



Education Sector Study

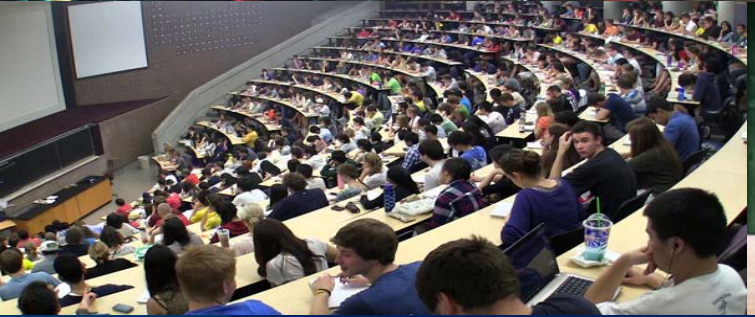


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Introduction & Definitions

Education:

- It is the process of imparting knowledge, aimed to develop faculties of judgement and reasoning, to prepare individuals or groups intellectually for mature life.
- It can be thought of a transmission of accumulated values and knowledge of a society.
- While there are many educational conventions and institutes, such as Schools (primary, secondary & high), Vocational Training Institutes, Degree Colleges and Universities; this report however will particularly focus on Universities.

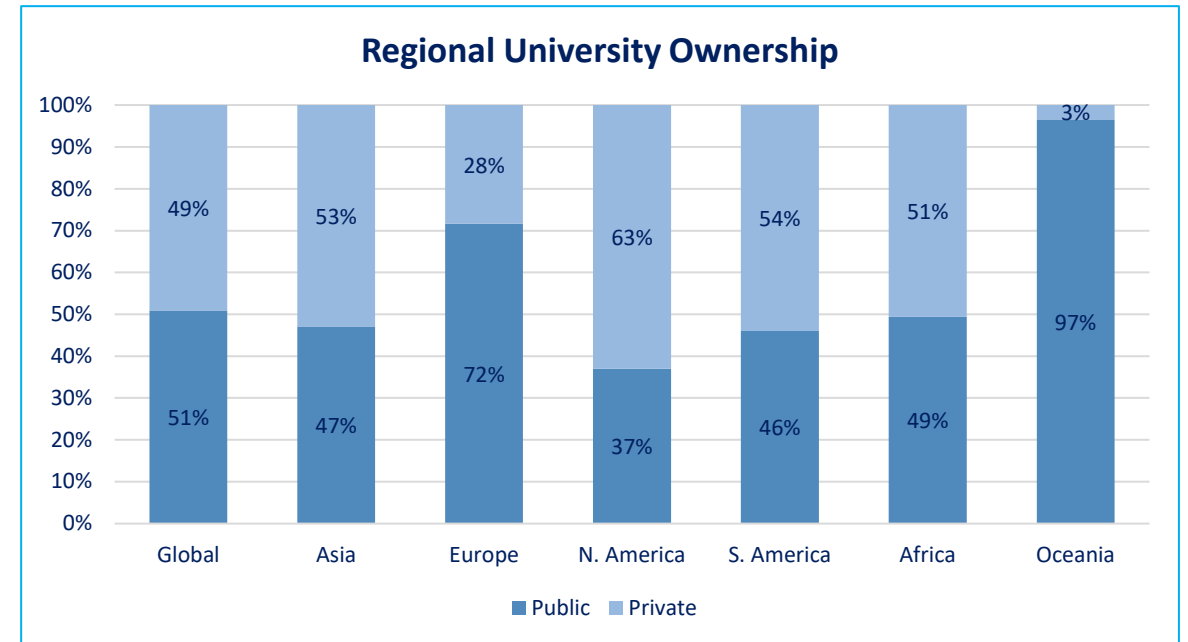
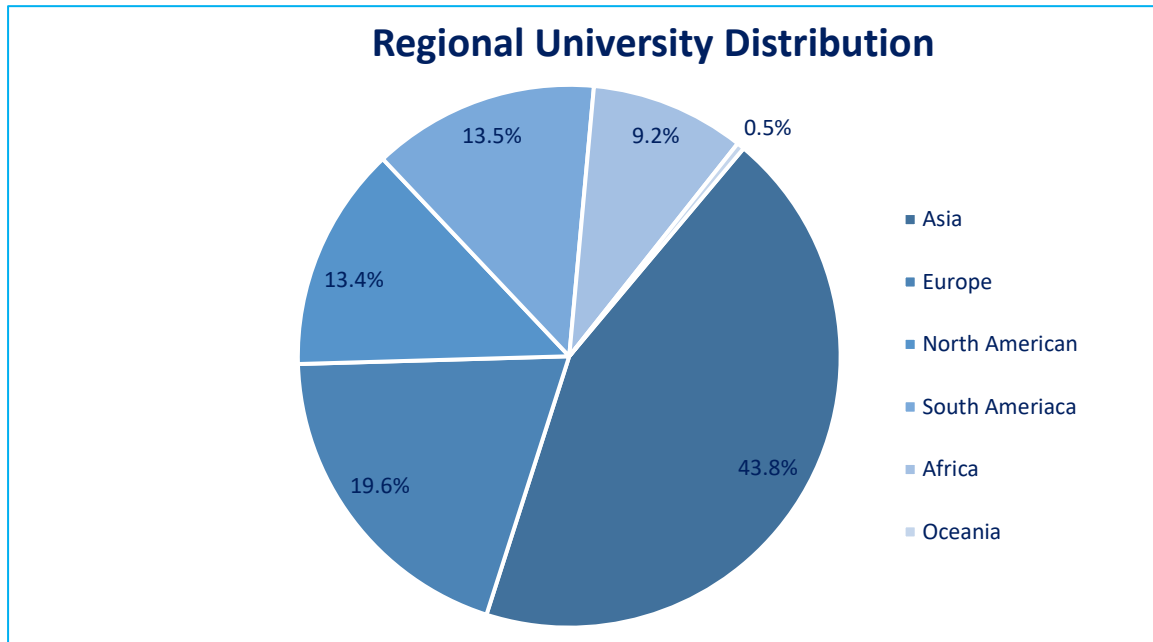
University:

- It is an institution of higher education, comprising of a variety of schools spanning multiple disciplines/subdisciplines and has the authority to confer undergraduate, graduate, doctorate and/or professional degrees.
- According to 4icu database, there are ~13,774 Universities (as of Dec'2021) around the globe that are officially recognized, licensed and accredited by either national or international bodies related to higher education.
- Tracked Universities offer 4 year undergraduate and/or postgraduate degrees (including doctorates) spanning disciplines from liberal arts to Science, Technology, Engineering and Mathematics (STEM).



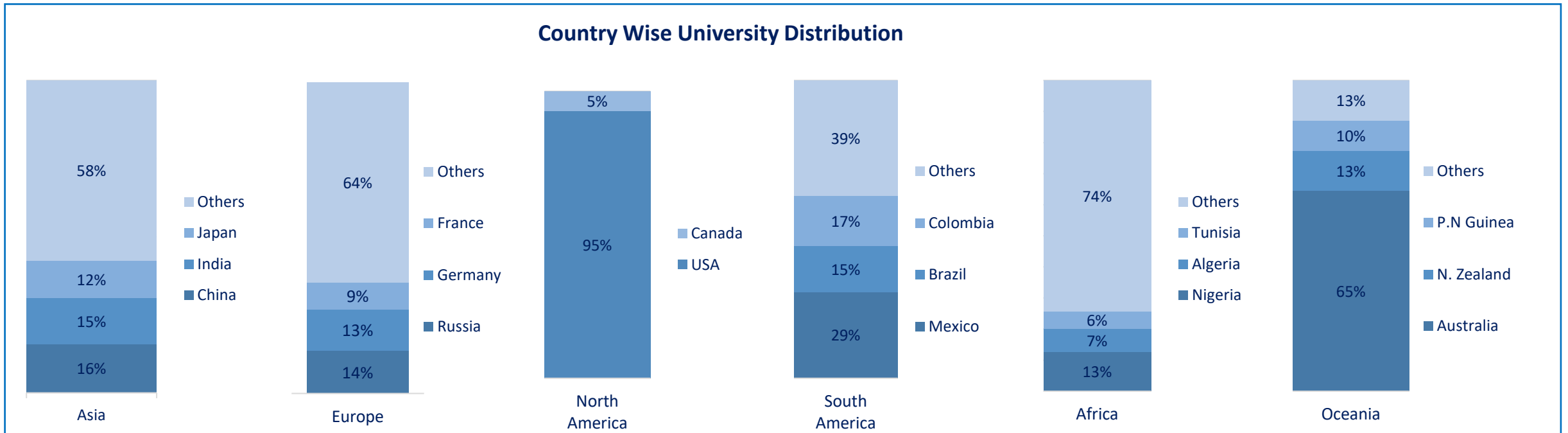
Global | Region Wise University Distribution

- According to the latest data from 4icu for the year 2023, the global distribution of universities is divided between public and private ownership, with a ratio of ~49% public universities to ~51% private universities.
- Among all regions, Asia has the highest concentration of universities, accounting for approximately ~43.8% of the total. In Asia, the ownership mix is skewed towards private universities, with a ratio of ~47% public universities to ~53% private universities
- North America has the highest proportion of private universities compared to other regions, with a ratio of ~37% public universities to ~63% private universities, while approximately ~13.4% of all universities are located there.
- On the other hand, Oceania has the lowest proportion of private universities, with a ratio of ~97% public universities to ~3% private universities. Additionally, Oceania has the smallest share in terms of total universities, accounting for only around ~0.5%.



