Cement
An Overview

March 2021

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Global Industry

- **Overview:** Cement is an important building material. The Sector has a huge economic impact due its long and diverse supply chain and contributes ~0.4% to the global GDP and ~7.7% to the world employment.

- **Production:** Global cement production is regionally concentrated. Top five countries account for nearly three quarters of the world's cement production capacity which hovers around ~4.3 bln tons. Around ~45% of the global capacity is occupied by the top 10 players. China leads with a ~57% share, followed by India (~8%), Vietnam, USA and Indonesia. Globally, more than 1,000 cement producers operate over 2,300 integrated cement plants and 600 grinding stations.

- **Consumption:** The global cement consumption has been estimated to decline to ~3.9 bln tons in CY20 from ~4.1bln tons in CY19 (a dip of ~5% YoY) owing to the outbreak of COVID -19 pandemic.

- **Exporters:** Total world cement exports in CY19 were USD~11bln (only ~3% of the Sector Revenue) and Vietnam was the largest exporter (~12%) followed by Turkey (~8%), Thailand (~6%) and Canada (~5%). Pakistan's share in world exports in FY20 was ~2.3% (USD~253mln) and it was ranked as the 11th largest cement exporter in the world.

- Amid COVID-19 crisis, global cement consumption has witnessed a decline across almost all regions except China. Average utilization capacities of cement production have remained around ~70% for five years prior to the advent of COVID-19. The utilization levels fell to around ~60% in CY20 due to lower production requirements. Nonetheless, global demand is expected to rebound and return to pre-covid levels due to easing of COVID-19 induced lockdowns across the major economies. China and Asia are expected to remain the drivers for demand in the short to medium term.

Source: Yahoo Finance, IFC, Global Trade

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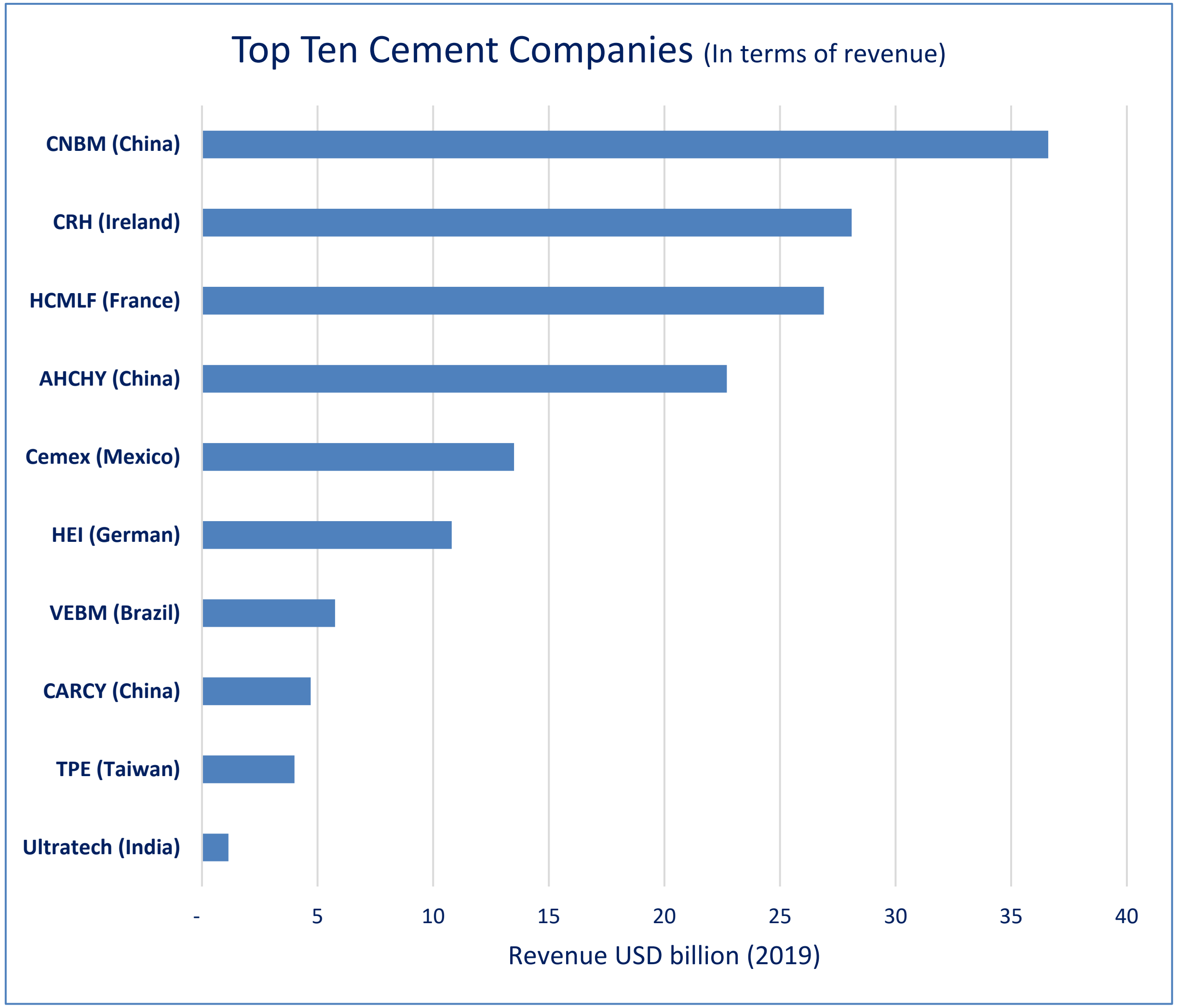
Global Industry | Top Players

- The Cement Sector has a globally high significance due to its massive stand alone output and it being an essential part of supply chain for industries such as construction, chemicals and exploration of natural resources.
- Global cement consumption is estimated around ~4bln tons, contributing ~0.4% to global GDP. The Sector is also one of the largest employers of the global workforce.
- China is the world's largest producer and consumer of cement as it accounts for ~58% of total global production, which is eight times more than world's second largest producer, India (~8%).
- Due to the high capital intensive nature of the business, the global cement market is dominated by big companies. Top ten largest cement companies have estimated market share of ~50%.
- Like other industries, COVID-19 lock down had serious implication for the cement industry as well, as the sector output has been estimated to reduce by ~5% in CY20.



