Telecommunication

Sector Study

May 2023

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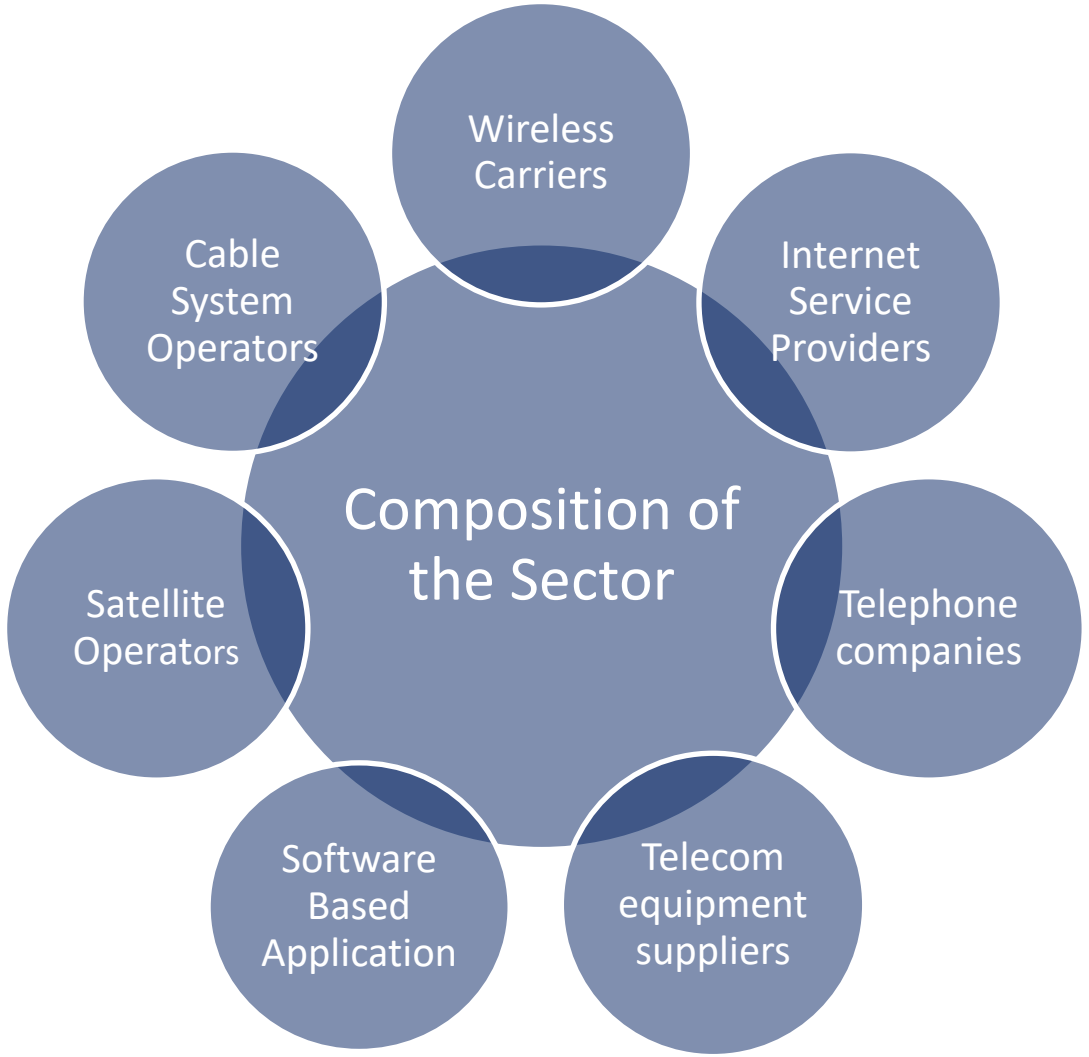
Introduction

- **Definition:** Telecommunication is the suite of technologies, devices, equipment, facilities, networks, and applications that support communication at a distance. It has infrastructure that allows data in text, voice, audio, or video to be sent anywhere in the world.

- Telecommunication has submerged into lives as a necessity. From enabling communication around the globe, to increasing participation and providing infrastructure for national security, the industry has had tremendous advancement over the couple of years.

- In fact, since the pandemic, the phenomenon have paced up with millions of additional subscriptions. Its role in routine activities, be it at work or at home, has also substantially increased.

- Primarily, the innovation and competition in the telecommunication industry accelerated in the early 2000s after the Telecommunication Act of 1996, which allowed anyone to enter the industry for the business. The industry had several restrictions and was centrally controlled previously.



Source: National Academies of Sciences, International Finance Group, Deloitte, Federal Communication Commission

Telecommunication

Global | Overview

- Top ten market players globally, rated on the basis of brand value, are listed below. Deutsche Telekom improved its position beating AT&T and climbed to the second position, compared to the third position last year. Verizon, however, maintained its position as the market leader with USD~70bln as the current brand value.

Top Ten Global Telecommunication Players – CY22				
Brand	**Position**	**Country**	**Brand Value 2022 (USD mln)**	**Brand Value 2021 (USD mln)**
Verizon	1	United States	69,639	68,890
Deutsche Telekom	2	Germany	60,169	51,107
AT&T	3	United States	47,009	51,372
China Mobile	4	China	40,903	37,559
NTT Group	5	Japan	40,691	34,238
Xfinity	6	United States	31,263	25,227
Spectrum	7	United States	24,083	21,424
Vodafone	8	United Kingdom	19,506	19,252
Orange	9	France	18,735	19,092
China Telecom	10	China	18,374	13,322

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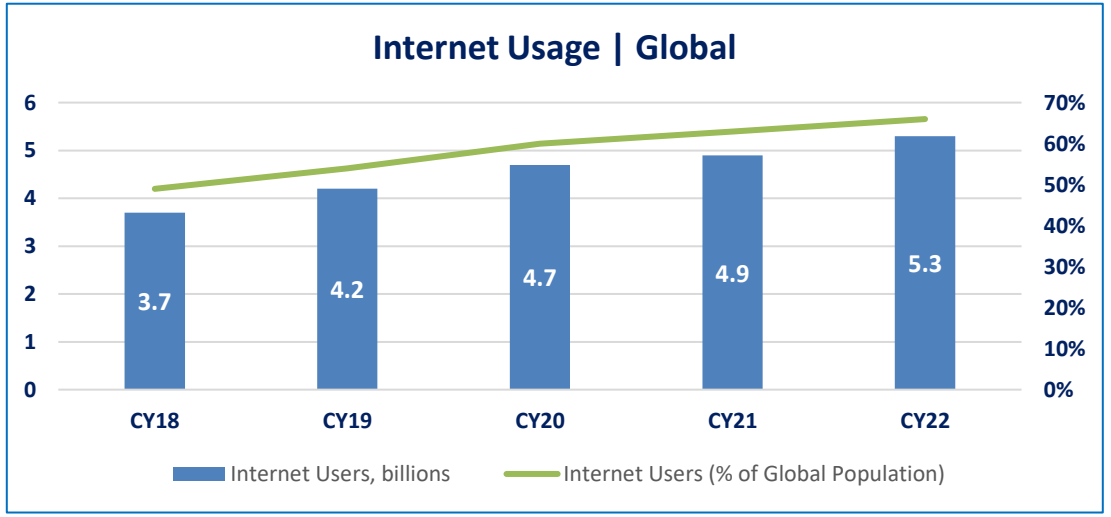
Global | Overview

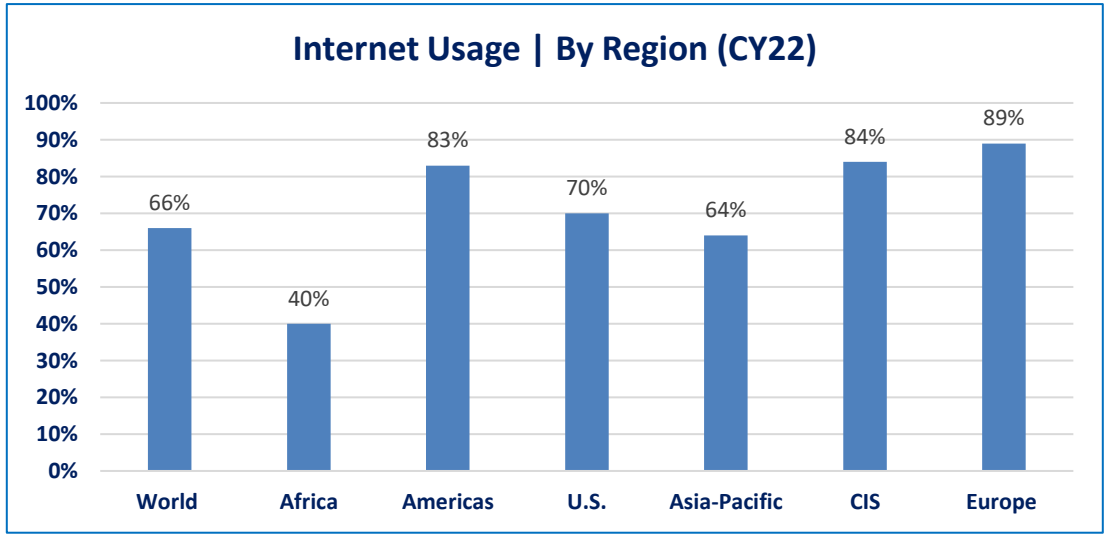
- Over the last decade and post-pandemic era, the global tele-communication has witnessed an increasing trend. Internet users were up ~8% in CY22, and clocked in at ~5.3bln worldwide. In terms of the global population using internet, the ratio as of CY22 stood at ~66% (CY21: ~63%).

