



Telecommunication Sector Study



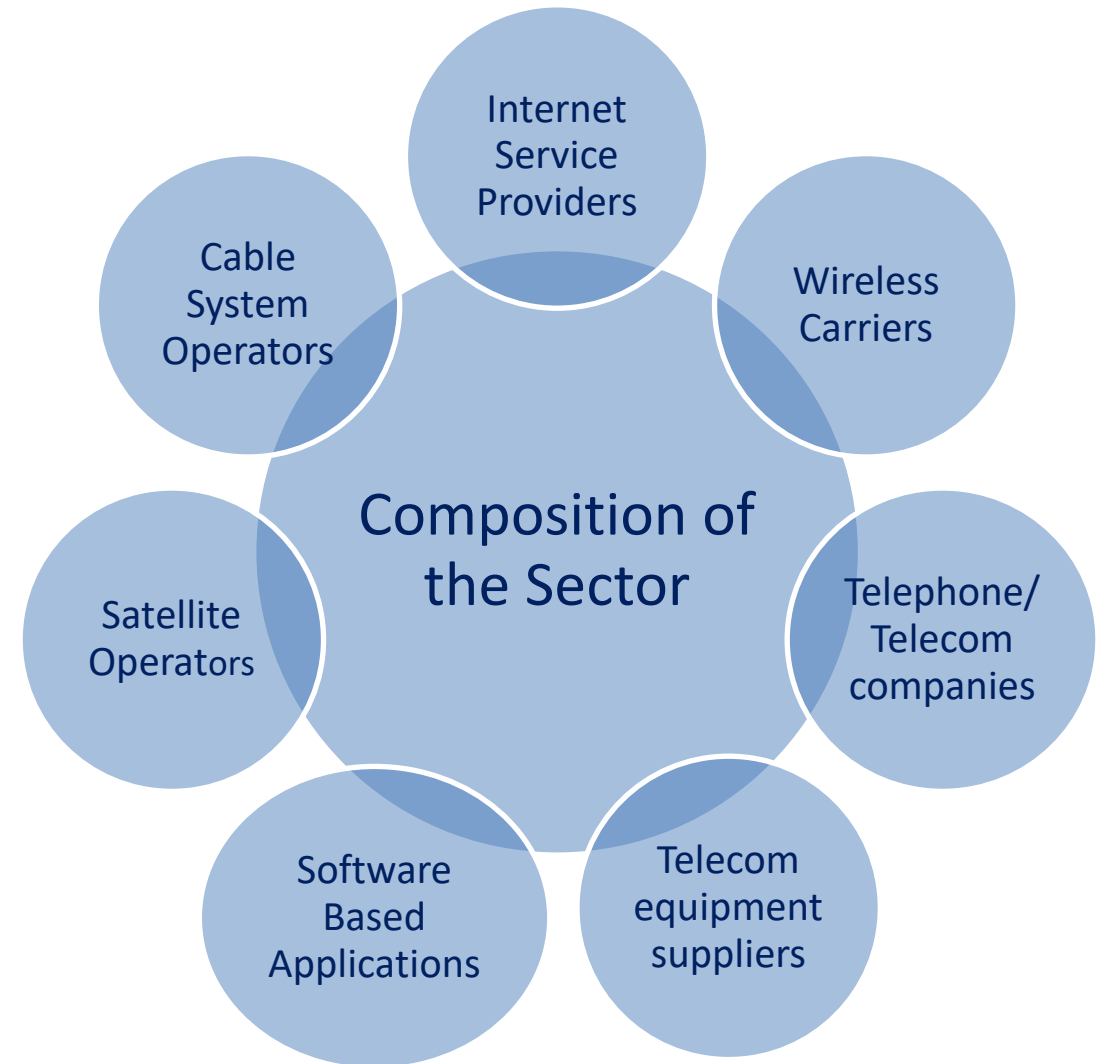
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Overview

- **Definition:** Telecommunication sector comprises companies that make telecommunication possible on a global scale, whether it is through the phone or the Internet, airwaves or cables and wires or wireless. These companies create the infrastructure that allows data in text, voice, audio, or video to be sent anywhere in the world.
- Not long ago, the telecommunication sector consisted of a club of big national and regional operators. Since the early 2000s, the industry has witnessed rapid deregulation and innovation. In many countries around the world, governments are allowing private operators to enter the market creating competition.
- Telecommunication sector plays an important part in day to day affairs now. It is an essential component of every walk of life ranging from personal, business and government environment. The sector has witnessed many innovations and improvements over the period and increased competition has further fueled innovation.



Global Industry | Overview

- The following telecommunication companies are ranked according to their brand value. Verizon, AT&T and Deutsche are the leading companies in terms of brand values.

Top Telecommunication Companies 2020			
Ranking	Company Name	Country of Region	Brand Value (USD mln)
1	Verizon	United States of America	68,890
2	AT&T American Telephone and Telegraph Company	United States of America	51,372
3	Deutsche Telekom	Germany	51,107
4	China Mobile Brand	China	37,559
5	NTT (Nippon Telegraph & Telephone) Group	Japan	34,238
6	Xfinity Brand	United States of America	25,227
7	Spectrum	United States of America	21,424
8	Vodafone	United Kingdom	19,252
9	Orange	France	19,092
10	au Brand	Japan	14,762
Total			342,923

Global Telecommunication traffic increased significantly during COVID-19 lockdown.



300% growth in teleconferencing applications (such as Zoom, Skype, etc.) in the US.



828% rise in data traffic from Zoom, and a 215% spike on Skype video conferencing applications in Thailand.



400% growth in gaming (with children being at home!) in the US.



Substantial increase in global submarine cable system traffic on account of e-commerce.



Establishment of partnerships between digital platforms such as Netflix, YouTube, and Amazon to restrict video streaming quality globally and to reduce network congestion.



15-70% increase in data traffic across Europe and the Americas especially in rural and remote areas, as observed by satellite operators.



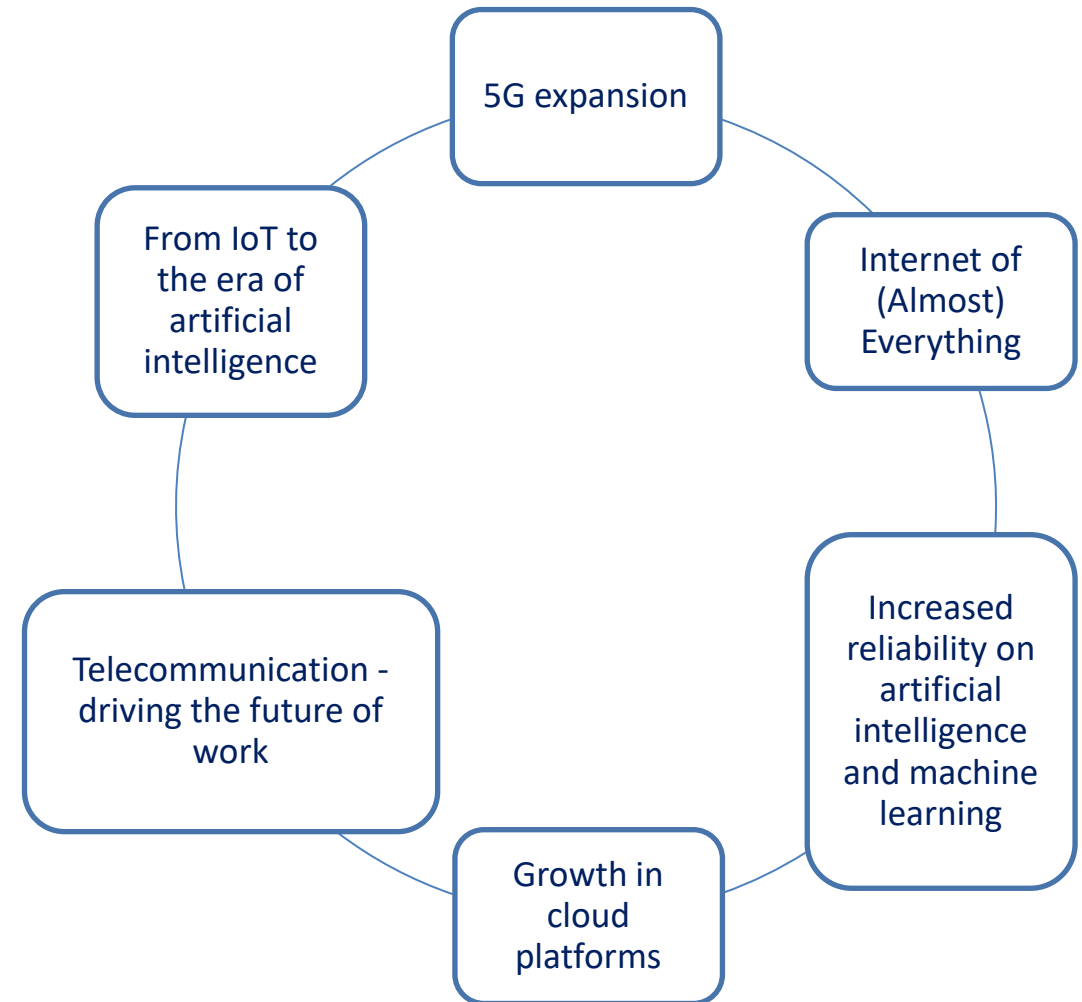
Provision of additional temporary spectrum (as in the US and South Africa) by regulators in an attempt to ease network congestion.

