

Construction Sector Study



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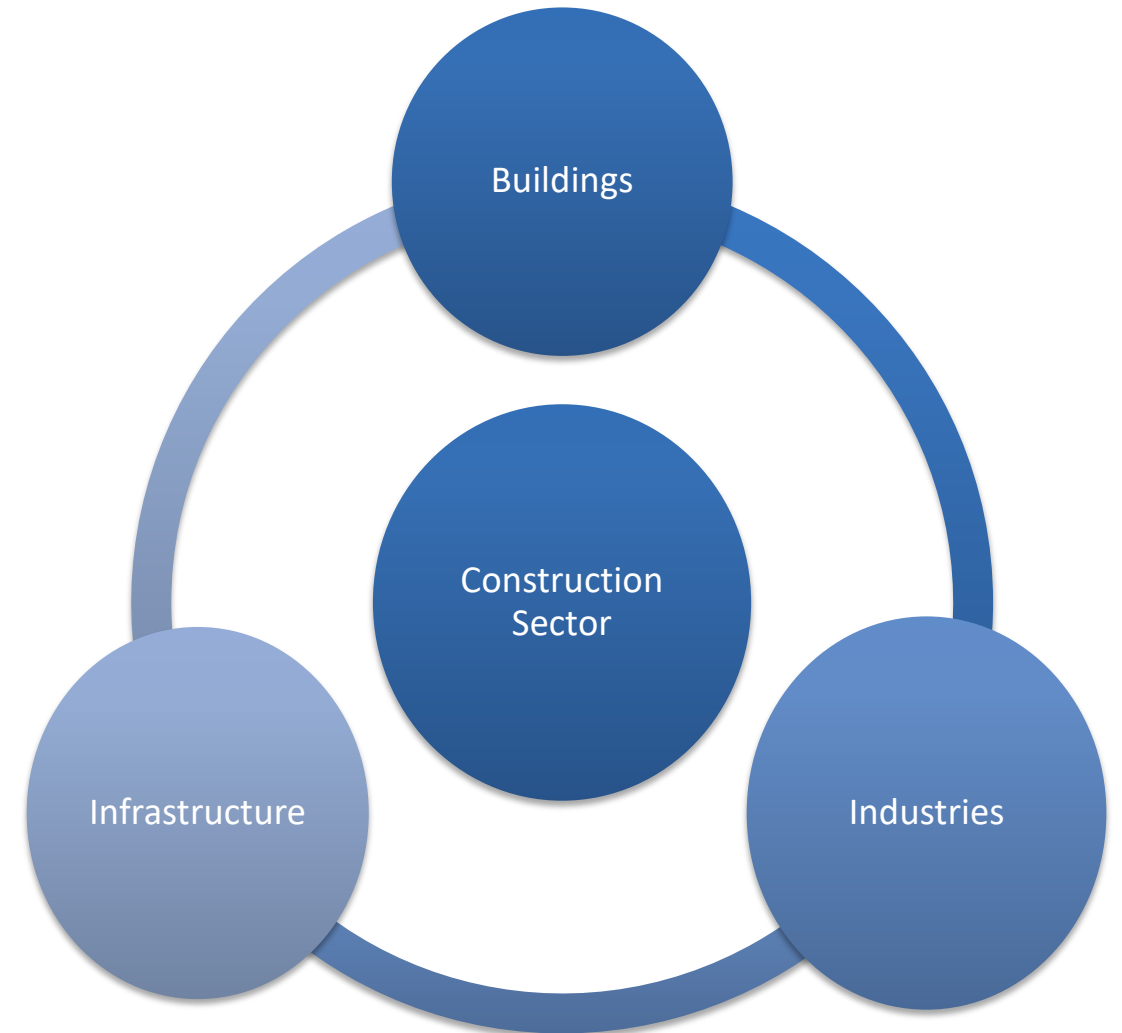
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Construction

Global Overview

- Construction comprises all economic activities directed to the creation, renovation, repair or extension of fixed assets in the form of buildings, land improvements of an engineering nature, and other engineering constructions such as roads, bridges, dams and so forth.
- The global construction industry is a rapidly growing sector, with the value of the market estimated at USD~10.5trn by CY23 at a CAGR of 4.2%.
- The construction sector can be broadly classified into the following segments:
 - a) Buildings
 - b) Infrastructure
 - c) Industries

Global construction industry is of a major economic significance, as it contributed ~11% to the global GDP in CY22 and on average it employees 7% of the global labor force.



Global Overview

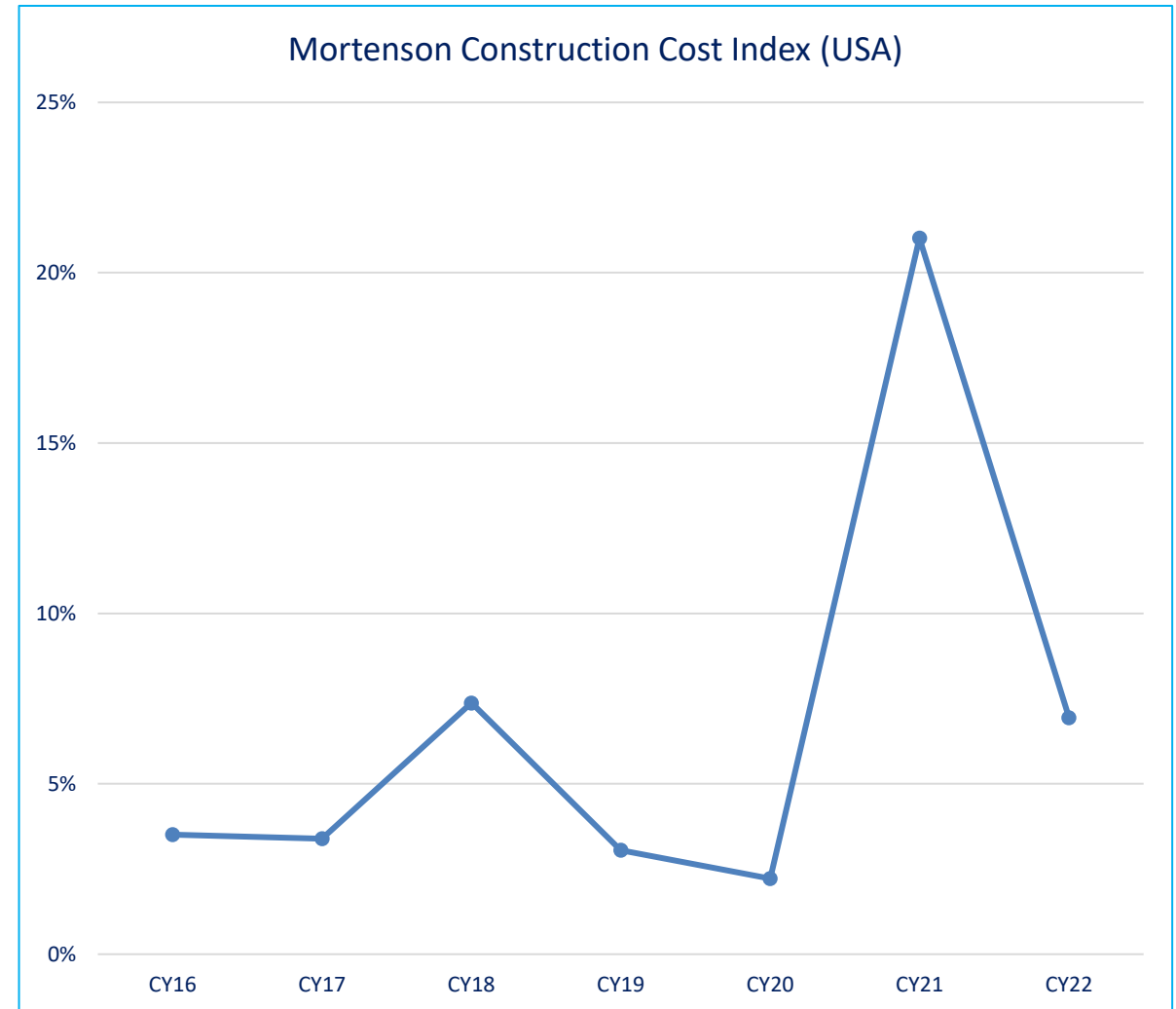
- Construction is primarily driven by infrastructure demand arising from level of economic activity, population growth and population income levels.
- In CY22, Asia having the largest share in global population of ~60% and the fastest growing GDP averaging at ~5.3% (pre-COVID average) led the global construction activities, particularly in China as 6 of the top 10 firms are located there and output from construction activities contributed ~7.1% to their GDP.
- Due to high linkages of construction industry with other allied industries, the growth in construction sector bodes well for the overall growth of the economic activity.
- Building construction segment of the industry is shifting towards green construction techniques; aimed at reducing construction cost and improving the energy efficiency of the buildings. These techniques employ sustainable materials and processes to minimize environmental impact.
- As per World Green Building Trends Survey, upward of 60% major construction companies around the world were a part of green construction projects; certifications related to these techniques enable companies to build efficient and sustainable commercial and residential infrastructure while providing positive public image and tax benefits in many jurisdictions.