- A region-wise distribution of internet usage, as percentage of total population, across the globe in CY22 depicts that this ratio for Europe registered at ~89%, with internet bandwidth of ~244Tbits/s (CY21: ~195Tbits/s). Similarly, whereas the ration for Asia Pacific stands at ~64% in CY22, the internet bandwidth was registered at ~542Tbits/s (CY21: ~442Tbits/s), the highest globally.

- A closer look at the demographics reveals that ~82% of urban dwellers have access and are using internet in CY22 (~78% the previous year). For the rural population worldwide, ~46% of the people were using internet during CY22 (CY21: ~42%). Th ratio of urban-to-rural internet users clocked in at ~1.8 in CY22, as against ~1.9 during the CY21.

- As an opportunity to develop new solutions and curb future disruptions, companies are inclined to invest in wireless networking, in particular, 5G and WiFi6.





1 Terabit = 1,000,000 Megabit

Source: International Telecommunication Union, ICT Indicators Database

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Global | Market Trends

- With respect to broadband and telephone subscriptions, while the fixed-telephone subscriptions have declined continuously over the last ten years (CY12-22), from ~17 to ~11 per 100 inhabitants, falling by ~35% during this time, fixed-broadband and mobile-cellular subscriptions are up by ~50% and ~21% respectively, maintaining the upwards trajectory.

- Keeping suit with this pace, MCT subscriptions increased ~2% YoY in CY22, whereas AMB and FB subscriptions went up by ~6% each. Region-wise, Europe has the highest number of subscribers of Fixed-Telephone and Fixed-broadband in CY22, whereas in the case of Mobile-Cellular Telephone subscriptions, the CIS region is the leader.

- International bandwidth usage reflects the unrelenting demand for Internet data, improving by ~25% in CY22. In Africa, international bandwidth usage registered an ~37% increase YoY in CY22, whereas the Americas is the fastest-growing region in terms of bandwidth usage per Internet user (~26%).

- Even though a good chunk of the world population has access to the internet, only ~2/3rd use it. This statistic highlights digital exclusion and the costs it can have on achieving SDGs given internet has become such a vital part of everyday life.

Subscriptions per 100 inhabitants

Broadband/ Telephone Subscriptions	CY21	CY22
Fixed-telephone (FT)	11	11
Fixed-broadband (FB)	17	18
Mobile-cellular Telephone (MCT)	106	108
Active mobile-broadband (AMB)	82	87

Subscriptions per 100 inhabitants

Subscriptions (CY22)	Africa	Americas	Arab States	Asia Pacific	CIS	Europe
FT	1	19	9	8	16	31
FB	1	25	10	18	21	35
MCT	86	109	96	111	147	121
AMB	42	113	74	89	103	110

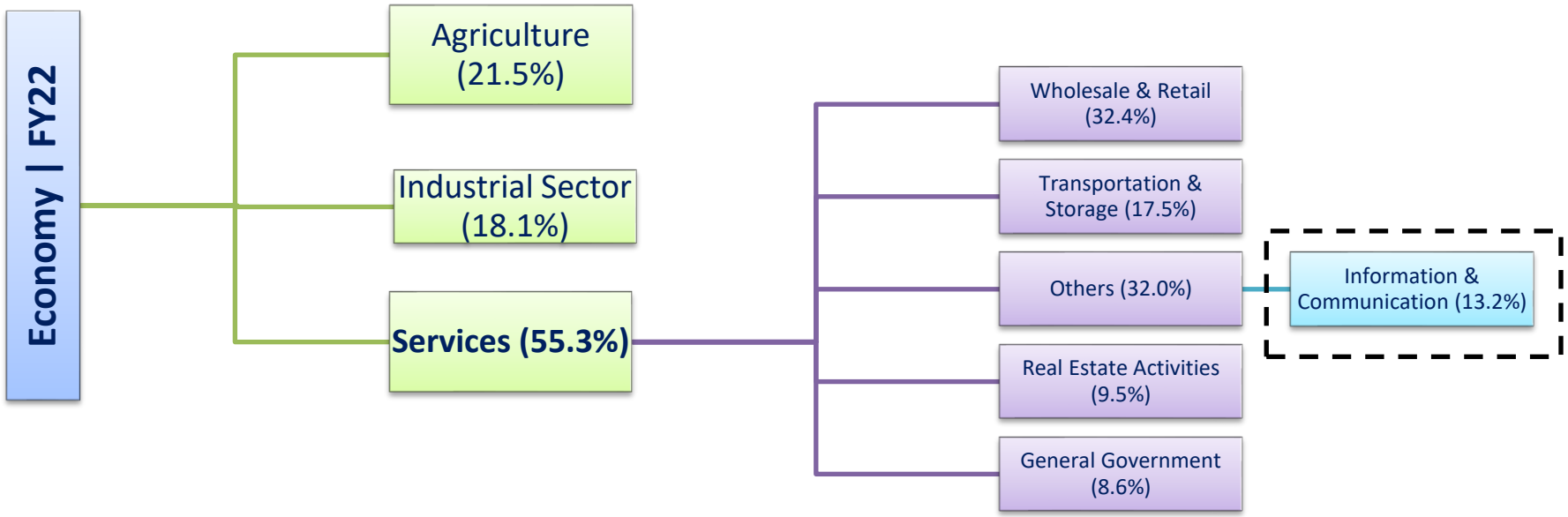
Source: International Telecommunication Union (ICT Indicators)

Telecommunication

Local | Overview

- Telecommunication sector broadly falls under the Services Industry of an economy. Being one of the largest segment of the economy, Services Industry constituted almost ~55% of the total GDP of Pakistan in FY22 (FY21: ~58%). ~13% of the Services Industry can be attributed to the Telecommunication Sector.

- The companies in the sector primarily 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.



Source: Pakistan Economic Survey, SBP

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Local | Overview

- Pakistan's Telecommunication sector with approximately ~197million subscribers in FY22, covers nearly ~89% of the population (during the same period). The sector registered a total revenue of PKR~694bln, increasing by ~7.8%. As of FY22, the sector contributed a~2.7% to the country's GDP, whereas during FY23, this figure climbed to ~2.8%.

- The sector was able to attract Foreign Direct Investment (FDI) worth USD~204mln in FY21, with Net FDI of USD~43.6mln. However, during FY22, the situation seemed to have reversed, with FDI Inflows clocking in at USD~174.9 (declining by ~14% YoY), while Net FDI slipping into negatives, signifying greater outflows.

- During FY22, with ~30 manufacturing plants and companies, ~7.24mln 4G smartphones were manufactured in Pakistan, taking the total number of locally manufactured mobile phones to ~16.7mln and creating ~26,000 jobs in the country.

- Telephone imports during FY22 were registered at USD~1,979mln, declining by ~4.2% YoY. During 10MFY23, mobile phone imports dipped by a massive ~74% YoY to stand at USD~473mln (SPLY: USD~1,809mln). The latter came on the back of import restrictions that have been in placed since May'22.

Sector Snapshot	FY21	FY22	FY23
Contribution to GDP (Real) (%)	2.4%	2.7%	2.8%
Total Telecom Revenue (PKR bln)	644	694	-
Contribution to National Exchequer (PKR bln)	225.8	325.2	-
FDI Inflow (USD mln)	204.4	174.9	62.0
Net FDI (USD mln)	43.6	-22.7	-25.9
Tele-density (%)	85.3%	89.5%	83.2%
Total Cellular Subscribers (mln)	186.8	197.2	194.1
Cellular Subscriber Growth (%)	9.2%	5.6%	-1.6%
Major Sector Players		4	
Structure		Unlisted	
Regular/Authority		PTA & MOITT	

Note – For FY23: FDI, Tele-density and Cellular Subscribers figures are updated as of 10MFY23. Manufacturing data is for Jan-Sep'22.