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Global Industry | Market Trends

Following are the trends in the telecommunication sector that will drive innovation in global market.

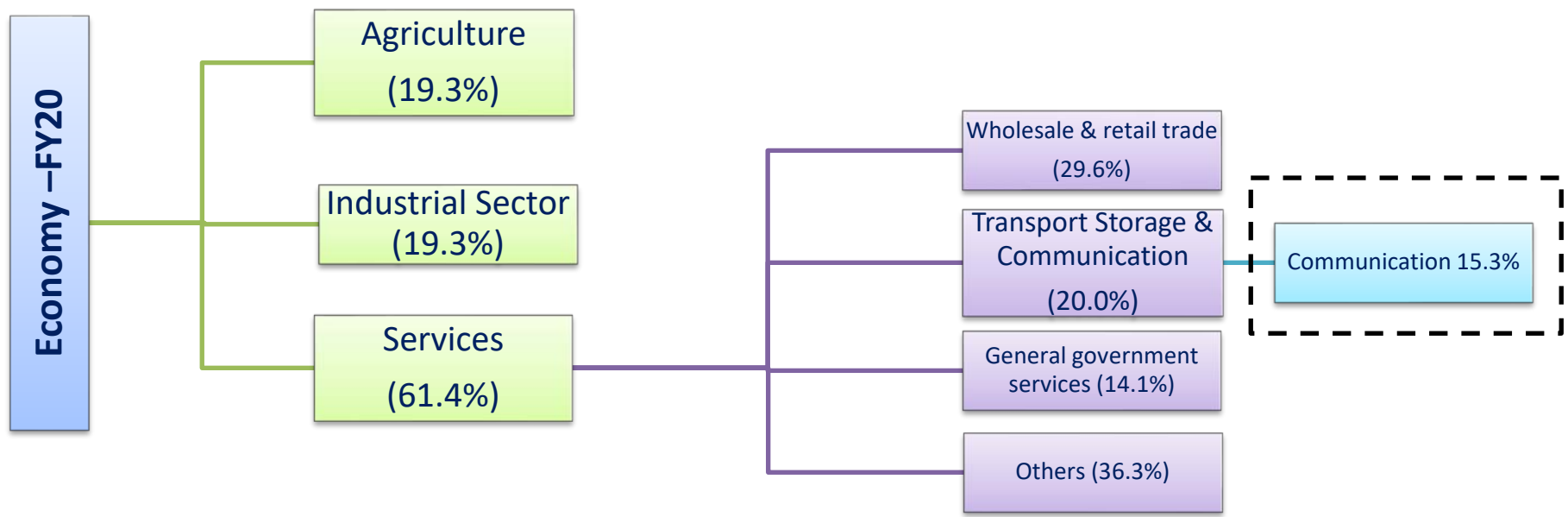
- Demand for high-speed connectivity is greater than ever; 5G is poised to meet these expectations. Lower connectivity cost, ultrafast speed and the much-anticipated lower latency are among its numerous benefits for the network.
- The new era of artificial intelligence will use tons of data to predict peak traffic, provide better end-to-end service and enhance connectivity. Opportunities are there for telecommunication to leverage these technologies for network capabilities improvements, a seamless customer experience and infrastructure automation.
- The telecommunication sector is the largest in absolute size within the IT sector, but has generated only ~14% of the IT growth as a whole. On the contrary, data processing, internet publishing, and other information services are the fastest-growing segments of services-producing industries.
- The demand for home and industrial IoT devices and applications will continue to exponentially increase in the post-pandemic world.
- Telecommunication companies have emerged as one of the most essential industries due to the pandemic and will most likely stay that way for the foreseeable future.



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Services | Overview

- Services sectors grew moderately in FY19, posting only a ~3.8% growth compared to the average growth rate of ~6.2% during FY16-FY18 period. It is worth noting that in FY20, the services sector was already feeling the pinch from a slowdown in the industrial sector as well as from imports. The slow down further deepened with the onset of COVID-19 significantly as it posted negative growth of ~0.6% in FY20. However, the overall economy showed significant growth post COVID-19 lock down and is expected to grow at pace of ~4% in FY21.
- In telecommunication sector, cellular teledensity and broadband penetration rose to ~85% and ~44%, respectively, as at End 9MFY20, compared to ~80% and ~39% in FY20. During FY21, the demand for internet services continued to rise, as the start of the second wave of COVID-19 necessitated continued implementation of remote-working and online-education arrangements. This shift has given a considerable boost to the usage of video conferencing apps such as Zoom, WhatsApp and Skype in Pakistan. The significant rise in demand for such apps has also led to a commensurate increase in cellular teledensity and the number of broadband users in the country.