Global Top 10 Player Revenues (USD bln)

Sr.#	Company	Origin	Net Revenues CY21
1	China State Construction Engineering	China	293.1
2	China Railway Construction	China	158.1
3	China Railway Engineering Group	China	166.4
4	China Communications Construction	China	105.8
5	Metallurgical Corporation of China	China	77.6
6	The Power Construction Corporation of China	China	69.6
7	Vinci Construction	France	58.4
8	Bouygues	France	44.4
9	Daiwa House Industry	Japan	40.4
10	ACS Construction Group	Spain	32.9

Global Overview

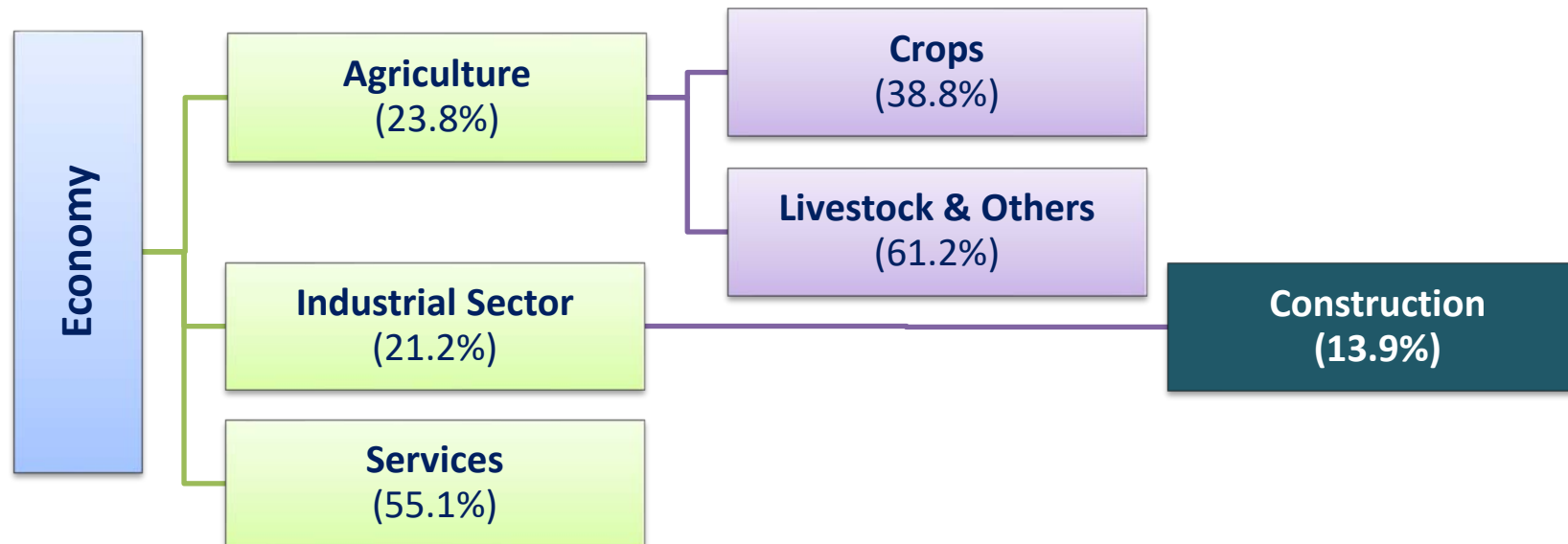
- In CY23, the construction industry is expected to shrink by 7%, because growth is being hampered by high input costs, rising interest rates, inflation and supply chain issues.
- As in CY22, Mortenson construction cost index tracked increase of ~7% in USA.
- Moreover, price of bitumen, primarily used in developing road infrastructure, increased by ~48.6%. Prices of metals such as aluminum, iron and copper increased by ~45%, 48% and 51% YoY respectively.
- Timber and softwood prices increased between ~7% to ~11% YoY.
- The cement industry has also been facing increased production costs due to increasing international energy prices and as those get passed on to customers, it is expected to further put upward pressure on construction costs.
- Increased costs are expected to keep construction industry margins under pressure until they significantly subside.