Source: PTA, PBS

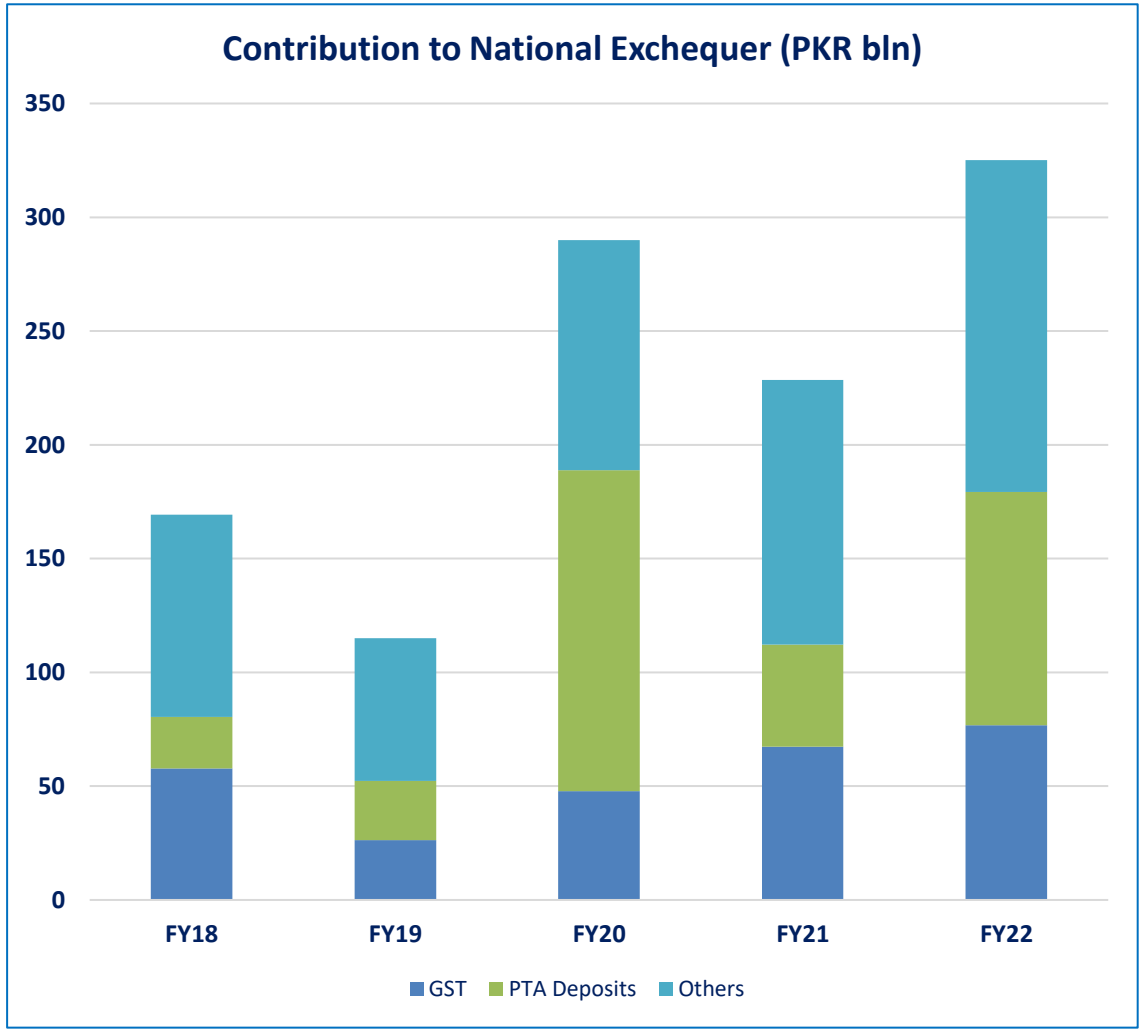
Telecommunication

Local | Contribution to National Exchequer

- Contribution to national exchequer by the telecommunication sector increased by ~42% YoY during FY22 and stood at PKR~325bln (FY21: PKR~228bln).

- A breakdown of the sector's contribution to the national exchequer reveals that the major components comprise the PTA Deposits and Others levies and duties levied by the FBR. While the former stood at PKR~103bln (FY21: PKR~45bln) and made up ~32% of the total contribution in FY22 (FY21: ~20%), the latter formed ~45% (SPLY: ~51%), registering at PKR~146bln (FY21: PKR~116bln).

- A further analysis shows that PKR~103bln worth of PTA deposits consisted of Next Generation Mobile Services (NGMS) auction of PKR~30bln and license renewals to the tune of PKR~72bln.



Source: PTA

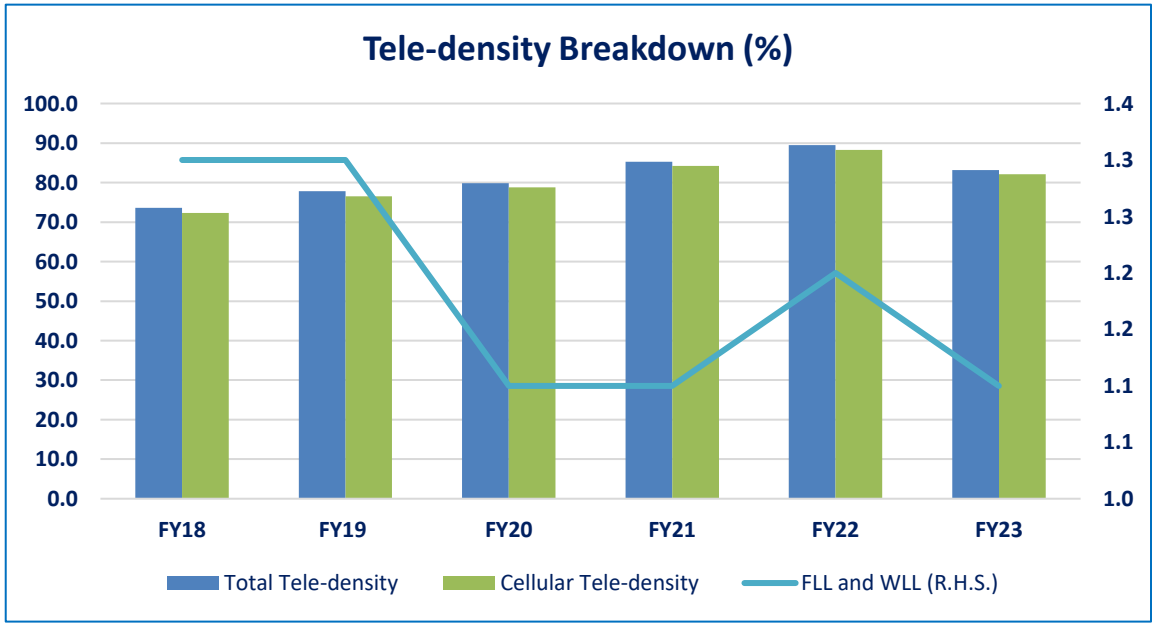
Telecommunication

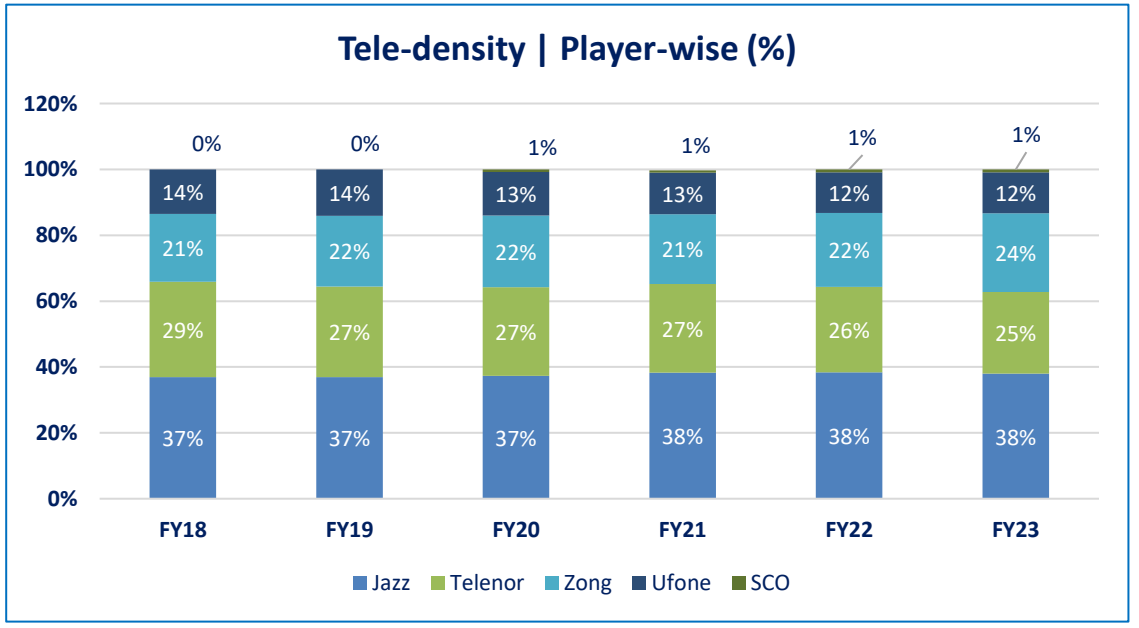
Local | Tele-density & Market Share

- Tele-density signifies the number of users per 100 people within an area for any telecom network. The overall tele-density for the country increased from ~85.3% in FY21 to ~89.5% in FY22. This meant an improved increase in density of ~4.9%.