Global | Region & Country Wise University Distribution

- As per the 4icu database, the highest proportion of Universities in Asia are located in China with a ~16% regional share, however in terms of the global comparison China has the second highest number of Universities with a ~7.1% global share.
- There is a similar case for India, while it has the second highest number of Universities in Asia with a ~15% regional share, it has the third highest number of Universities in the world with a ~6.7% global share.
- The highest number of Universities in the world are located in USA as it has 13.30% global share and ~95% North American Universities are located there.



Education Levels

- UNESCO's International Standard Classification of Education (ISCED) divides education levels into 9 classes (0 to 8).

ISCED 0: Early & Pre-Primary Education	This level of education includes early childhood education, for 0 to 2 years age group and pre-primary education aimed at children aged 3, till start of ISCED 1.
ISCED 1: Primary Education	This level of education provides students with basic reading, writing and mathematical skills with an objective of preparing them for secondary education. This level has basic complexity, with little to no specialization. (usually grade 1-5)
ISCED 2 & 3: Secondary Education (Lower & Upper)	This level aims to lay the foundation for lifelong learning, is typically specialized and designed in preparation for tertiary education and/or provide skill for employment. (usually grades: 6-10 & 11-12)
ISCED 4: Post-secondary non-tertiary Education	This level provides individuals who completed ISCED level 3 with non-tertiary qualifications required for progression to tertiary education or for employment, however it's not sufficiently complex to be regarded as tertiary education.
ISCED 5: Short-cycle tertiary Education	These are designed to provide students professional skills, knowledge and competencies and typically are occupationally specific and prepare students for the labor market.
ISCED 6: Tertiary education (Bachelors or equivalent)	Bachelor's or equivalent level, are often designed to provide students with intermediate academic and/or professional knowledge, skills and competencies. They are offered by Universities and equivalent Tertiary educational institutions.
ISCED 7: Tertiary education (Masters or equivalent)	These are typically designed to provide students with advanced academic and/or professional knowledge, skills and competencies. Programs at this level may have a substantial research component but do not lead to a doctoral qualification.
ISCED 8: Tertiary education (Doctoral or equivalent)	These are designed primarily to lead to an advanced research qualification. Programs at this level are devoted to advanced study and original research and are typically offered only by research-oriented tertiary educational institutions.

Global | Regional Population and Education Stats

- According to UN and World bank data, the global population was recorded at ~7.79bln individuals in CY20 (CY19:~7.71bln); estimated global tertiary enrollments in CY20 stood at ~46.2% of the population; while estimated global per capita GDP stood at USD~10,329 (CY19: USD~10,811).
- Asia and Africa are the biggest population centers, holding ~59.8% and ~17.3% share in global population respectively; ~82.3% of the global 15-29 years age group (assumed tertiary education age) also lives in these regions; yet they have the lowest Tertiary enrollments (Africa is ~23% below global average) and the lowest GDP per capita.
- Oceania which reflects less than ~0.5% of the global population has the highest tertiary education enrollments of ~107.9%, owing to a high number of foreign student enrollments in Australia (~116.0% of total population).

Region	Global Population (mln)	Global %age Proportion	(15-29) Age Group (mln)	(15-29) Age Group %age of Region	% age Tertiary Enrollments*	GDP Per Capita USD
Asia	4,641	59.8%	719	15.5%	42.7%	6,686
Africa	1,341	17.3%	225	16.8%	16.6%	1,740
Europe	748	9.6%	84	11.2%	77.0%	26,203
South America	626	8.1%	107	17.2%	58.5%	7,942
North America	369	4.7%	51	13.9%	86.6%	56,534
Oceania	43	0.5%	6	14.4%	107.9%	40,771
Global	7,766	100.0%	1,192	15.3%	46.2%	10,329

(Table does not include Caribbean region)

*Tally of enrollments in post secondary programs only, not successful completion.

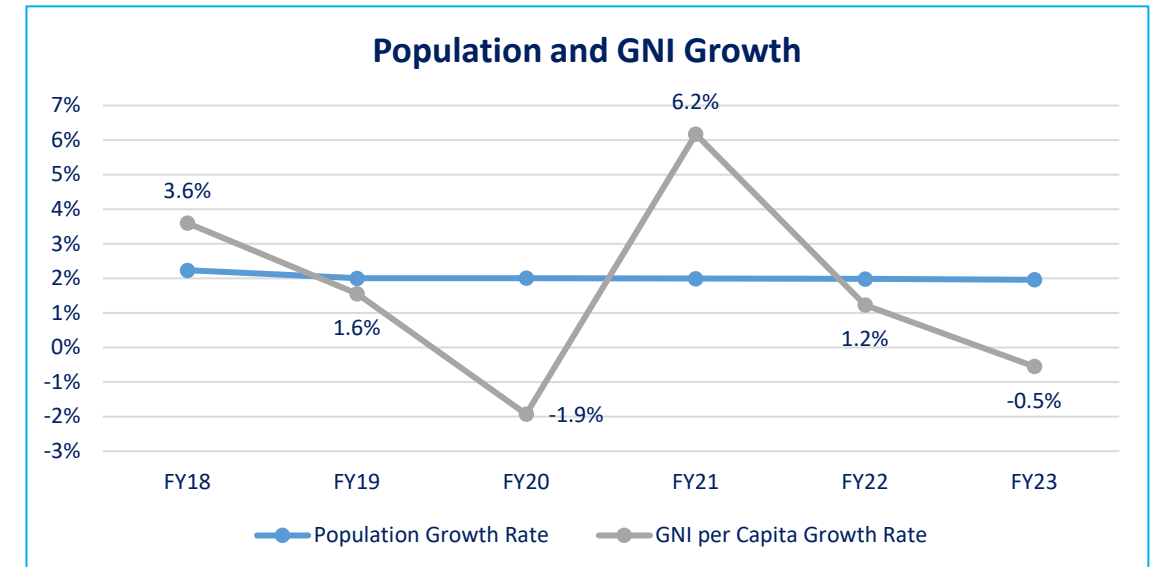
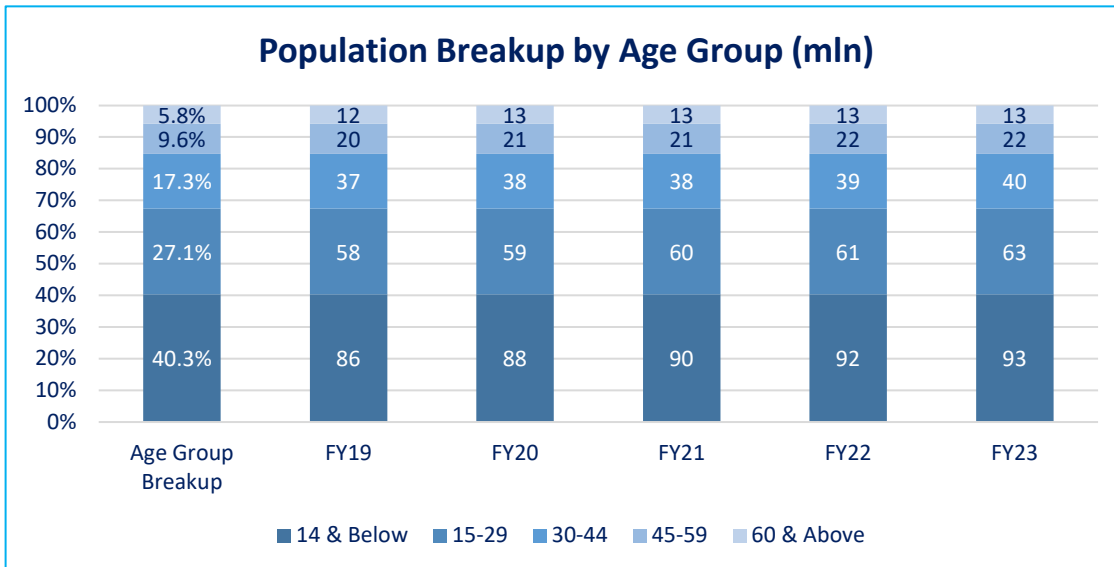
Local | Industry Snapshot