Construction

Local Industry Overview

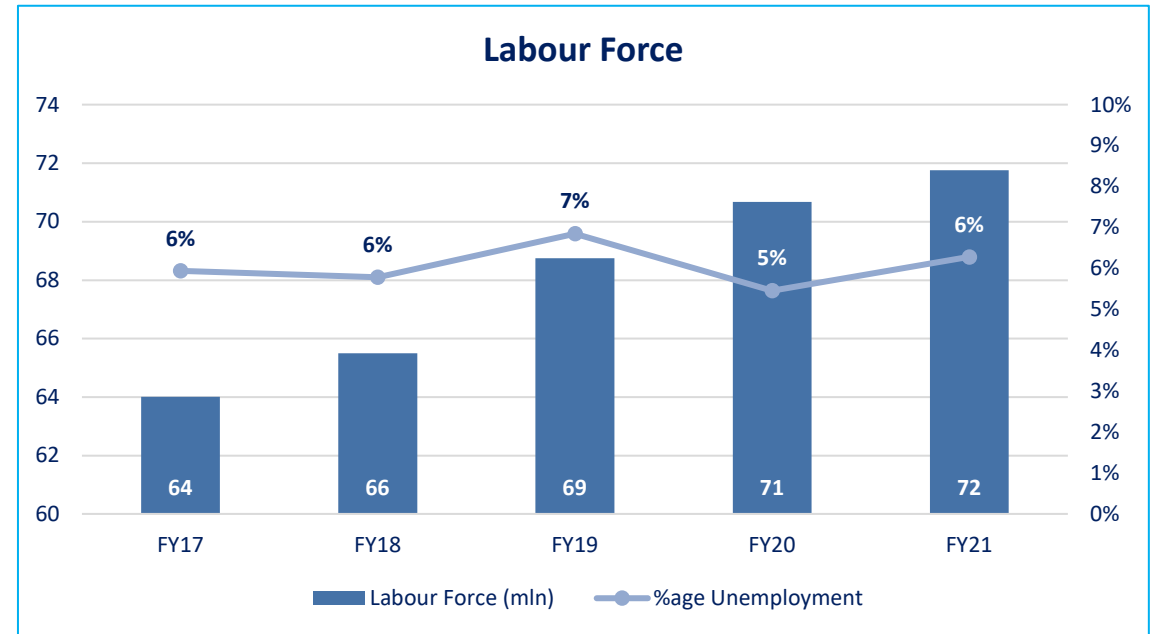
- In FY22, Pakistan’s GDP (nominal) stood at PKR~67trn (FY21: PKR~56trn) and posted a real growth of ~6.2% (FY20: ~6.5%). Industrial activities in FY22 represented ~20% share in the GDP and grew by ~7.2% YoY (FY21: ~-7.8%), while manufacturing activities representing ~65% value in industrial activities grew by ~9.8% (FY21: ~10.5%) in the same period.
- FY23, however inherited multiple macro-economic and socio-political vulnerabilities, both at local and international levels from the last quarter of FY22, including a devastating flood.
- Culmination of these have led to 8MFY23 inflation levels of ~31.5%, 7MFY23 LSM manufacturing to shrink by ~4.4%; while real GDP growth is forecast to restrict at ~0.4% in FY23 (World Bank).



Construction

Local Industry Overview

- Pakistan is the 5th most populous country in the world. According to the Pakistan Bureau of Statistics at FY22 end, the country's population stands at ~227mln with a strong labor force of ~72mln. The country's population growth rate averages around ~2.1% which is almost double the global growth rate of ~1.1%; this creates an ever increasing demand for construction and a supply of labor force to the construction industry.
- The construction sector contributed almost PKR~1,848bln to the GDP of Pakistan in FY22 (FY21: PKR~1,409bln), registering a growth of ~31.1% YoY basis (~3% on real basis). The Sector's Contribution to GDP stands around 3% on average.
- Gross fixed capital formation (GFCF) in construction sector grew by ~14% in FY22; and stood at PKR~61bln.
- While total construction financing availed by the private sector businesses stood at PKR~236bln, up ~38% YoY.
- Construction sector absorbs ~7.6% of the total labor force and also provides stimulus to over 42 ancillary sectors including aluminum, brick, cables, cement, fixtures, glass, kitchen and bathroom fittings, marble, paint, steel, tiles, transportation, warehousing and wood.



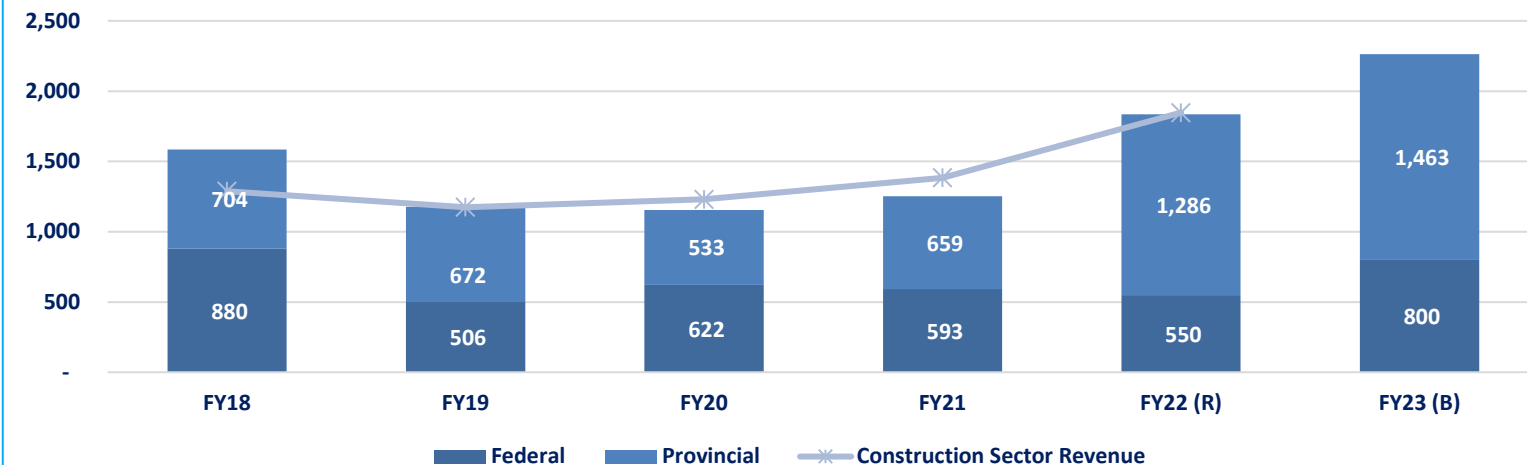
	FY18	FY19	FY20	FY21	FY22
GDP-GVA (PKR tln)	37	41	45	52	63
Construction Sector % GDP	3.5%	2.9%	2.8%	2.7%	3.0%

Construction

Demand

- The major drivers of demand in the construction sector is the Public Sector Development Programme (PSDP) expenditure; followed by Private Investments in the construction sector. Majority of the construction revenue is from government contracts ranging from building of Infrastructure to Highways to Offices and Airports. Such projects create a baseline construction demand.
- Federal PSDP budget for FY22 was slashed to PKR~550bln from PKR~900bln originally budgeted, as Local and International Political and Economic Conditions worsened. In FY23 PKR~2,263bln was allocated for PSDP (PKR~800bln on Federal and PKR~1,463bln on Provincial Level). As of 8MFY23, ~50% of the federal allocated ~800bln got authorized/dispursed (8MFY22: ~43%)

PSDP Spending & Construction (PKR bln)