- The tele-density for Wireless Local Loop (WLL) and Fixed Local Loop (FLL) also marginally rose by ~0.1 points and recorded at ~1.2% (FY21: ~1.1%). Similarly, Cellular tele-density also increased to ~88.3%, compared with ~84.2% during FY21. The decline translates to approximately ~6.6% (FY21).

- Jazz leads the sector with nearly ~38% market share overall, followed by Telenor with a share of ~26% and Zong with a share of ~22% in FY22. Ufone captures only ~12% of the market. SCO, operating only in Gilgit-Baltistan, takes ~1% of the market share.





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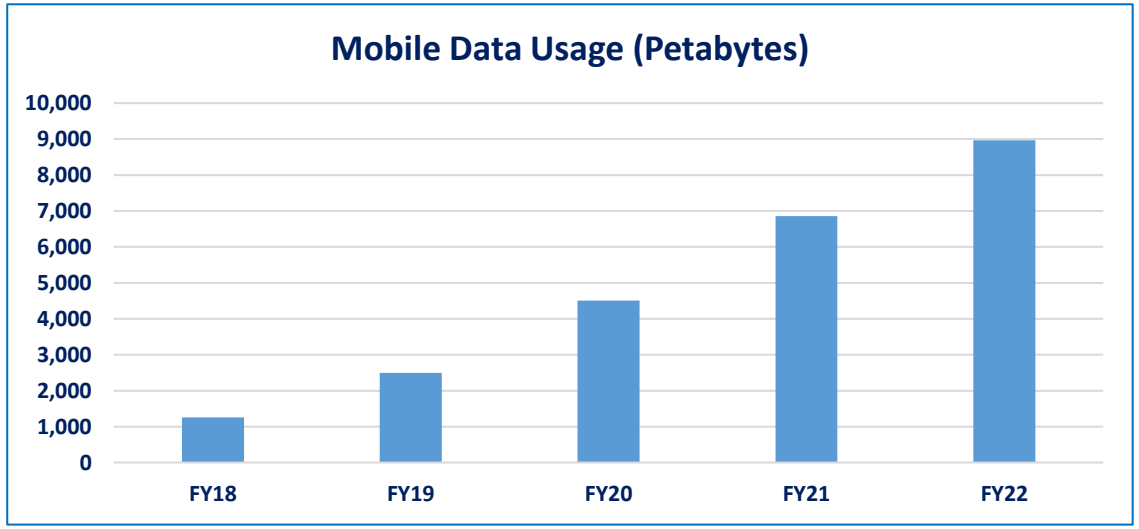
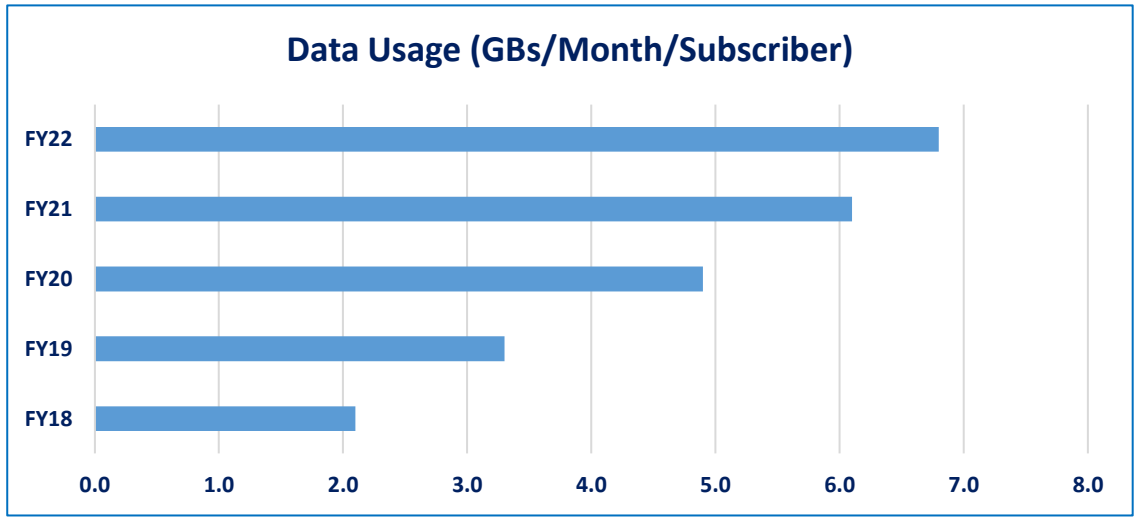
Local | Data Usage

- Cellular mobile usage in terms of Petabytes has witnessed a significant annual increase of ~31% in FY22, reaching ~8,970 Petabytes (FY21: ~6,855 Petabytes).
- The average mobile data usage per month, in terms of Gigabytes, has also risen substantially. The increase accounts for ~11% YoY. The average data usage stands at ~6.8GBs per month per subscriber in FY22, as against ~6.1GBs per month per subscriber during the previous year.
- The phenomenon of increased internet usage and accelerating subscribers paced up since FY19 as a consequence of the pandemic and the trend continues still as progressive initiatives are taken by the regulatory body to ensure the inclusivity in the sector and to sustain growth.
- One such example would be PTA's efforts to expand ICT services in Azad Jammu & Kashmir (AJ&K) and Gilgit Baltistan (GB) and the Asaan Mobile Account (AMA) Scheme.