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Industry Snapshot | Local

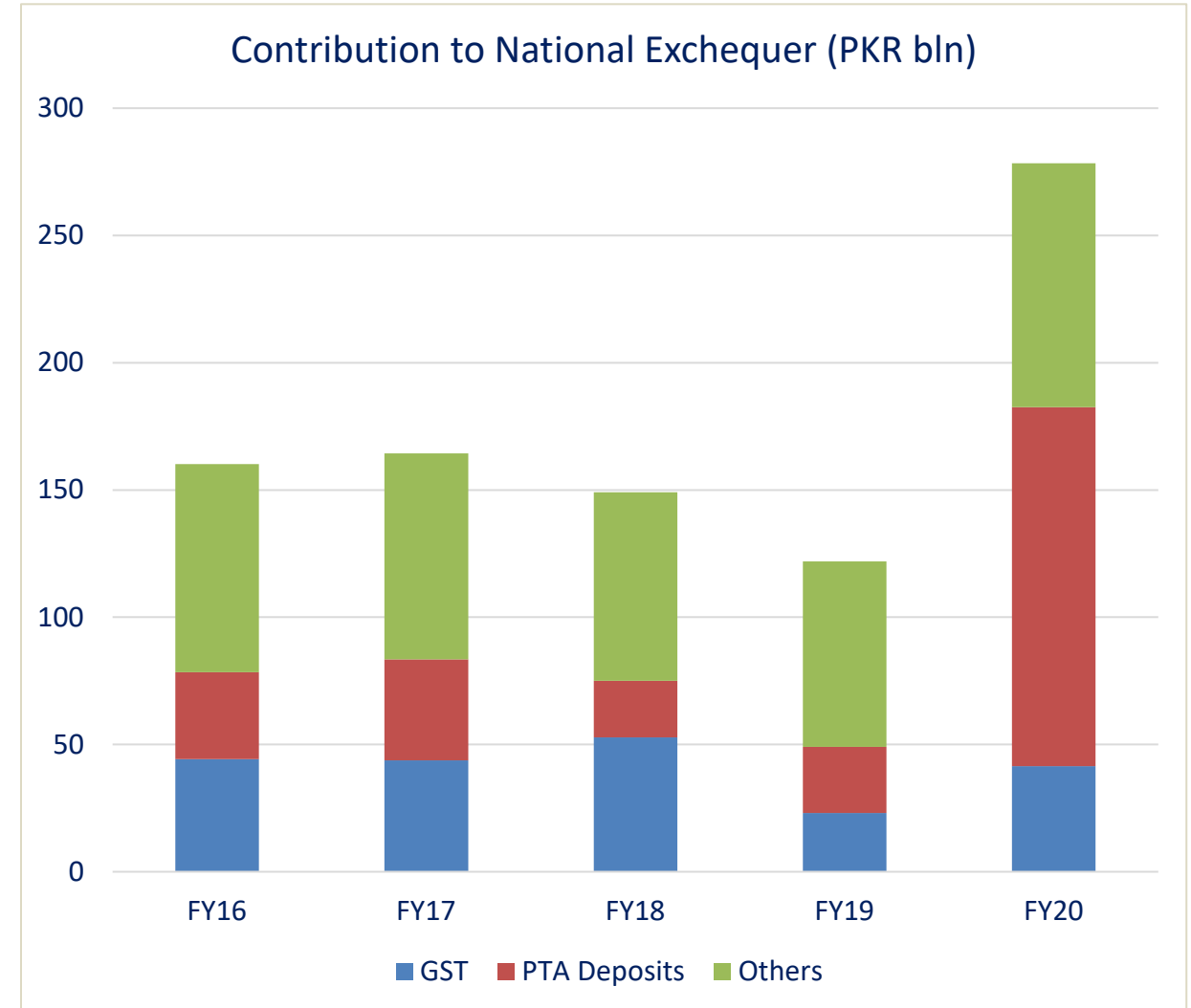
- Telecommunication sector:** As per SECP, the principal line of business of the companies in telecommunication sector is to carry on all or any of the businesses of establishing, developing, expanding, enhancing, managing and operating telecommunication systems including systems signals, data or messages of any and all kinds.
- Significance of sector:** In Pakistan, ~98% of the households own a mobile phone whereas penetration of mobile services has reached ~85% at the end of March-2021, with ~183mln mobile subscriptions.
- Where historic lockdowns during the COVID-19 pandemic slackened the economic activity, vibrant telecommunication systems played a pivotal role in ensuring availability of essential services to the community. In a way, the pandemic actualized the true potential of broadband services, transforming the way people lived their lives. All daily activities related to education, health, and virtually every other sector of the economy were shifted to digital dimensions, creating a huge nationwide demand for telecom services.
- Measures for the introduction of 5G in Pakistan :** In line with the Policy Directive of the Ministry of Information Technology & Telecom, two Cellular Mobile Operators, i.e., Zong and Jazz, successfully carried out the 5G trials in Pakistan. A 5G Pakistan Plan Committee has been constituted by the Ministry of Information Technology & Telecom, comprising all stakeholders from the public and private sectors.

Overview	FY19	FY20	9MFY21
Gross Revenue (PKR bln)	550	537	-
Contribution to GDP	1.54%	1.41%	-
Key Sector Players	4		
Structure	Organized & Unlisted		
Inflow of Net FDI (PKR bln)	-13	100	-
Tele density %	78%	78%	85%
Growth % Subscribers	7%	3%	5%
Total Cellular Subscribers (mln)	169	174	183
Regulator	Pakistan Telecommunication Authority		

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Contribution to National Exchequer

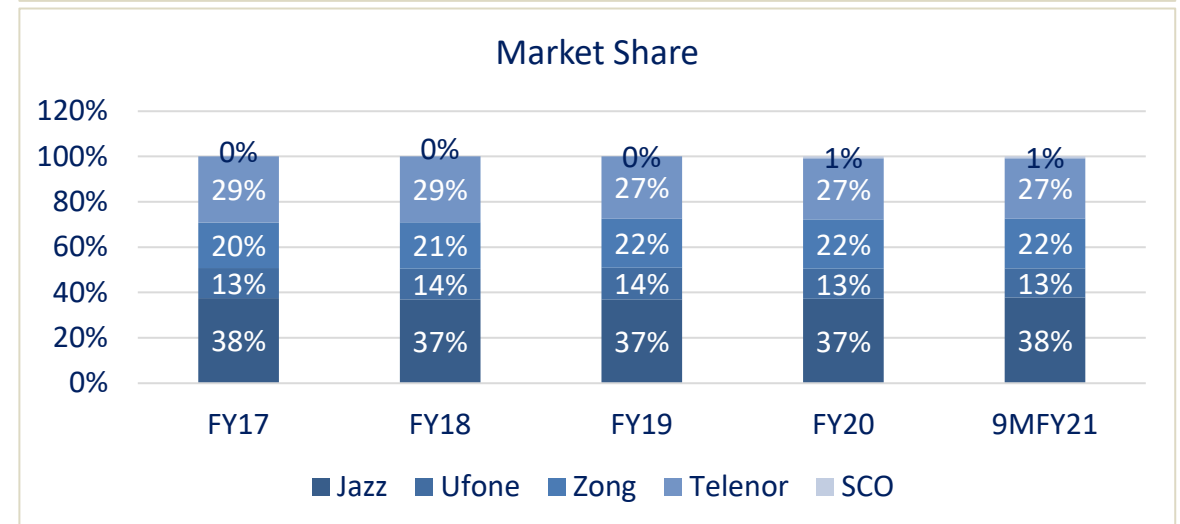
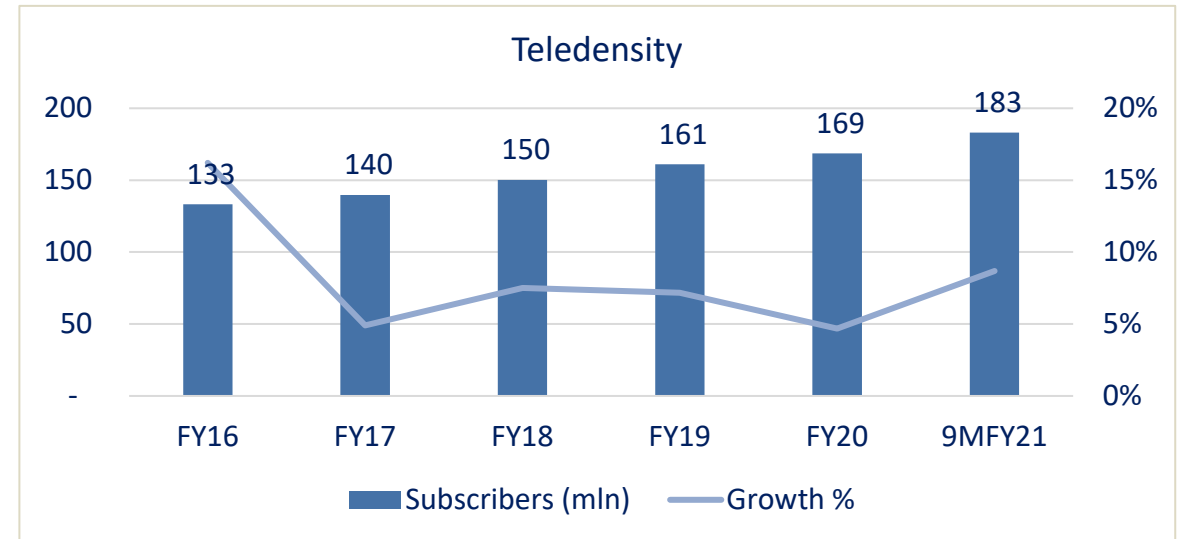
- The sector’s contribution to the national exchequer increased by ~129% (PKR~278bln) owing to deposits of USD~688mln by Cellular Mobile Operators (CMOs) under license and spectrum renewal fee, and a substantial increase in General Sales Tax (GST) and Withholding Tax (WHT), which remained suspended last year on the directions of the Honorable Supreme Court of Pakistan.
- PTA deposits include initial license fee, USF, R&D fund and other levies that amounted to ~PKR 141bln n FY20, which is ~43% higher than the previous year.
- The total telecommunication taxes (excluding PTA deposits) grew by ~43% and stood at PKR~137bln. Major operators contributed PKR~134bln (over ~98%) to total taxes, while small operators contributed the remaining.
- In addition to the aforementioned taxes and contributions made by the telecommunication sector, the FBR also collects a huge amount against import of cellular mobile handsets, which allows only registered and tax-paid handsets to connect to telecom networks in Pakistan.