Ministry/Sector (FY23)	Amount PKR in bln	% Allocation
National Highways & Railways	117	15%
Water Resources	98	12%
Energy/Power	43	5%
SDGs & PPP	73	9%
Special Areas (FATA, GB and AJ&K)	111	14%
Climate Change	10	1%
Education	45	6%
Health & Population	39	5%
Science & Info	21	3%
Housing	18	2%
Food & Agriculture	10	1%
Other Development	215	27%
Total Federal PSDP	800	100%

Latest Developments

Major Public Sector Ongoing Projects:

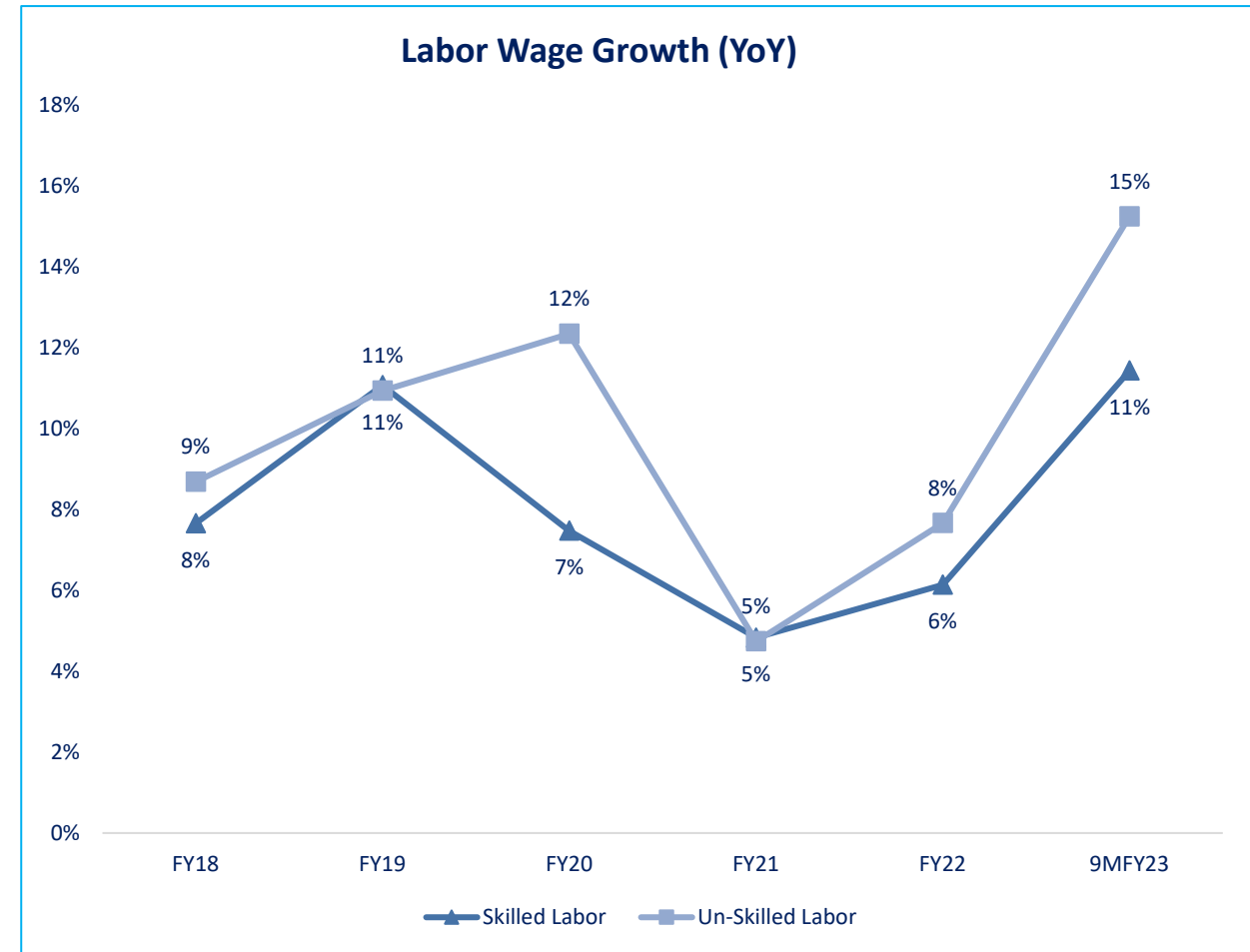
- CPEC is a flagship and most actively implemented project of the Belt & Road Initiative (BRI) where Pakistan and China have successfully launched 56 projects on the ground. Out of these projects, 26 projects worth approximately US\$17 billion have been completed so far and 30 projects worth US\$8.5 billion are under construction.
- It includes Diamer-Basha Dam and Mohmand Dam projects. On completion, these dams will greatly mitigate water and power shortages in the country.
- Initiation of about 30 new schemes of small dams/recharge/check having cost about PKR~28.6bln with an allocation of PKR~2.74bln in Balochistan.
- PC-I for Construction of Bhong Interchange on Sukkur – Multan Motorway (M-5) at its Intersection with Bhong.
- PAEC is planning for the construction of another nuclear power plant. This unit, named as C-5, will replicate the design characteristics of K-2 and K-3.
- Construction work on New Gwadar International Airport is well underway and likely to be completed by October 2023.
- The following new projects have been proposed for inclusion in the CPEC framework in the 10th Joint Coordination Committee are under construction:
 - (i) D.I. Khan-Peshawar Motorway (365 Km), (ii) Swat Expressway Phase-II (82 Km) & (iii) Dir Expressway (26 Km)
- Construction has a 13.4 percent share in the Industrial Sector of the Economy and it recorded a modest growth of ~3.1% in FY22 mainly due to an increase in general government spending.



Construction

Industry Dynamics - Supply

- Over 10,000 firms are registered with the Pakistan Engineering Council as constructors/contractors. However, only ~100 (1%) of them hold the prestigious CA category (no limit) license and High Carbon Steel Technology (HCS) which enables them to be on the pre-qualifying list of approved constructors.
- The quality of raw material and requirement of professional expertise is different and dependent on the nature of the projects.
- Generally, material cost constitutes a major portion of the cost of sales of the construction companies followed by salaries and wages of both technical staff and labor. The basic construction material like cement and steel is available in abundance locally.
- Construction is a capital intensive business requiring uninterrupted financial backing from banks. The nature of construction work is uneven wherein delays and prolonged deadlines are very common. These factors make construction sector's working capital needs high as well as its dependence on long-term debt.



Business Cycle



Every construction project has the following 7 stages in its life cycle:

- **Win Contract:** After successful bidding the contract is awarded to the contractor.
- **Mobilization Advance:** Is given to the contractor so that machinery, equipment and labour can be mobilized.
- **Construction Starts:** Within a stipulated time period, as mentioned in the contract.
- **Stages of Completion:** The project is divided into certain number of stages and the contractor is paid after successful completion of each milestone.
- **Delivery:** The project needs to be delivered within an agreed timeframe after which the contractor may accrue damages.
- **Certificate:** When the client is satisfied and there are no pending disputes, a certificate of completion is issued.
- **Retention Money:** Is returned to the contractor after completion of a certain time period after project delivery.