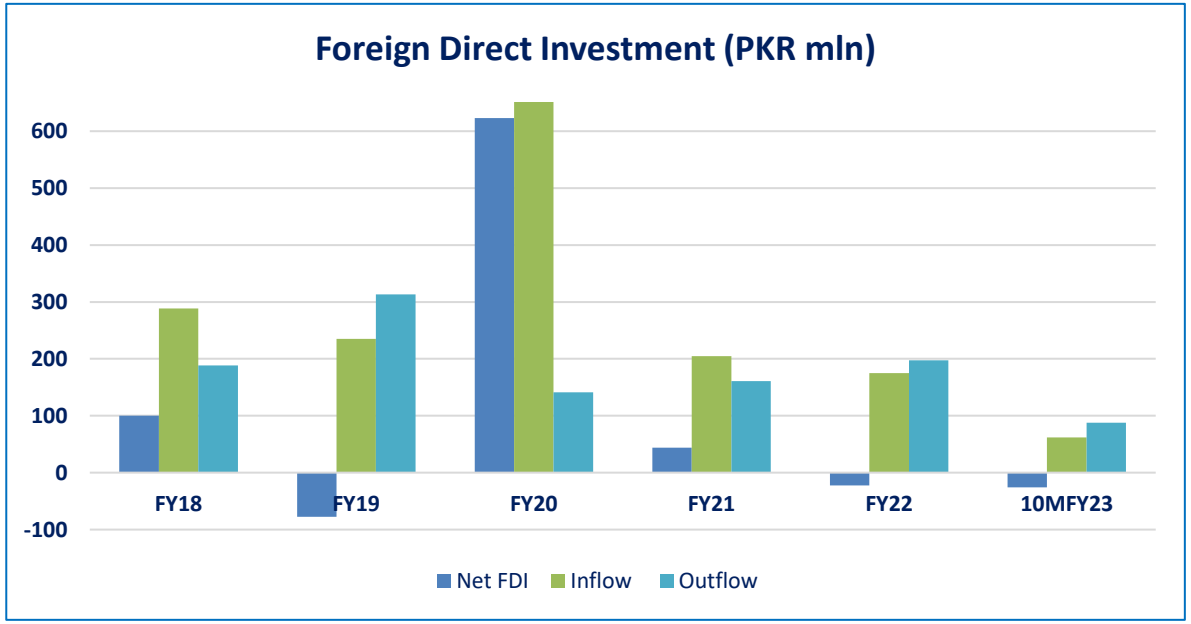
Source: PTA

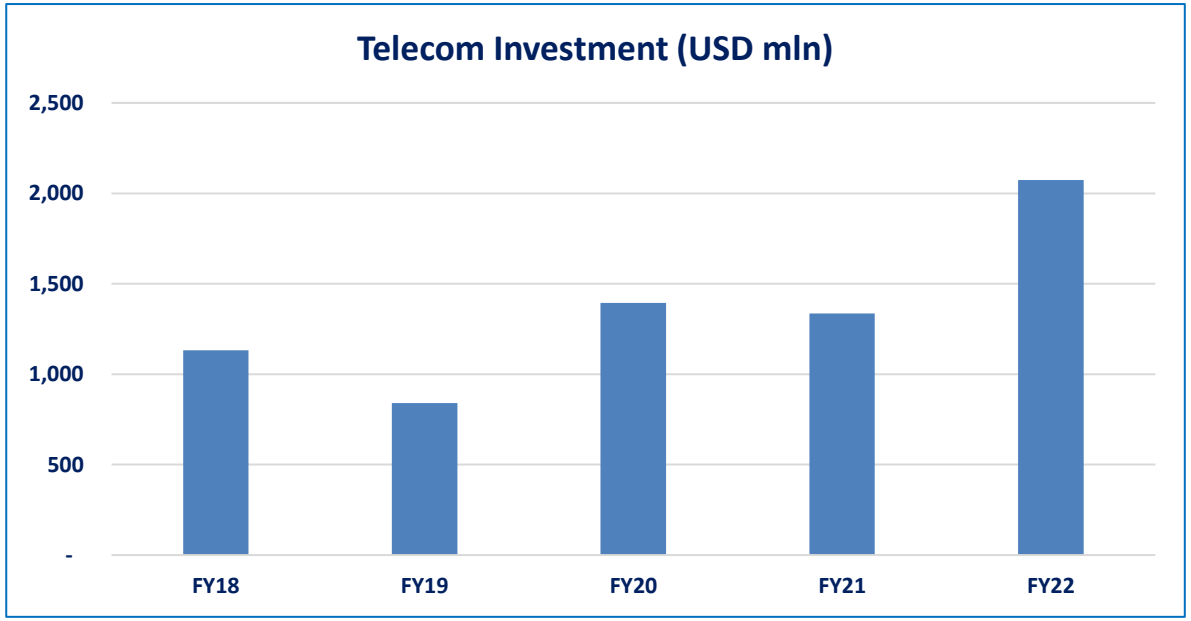
Telecommunication

Local | Investments

- FDI inflows towards the sector have traced a downward trajectory since FY21, during which time they were recorded at USD~204mln, and have plummeted by ~14% YoY to only USD~175mln. Resultantly, where the Net FDI towards the sector stood at USD~43.6mln during FY21, it has now plunged to USD~(22.7)mln. Outflows for the period FY22 increased from USD~160.8mln to USD~197.6mln, increasing by ~23% YoY.

- Total telecom investment, however, for FY22 stood at USD~2,073mln (FY21: USD~1,336mln), an increase of ~55% YoY.





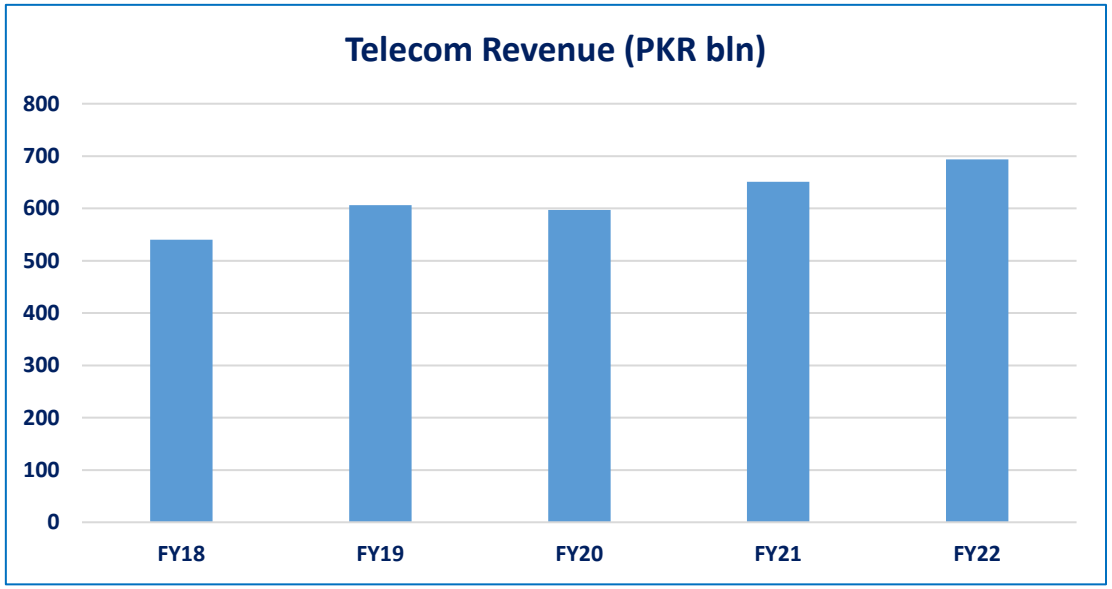
Source: SBP, PTA 10

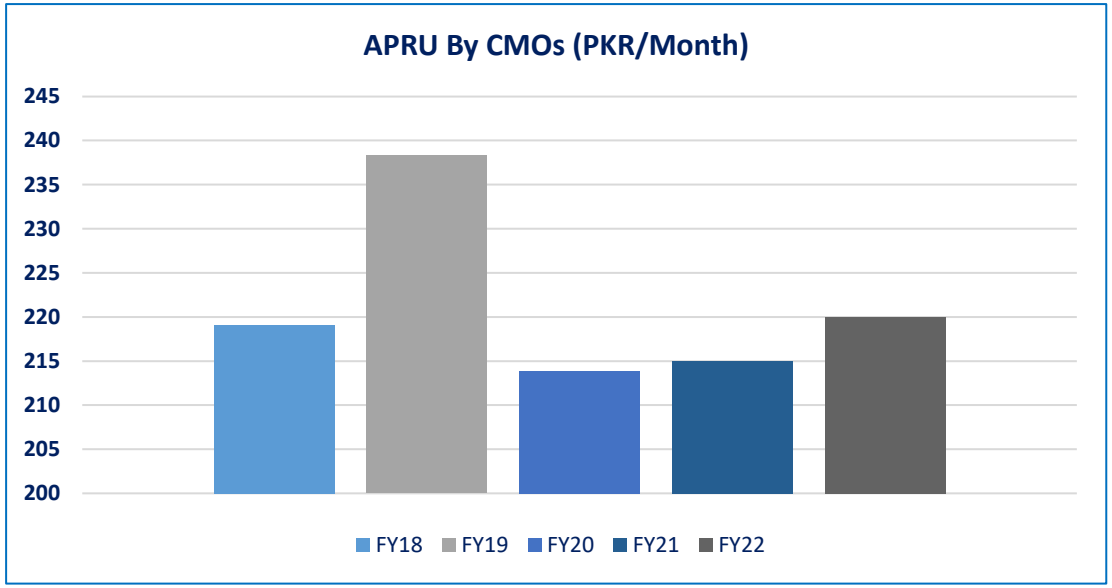
Telecommunication

Local | Business Risk

- The overall revenues for the sector increased by ~7% YoY to clock in at PKR~694bln (FY21: PKR~644bln). The Average Revenue Per User (ARPU) Per Month increased marginally by ~2.3% YoY in FY22, and stood at PKR~220/month.

- Amongst the mobile operators, Jazz remains the market leader with average data ARPUs of PKR~170 per user in CY22 (CY21: PKR~176.6), against average voice ARPUs of PKR~58 per user (CY21: PKR~79.1 per user).