- The population of Pakistan has an annual growth rate of 1.8% in FY22 with ~231mln people, and in FY21 it was ~227mln individuals (FY20: ~223mln).
- As per PBS estimates, ~28% of Pakistan’s population falls in the age group of 15-29 years, amounting to an estimated ~63mln (FY21: 57mln) individuals in FY22.
- In FY22 the Real income per capita (GDP per capita + Foreign remittances per capita) stood at PKR ~1.92mln (FY21: ~1.93mln).
- As of FY22 total tertiary institutes stood at ~7606 (FY21: 6,902) registering a YoY growth of ~10.2%; these include Universities, Degree colleges and Technical & Vocational institutes.
- As per latest HEC data (December’22) there are 247 universities in Pakistan that are recognized by the HEC. These span from general universities that offer education in multiple disciplines to specialized ones particularly dedicated to the fields of Engineering & Technology, Medical sciences, Agricultural & Veterinary sciences and Arts & Design.

Particulars	FY20	FY21	FY22
Pakistan Population (mln)	223	227	231
Population 15-29 age group (mln)	56	57	63
Population Growth Rate	1.8%	1.7%	1.8%
Real Income per Capita (PKR‘000’)	190	193	192
Number of Tertiary Institutes	7,324	6,902	7,606
Tertiary Level Teachers (‘000’)	139	138	145
New Tertiary Enrollments (‘000’)	3,064	3,050	3,234
Number of Universities	224	231	247
University Teachers (‘000’)	60	60	61
New University Enrollments (‘000’)	1,910	2,040	2,226
Regulator	HEC		

Local | Socioeconomic Stats

- Pakistan is the 5th most populated country in the world, as in FY23 its population stood at ~231mln (FY22: ~227mln) individuals representing an estimated 2.7% of the global population.
- 15-29 year age group (representative of University going age) represents ~28% of the national population representing around ~63mln (CY21: ~59mln) individual who are university holders.
- Although the national real GDP in FY23 stood at PKR ~41,632bln (FY22: PKR ~40,941bln) ranked at 44th place in the world; but owing to the large population, in FY23 Real income per capita stood at PKR~191,670 (FY22: ~192,723) placing Pakistan at the 144th global rank.
- Population’s purchasing power diminished in FY23, as real income per capita declined by ~0.5%, however the 5 year average real income per capita growth rate (FY19 to FY23) clocked in at ~1.3% indicating positive wealth creation. While IMF’s forecasts suggest Pakistan’s population to grow by ~1.9% and GDP to grow by ~3.5% to 5% for the next five years; further suggesting positive wealth creation trajectory.

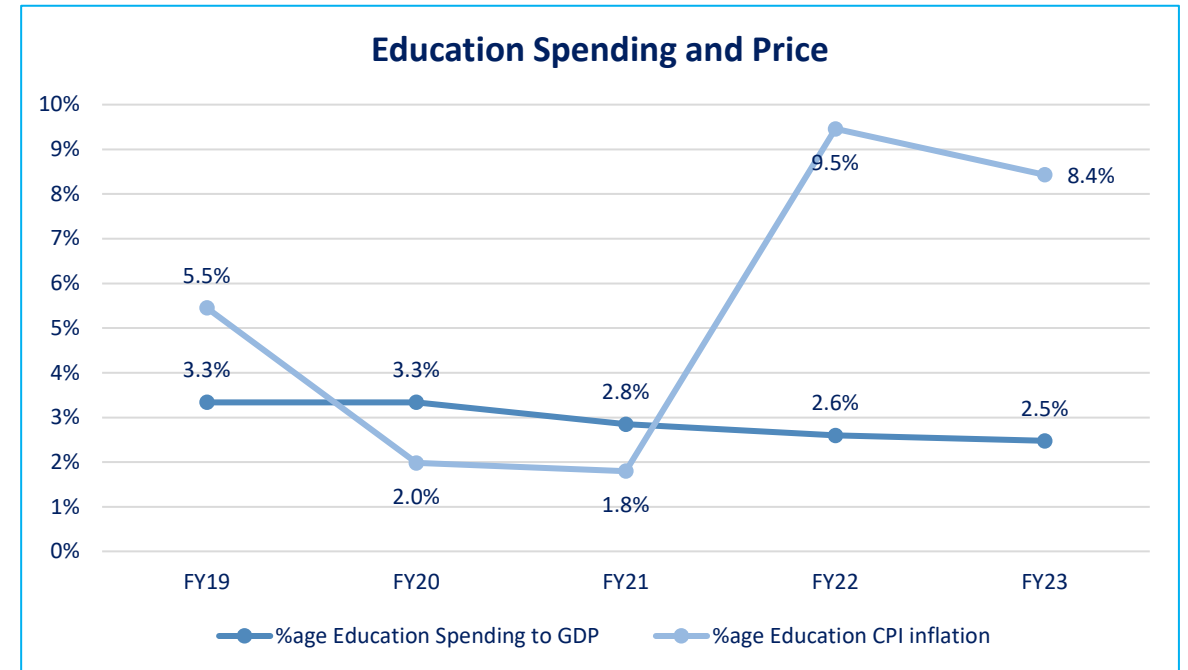
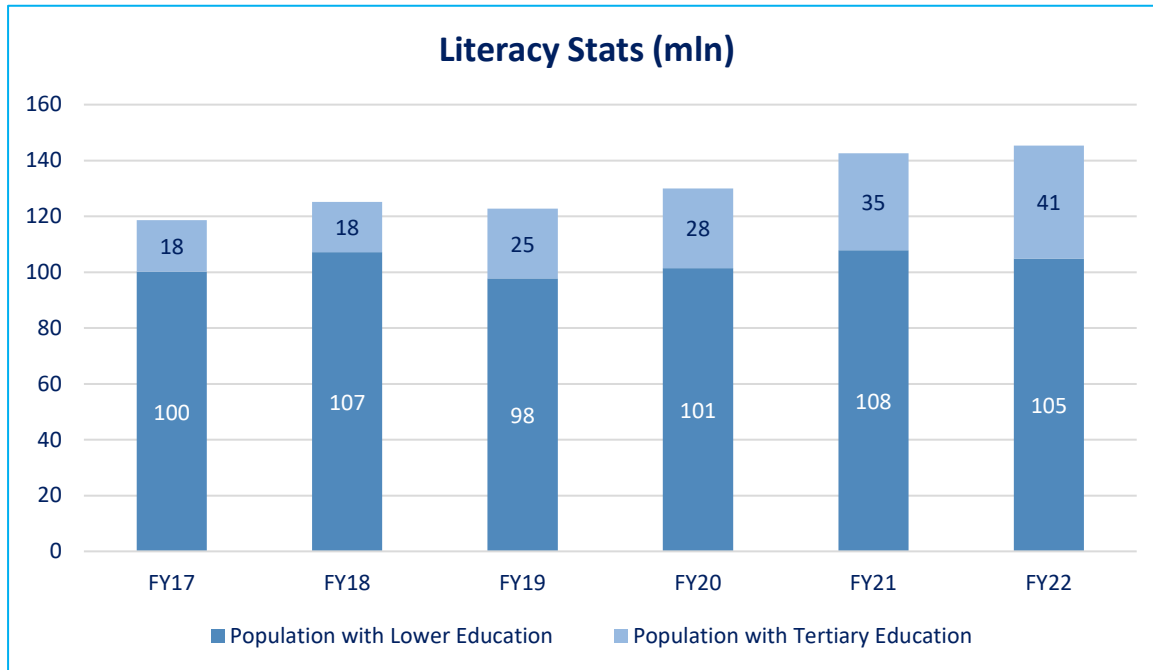