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Teledensity

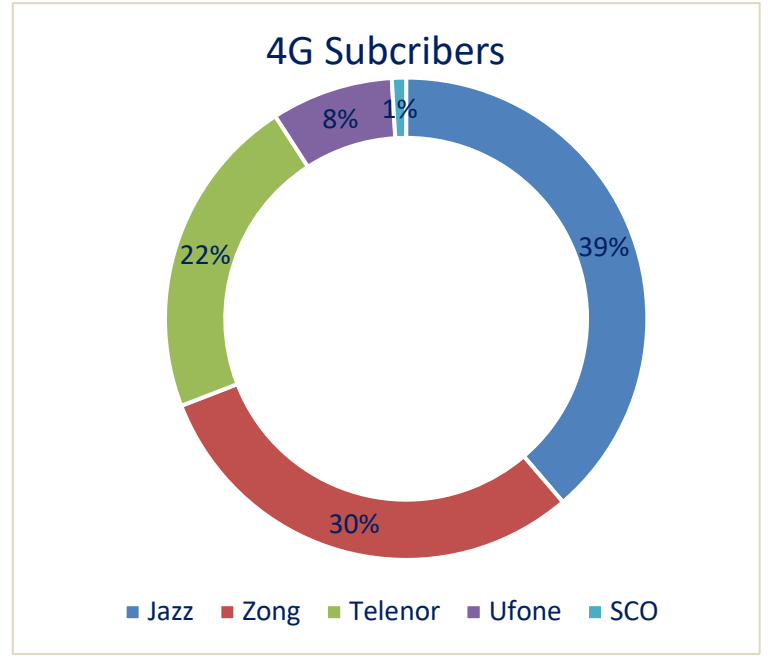
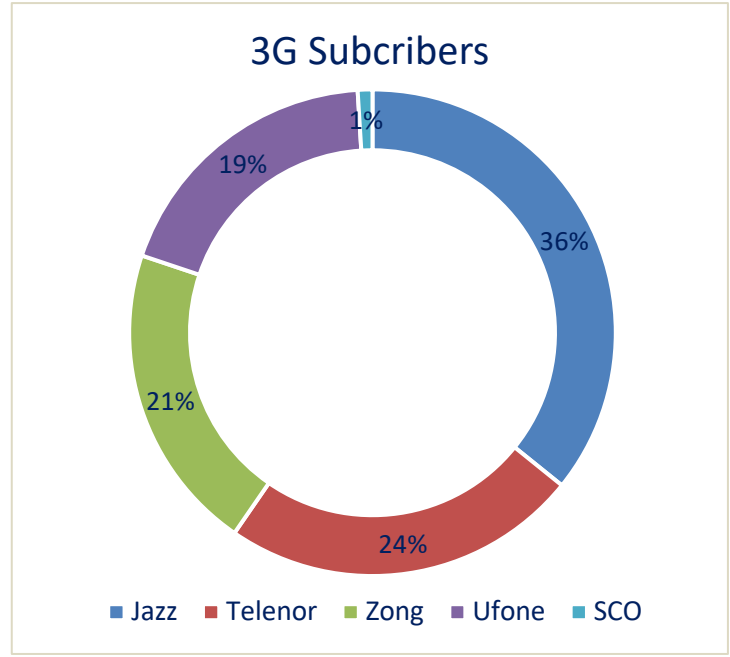
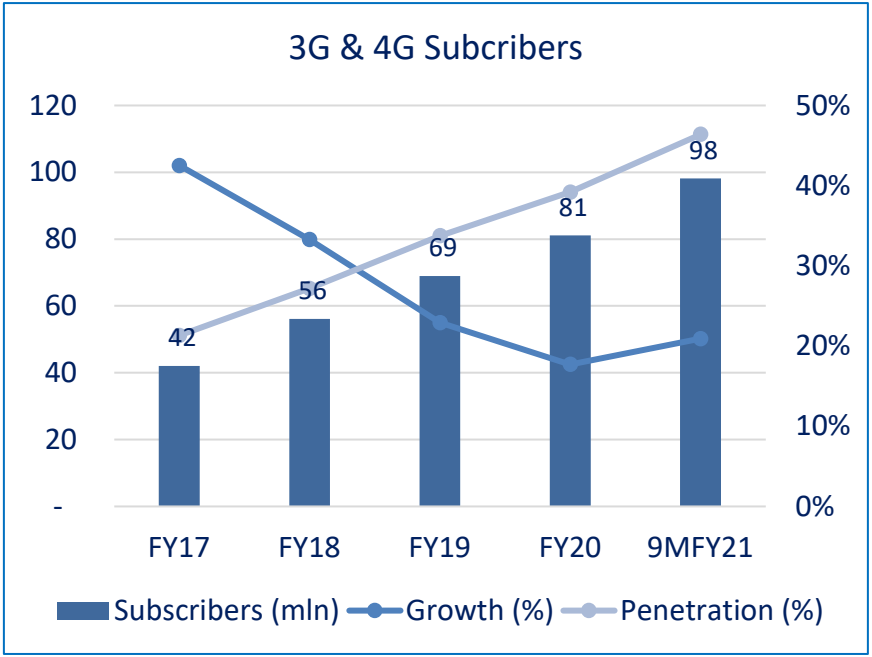
- Cellular Teledensity** represents the percentage of mobile sim subscribers within the population. On an overall basis, the teledensity growth rate outpaces average population growth trend on YoY basis. In Pakistan, approx. ~60% - 65% of the total population constitutes individuals in the age bracket of 15-64 years, perceived to be mobile sim subscribers. Growth trend in this age bracket aligns with the total population growth rate.
- As of March-2021, the teledensity has reached ~85% (FY20: ~80%). Almost ~99% of total tele density belongs to cellular mobile phones whereas only ~1% is being contributed by Wireless Local Loop (WLL) and Fixed Local Loop (FLL).
- There are four key players in the telecommunication sector: Pakistan Mobile Telecommunication Limited (Jazz), Telenor Pakistan (Telenor), China Mobile Pakistan Limited (Zong) and Pakistan Telecom Communication Limited (Ufone). Jazz has the strongest position with highest number of subscribers. The company enjoys a share of ~38% in cellular subscribers followed by Telenor, which has a ~27% market share. The lowest market share is of SCO, operating in Gilgit Baltistan only. Competition is expected to increase further as local companies pursue aggressive strategies to increase their subscriber base.