Source: Yahoo Finance, Global Trade

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Production Process

Mining of raw material including limestone, clay, gypsum and others.

Grinding raw material to a fine powder, called raw meal.

Raw meal is heated at a temperature of ~1,450 °C in a cement kiln to produce clinker.

Hot clinker exits from kiln and enters the clinker cooler to reduce its temperature from 1450 °C to 100 °C .

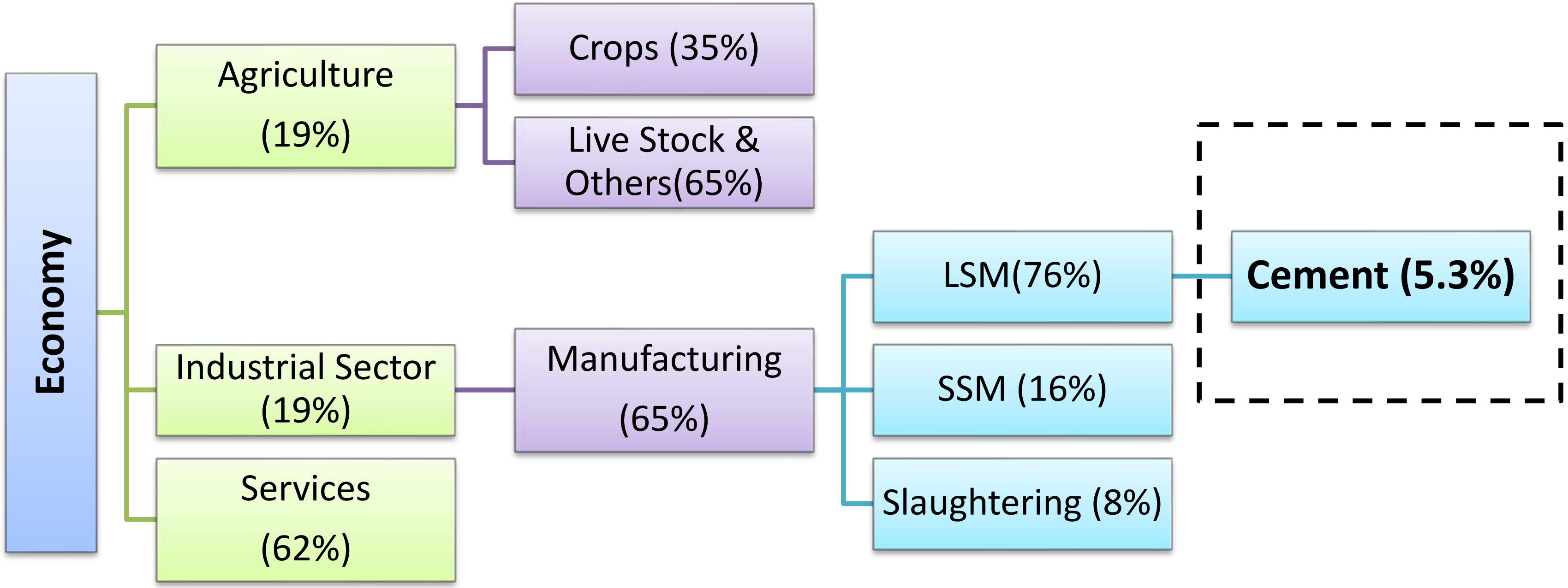
Cooled clinker mixed with gypsum and other additions. It is grinded into fine and homogenous powder, cement.

Manufactured cement then stored in silos before packaging and sale to end consumers.

Large Scale Manufacturing- Overview

- Large Scale Manufacturing (LSM) in Pakistan is an essential segment of the economy considering its contributories and linkages with other sectors. It contributes ~9.5% to the country's GDP. During FY20, the country's overall GDP contracted by ~0.4% on account of the COVID-19 pandemic spread (FY19: Growth ~1.2%). COVID-19 lockdown and overall economic slowdown had severe implication for LSM as well, as it registered negative growth of ~10.2% during FY20 (FY19: ~-2.3%).

- The government of Pakistan and SBP announced series of incentives during 4QFY20 to support businesses and to stimulate business activity. The stimulus measures yielded positive results for the economy as the LSM posted a growth of ~8.2% during 1HFY21 (6MFY20: ~-2.7%). FY21 GDP is forecast to grow at ~3%.



Industry Snapshot | Local

- Cement is an important sector of the country and is also vital for its economic development. The country's infrastructural developments and construction activities alongside multiple allied sectors (steel, wood, tiles etc.) are directly influenced by the performance of the cement sector.
- Overall size of the sector was recorded at PKR~345,054mln during FY20 (FY19: PKR~413,879mln) down ~17% YoY, due to reduced retention prices in the north region amid increased supply and reduced exports.
- Cement Sector is composed of 19 companies of which 16 companies are operational. The Sector is divided into two regions; North and South, with North covering areas of Punjab, KPK and AJK and South including areas of Sindh and Baluchistan.
- Cement sector is organized and is oligopolistic in nature, with most of the players listed on the PSX. Market capitalization of the sector is recorded around PKR~690bln (22nd Mar,'21).
- Overall economic growth and government's spending on development projects are the main drivers of the sector's growth.
- Pakistan's per capita cement consumption is around 182 kg whereas world average per capita consumption is recorded around 500 kg, more than double the consumption in Pakistan, reflecting an immense potential for growth in cement demand.