Major Delay Causes with Responsible Entities– Various Delay Categories

Delay Cause	Category of Delay	Responsible Entity	Delay Criticality Ranking
Change orders/ directives	Contract Related Delays	Owner	1
Labor productivity issues	Labor Related Delays	Contractor	2
Poor site management and supervision	Management/ Administrative Delays	Contractor	3
Inspections/ Audits	Construction Site Related Delays	Contractor	4
Poor cost estimation & control	Management/ Administrative Delays	Contractor	5

- The biggest delay in the construction deadline is caused by the owner. Any changes in design or orders could delay or even halt the construction activity all together.
- Availability of skilled labor is also an issue for the contractor especially in rural areas. The second most deteriorating reason for any project is poor cost estimation and management.

Categorical Delay Criticality Ranking with Responsible Entities

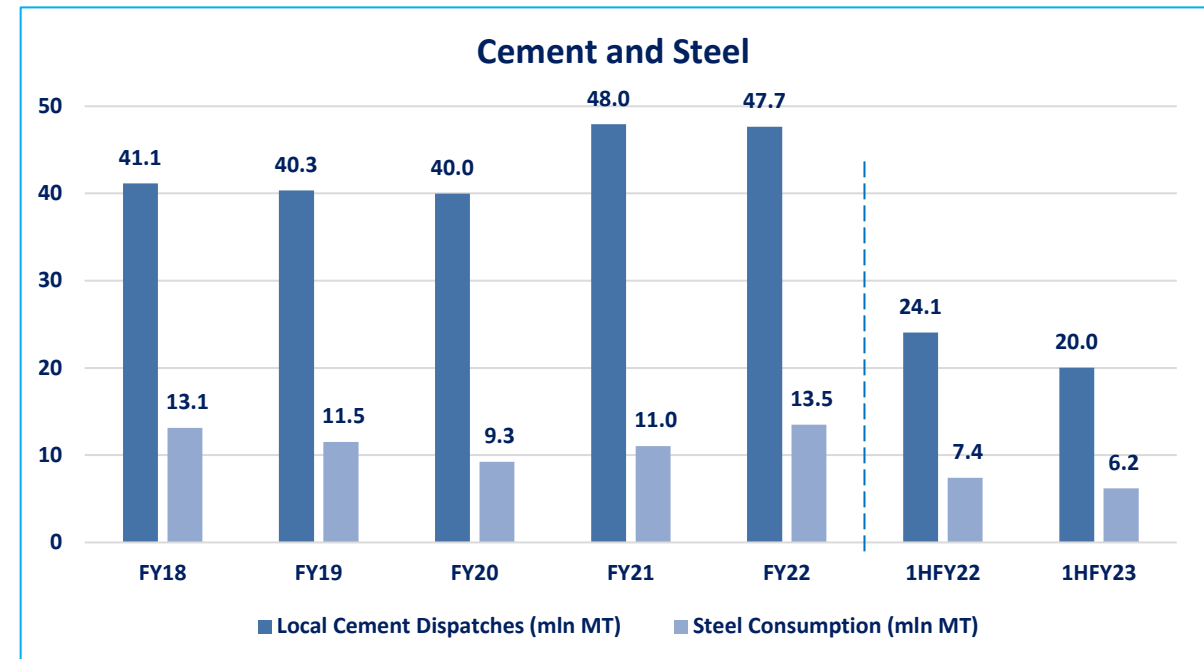
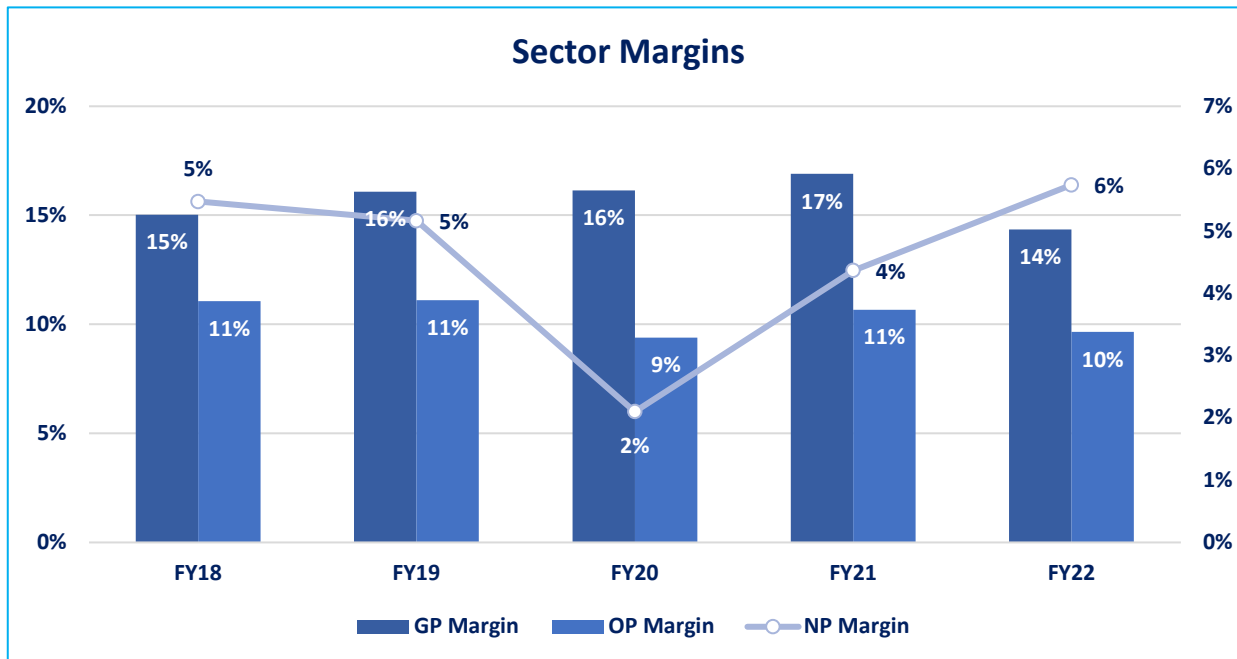
Category of Delay	Major Responsible Entity	Delay Criticality Ranking
Design related delays	Consultant	1
Financial/ Economic Delays	Owner	2
Contract related delays	Owner	3
Construction site related delays	Contractor	4
Subcontracted work related delays	Contractor	5

- After design related delays, unavailability of funds is the most crucial element. But due to the recent COVID-19 pandemic, the construction sector came near to a halt and construction activity nearly ceased. Subcontracted or third party contractors are also a major element. Their profitability is not directly tied towards the project or contract, hence delays in regarding subcontractors or third party related work are more frequent.
- Although time delay and cost overrun are very common in construction projects but it can be reduced or eliminated by adopting a proper performance monitoring mechanism and control system that will be integrated with all the key aspects and activities of each phase of the construction project.
- Better communication among all the stakeholders of the projects with a clear understanding of the project success criteria and KPI will lead to the successful completion of the project without delay and cost overrun but providing the best quality.

