of Tumblr.com, a web-media aggregator. Management claims that the sale will result in free capital and business capacity to further invest in 5G technology. This decision has likely been made after considering the marginal advantage of 5G investment over media holdings. With management concluding that 5G investment is more beneficial than media holdings for all subsequent periods, investors and creditors can continue to be confident about the long-term success of 5G. (*9)

In contrast, AT&T maintains a large portfolio of media-assets including all Turner-Broadcasting-Company subsidiaries. As streaming rights continue to gain value, their broadcast-media properties continue to appreciate. AT&T's ownership of both one of the largest cellular networks in the world as well differentiated media properties, present a diversified conglomeration of assets and therefore would provide AT&T with long-term resistance to negative market conditions. However, it may also mean that capital may be tied to non 5G-investments and which as stated prior, likely poses the greatest growth opportunity currently in the telecommunications industry.

According to Forbes, T-Mobile U.S. is the current leader in 5G coverage in North America, a title that Verizon management is striving to replace. Considering its revenue and FCFs, Verizon has more capacity to make large capital investments in 5G and potentially become the North American leader in 5G.

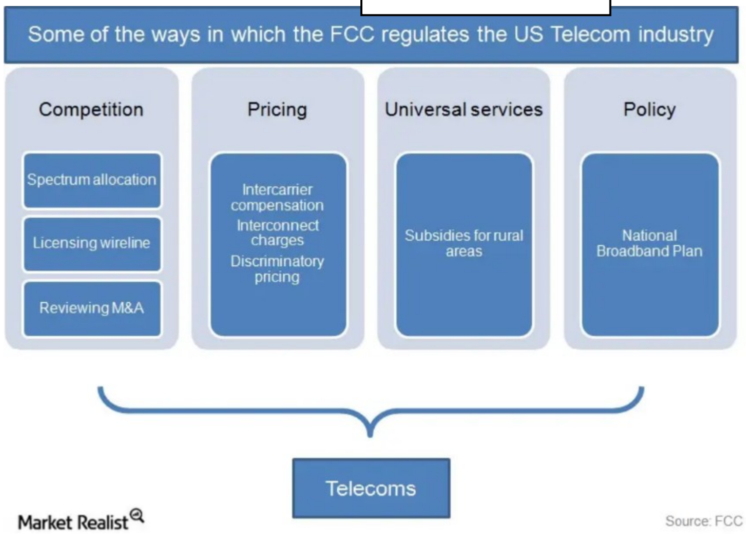
The 2010s was the decade of 4G and as the world enters into the next era of higher-speed connection, Verizon, T-Mobile, and AT&T will most likely continue their market domination in the telecommunications industry because of a head-start in 5G technology.

The telecommunications industry is one of the most heavily regulated industries in the United States and world because of larger barrier of entry. The FCC is the primary authority on communications regulatory matters in the United States.

Figure 7 lays out the FCCs primary goals in regulation of telecommunications firms. (*10)

Because of the monopolized state of the telecommunications, any actions taken by industry managers about the marketing or operations of the business should be done with diligent research to avoid FCCs violations and pursuant legal issues. For this reason, all major telecommunications providers remain at similar risk, as they can all misstep FCC guidance. Out of the big three United States providers, AT&T holds the greatest inherent anti-regulatory risks because of their multi-media holdings. The diversification of assets in the telecommunications industry also provides for nominally more potential regulatory hurdles. Verizon likely has more regulatory risk than T-Mobile because of Verizon's exposure to home and business-Internet/cable-service-provider regulation risks, one that T-Mobile does not hold because of their lack of participation in the market.

Figure 7



Creditors should remain aware of actions that the FCC takes against all companies in the industry because of the high frequency of market overlap. In recent times, the FCC has cracked down upon ISPs from manipulating service speeds on provider-preferred websites.