Overview	FY19	FY20
Gross Revenue (PKR mln)	413,879	345,054
Contribution to GDP	1.18%	0.85%
Sector Players	19	19
Structure	Organized & Listed	
Production Capacity mln tons	56	66
Offtake Local mln tons	40	40
Export mln tons	7	8
Total Offtake mln tons	47	48
North Region (Avg Price/Bag)	580	526
South Region (Avg Price/Bag)	621	673
Regulator	Securities and Exchange Commission of Pakistan (SECP)	
Associations	All Pakistan Cement Manufacturers Association (APCMA)	

Source: Pakistan Economic Survey, APCMA, PBS

Cement

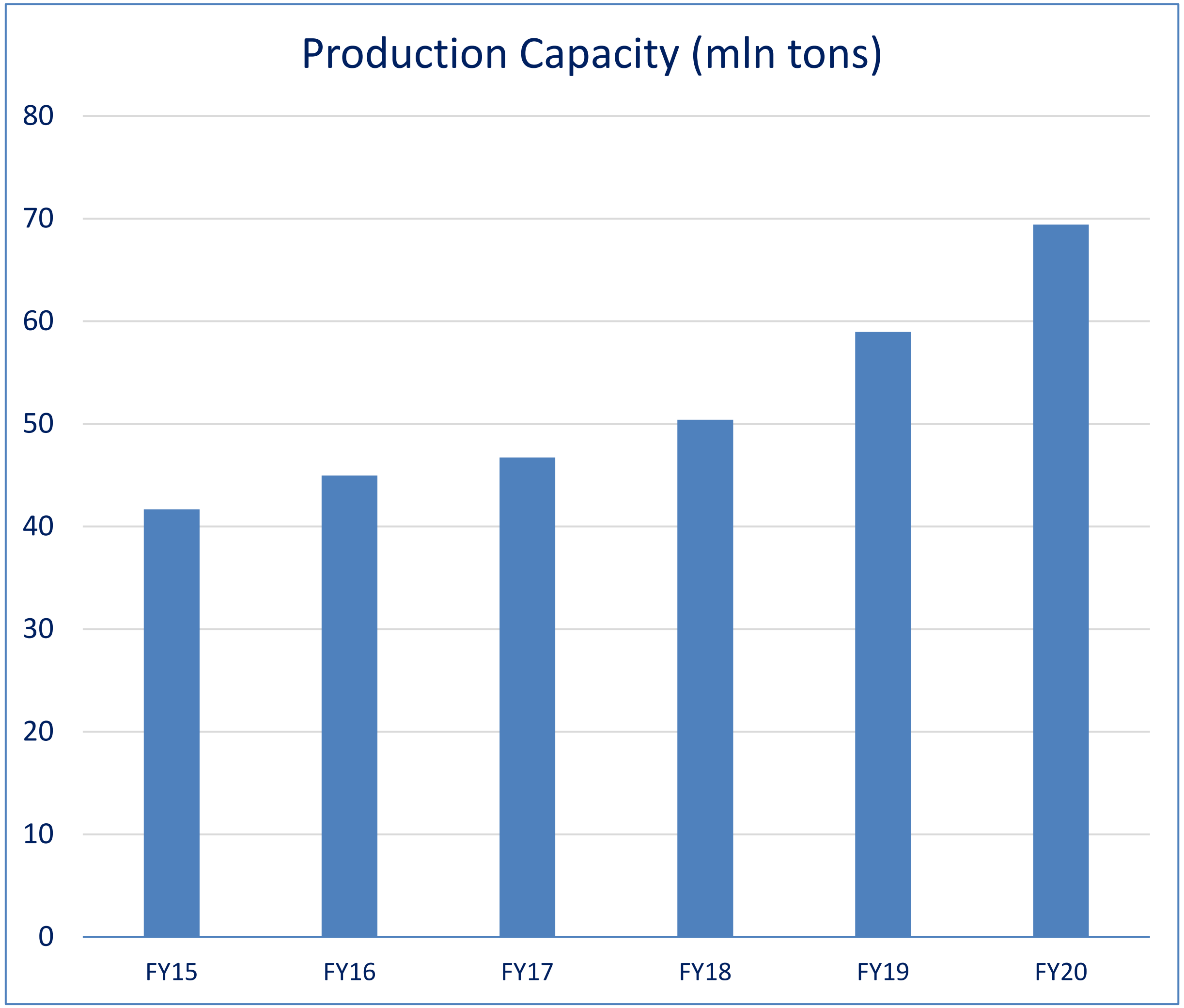
Supply Side | Production

- Cement sector's production capacity is recorded around ~69mln tons in FY20 (~59mln tons in FY19), an increase of ~18% YoY. Almost ~76% of the operational plants are located in the North Region, while remaining ~24% capacity is located in the South Region.

- The sector has witnessed some major capacity enhancement rounds in the last two decades in anticipation of rising momentum of cement demand in the country. The first phase was initiated in FY07, which was completed in FY12, the second phase was announced in FY13 and FY14 against which almost all expansions achieved CoD up till March'20.

- Lately, top five (5) cement companies have announced expanding their production capacities, which would add approximately ~18mln tons to the total cement production capacity of Pakistan, taking it up to approx. 87mln tons. The expansions are expected to be completed by FY23-24.