*Estimated on 2017 census proportion

Education

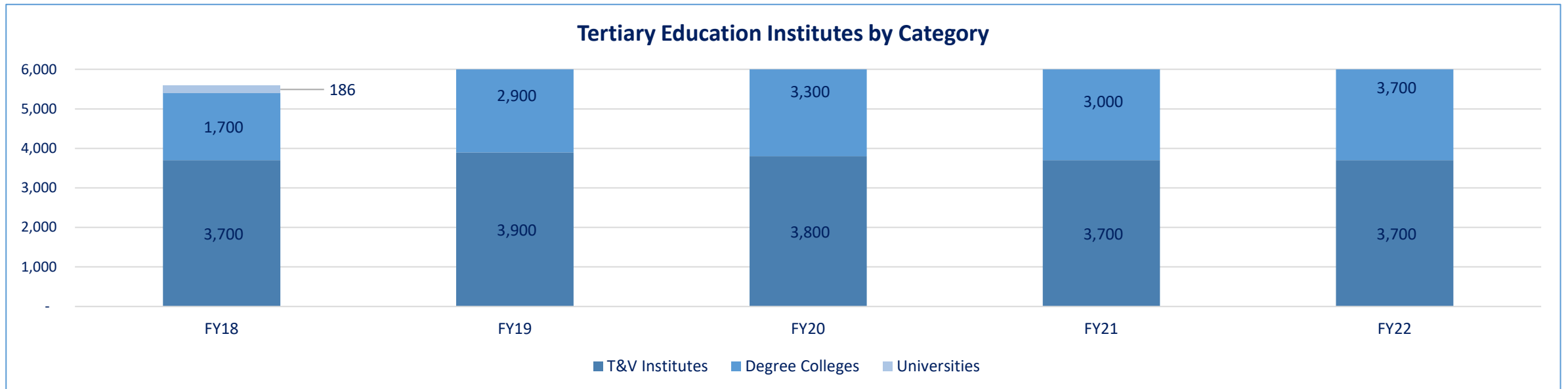
Local | Education Stats

- In FY22, Pakistan’s estimated literacy rate was at ~62.8% (FY21: ~60.4%) while the national tertiary education enrollments were estimated at ~17.5% (FY21: ~15.4%) of the total population, lower than the global average of ~46.2%.
- Total government expenditure (Federal and Provincial) on education in FY22 is to be around ~1.7% (FY21: 1.4%) of the GDP; amounting to PKR~1,101bn (FY21: PKR~802bn).
- Inflation in prices of educational services peaked in FY18 at ~13.1% and in FY22 was estimated to be at ~8.4% (FY21: ~9.1%); as of FY22 education had 3.79% weight in the national CPI.



Local | Tertiary Education Institutes

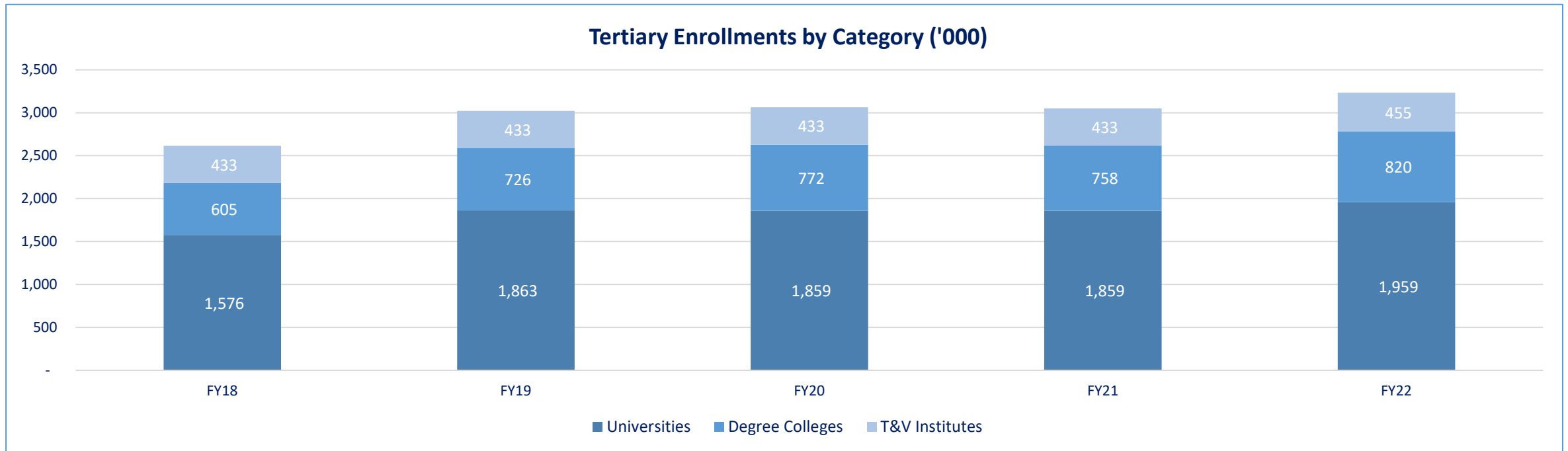
- In FY22, Pakistan has almost ~7606* (FY21: ~6902) Tertiary Education Institutes, including Technical & Vocational (T&V) Institutes, Degree Colleges and Universities.
- Technical & Vocational Institutes and Degree colleges contributing equally in Tertiary Education Institutes: ~48.6% each in FY22. Meanwhile in FY21 technical and vocational Institute made up the highest share in Tertiary Education with ~53.6% and Degree Colleges with ~43.5%. Universities had the lowest portion of ~2.7% in FY22 (FY21: ~2.9%).
- Tertiary Education Institutes grew with a 5 year (FY18 to FY22) annualized growth rate of ~6.4%; for the same period in subcategories, Degree colleges had the highest annualized growth rate of ~16.8%, followed by Universities at ~2.1%, while Technical & Vocational Institutes had the flattish annualized growth rate of ~0%.
- The need for education and demand for Tertiary Education Institutes is also expected to increase in the future, with the increase in population.