Construction

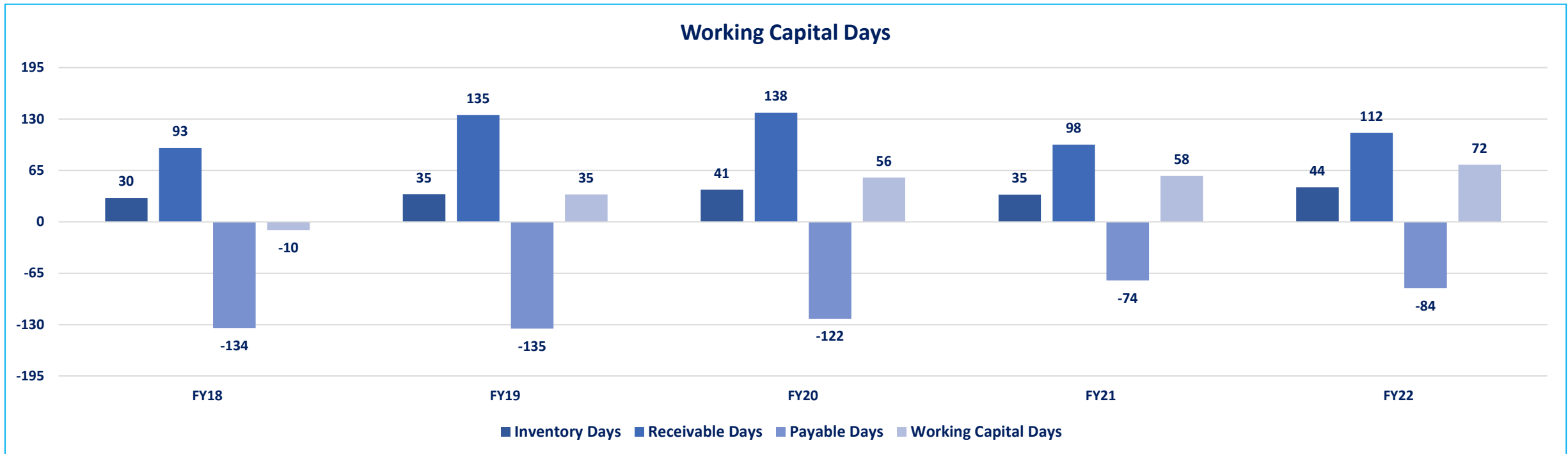
Business Risk

- The Industry's gross profit margin in FY22 declined to ~14% (FY21: ~17%) as labor wages holding ~11% share in COGS grew by ~12% YoY; while the cost of raw material, holding ~32% share in COGS increased by ~18 YoY%.
- Industry margins are expected to shrink further, as End-Mar'23 prices of construction materials have jumped by ~38% YoY and labor wages have risen by ~19% YoY.
- Hike in material prices are influenced by both high energy prices (as both cement and steel manufacturing are energy intensive processes), massive PKR devaluations and subdued imports because of low forex reserves of the country (steel especially is dependent upon imported steel scrap).



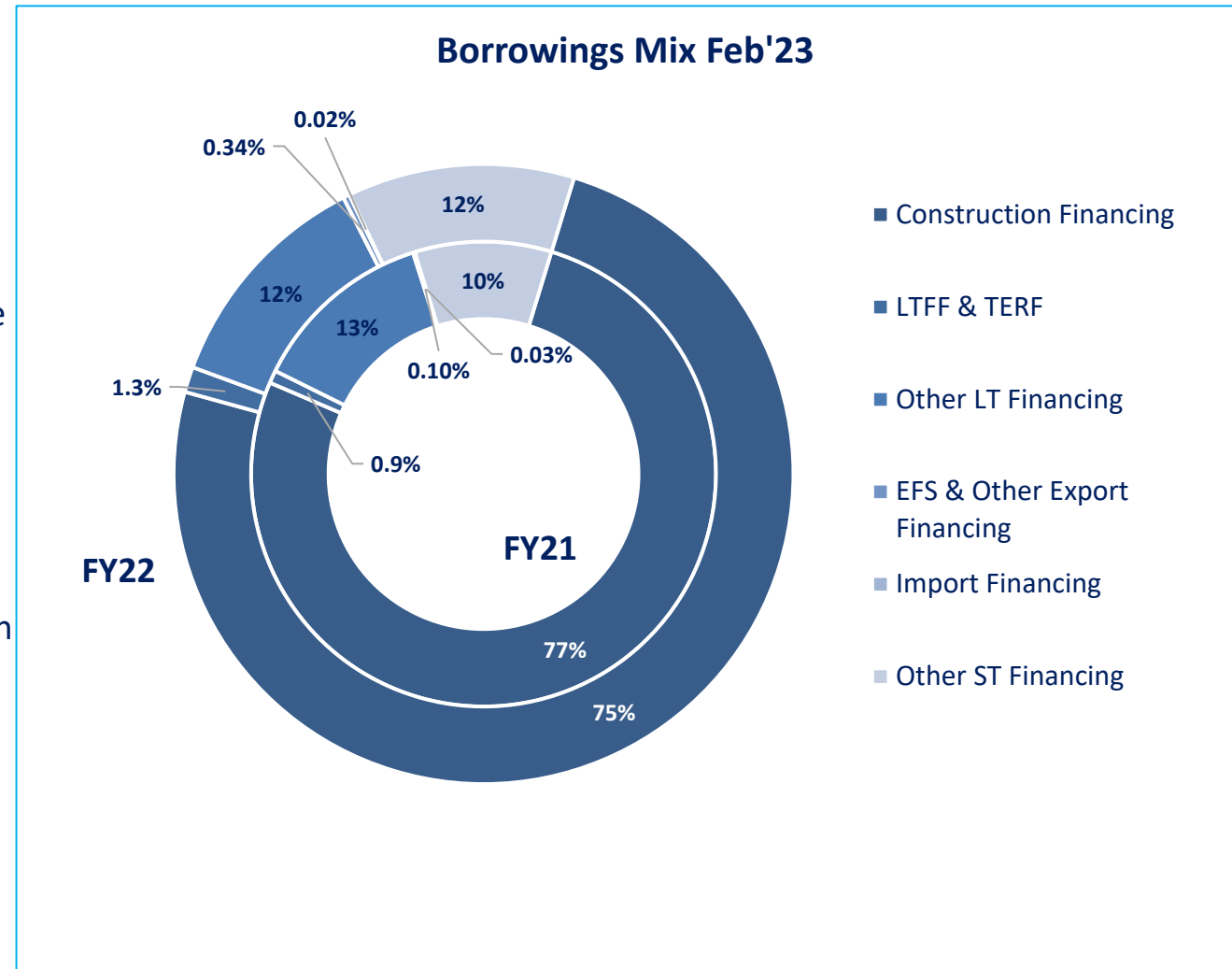
Financial Risk-Working capital

- Working Capital Days increased in FY22 in comparison to FY21 from ~58 to ~72 days. Construction sector is highly correlated to PSDP expenditure. Decline in PSDP spending in FY22 caused cash conversion cycle to spike.
- Inventory days decreased to ~44 days in FY22 (~35 days FY21). Meanwhile, receivable days increased from ~98 days in FY21 to ~122 days in FY22 due rallying cost of construction.
- Increased working capital requirements of the sector were partially financed by increasing payables, as the payable days of the sector increased from ~74 days in FY21 to ~84 days in FY22.