- The expansion cycles are based on a various factors. Recently, promising demand prospects from GoP projects such as Naya Pakistan Housing Program (NPHP), construction of dams, and CPEC related activities have encouraged the sector players to go into expansion. Also, the TERF facility has overall diluted the borrowing cost of projects, making it an attractive opportunity for the players to expand.



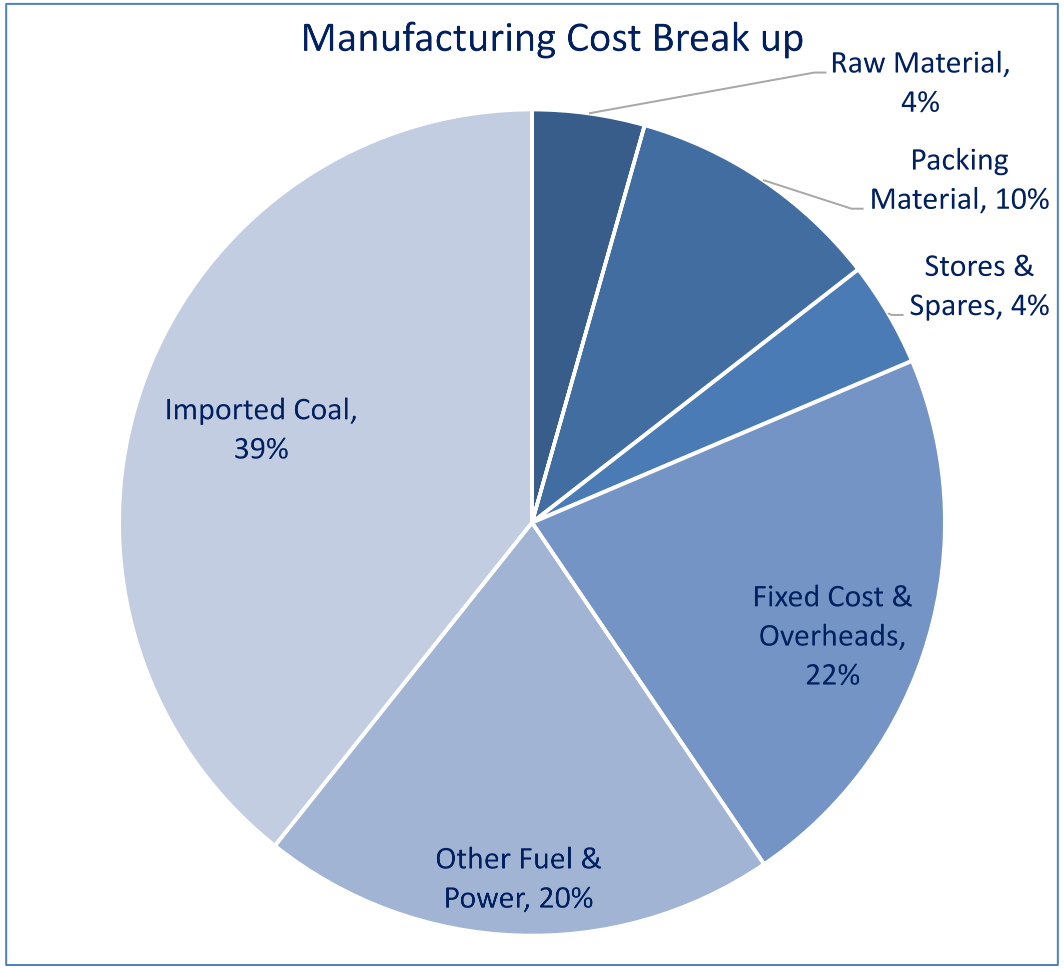
Source: Pakistan Economic Survey, APCMA, PBS

Supply Side | Cost Break up

- Major raw materials used in cement manufacturing process are limestone, clay and gypsum. These raw materials, however, constitute a very small portion of the production cost – 4% (as represented in the adjacent pie chart) due to the energy intensive nature of the process, which majorly constitutes fuel and energy cost.

- Energy constitutes ~60% of the total energy cost of cement production. Coal, being a cheap source of energy, is extensively used by the cement companies in their manufacturing process and accounts for ~40% of the total production cost of cement.

- Majority of the cement manufacturers rely on imported coal to meet their energy needs, which implies their exposure to exchange rate movements as well as fluctuations in international coal prices is high.



Source: APCMA, PACRA Internal Database, Companies Financials

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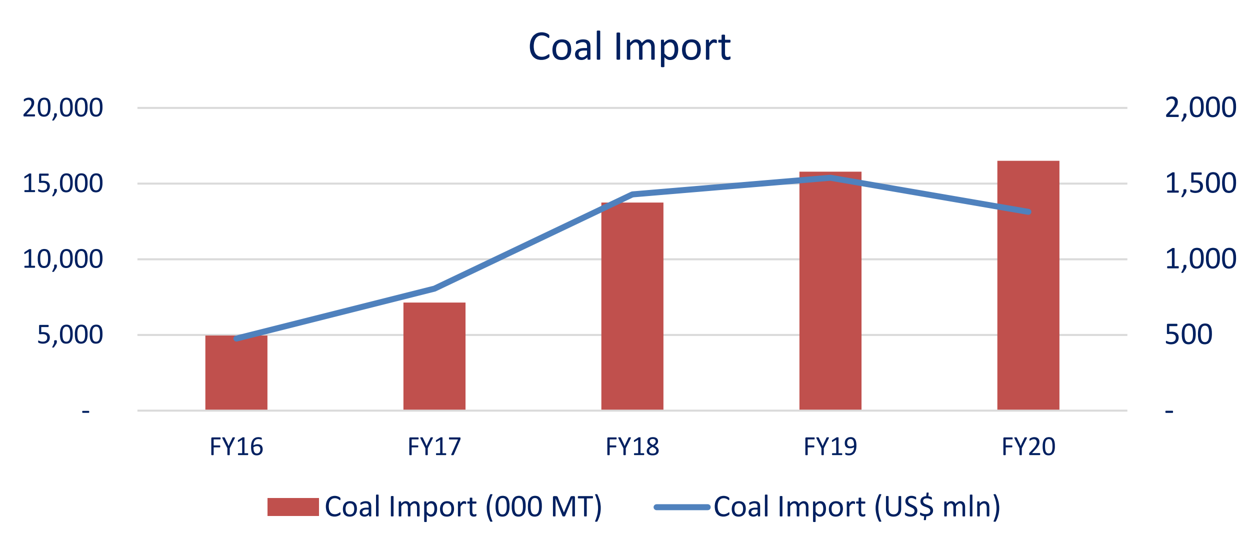
Raw Material | Coal