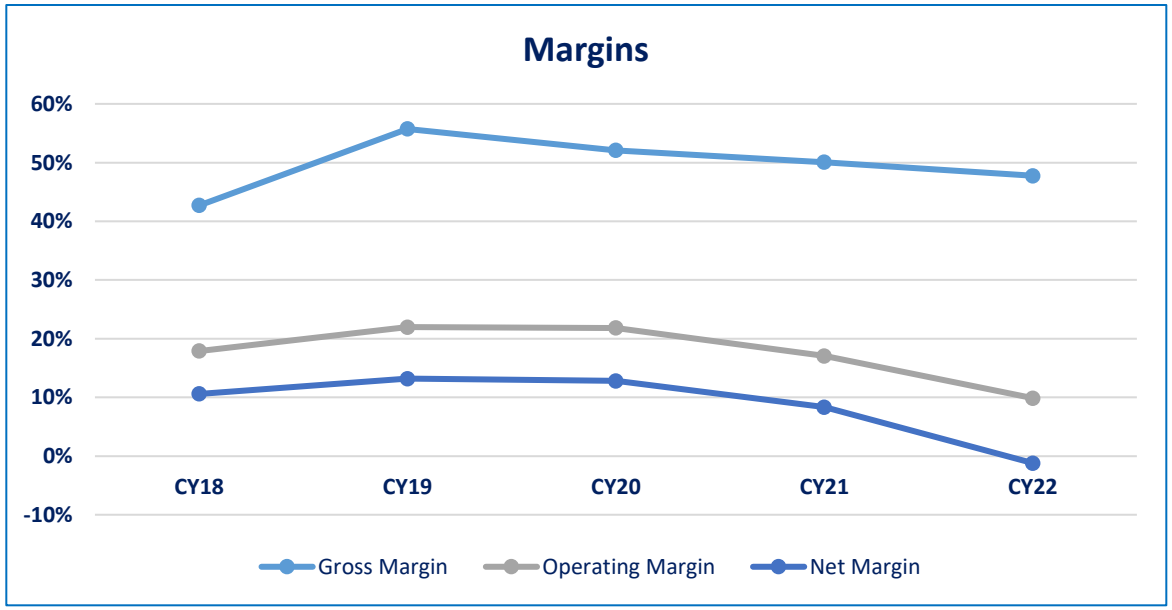
Source: PTA 11

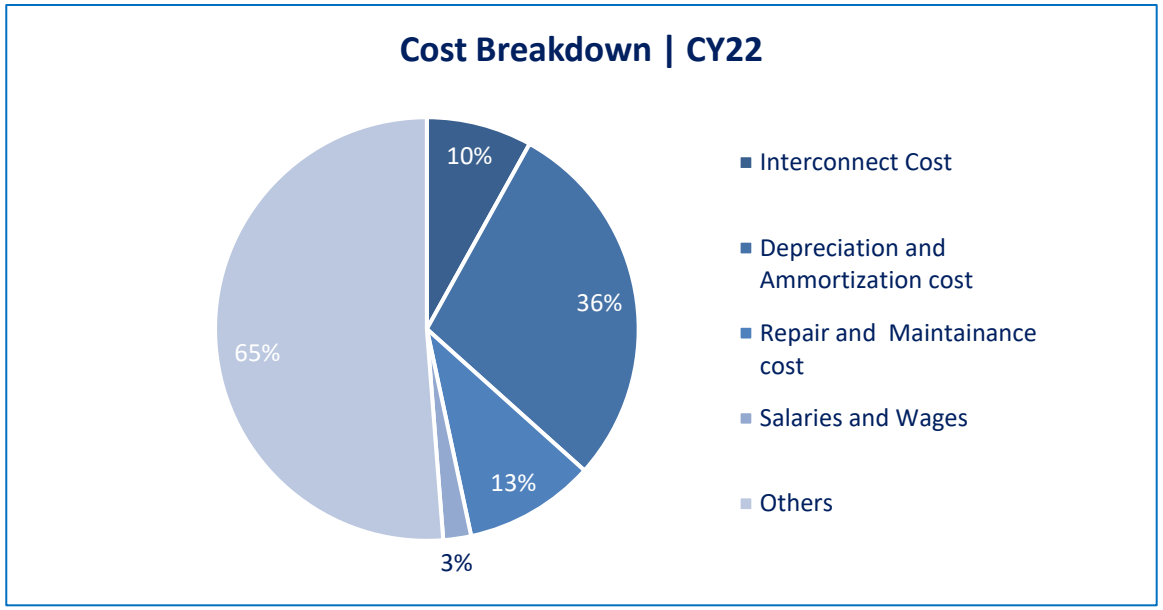
Telecommunication

Local | Business Risk

- The costs of the sector are predominantly derived from Interconnect costs, Depreciation and Amortization and Repairs and Maintenance. In CY22, these made up ~10%, ~36% and ~13% in the average cost structure of the sector. The "Others" category, comprising energy costs, overheads and satellite charges comprised ~65% of the total cost structure in CY22.

- The sector's profit margins during CY22 performed relatively poorly. The average Gross Profit Margins clocked in at ~48% (CY21: ~50%) while the average Operating Profit Margins also dipped to ~10% (CY21: ~17%). Similarly, average Net Profit Margins also fell to ~ -1% (CY21: ~8%), on account of exorbitant finance costs which resulted from steep interest rate hikes as part of SBP's hawkish monetary stance.





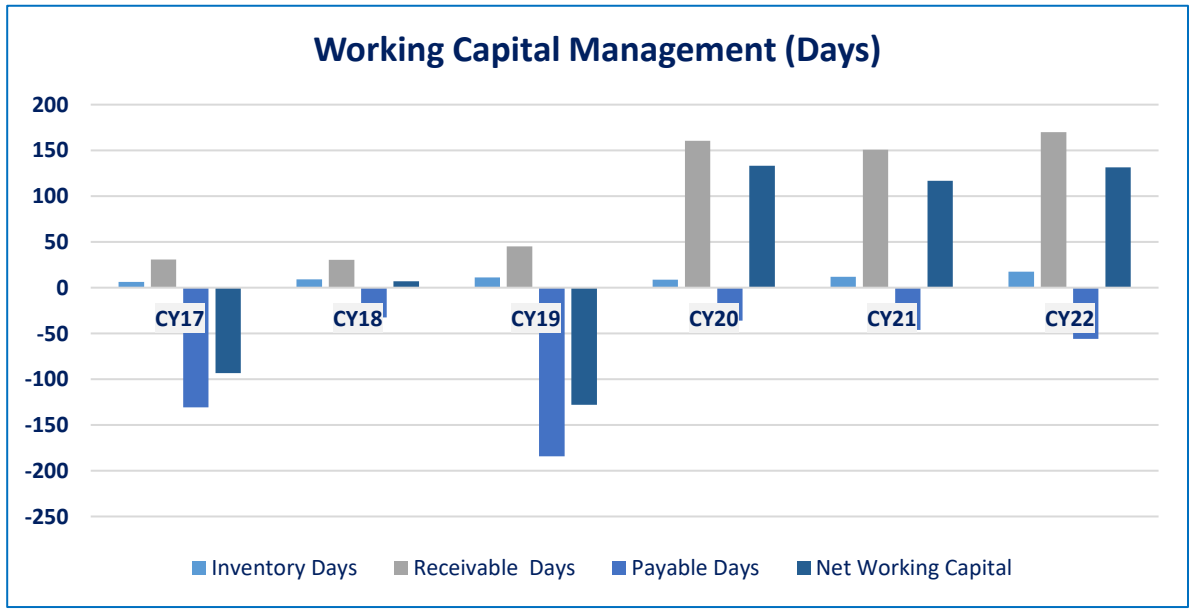
Note: Calculations are based on companies' financials presenting ~50% of the sector in term of market share.

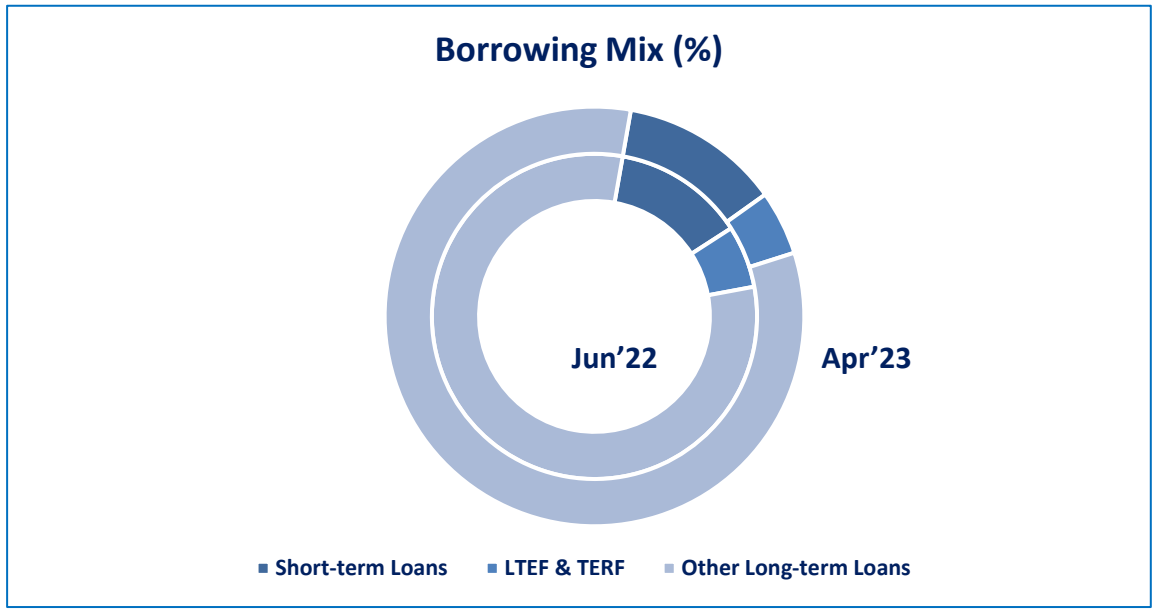
Telecommunication

Local | Financial Risk

- The sector's long-term borrowings account for ~90% of the total borrowings owing to the capital intensive nature of the business; while short-term borrowings are mere ~12%. Total outstanding of the sector amounted to PKR~307bln as of Apr'23 (Jun'22: PKR~256bln). Import financing dipped to PKR~399mln, from PKR~1,430mln in Jun'22, reflecting import curbs by the SBP.

- The paradigm of the working capital management have drastically altered over the last two years for the sector. Primarily, because of the increased receivable days. Receivable days increased to~170 days in CY22 (CY21: ~151 days), while payable days also increased to ~56 days from ~46 days. As a result, net working capital days stood at ~132 days during CY22 (CY21: ~117 days).





Note: Calculations are based on companies' financials presenting ~50% of the sector in term of market share. Borrowings have been taken from SBP.