Financial Risk: Verizon is continuing to take on significant debt with long termon their balance sheet increasing by nearly $22 billion. This contributed to $25.8 billion in cashflows from financing activities, which is more than two times the previous year's cashflow at $10 billion and roughly four times the amount of 2018's$5.9 billion. Although cashflows from operating activities did increase by $6 billion, Net Income was down in 2020 from $19.78 billion previously to $18.34 billion. However, one must consider the impact of the COVID-19 pandemic and that net cash flows from operating activities were up significantly. It is important to take note of the increasing levels of debt Verizon is taking on, but it appears to be positioning itself for more growth while minimally impacting short term operations. In fact, Verizon's higher level of cash from financing activities "are a result of the liquidity strategy that [they] pursued at the beginning of the COVID-19 pandemic to maintain a higher cash balance in order to protect the company against economic uncertainties". Verizon has roughly $5.1billion in outstanding long-term debt obligations that is tied to a floating rate based on the London Interbank Offered Rate (LIBOR) Verizon is exposed to changes in in interest rates, primarily on its short-term debt with about $4.2 billion in debt that matures in less than 5 years. Verizon has taken steps to limit risk by structuring roughly 83% of its principal amount of debt as fixed rate indebtedness, this includes the effects of interest rate swap agreements designated as hedges against interest rate risk.

Company Facts

Verizon Communications Inc. is a leader in the telecommunications industry that provides communications, technology, information, and entertainment products to consumers, business, and government entities. Verizon is mainly divided between two strategic business units- Verizon Consumer Group, focusing on everyday consumers and Verizon Business Group, focusing on business and government entities.

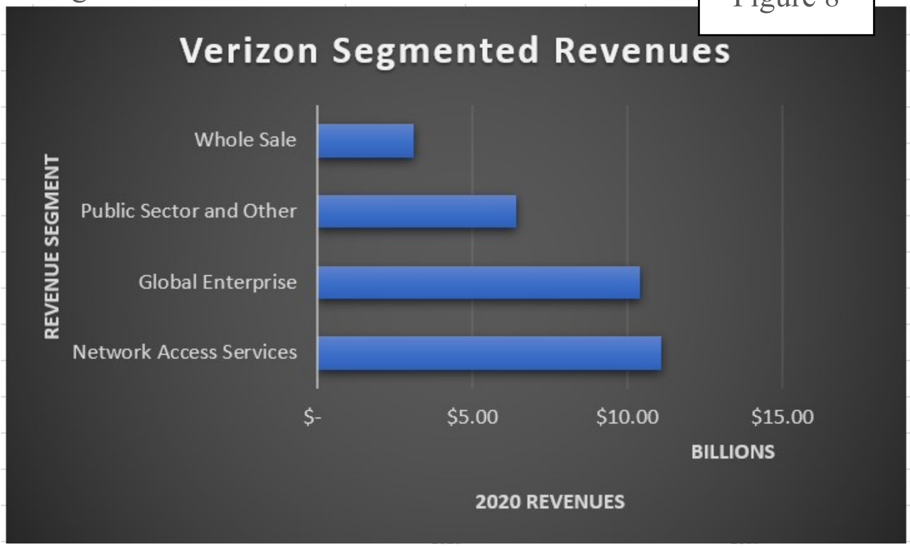
As of December 31, 2020, Verizon Consumer Group had approximately 94 million wireless retail connections, 7 million broadband connections, and approximately 4 million Fios video connection. The revenues for the consumer segment were $88.5 billion, representing approximately 69% of Verizon's consolidated revenue

Residential: Verizon Consumer Group provides residential connections through their fiber optic network and traditional copper-based network to costumers. As of 2020, they have launched the fifth generation (5G) technology for home use (5G Home) in 12 U.S. markets. They have also expanded their Long-Term Evolution (LTE) fixed wireless internet service to rural parts of America in 189 markets across 48 U.S. states. Network Access Services: Verizon also sells network access on a wholesale basis to mobile virtual network operators (MVNOs). MVNOs can resell wireless service under their own brand to consumers. As of December 31,2020, Verizon Business Group had approximately 27 million wireless postpaid connections and approximately 482 thousand broadband connections. This segment of the business had $31 billion in revenues, representing approximately 24% of Verizon's consolidated revenues.

Small/Medium Business: Verizon offers wireless services, equipment, network products, Internet Protocol networking and other managed information technology (IT). In 2020 revenues were $11.1 billion representing about 36% of Verizon Business segment's revenues. (Figures 8 & 9)

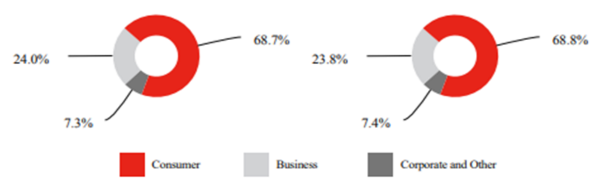
Global Enterprise: Offers services to large business which are identified based on size and volume, as well as non- U.S. public sector customers. Global Enterprise revenues were $10.4 billion, representing approximately 34% of Business's total revenues.