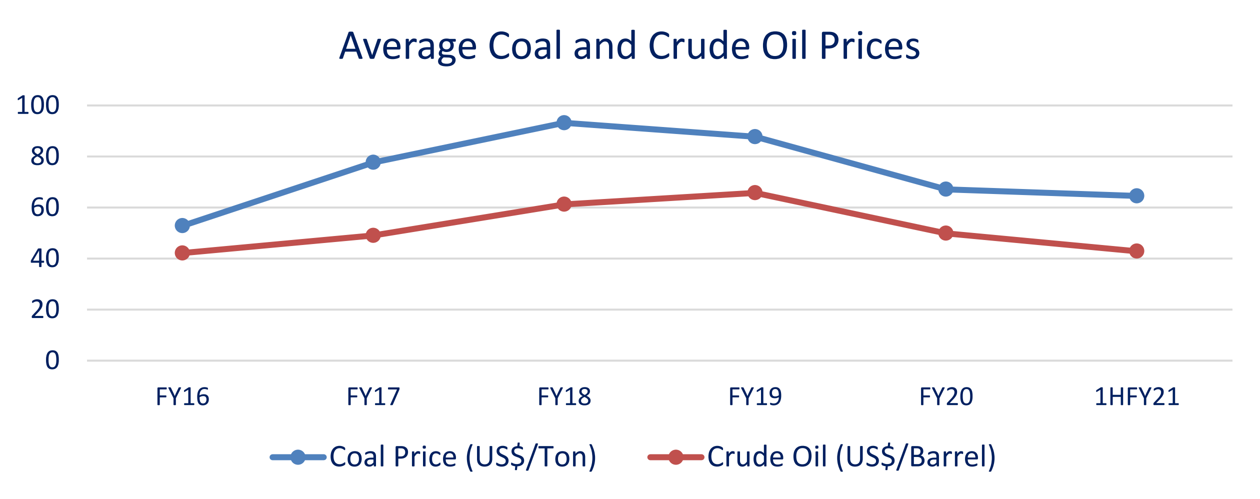
- Imported coal constitutes ~40% to the total cost of production of the cement sector. Coal imports have witnessed an increasing trend over the period due to increased production of cement and coal fired power plants.

- Coal imports in FY20 were recorded at USD~1,313mln with YoY decrease of ~14% (FY19: USD~1,538mln), whereas the quantity imported increased by ~5% during the same period. The decrease in import bill despite higher quantities imported in FY20 is majorly attributed to the freefall in coal prices amid COVID-19 outbreak (~23%).

- Average coal price during FY20 was recorded at USD~67/MT down ~23% YoY (FY19: USD~88/MT). Prices registered a slight downward trend in 1HFY21 averaging around USD~65/MT.

- Average crude oil price during 1HFY21 was recorded at USD~43/bbl (1HFY20: USD~60/bbl). Crude oil prices are expected to average above USD~55/bbl during 2HFY21. Considering high correlation between crude oil and coal prices, average coal prices are also expected to increase in 2HFY21 in line with the uptick in oil price.





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Supply Side | Production

- Total 16 companies are operational in the country. 11 companies have presence in north region and 2 have presence in only south region whereas 3 companies have production plants in both south and north regions.

- As of June-2020, Lucky Cement is the largest player in the Sector with a production capacity of ~11.7mln tons (~17% of the country's operational capacity) followed by Bestway and D.G Khan Cement. Pakistan's cement market is concentrated as top five companies constitute ~57% of total production capacity of the country.

- Companies in the South Region have to incur low transportation costs while transporting imported coal from port to their plants. Moreover, due to their close proximity to the port, their access to export markets through sea routes increases in comparison to their northern counter parts.

- Although the companies in the North Region have to incur more transportation cost, these companies have access to Afghanistan and Indian market for Exports.