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3G & 4G Subscribers

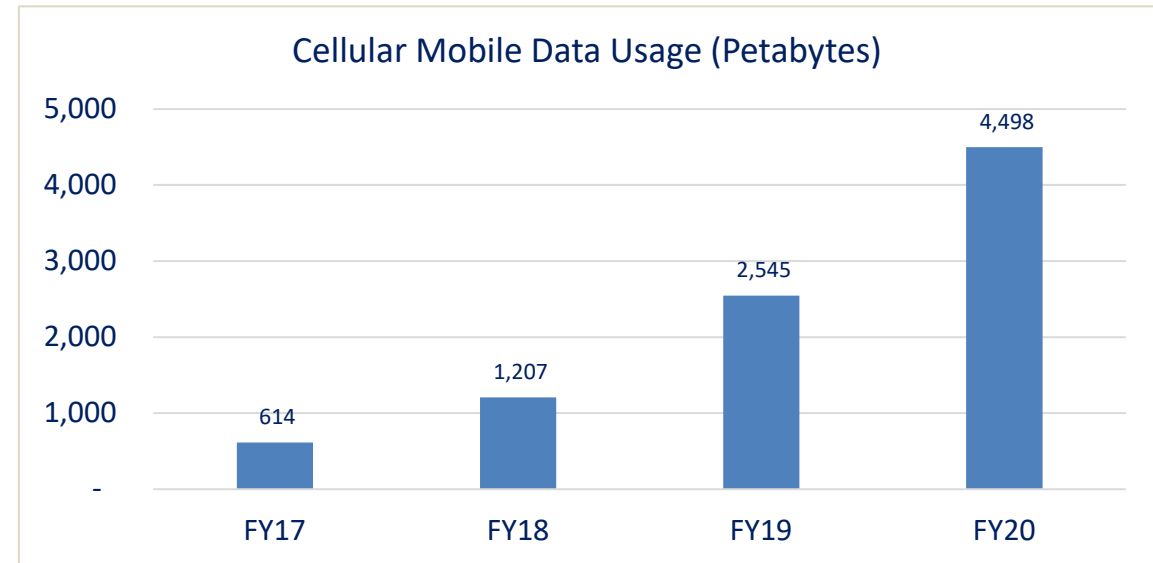
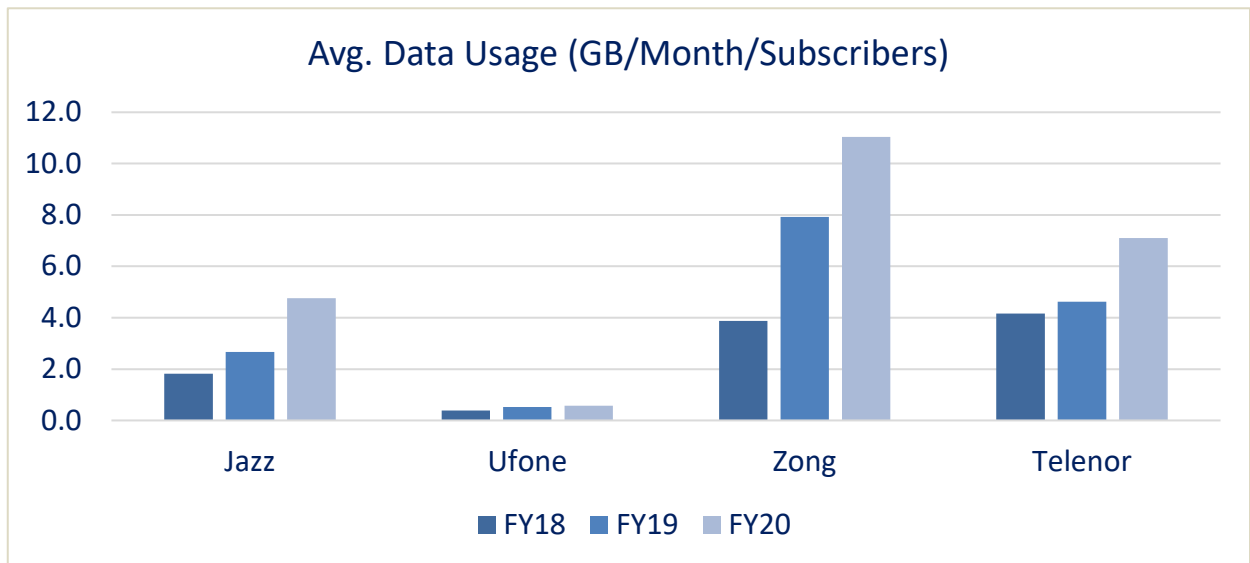
- The combined number of 3G/4G subscribers in Pakistan has reached ~98mln as at end March-2021 with a CAGR of ~25% since FY17. The growth in total subscribers is led by the growth in 4G subscribers. The share of 4G subscribers is expected to increase further backed by the availability of affordable 4G supported devices.
- Jazz is the market leader with a share of ~28% in total 3G/4G subscribers followed by Zong having ~28% market share as at end March-2021. Due to aggressive marketing campaigns and cheap data packages, the 4G subscribers of Zong have showed significant growth. The share of 4G subscribers in total subscribers will increase further.



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Data Usage

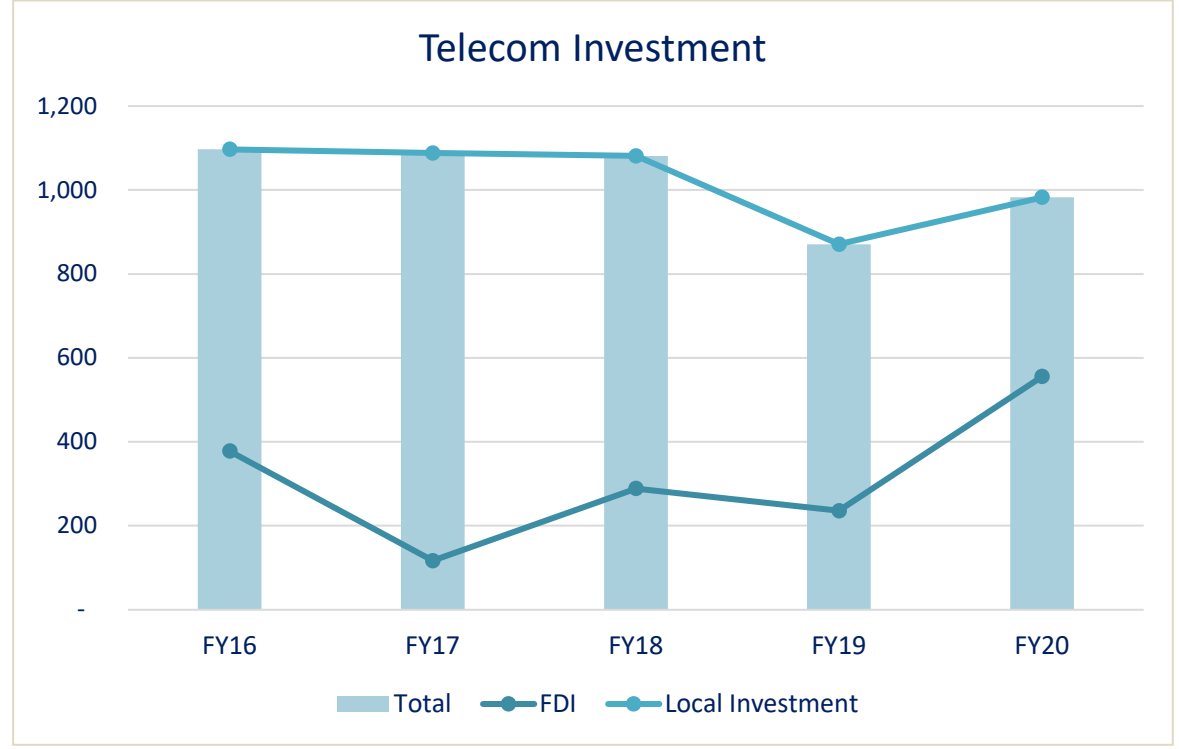
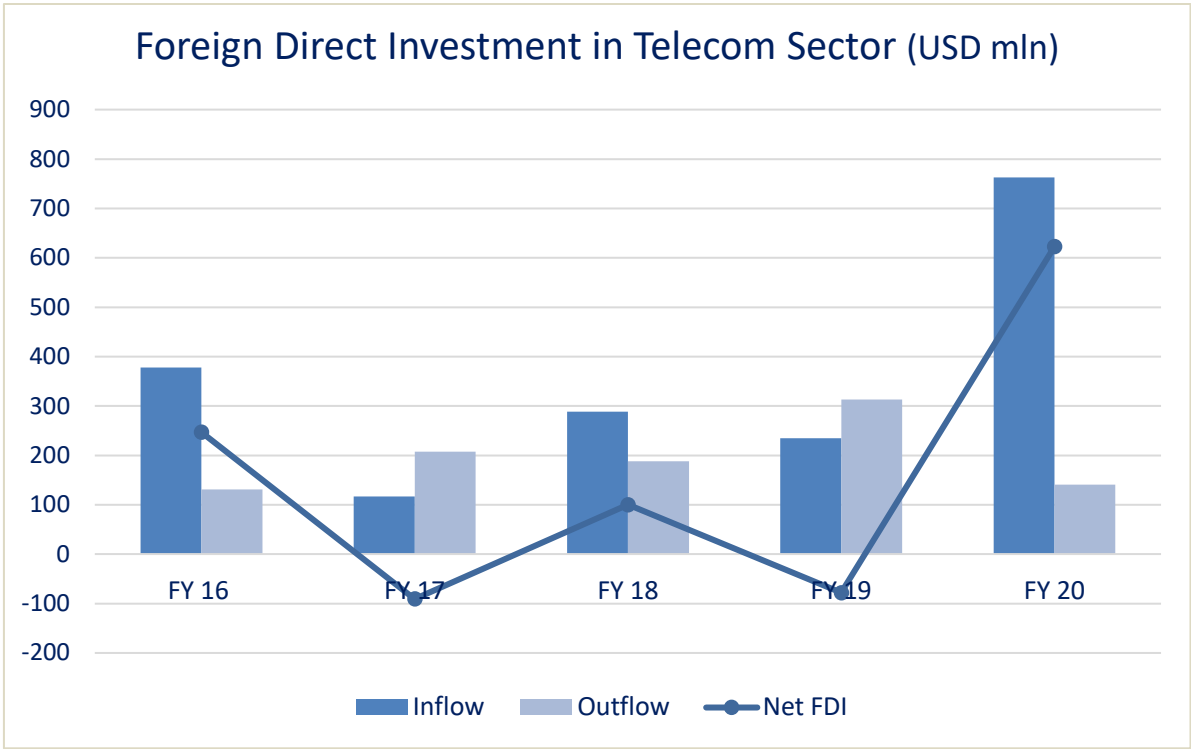
- The telecom sector saw a huge demand surge from corporate set-ups and individuals alike to meet the social, educational, business, health-related, and economic requirements across the country. Significant increase in data usage and broadband subscription has been observed during COVID-19 lockdown.
- Total data usage in the country during FY20 was recorded at 4,498 petabytes with YOY growth of ~77%. The usage is expected to show a gradual increase in coming period as well due to change in working patterns and increased dependence on Telecommunication devices in every aspect of life.
- In terms of data usage per subscriber, Zong data usage per subscribers is significantly higher than that of its competitors owing to cheap data packages and extensive market campaign by the company.