*Data relating to FY21

Local | Annual Tertiary Enrollments

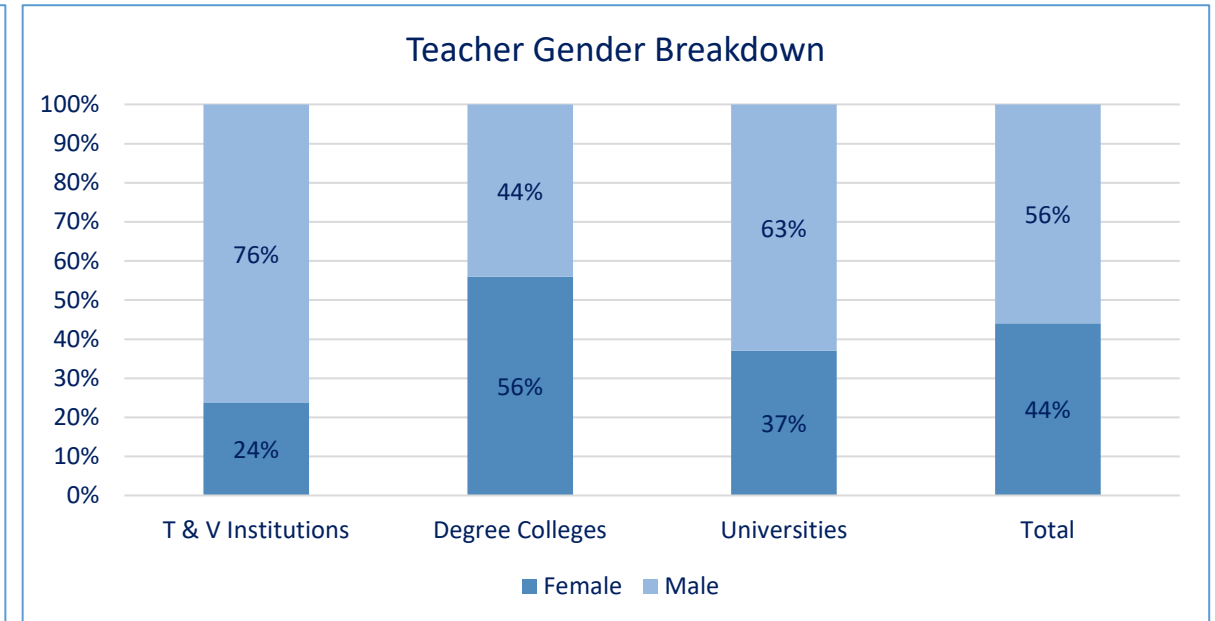
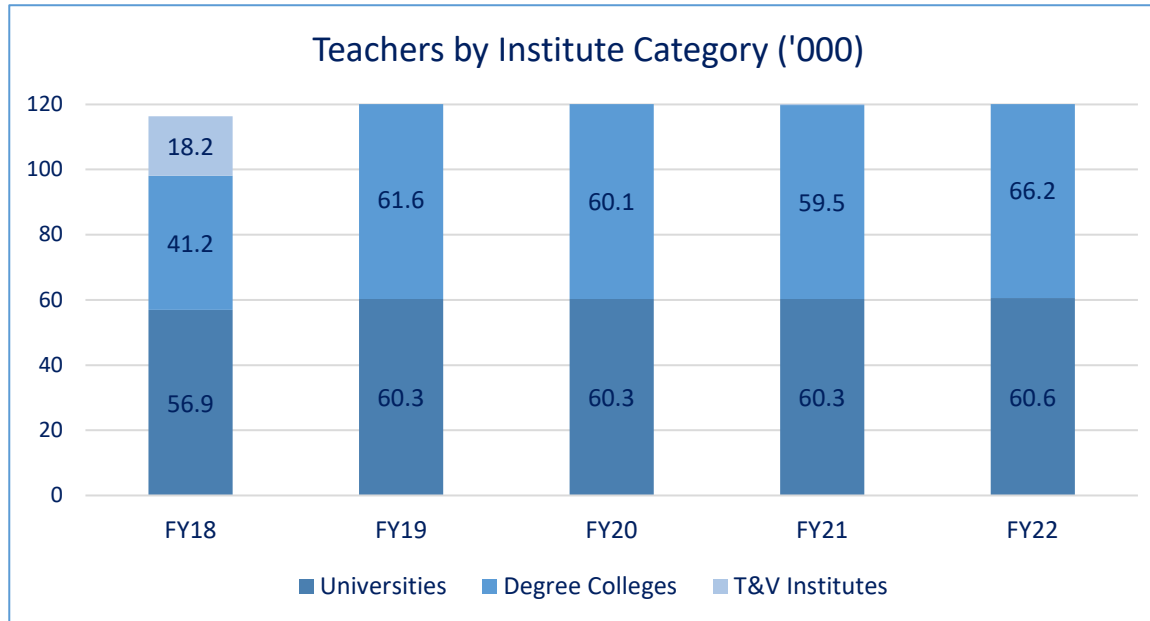
- During FY22, annual tertiary enrollments stood at ~3.2mln (FY21: ~3.05mln) students cumulatively from all three categories.
- Although Universities have the lowest proportion in terms of numbers in Tertiary Institutes, they hold the highest share in annual Tertiary enrollments; which in FY21 stood at ~60.6% (FY21: 60.9%); meanwhile, Degree Colleges and Technical & Vocational Institutes held ~25.4% (FY20: 24.9%) and ~14.1% (FY20: 14.2%) share in Tertiary enrollments respectively.
- The country's total tertiary enrollments grew by a 5-year (FY18 to FY21) annualized growth rate of ~4.4%, in the same period of the subcategories Degree colleges enrollments had the highest annualized growth rate at ~6.3%, followed by Universities at ~4.5% while Technical & Vocational Institutes had the lowest annualized growth rate of ~1.0%.



Education

Local | Tertiary Teachers

- Pakistan’s total number of teachers employed at Tertiary level stood at ~145,000 in FY22 (FY21: ~138,000). Around half of the total Tertiary level teachers were employed at Degree Colleges i.e. ~45.7% (FY21: ~43.1%), ~41.8% (FY21: 43.7%) were employed at Universities and ~12.6% (FY21: 13.2%) were employed at Technical & Vocational Institutes.
- While the 5-year (FY18 to FY22) annualized growth rate of number of total Tertiary level teachers clocked in at ~4.5%, annualized growth rate for University teachers increased to ~1.3% for the same period, ~9.9% growth for Degree College and Technical & Vocational Institute teachers has a flattish growth rate with ~0%.
- Based on latest available numbers Tertiary teachers had a female to male mix of 44:56; Degree Colleges had the highest female to male teacher mix at 44:56, while it was the lowest in Technical & Vocational Institutes at 24:76.

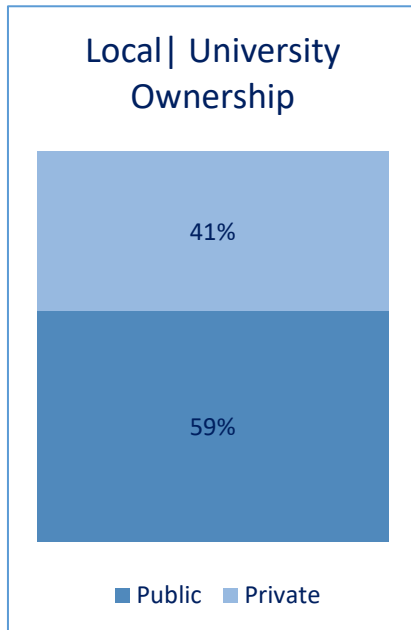


(University numbers based on FY20 data, rest on FY21 data)

Education

Local | Universities

- HEC recognizes 252 Universities to date overall in Pakistan. Public to Private University mix stands around 59:41.
- Around ~86.9% of the Universities in Pakistan are categorized as General (i.e. offering education in multiple disciplines), ~6.7% Universities are categorized as Engineering & Technology, ~3.6% are dedicated Medical Universities, while ~1.9% Universities are categorized as Arts & Design and ~0.8% Universities are dedicated to Agriculture and Veterinary Sciences.
- With reference to geographical spread, almost 37% Universities are located in Punjab, giving it the highest concentration in total and across all categories; no other province/region has dedicated Universities in all categories (as per HEC classifications).