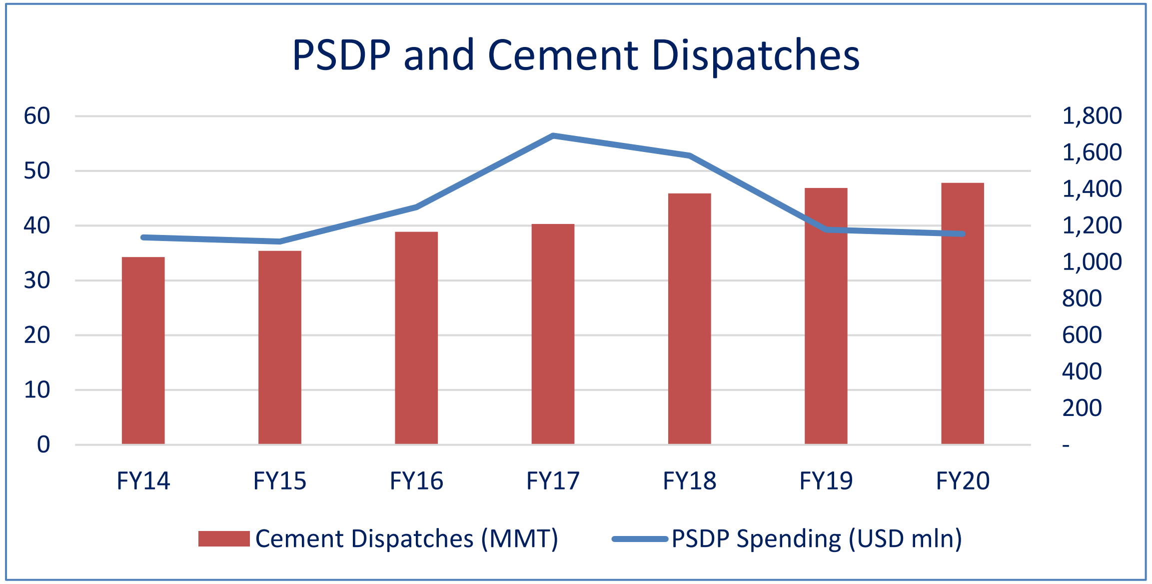
- Decreased capacity utilization of the sector during FY20, due to increased capacity and low growth in dispatches led to decrease in local retention prices. However, owing to uptick in construction activity capacity utilization of the sector increased significantly in 1HFY21.

Production Capacity FY20 (000 tons)			
Company	**North**	**South**	**Total**
Lucky Cement Limited	6,810	4,900	11,710
Bestway Cement Limited	9,853	-	9,853
D.G.Khan Cement Limited	4,221	2,898	7,119
Maple Leaf Cement Factory Limited	5,670	-	5,670
Kohat Cement Company Limited	5,018	-	5,018
Pioneer Cement Limited	4,550	-	4,550
Cherat Cement Company Limited	4,536	-	4,536
Fauji Cement Company Limited	3,434	-	3,434
Power Cement Limited	-	3,371	3,371
Attock Cement Pakistan	-	2,996	2,996
Dewan Cement Limited	1,134	1,764	2,898
Askari Cement	2,804	-	2,804
Gharibwal Cement Limited	2,111	-	2,111
Flying Cement Limited	1,197	-	1,197
Fecto Cement Limited	819	-	819
Thatta Cement Limited	-	577	577
Dandot Cement Limited	504	-	504
Total	**52,660**	**16,505**	**69,165**

Source: APCMA, PACRA Internal Database

Demand Side | Local

- Pakistan's local cement dispatches for FY20 were recorded at ~40mln MTs (FY19: ~40mln MTs).
- Cement demand is highly correlated to the GoP's spending in development projects through Public Sector Development Program (PSDP). Due to the widening fiscal deficit, PSDP spending significantly reduced in past couple of years. Development spending by the GoP was recorded at PKR~1,155bln during FY20 as compared to PKR~1,584bln in FY18 with a cumulative decrease of ~28%.
- Despite declining PSDP, local cement dispatches averaged around ~40mln MTs in the last three years supported by CPEC related projects and increase in local construction activity.
- To stimulate construction activity, the GoP has announced a construction relief package of PKR~100bln during FY20. The package includes tax incentives, waivers and subsidies for builders, developers and property owners.
- Owing to rebound in construction activity local cement sales increased significantly in 9MFY21. With highest MoM growth in cement dispatches in March-21, total cement dispatches in 9MFY21 period were recorded at ~36mln tons (9MFY20: ~31mln tons) with YoY growth of ~18%.



Cement Dispatches			
Cement Sales (MT)	3QFY20	3QFY21	Change
Local	3.21	4.56	42%
Export	0.50	0.80	60%
Total	**3.71**	**5.36**	**45%**
	9MFY20	9MFY21	Change
Local	30.59	36.18	18%
Export	6.45	7.14	11%
Total	**37.04**	**43.32**	**17%**

Source: APCMA, Constructech, Economic Survey, Dawn

Demand Side | Export

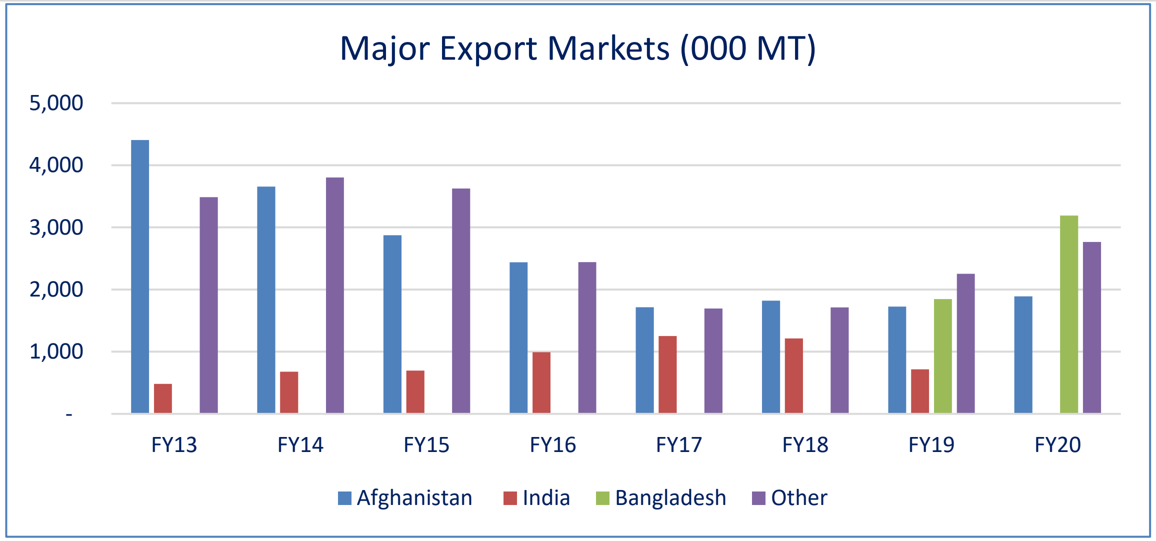
- Pakistan exported ~8mln tons of cement and clinker during FY20 (FY19: ~7mln tons) up ~20% YoY basis.