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Investments

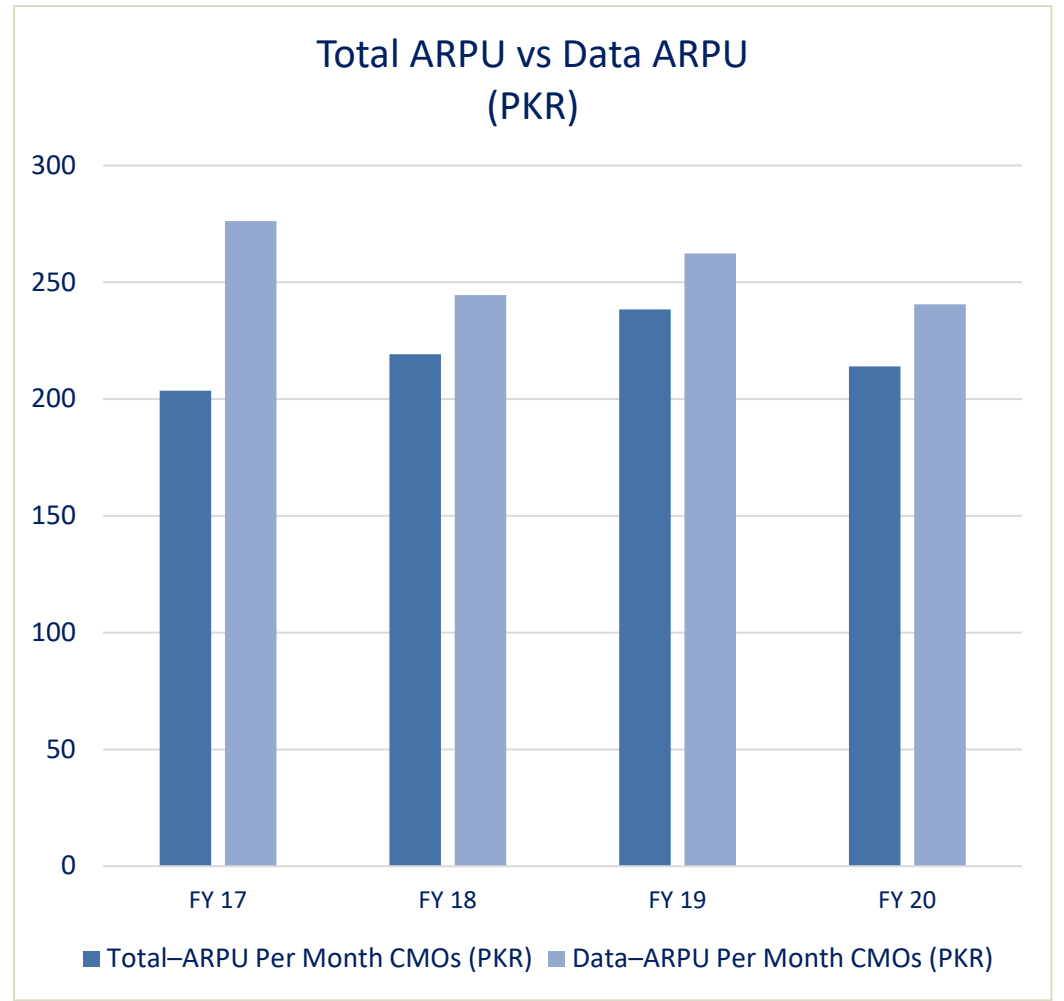
- The telecom sector has been exhibiting positive and encouraging FDI trends in Pakistan. The sector has made a significant contribution of USD~623mIn (~24%) to the total net Foreign Direct Investment (FDI) in the country in FY20. This huge investment became possible primarily because of the license renewal fees. ~50% of total license fees has been paid by the mobile operators (Telenor, Zong and Jazz) to the regulator. As the remaining fees will be paid in equal installments the sector will experience consistent flow of FDI.



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Business Risk | Average Revenue per User (ARPU)

- Pakistan has a relatively low ARPU and predominantly a prepaid subscription market where subscribers enjoy the flexibility of altering their usage patterns in response to any price fluctuations introduced by operators.
- Service providers face challenges in maintaining their ARPUs where voice is still a dominant factor in revenue streams. In Pakistan, the cellular mobile industry ARPU per month (Voice Data) stood at PKR~214 in FY20, indicating a decline of 10% as compared to the preceding year.
- The industry’s data ARPU stood at PKR~241 in FY20 as against PKR~262 during FY19. The drop in ARPUs can be attributed to significant price reductions introduced by operators during COVID-19 and rapid increase in subscriptions as against revenue. Although the 10% decline in total ARPU occurred because consumers shifted away from traditional voice services, the 8% decline in data ARPU was due to reduction in prices as data usage increased by ~77%.