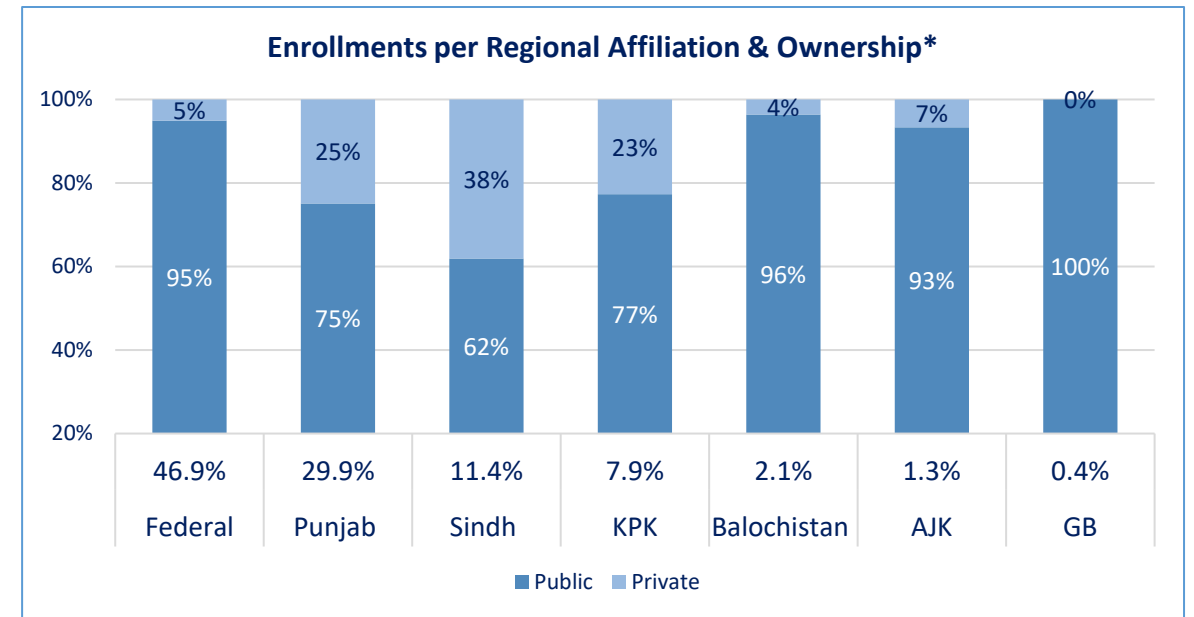
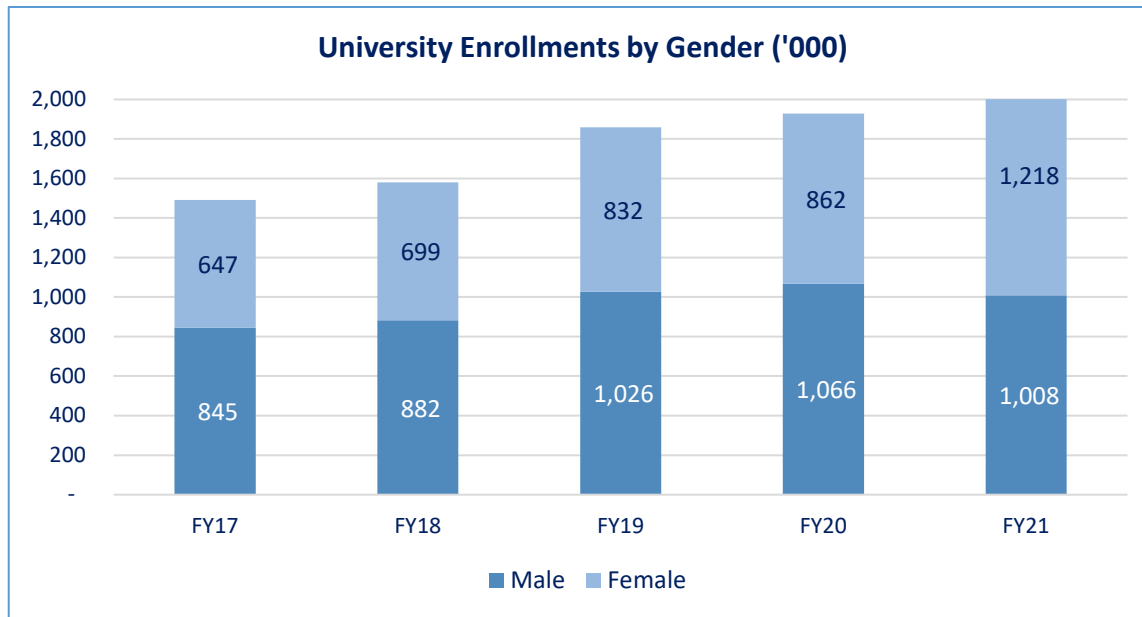


Region	General	Engineering & Technology	Medical	Arts & Design	Agriculture & Veterinary	Total
Punjab	74	8	6	3	2	93
Sindh	66	2	1	2	0	71
KPK	40	3	0	0	0	43
ICT	21	3	1	0	0	25
Baluchistan	9	1	1	0	0	11
AJ&K	7	0	0	0	0	7
GB	2	0	0	0	0	2
Pakistan	219	17	9	5	2	252

(Based on Dec'22 data on HEC website)

Local | Annual University Enrollments

- In FY21, ~2.2mln new students were enrolled at Universities across Pakistan, of which ~55% (FY20: ~45%) were female students and ~45% (FY20: ~55%) were male students.
- 5-year (FY17-FY21) annualized growth rate for female student enrollments at Universities clocked in at ~13.5%, while the annualized growth rate for male student enrollments stood at ~3.6% in the same period.
- National Public to Private University enrollment mix stood at 84:16, Universities affiliated with the Federal government had the highest share in total enrollments at ~47% and had the second highest public to private enrollment mix at 95:5.
- The highest portion of private enrollments were recorded in Sindh government affiliated Universities, which had a public to private mix of 62:38 and ~11.4% share in total national enrollments.



Education

Local | Annual University Enrollments

- In terms of level of education, out of the total enrollments of FY21: ~63.8% were in Bachelors; ~23.9% were in Masters, ~11.2% were in MS/M.Phil.; ~0.5% were in PhD and ~0.6% were in Post Graduate Diploma (PGD).
- In terms of disciplines, out of the total enrollments in FY21, Humanities & Arts had the highest enrollments with a share of 24%; followed by Education with a share of ~13%; Business, Law and Natural sciences with a share of ~12% each; IT with ~10% share; social sciences with a share of ~8%; Engineering with ~7% share; Social Sciences with ~8.6% share; Health and Welfare with ~5% share; Agriculture and Veterinary with a share of ~2%.

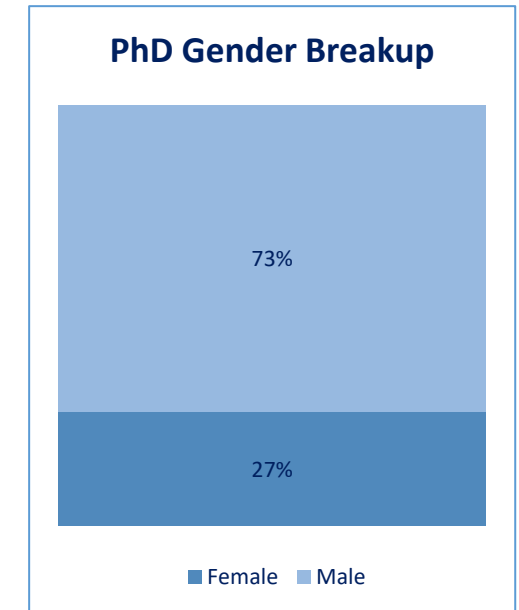
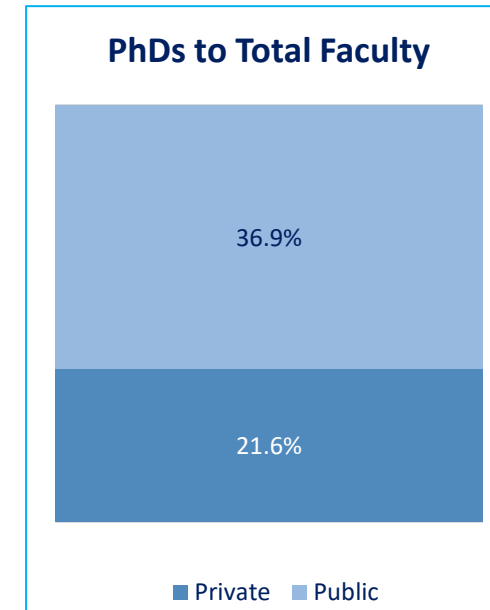
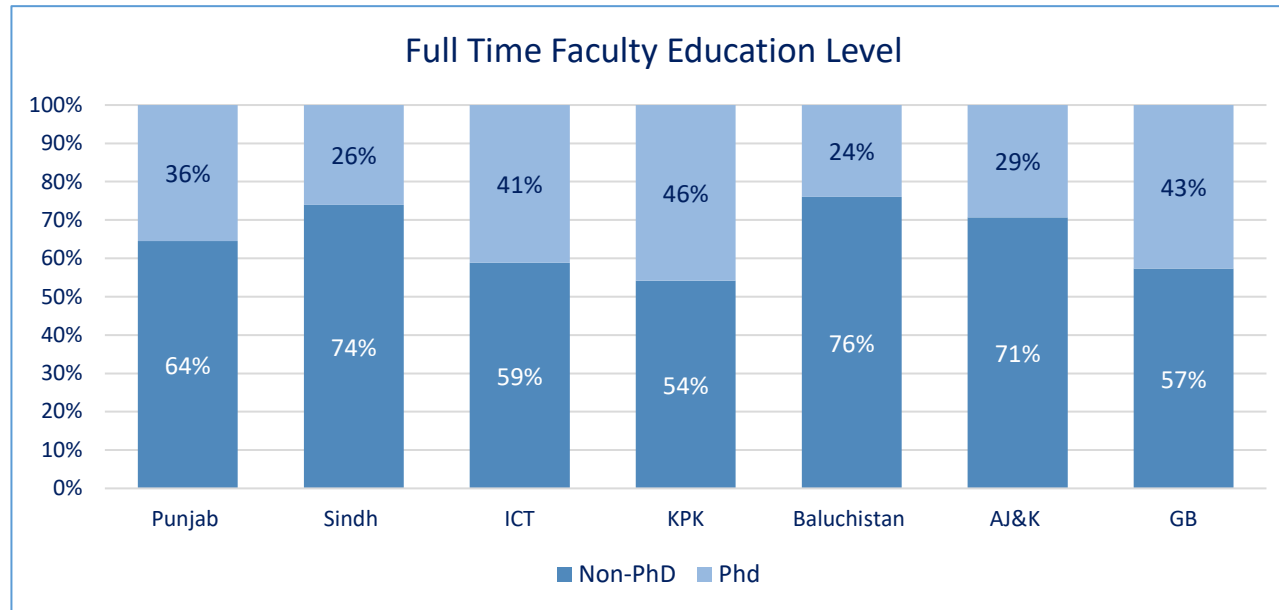
Region/Level	Bachelors	Masters	MS/MPhil	PGD	PhD	Total by Province
Federal	69.6%	24.8%	5.1%	0.3%	0.3%	46.9%
Punjab	56.5%	24.1%	18.3%	0.6%	0.6%	29.9%
Sindh	70.7%	10.9%	14.9%	2.9%	0.6%	11.4%
KPK	56.1%	28.3%	14.2%	0.2%	1.7%	7.9%
Balochistan	44.0%	43.8%	11.9%	0.0%	0.4%	2.1%
AJK	45.5%	37.1%	17.1%	0.0%	0.4%	1.3%
GB	51.3%	44.2%	4.5%	0.0%	0.0%	0.4%
Total By Level	63.8%	23.9%	11.2%	0.6%	0.5%	100.0%