Financial Risk - Borrowings

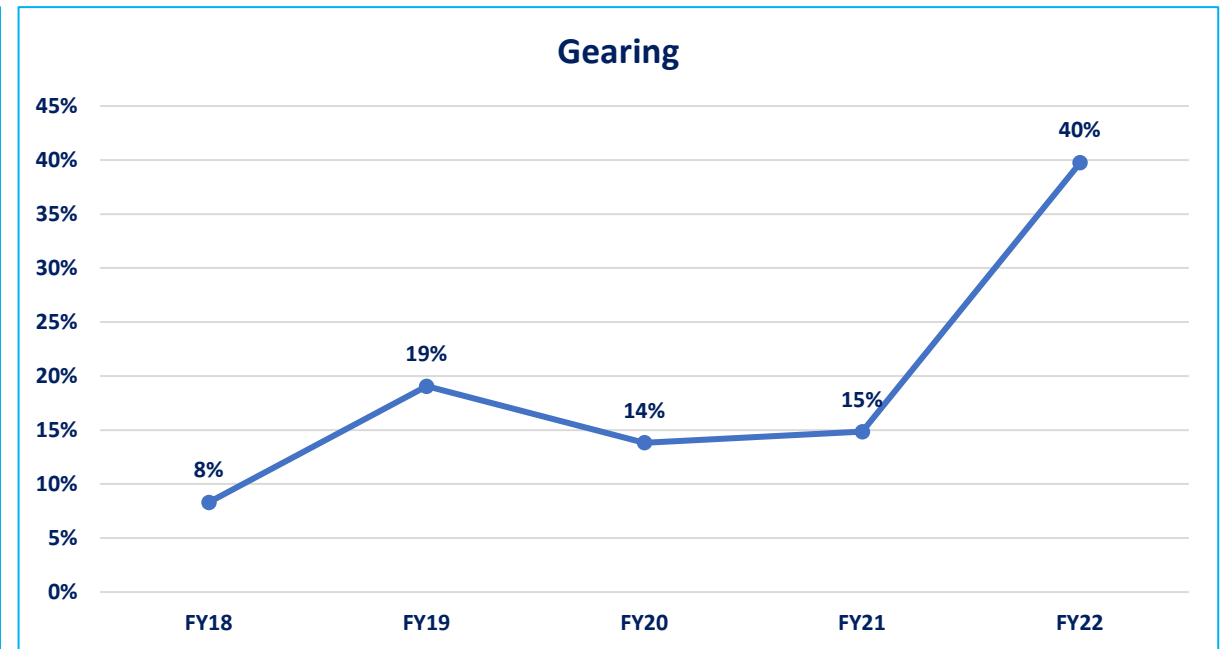
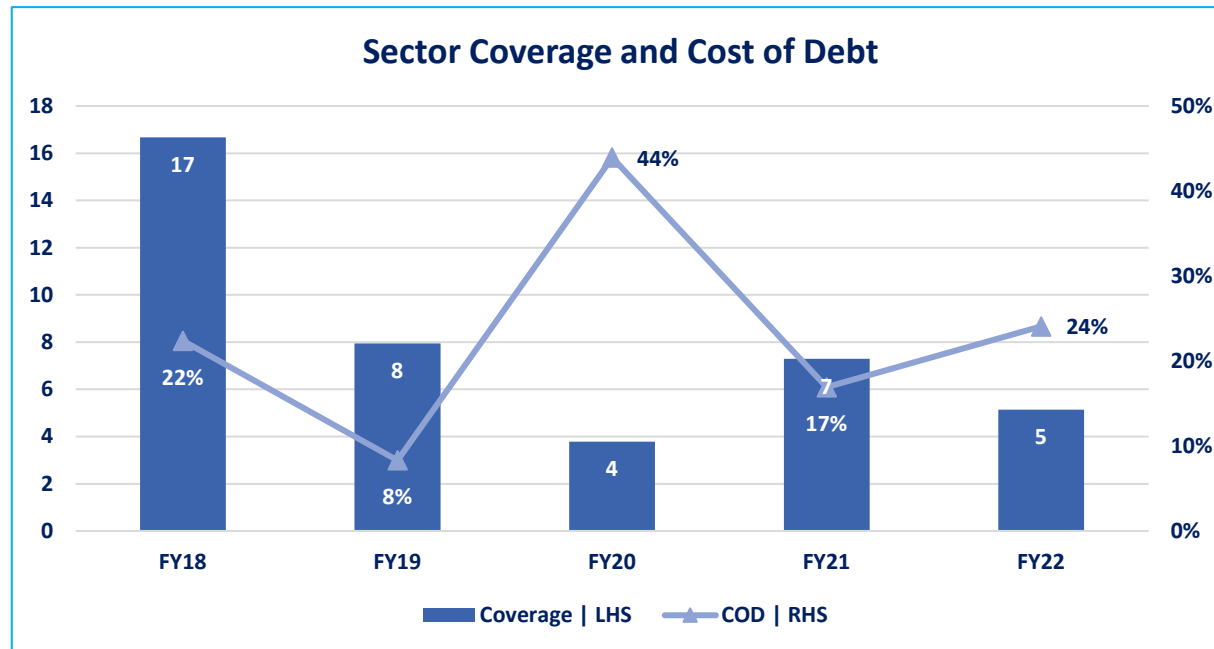
- As of Feb'23 the sector's borrowings stood at PKR~193bln, up ~15% YoY (Feb'22: PKR~167bln).
- Construction financing stood at PKR~144bln up ~12% YoY and held the largest share in the industry borrowing mix at ~75%.
- While LTFF & TERF stood at PKR~2.5bln, up ~72% YoY with a share of ~1.3% in the borrowings mix.
- Other long term financing stood at PKR~23bln, up ~8% YoY and held a share of ~12% in the borrowings.
- Export and Import financing schemes (both concessional and non concessional) stood at PKR~680mln holding less than ~1% share in the total borrowings mix.
- Financing from other short term sources stood at PKR~23bln, up ~44% YoY and held a share of ~12% in the total borrowings mix.