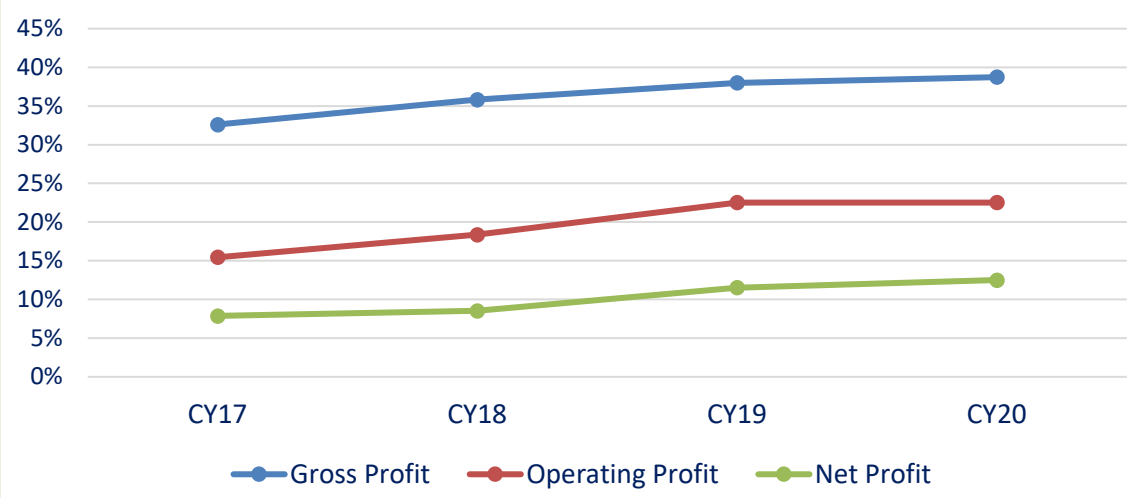
Note: CMO stands for Cellular Mobile Operator

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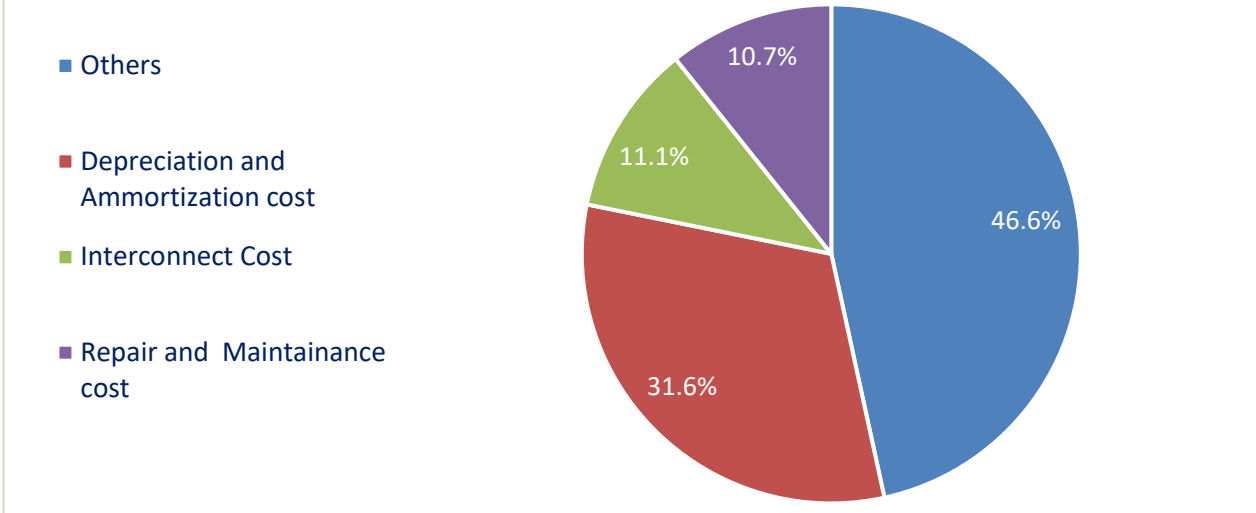
Business Risk | Profitability

- Cost structure of the telecommunication sector is predominantly fixed in nature wherein maintenance cost constitutes major portion followed by other fixed expenses. Being fixed in nature, the cost is more predictable and stable in nature and this help companies in better cost forecasting.
- Predominantly, fixed cost structure also comes with its own set of challenges as its increases the variability in company’s profitability. Companies in the sector with low market share and revenue growth in previous years have experienced low profitability in comparison to companies with high market share.
- The profit margins of the sector have showed positive trend over the part years on back of improved revenue amid fixed cost structure.

Profit Margins



Cost Breakup

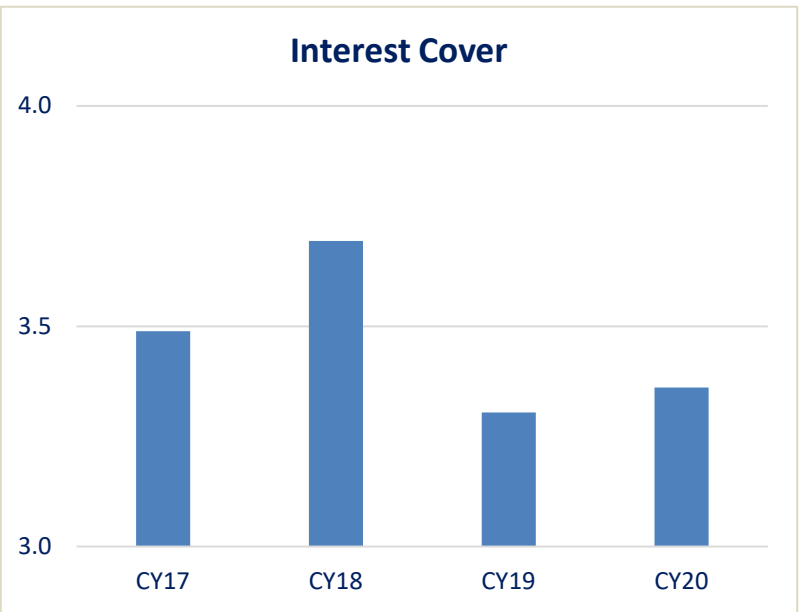
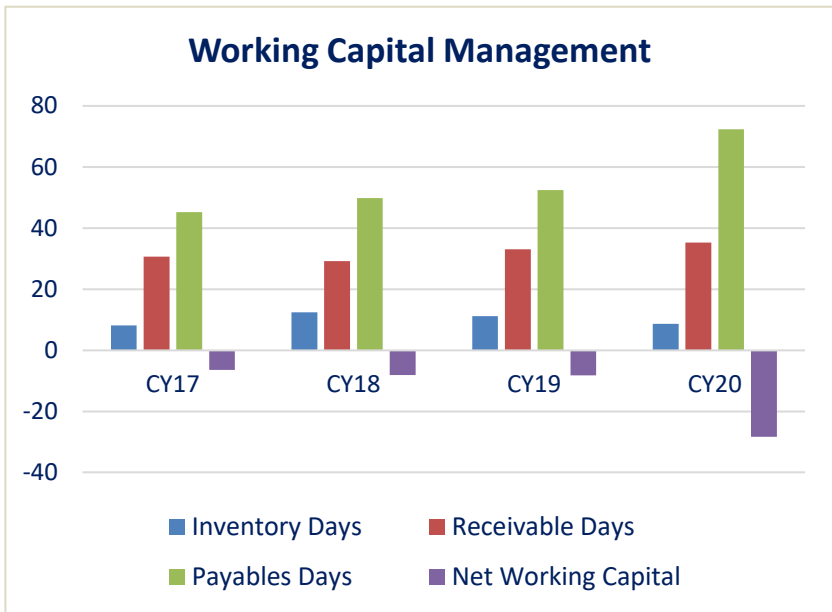
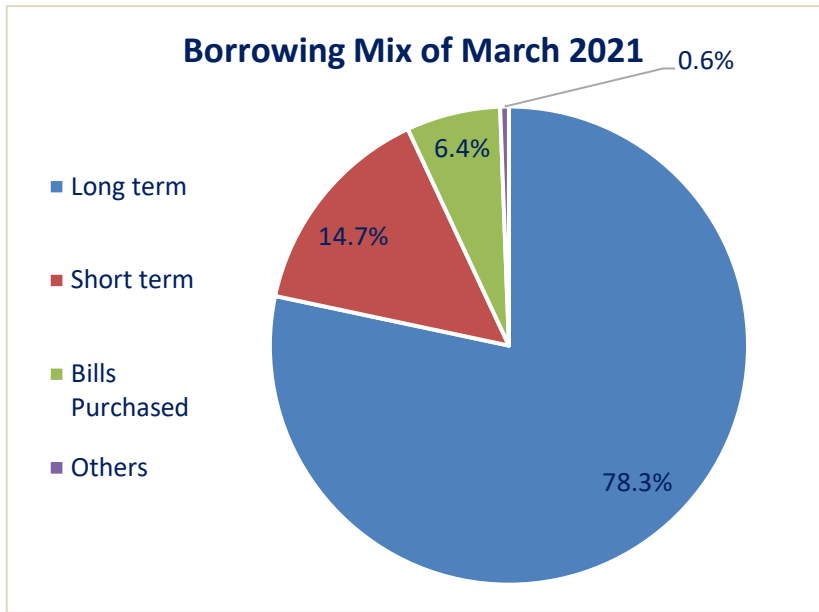