Disciplines	Bachelor	Masters	MS/Mphil	PGD	PhD	Total per Discipline
General	6%	3%	0%	0%	0%	5%
Education	11%	32%	4%	9%	4%	13%
Arts and humanities	25%	27%	10%	9%	14%	24%
Social sciences	8%	8%	7%	10%	9%	8%
Business, administration and law	12%	9%	22%	33%	10%	12%
Natural sciences	11%	12%	25%	3%	32%	12%
(ICTs)	11%	5%	9%	10%	6%	10%
Engineering	8%	1%	13%	3%	11%	7%
Agriculture	2%	0%	4%	0%	6%	2%
Health and welfare	6%	2%	6%	22%	8%	5%
Services	1%	1%	1%	1%	1%	1%
Total by Level	77%	14%	8%	0%	1%	100%

Education

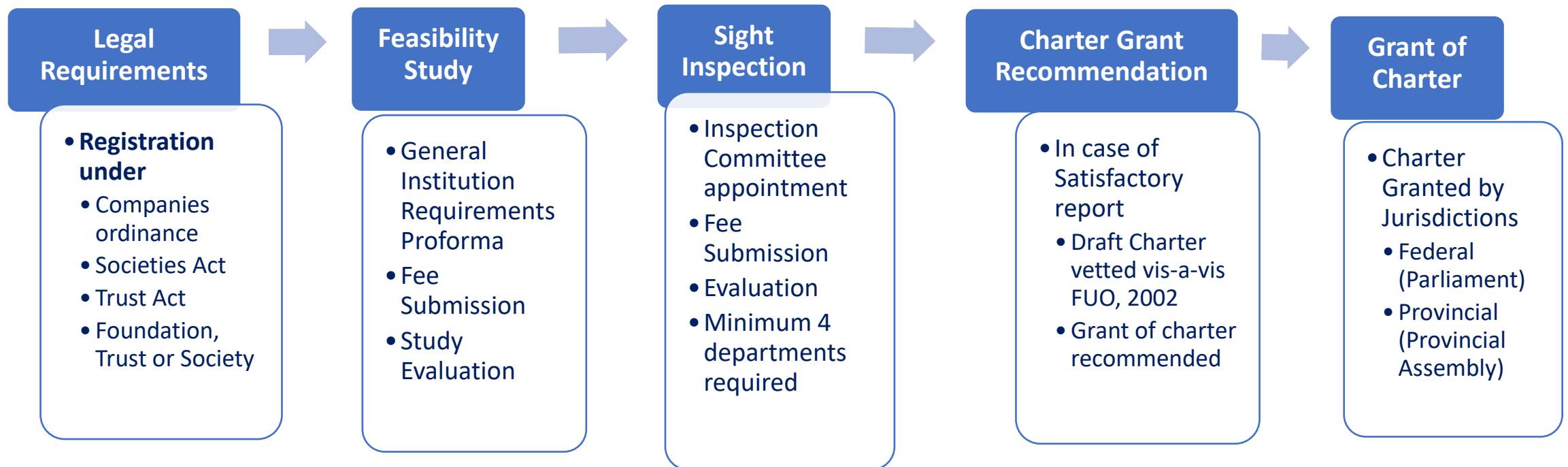
Local | University Teachers

- As per the latest data published by HEC, out of the total University teachers, visiting faculty members make up to ~16% of the total; while the fulltime faculty members have a 67:33 public to private employment mix.
- Of the total fulltime faculty, the PhD to Non-PhD mix in the public sector Universities is 31:69.
- These dynamics put the national PhD to Non-PhD mix at 35:65.
- Out of ~20,100 PhD teachers ~14,647 are male while Female number is far less than that of male with ~5,422 only.



Local | University Setup

- The Sponsoring body of a University is required to be a Society, Trust or Foundation, registered under the relevant regulations of a Societies registration act, Trust act and/or Companies ordinance.
- Monitoring of Universities under Federal jurisdiction is overseen by HEC and Universities under provincial jurisdictions are monitored by the respective education departments.
- As per the HEC’s “Guidelines for the establishment of a new University or an Institution of higher education”, following procedure is followed.