Source: PACRA Internal Database, SBP

Telecommunication

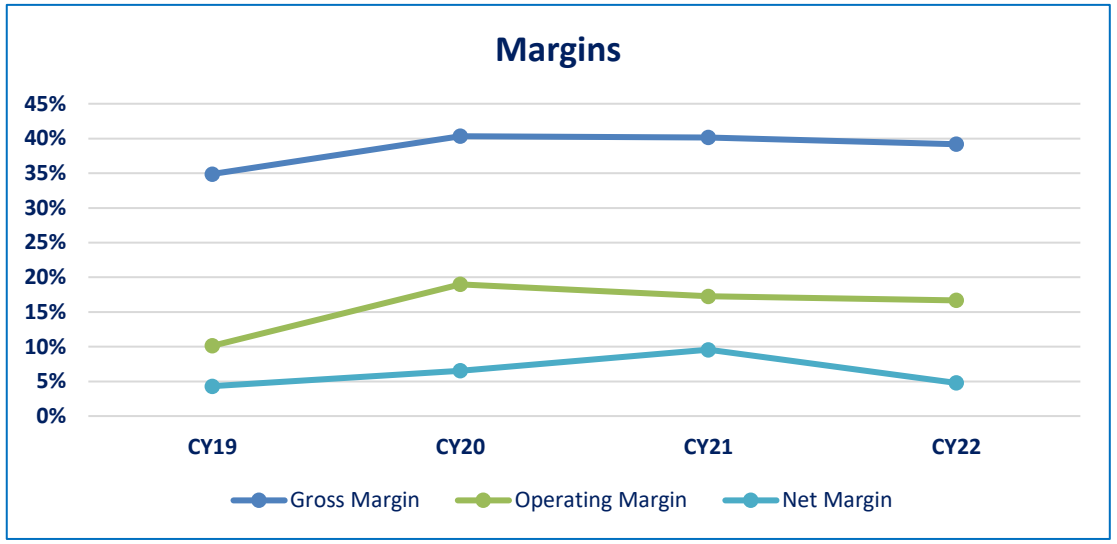
Local | Internet Service Providers

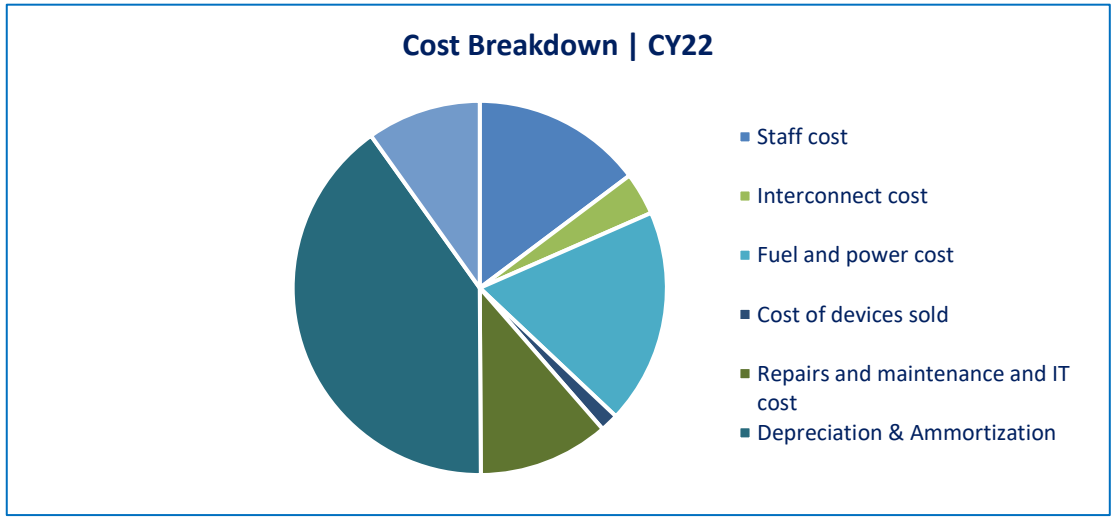
- Internet service providers are catering a growing market in the country. The broadband industry (other than cellular internet, i.e., 3G and 4G) is classified based on the technology type, including DSL, wireless services, and FTTH (Fiber-to-the-Home) internet services. Broadband penetration in the country, as of FY22, stood at ~56%, creating a pool of ~124mln broadband subscribers.

- An internet service provider can be further classified into Tier-I, Tier-II and Tier-III providers. For CY22, revenues for the segment clocked in at PKR~169bln (CY21: PKR~151bln), increasing by ~12% YoY.

- Since the data is representative of some sector players that are still in their expansionary phase, margins of the sector have remained range-bound. Average gross margins of the sector decreased to ~39% in CY22, against ~40% during the previous year. While average operating margins stayed stable at ~17% during CY22, average net margins dipped to ~5% (CY21: ~10%), likely on the back of higher finance costs.

- While depreciation accounted for ~40% of the total cost structure, staff cost formed ~15%, whereas duel and power made up ~20%.





Note: Calculations are based on three PACRA-rated players and one listed player with ~12% market share. Cast breakdown is reflective on sector player. .

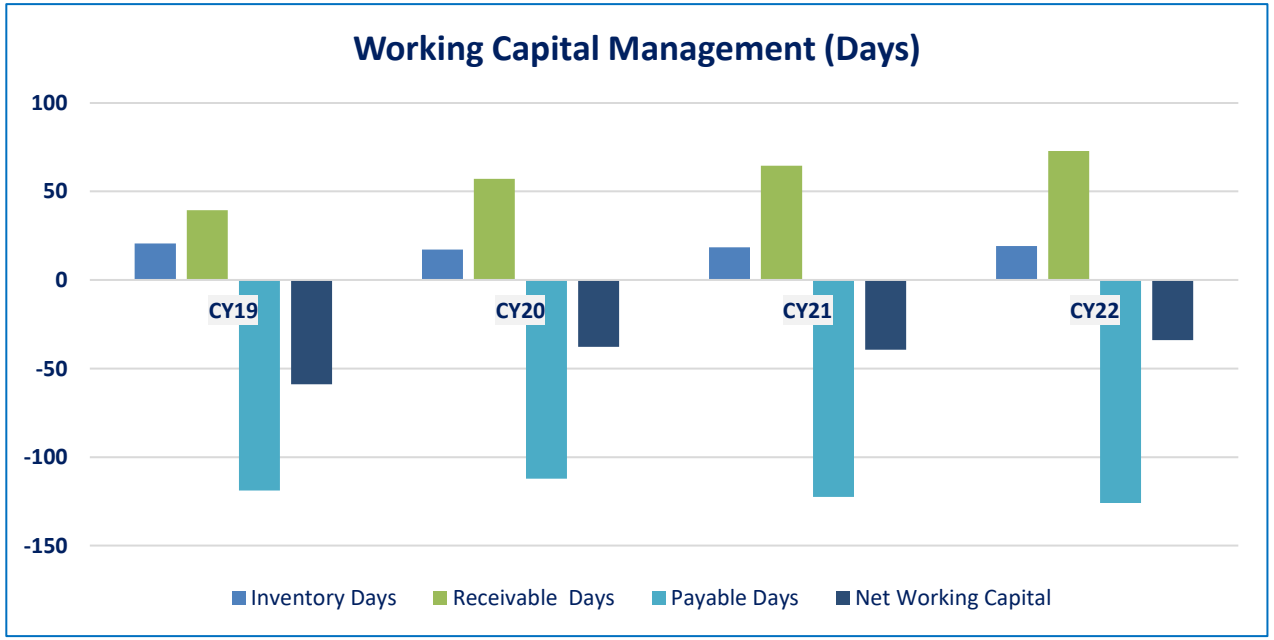
Source: PACRA Internal Database, Company Financials, PTA

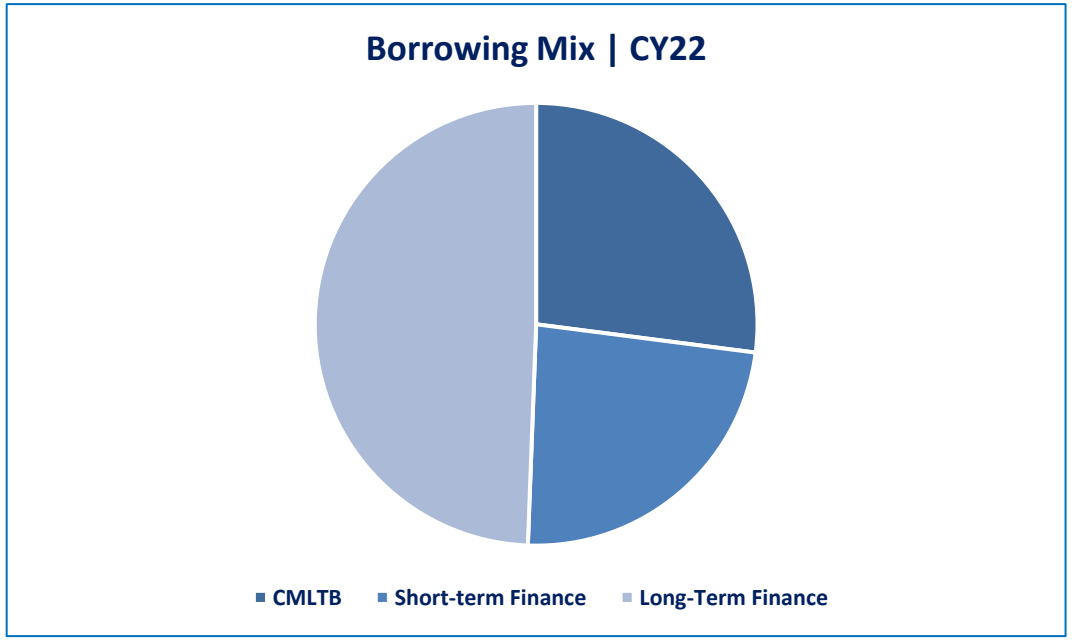
Telecommunication

Local | Internet Service Providers

- The sector's working capital cycle is a function of days receivable and days payables. During FY22, average days receivables increased to ~73 days (CY21: ~65 days), while average payable days increased to ~126 days (CY21: ~122 days). Net working capital days, therefore, improved to ~(34) days as against ~(39) days during CY21.