Figure 8



Public Sector and Other: Offers wireless products and services to U.S. federal, state and local governments, and educational institutions. Revenues were about $6.4 billion, representing approximately 21% of Business's total revenues

Figure 9



Wholesale: Wholesale revenues were $3.1 billion, representing approximately 10% of Business's total revenues.

Industry Outlook

The telecommunications industry in US is highly competitive. One of the most significant trends within telecommunications, is the industry's rapid shifting towards the implementation of 5G technology nationwide. 5G is significantly faster than its predecessor with potential to deliver up to 20 Gigabits per second (Gbps). It also has the ability to support 100x increase in capacity while lowering latency. This niche has massive growth potential and may prove to be extremely lucrative to the industry. The Global System for Mobile Communications Association estimates that 5G will generate $700 billion in economic value. Companies like Verizon will seek to monetize its advanced wireless networks. As COVID-19 pandemic eases people are getting more active and engaging in outdoor activities, which most likely lead to an increase in wireless traffic boosting services growth on more 5-G upgrades and demand for higher-end unlimited plans.

Telecommunications companies may also seek to profit from the rise in popularity of video streaming and other virtual entertainment. Internet services will continue to be an area of growth for telecommunications. According to the Federal Communications Commission (FCC) as many as 14.5 million Americans still do not have access to broadband internet and the FCC expects providers to continue to expand into these underserved rural and suburban areas. According to Verizon's 10-K, "networks that consistently provide high-quality, fast and reliable service to be a key differentiator in the market and driver of customer satisfaction". Telecommunication companies will need to differentiate themselves from each other by offering excellent service with competitive pricing. Furthermore, companies will take advantage of the popularity of streaming services and media by offering different packages and bundles as incentives for consumers to buy their product. In addition, Mobile Edge Computing (MEC) is rapidly emerging as a potential new growth opportunity for telecom operators. By hosting edge data centers for major could provide telecommunications operators are forecasted to generate a huge amount of revenue, but we have to keep in mind that MEC is a new sector that is still being tested by a variety of companies. By the end of this year Amazon Web Services who is working with Verizon will establish 10 commercial MEC centers to test potential use cases. Verizon's 5G edge-network sites will house the cloud provider's storage and computing facilities.

Key Bond Covenants

Verizon issues debt securities under an indenture dated December 1, 2000, as amended, between them and U.S. Bank National Association (as successor to Wachovia Bank, National Association, formerly known as First Union National Bank), as trustee. The debt securities may be convertible into, or exchangeable for, shares of any class or classes of our stock, or other securities or property, to the extent specified in the relevant prospectus supplement.

Verizon Inc. is not required to adhere to financial covenants or retain defined credit ratings under the revolving credit facility, and it is allowed to borrow even though when the company has experienced a material adverse shift. Letters of credit may be issued using the revolving credit facility. Verizon's 2.95% and 4.13% Bond are both unsecured and adhere to the below listed covenants:

2.95% Bond and 4.13% Bond

- **Payment of Principal (and Premium, if any) and Interest, if any:**

The issuers agree that they will promptly pay the principal, premium and interest if any, on that series of securities in compliance with the terms of the securities unless otherwise specified on Title, Payment and Term 301 Section. Subject to the conditions set forth in 1006 section the interest (if any) in addition to other amounts payable, as specified in the terms and conditions of the security, shall be payable only upon delivery of such security to the Trustee for notation of the payment of such interest.

- **Lien on Assets**

The debt securities will be unsecured. However, if at any time Verizon mortgages, pledges or subjects to any lien any of their property or assets, the indenture requires them to secure the debt securities equally and ratably with the debt or obligations secured by such mortgage, pledge or lien for as long as such debt or obligations remain secured. The following are some exceptions to this rule:

1. Purchase-money mortgages or liens;
2. Liens on any property or asset that existed at the time when we acquired that property or asset;
3. Any deposit or promise made to ensure the payment of public or contractual obligations
4. Any deposit or pledge with any governmental agency needed to qualify us to conduct any part of our business, to entitle us to retain self-insurance, or to receive the benefits of any legislation relating to workers' compensation, unemployment insurance, old age pensions, or other forms of social security;
5. Any pledge or deposit with any board, court, commission or governmental agency as a guarantee that any proceeding before it will be conducted properly.