Note: Calculations are based on companies’ financials presenting ~50% of the sector in term of market share.

Telecommunication

Financial Risk | Borrowings

- The sector is characterized by very low working capital requirements. This stems from its nature of business as most subscribers in Pakistan are prepaid customers that translate into cash transactions and low receivable days.
- As at end April-2021, the total borrowings of the sector reached PKR~161bIn (April'20: PKR~140bIn) with YOY increase of ~15%. Considering the high capital intensive nature of the sector, a major portion of the sector's borrowing (78%) is long term in nature used to finance fixed assets.
- Interest cover of the sector increased due to reduced interest rates and improved profitability. Overall, financial risk of the sector is considered low.



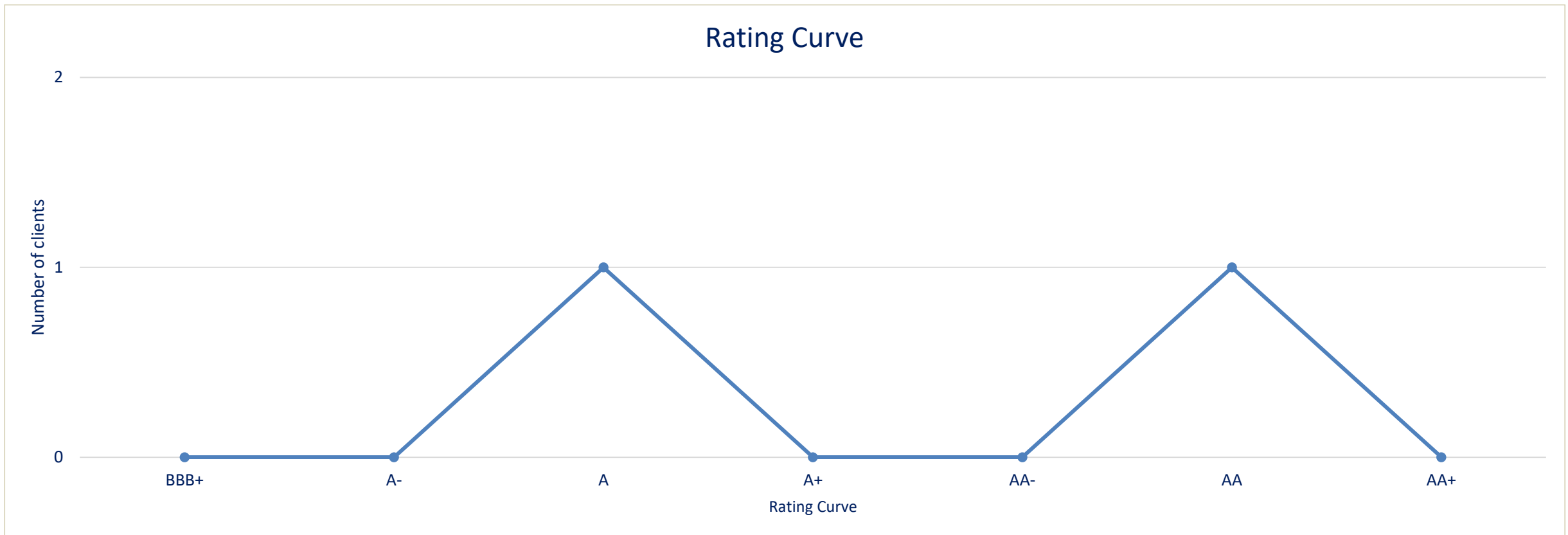
Note: Calculations are based on companies' financials presenting ~50% of the sector in term of market share.

Regulatory Mechanism

- **Pakistan Telecommunication Authority:** The Pakistan telecommunication Ordinance 1994, established the primary regulatory framework for the telecommunication sector including the establishment of an authority. Thereafter, telecommunication (Re-Organization) Act no XVII was promulgated in 1996 that aimed to reorganize the telecom sector of Pakistan. Under Telecom Reorganization Act 1996, Pakistan telecommunication Authority (PTA) was established to regulate the establishment, operation and maintenance of telecommunication systems, and the provision of telecom services.
- **4th Generation Regulator:** The International telecommunication Union (ITU) ranked PTA as 4th Generation Regulator (G4), thus placing Pakistan among the top five regulators in the Asia-Pacific region and the only G4 regulator in South Asia.
- **National Cyber Security Policy (NCSP):** Cyber Security is one of the highest priority areas of the present government. Through extensive efforts of the Ministry, the 2nd meeting of the Cyber Governance Policy Committee was held on 4th September 2019, under the Chairmanship of the Federal Minister for Information Technology & Telecom, with the participation of all stakeholders. During the meeting, the draft of the Cyber Security/Governance Policy was reviewed. Accordingly, it was decided that the draft may be amended in view of Pakistan's cyber security dynamics and be titled as the NCSP. The stakeholders' consultations are underway for the formulation of Pakistan's first NCSP.

Rating Curve

- PACRA rates 2 clients in the sector. Rating bandwidth of the sector is A to AA.



Telecommunication

SWOT



Outlook: Positive

- Strong telecommunication infrastructure is considered an important component of economic development. Since the COVID-19 lock down, the importance of the sector is further highlighted. In Pakistan, teledensity has shown an exponential growth in the past years and has now reached an all time high of ~83% as of March-2021. The growth in broadband subscription is even more promising as the penetration was recorded at ~46%. The segment is all set to grow at good pace on the back of improving awareness and availability of more affordable devices.
- Data usage in the country has increased to 4,498 petabytes during FY20 (FY19: 2,545 petabytes) with YOY growth of ~77%. The growth was fueled by increased usage during COVID-19 lock down. With the rising working force and work from anywhere trend, improved economic development and increasing need of telecommunication, the data usage is expected to remain on the higher side. The sector's revenue will be further augmented by the uptick in e-commerce activity.
- Despite the significant increase in data usage, ARPU decreased due to high competition amongst local companies to increase their subscribers base. Moreover, the portion of data revenue in total revenue is expected to grow and will be an important component for the sector's overall growth.
- The telecom sector has been exhibiting positive and encouraging FDI trends in Pakistan. The sector registered a contribution of USD~623mln to the country's net Foreign Direct Investment (FDI) constituting ~24% of the total FDI in the country. Supported by the government, local companies are investing heavily in innovation and growth. In line with the Policy Directive of the Ministry of Information Technology & Telecom, two Cellular Mobile Operators, i.e., Zong and Jazz, successfully carried out the 5G trials in Pakistan.
- The sector is characterized by low financial risk as the local companies are not highly leveraged. Comfort is further drawn from the backing of international corporate sponsors, robust revenue streams and strong cash flow generation. Moreover the sector's profitability is augmented by historically low interest rates.

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