- The sector's borrowing mix is characterized by long-term borrowings, which signifies sector players' upgradation/ expansion plans. For CY22, long-term finance accounted for ~49% of the total borrowings mix, whereas current maturity to long-term borrowings formed ~27%. Reduced margins of the sector, combined with higher finance costs, contributed to lower interest coverage. The ratio clocked in at ~6.5x during CY22, against ~8.9x in CY21. The sector is moderately leveraged with ~55% leverage ratio.





Note: Calculations are based on three PACRA-rated players and one listed player with ~12% market share. .

Source: PACRA Internal Database, Company Financials

Telecommunication

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.

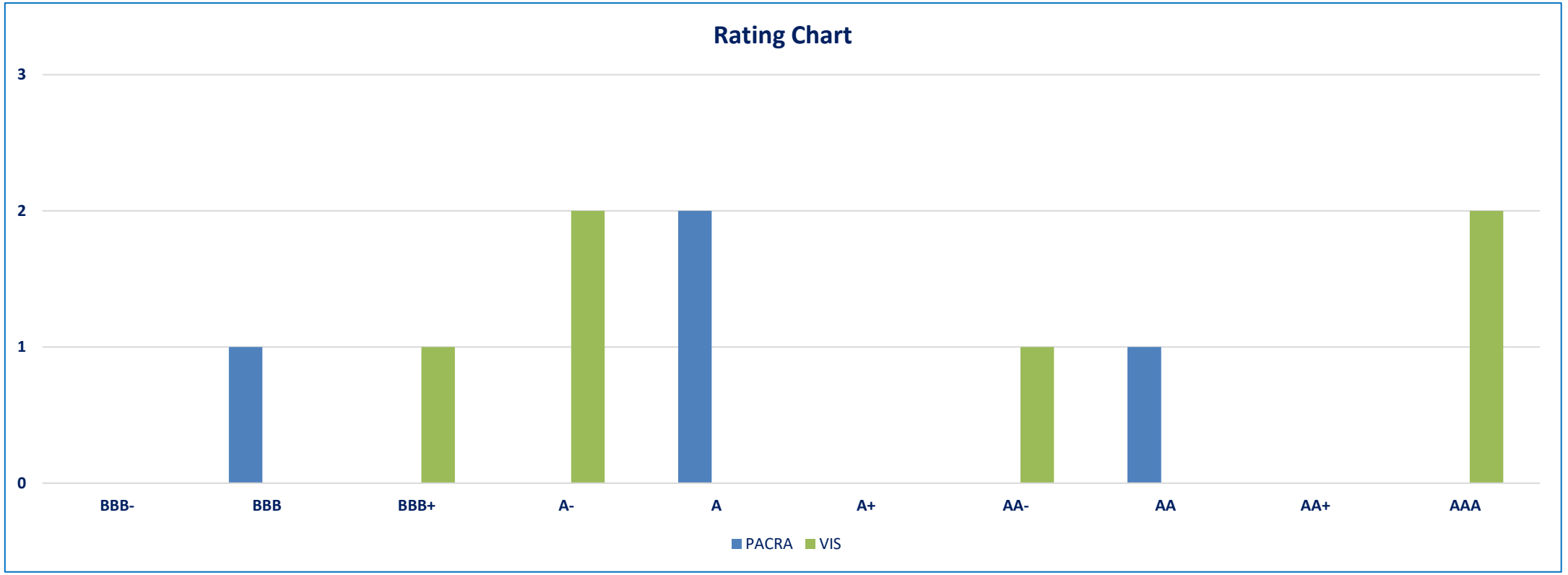
- **4th Generation Regulator:** The International telecommunication Union (ITU) ranked PTA as Generation 4 regulatory environment (G4), thus placing Pakistan among the top five regulators in the Asia-Pacific region and the only G4 regulator in South Asia.

- **National Cyber Security Policy (NCSP):** Cyber Security is one of the highest priority areas of the present government. Through extensive efforts of the Ministry of Information Technology and Telecommunication (MIOTT), Government of Pakistan (GoP) and PTA have successfully implemented the National Cyber Security Policy 2021 with a focus of establishing a secure digital ecosystem. Under the policy the regulatory body is trying to identify and implement the legislative and regulatory reforms in accordance with the security mandates defined under the policy to enable the stakeholders a safe, secure, reliable and resilient digital services.

Telecommunication

Rating Chart

- PACRA rates 4 entities in the sector. Rating bandwidth of the sector is BBB to AA.



Telecommunication

SWOT

- Increase in 4G subscription and large customer base.
- Providing business-critical connectivity and resilience. Facilitating work-from-home arrangements.
- High barriers to entry
- Synergetic impact of financial services offered by telecom industry .

- Lack of accessibility in remote regions.
- Less spending on research and development.
- Privacy Issues- Cyber Crime
- Interconnection problems for small players.
- Low ARPU

- Requirement of significant capital expenditures for new technology.
- Price competition amongst industry players is expected to exert pressure on average revenue per user.
- Conflicts related to license renewal fee charge.

- Taking a more advanced approach to customer engagement
- Converging and remixing entertainment experiences through new service offerings and entertainment bundles—and by adopting new strategies that can enable business agility.
- Introduction of 5G in Pakistan

Telecommunication

Outlook: Stable

- A sophisticated telecommunication infrastructure acts as a backbone of the economy in today's world as made especially evident by the pandemic during the last few years. Pakistan's Telecommunication sector with approximately ~197million subscribers in FY22, covers nearly ~89% of the population (during the same period). The sector registered a total revenue of PKR~694bln, increasing by ~7.8%. As of FY22, the sector contributed a~2.7% to the country's GDP, whereas during FY23, this figure climbed to ~2.8%.
- The sector was able to attract Foreign Direct Investment (FDI) worth USD~204mln in FY21, with Net FDI of USD~43.6mln. However, during FY22, the situation seemed to have reversed, with FDI Inflows clocking in at USD~174.9 (declining by ~14% YoY), while Net FDI slipping into negatives, signifying greater outflows on the back of political uncertainty and macroeconomic turmoil which ahs uprooted investor confidence.
- Telephone imports during FY22 were registered at USD~1,979mln, declining by ~4.2% YoY. During 10MFY23, mobile phone imports dipped by a massive ~74% YoY to stand at USD~473mln (SPLY: USD~1,809mln). The latter came on the back of import restrictions that have been in placed since May'22.
- The sector comprises CMOs and Internet Service Providers. For the former, the overall revenues for the segment increased by ~7% YoY to clock in at PKR~694bln (FY21: PKR~644bln). The Average Revenue Per User (ARPU) Per Month increased marginally by ~2.3% YoY in FY22, and stood at PKR~220/month. The average Gross Profit Margins clocked in at ~48% (CY21: ~50%) while the average Net Profit Margins fell to ~ -1% (CY21: ~8%), on account of exorbitant finance costs which resulted from steep interest rate hikes as part of SBP's hawkish monetary stance.
- For the latter, during CY22, revenues for the segment clocked in at PKR~169bln (CY21: PKR~151bln), increasing by ~12% YoY. The coverage ratio for the segment clocked in at ~6.5x during CY22, against ~8.9x in CY21, whereas it remains moderately leveraged with ~55% leverage ratio.
- During FY22, the conducive regulatory structure remained in favor of sector players, such as the National Broadband Policy 2021, initiation of 5G services and telecom developments in AJ&K and GB, in addition to the growth in e-commerce and financial inclusion.
- During the 10MFY23 period, cellular subscribers have decreased to ~194mln (FY22: ~197mln), most likely due to actions taken by the PTA in the form of stricter biometric identification in order to control illegal SIM activity.
- Going forward, the sector is expected to stay on-course, despite higher energy and finance costs, owing to a stable and increasing demand, as internet accessibility and usage have become integral to everyday life and business activity.

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