- **Consolidation, Merger or Sale**

Verizon is prohibited to merge with, transfer, sell or lease all or a part of their property to another company unless:

1. The successor organization explicitly assumes these responsibilities:
    a. Payment of the debt securities’ principal, interest, and any premium;
    b. Performance and observance of all covenants and conditions in the indenture;
2. There is no default under the indenture after the transaction is completed;

3. If Verizon property becomes subject to a lien that is not allowed by the asset lien restriction as a consequence of the sale, they secure the debt securities equally and ratably with, or prior to, all indebtedness secured by that lien;
4. Verizon has provided the trustee with an officers' certificate and an opinion of counsel stating that the transaction complies with the indenture's firm.

- **Changes to the Indenture**

Holders that own more than 50% of the outstanding debt securities principal of each series are able to change the indenture. However, Verizon cannot alter the principal or interest payment terms, or the percentage needed to change other terms of the indenture without the agreement of the lender and those who are similarly affected.

Without the consent of any debt securities holder, Verizon may enter into supplemental indentures for other defined purposes, including the creation of any new series of debt securities.

2.95% Bond

- **Redemption**

Verizon has the choice to reclaim the Exchange Notes on at the very least 30 nor over 60 days' notification, in entire or to some extent, at any time prior to maturity, at a reclamation price equivalent to the greater of:

1. 100% of the principal amount of the Exchange Notes being redeemed, or
2. By taking the discounted value of the remaining scheduled payments along with its interest into consideration.

4.13% Bond

- **Redemption Provisions, Sinking Fund and Defeasance**

The prospectus supplement for a series of debt securities will detail the circumstances in which Verizon can redeem the debt securities, if any. If a series of debt securities is subject to a sinking fund, those terms will be defined in the prospectus supplement.

Verizon may discharge or defense certain of their obligations on any series of debt securities at any time under the terms of the indenture. Verizon can discharge certain obligations relating to a series of debt securities by depositing sufficient cash or government securities with the trustee to cover all amounts due on that series of debt securities.

Works Cited

1) *Schedule of Outstanding Debt - Verizon Investors*, 23 Apr. 2021, www.verizon.com/about/investors/schedule-outstanding-debt.
2) *a3102021exhibit991*- www.sec.gov/Archives/edgar/data/0000732712/000073271221000015/a3102021exhibit991.htm.
3) "SEC Filings." *SEC Filings | About Verizon*, 19 Oct. 2020, www.verizon.com/about/investors/sec-filings.
4) *Comparison of Country Ratings of Credit Rating Agencies* with MOORA Method - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/International-Credit-Rating-Agencies-Scores-Meanings-and-Color-Coding_tbl3_332126048 [accessed 3 May, 2021]
5) "Default Rates." *Default Rates | Municipal Bond Presentation*, www.tamarsecurities.com/Municipal-bond-presentation-default.aspx.
6) "GDP and Spending - Quarterly GDP - OECD Data." *TheOECD*, data.oecd.org/gdp/quarterly-gdp.htm.
7) "AT&T Research and Development Expense (Quarterly)." *YCharts*, ycharts.com/companies/T/r_and_d_expense.
8) O'Dea, Published by S., and Jun 8. "Top Telecom Companies in the US by Revenue 2018." *Statista*, 8 June 2020, www.statista.com/statistics/201048/total-operating-revenues-of-us-telecommunication-providers/.
9) "Verizon to Offload Yahoo, AOL for $5 Billion." *Yahoo! Finance*, Yahoo!, finance.yahoo.com/news/apollo-acquire-verizons-media-assets-121009726.html.

10) Sheffer, Ray. "Investors Should Be Aware of Regulations in the Telecom Industry." *Market Realist*, Market Realist, 16 Jan. 2015, marketrealist.com/2015/01/investors-aware-regulations-telecom-industry/.