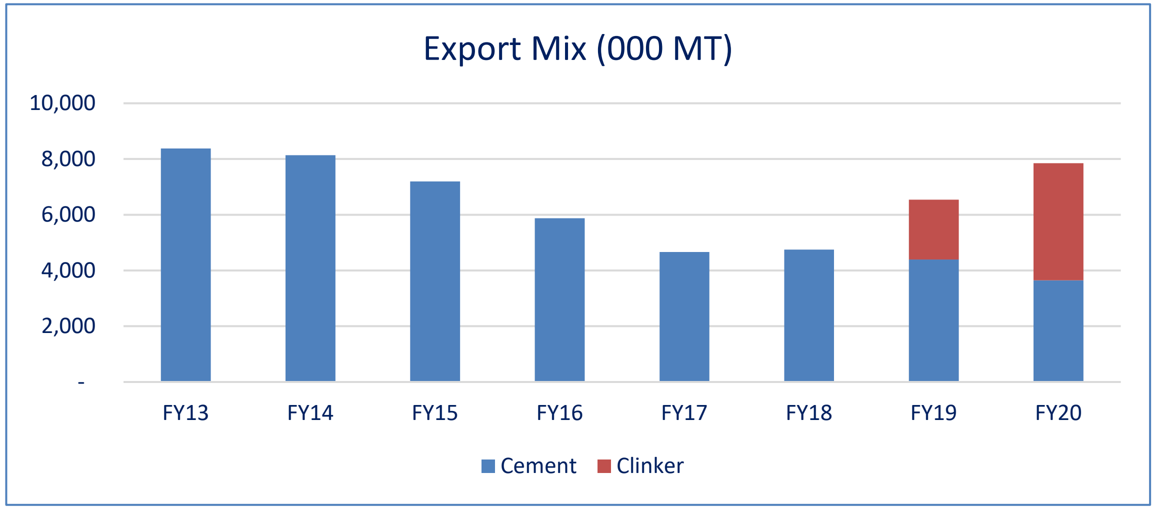
- Historically, Afghanistan and India were major cement export markets for Pakistan. Heavy duty on Pakistan goods was imposed by Indian Government in FY19 amid high political tension between both countries which led to a suspension of Pakistan's cement exports to India.

- Export of cement to South Africa through sea routes also decreased substantially after the imposition of anti-dumping duty by South Africa on Pakistan's cement products in FY16. Export of cement to Afghanistan have also decreased over the period due to influx of cheaper Iranian cement into the country.

- On the contrary, Export of clinker to Bangladesh has grown substantially in the past couple of years, as Bangladesh's cement industry relies on imported raw material due to non-availability of raw material for cement locally. Bangladesh's share constitutes ~76% of the total clinker exported by the country during FY20 (FY19: ~86%).

- Total export during 9MFY21 is recorded at ~8mln tons (9MFY20: ~7mln tons) with YoY growth of ~14%.





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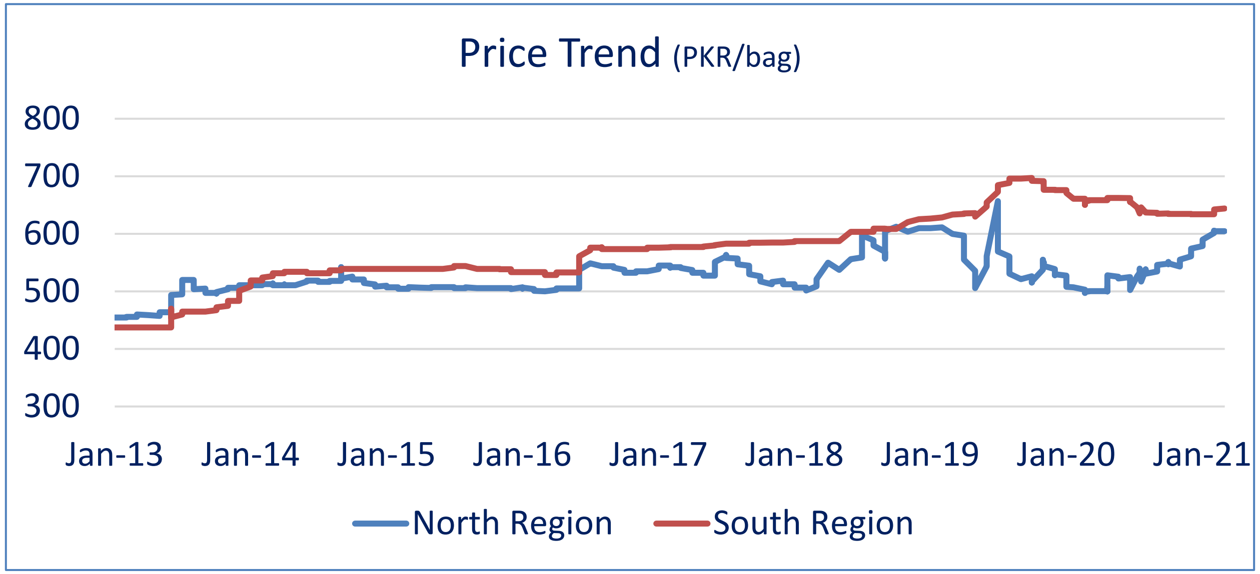
Demand Side | Price Dynamics