Construction

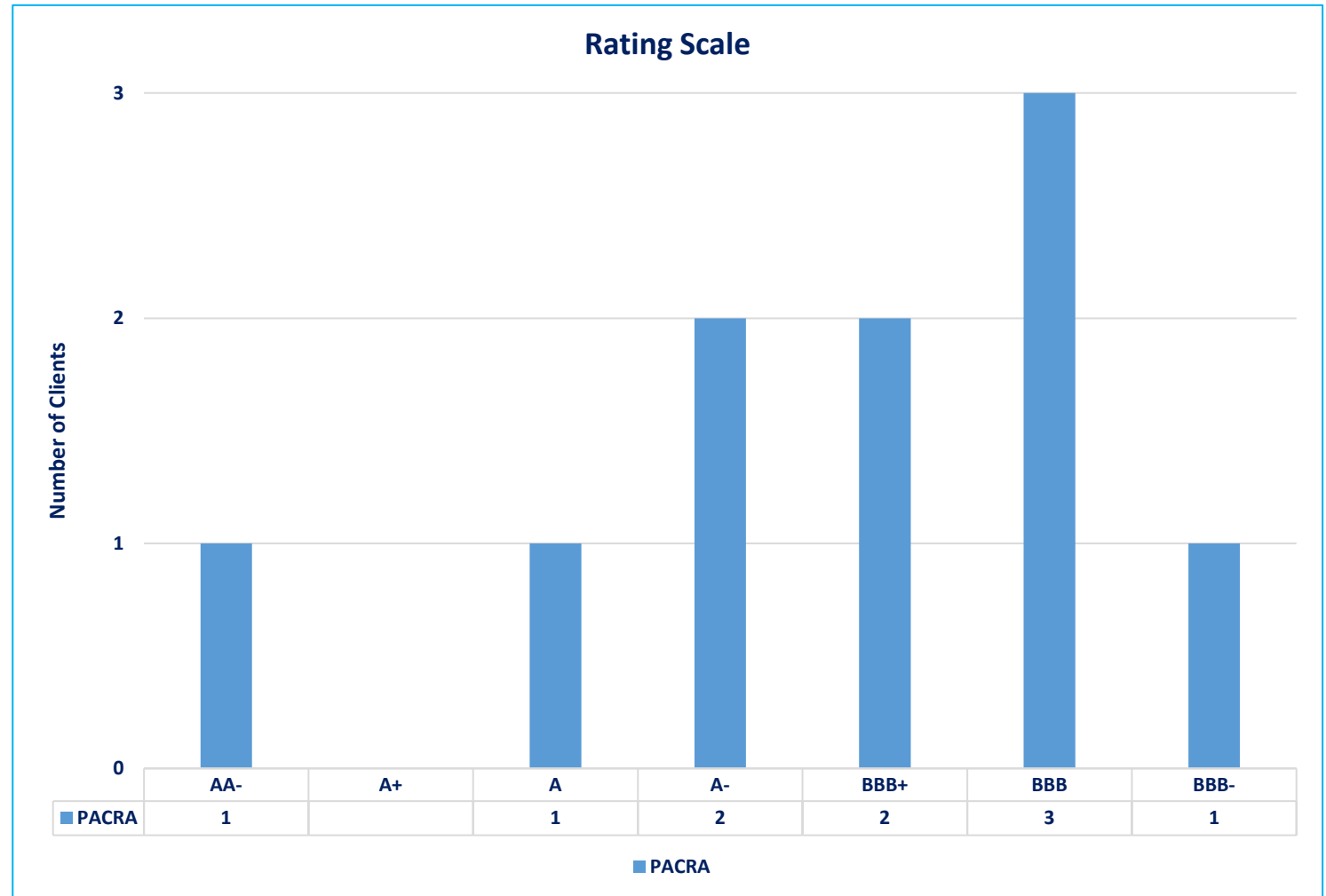
Financial Risk - Borrowings

- The machinery required for large construction projects is mostly imported. Given the ~11% PKR devaluation in FY22 and resumption of commercial activity, the growth in long term borrowing and fixed investment increased the industry leverage to ~40% in FY22 (FY21: ~15%). As of End-FY22, the total outstanding borrowings stood at PKR~188bIn up ~22% YoY. Meanwhile, the policy rate increased to 13.75% from 7% in the beginning of FY22, which led to a higher cost of debt of ~24% (FY21: ~17%) and reduced interest coverage at ~5x (FY21: ~7x).
- The policy rate in Mar'23 stood at 20%, with cost of construction materials reaching prohibitive levels, while the PKR depreciated ~56% and low levels of forex reserves have led to restricted imports. The industry borrowings by Feb'23 stood at PKR~193bIn up ~15 YoY.



Rating Curve

- PACRA rates ten players of the construction sector.
- 3 players rating were upgraded during 1HFY23.
- No change in rating for 7 players was observed.



SWOT Analysis

- Steady growing Demand
- Large labor force
- Government Incentives and Support
- Readily available raw materials.
- Increased Government spending



- Unskilled Labour Force
- Lack of Technology Innovation
- Highly Impacted by Allied Industries
- Deadlines and Delays

- Low Barrier to entry
- Possibility of Lockdown
- Exchange rate fluctuation
- Inflation

- Naya Pakistan Housing Scheme initiative
- Government initiatives
- Lower Capital Gain Tax
- Advancement in Technology

Outlook: Watch

- Construction is a major industrial sector in Pakistan due to its high economic significance and association with multiple allied sectors. In FY22, the sector represented ~3% of the GDP of the country.
- From FY22 onwards, global supply chain disruptions exacerbated by Russia-Ukraine war, have propelled global commodity prices to their multi-year/all-time highs. High inflation, monetary tightening and economic slowdowns have become a global theme. Along with the global macro economic vulnerabilities, Pakistan further got hit by a devastating flash flood, socio-political unrest and now a grave foreign exchange shortfall as talks with the IMF remain stalled.
- Consequently Pakistan's inflation in Mar'23 clocked in at hyper ~35%; PKR depreciated by ~41% with import restrictions in place; the MPR stood at a prohibitive 20%, and the World Bank now estimates Pakistan's FY23 GDP growth to restrict at ~0.4%. The QIM of the LSM dipped by ~8% YoY in Jan'23 with all but 4 industrial sectors in red.
- On the production side in the construction materials industry at large; the "Manufacturing of Non-Metallic Mineral Products" sub-index of the QIM (includes cement with ~93% weight) has consistently declined since Oct'22 and fell by ~10% by Jan'23; while "Manufacturing of Iron & Steel Products" sub-index has consistently declined since Aug'22 and fell ~6% by Jan'23. On the pricing front in Mar'23, construction material prices on average grew by ~36% YoY and construction worker wages on average, grew by ~18% YoY contemporaneously.
- Construction financing in terms of loan to private sector business loans stood at PKR~229bln in Feb'23; down ~3% compared to Sept'22, as borrowings are becoming more restrictive owing to exorbitant interest rates. While prices of construction inputs have also increased drastically; i.e., as of Mar'23 on a YoY basis, prices of steel bars are up ~36%, pipe fittings are up ~88%, cement up ~32%, glass sheets up by ~78%, ceramics up by ~30%, bricks up by ~15%, timber up by ~23% and paint up by ~51%.
- Given, hiking prices of construction material/wages and high borrowings costs, construction projects facing cost overruns may get stalled with a subdued impetus for newer projects.

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