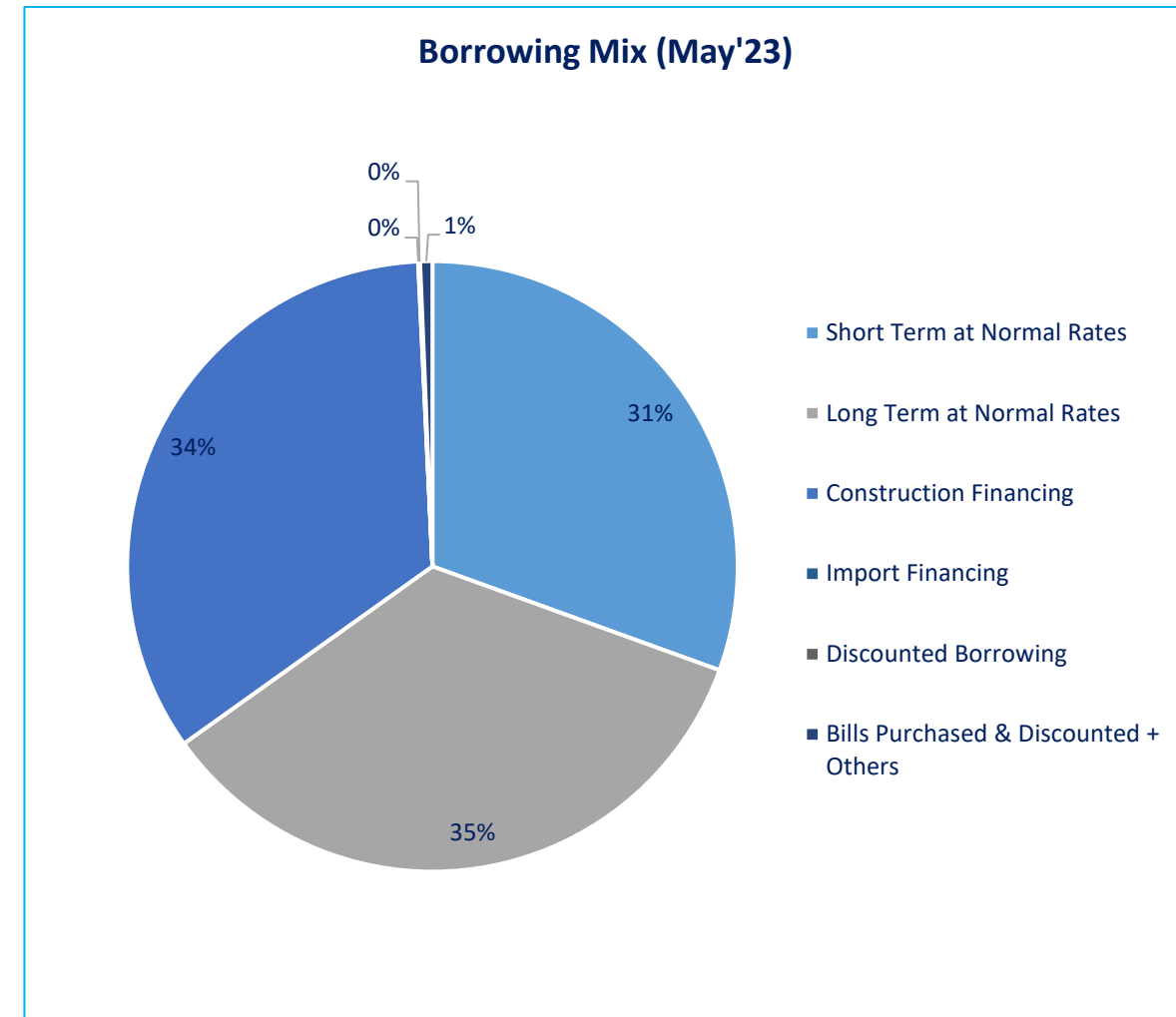


Business Risk

- In FY22, Pakistan GDP and per capita income grew by ~6.1% and ~1.2% respectively on real basis, while educational spending grew by ~5.7% (on real basis). Further more, provisional data for FY23 estimates that education spending on real basis grew by ~10.4% while the over all GDP only grew by ~0.3% and per capital income declined by ~0.05%. This indicates demand for education despite economic hardship.
- Revenues from tuition fees make up to ~99% of a private University's inflows while the remaining sources are due from accounting adjustments and interest income on bank deposits.
- In FY22, education price inflation stood at ~9.5% YoY, private University fee inflation clocked in at ~11.0% form higher number of enrollments.
- Being service providers, Universities do not have a matching cost of providing service classified by function; however major components of total costs (operating and admin) are salaries, trainings and amenities making up to ~54% of total period costs; depreciation and amortization up to ~14%, others (including Fuel, Power, Repair and maintenance) at ~32%.
- ~45.6% all University costs are of fixed nature (based on historic relevant ranges) and they have a variable cost component of PKR~0.90 on every rupee of tuition fee earned.
- Private Universities on average retain operating margins of ~21%, they manage to retain on average up to ~19% earnings as surplus margins (as Universities are mostly Non for profit and not taxed).
- Going forward, Pakistan's population is expected to grow at a robust ~2% while the IMF forecasts Pakistan's GDP growth to rebound at ~3.5% and later converge at its long term trend rate of 4.8% - 5%; indicating continued demand and affordability for private education in the country.

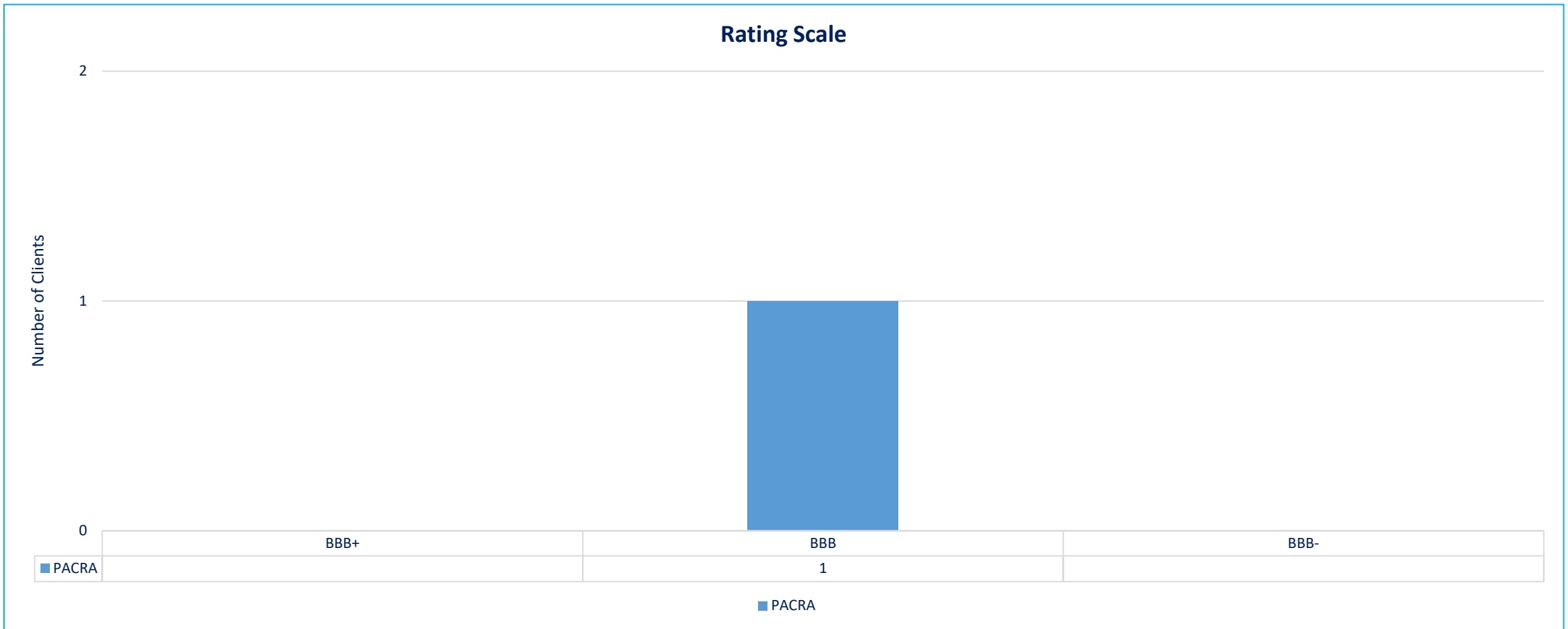
Financial Risk | Borrowing Mix

- The total borrowing of the higher education sector in May'23 stood at PKR~31,264mln as compared to PKR~11,431mln in March'22.
- As at May'23 end, short term borrowings held a ~31% (March'22: ~31%) share in the higher education sector and stood at PKR~9,544mln (March'22: PKR~3,535mln).
- Construction financing held the second largest component in the higher education sector's borrowings, representing a ~34 % (March'22: ~44%) share in total and amounting to PKR~10,665mln.
- Long term borrowings at nominal rates as a component of total higher education sector borrowings stand at ~35% and amounted to PKR ~10,821mln.
- Import financing has the lowest share on higher education's borrowings books standing at ~0.04%, with PKR~11mln of discounted borrowings (LTFF & TERF) has been availed by the sector.
- As most higher education institutes (usually Universities) are limited by guarantee (i.e. do not hold any equity on their books), thus leveraging/gearing measures are not a valid metric for assessing their financial risk.



Ratings Curve

- PACRA Rates 1 University



SWOT Analysis

- Important social tenant
- Robust higher education demand
- Government patronage
- Low regulations
- Low to no taxes

Strengths

- Low specialized Universities
- Low PhD faculty ratio
- Low private University enrollments

Weaknesses

- Growing University going age group
- Growing real per capita income
- Grants from local government and international organizations
- IT based teaching solutions to enhance reach

Opportunity

- Dip in Government expenditure on education
- Online micro degree programs

Threats

Outlook: Stable

- The education industry is experiencing a remarkable surge worldwide. Attributed to the growing significance of education and increased enrollment rates in Pakistan, the education sector is characterized by fierce competition, as multiple stakeholders strive to capture market share. The demand for education is steadily rising, propelled by population growth and notable advancements in literacy rates over time.
- The population of Pakistan is growing at an average rate of 2%, while real income per capita experienced 5 year annual average growth rate of ~1.3% (FY18-FY22). Education spending posted a growth rate of ~4.0% in the same period.
- The estimated University going age group of 15-29 years represents ~28% of the national population, higher than the global average of 15.5%; indicating robust demand for higher education for the foreseeable future. This is reflected in the growth pace of University enrollments, as in FY22, they grew by ~5.4% (FY21: ~-0.2%); while the number of Universities in FY22 grew by ~6.9% (FY21: ~3.1%) with FY17 to FY22 annualized growth rate at ~4.5%.
- The private sector has a low participation as private universities account for ~40.5% of the total. Out of these total universities less than ~12% are categorized as specialized in particular disciplines, of which ~59.5% are public.
- Out of total faculty ~35% relates to PhD holders while ~65% are non-PhD faculty. Out of the total PhD faculty 36.9% are working in public sector while ~21.6 are working in private sectors.
- Universities are lightly regulated, their taxes are low to zero, backed by government patronage and have a high variable cost component by nature; these inhale dynamics enable Universities to retain health levels of operating and surplus margins.

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