- Cement prices are a function of the market demand and supply dynamics. Variations in prices are generally dependent upon the behavior of major cost components of cement production, including coal prices, exchange rate, fuel costs and freight charges. Export of cement to Indian market stopped after the imposition of heavy duty on Pakistani products by Indian government in FY19. Decreased exports coupled with increased capacity in the north region increased pressure on the prices. Price in the region remained further under pressure after the imposition of COVID-19 lockdown in 4QFY20.
- Uptick in construction activities post COVID-19 lock down supported the cement prices. In the wake of improved capacity utilization, the prices are expected to remain stable in 2HFY21.
- As reflected in the table, clinker is exported at a lower price as compared to cement despite being advanced stage product. Export of clinker is not very profitable for the companies on stand alone basis but it comes with other additional benefits like increased capacity utilization and availability of export refinance facility at subsidized rates.



Comparison of Local and Export Prices

Avg Prices in PKR/bag	FY17	FY18	FY19	FY20
North	539	527	581	526
South	576	586	619	673
Export Clinker	405	318	391	397
Export Cement	457	451	525	546

Note: Export prices are adjusted for sales tax, FED and others.

Source: APCMA, PBS

Cement

Business Risk

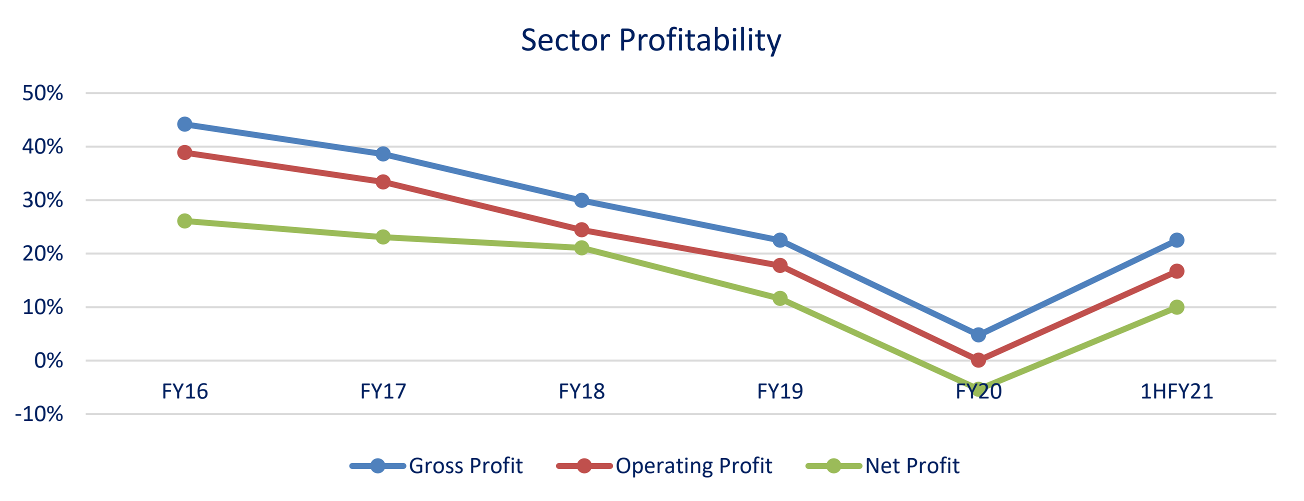
- Net revenue of the sector was recorded at PKR~241,538mln during FY20 (FY19: PKR~289,715mln) with YoY decrease of ~17%. Low retention prices during FY20 amid high competition led to decrease in sector's revenue despite ~2% increase in total dispatches.

- FY20 was a tough year for the sector in terms of pressure on the margins on account of rising exchange rate, interest costs (for most part of the year) and subdued demand. GP margins plunged to as low as ~5% from ~22% in FY19. The benefit of low average coal prices during FY20 was eroded by high average exchange rate during the period. Bottomline of the sector also turned negative as a consequence of shrunk demand and increased costs.

- Despite the dip, the sector's indicators have turned around well in 1HFY21 with GP margin recording a ~27% growth during 1HFY21. Increased retention prices, low coal prices and stable exchange rate during 1HFY21 are the major contributors.

- Demand of cement is expected to remain robust in 2HFY21. With expected strong demand, rangebound coal prices and stable exchange rate the profitability of the sector is expected to increase further in 2HFY21.

Figures in PKR mln	Sector: Financial Highlights						
Company	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**1HFY20**	**1HFY21**
Net Sales	226,908	246,538	258,349	289,715	241,538	132,433	167,734
Cost of Sales	126,672	151,347	181,004	224,575	229,982	125,245	129,999
Gross profit	**100,236**	**95,191**	**77,345**	**65,140**	**11,556**	**7,188**	**37,735**
Operating Expense	12,008	12,872	14,243	13,695	11,440	6,613	9,729
Operating Profit	**88,228**	**82,319**	**63,102**	**51,445**	**116**	**575**	**28,006**
Finance Cost	3,480.0	2,379	3,001	9,084	17,815	9,603	6,714
Profit/(Loss) before Tax	**84,748**	**79,940**	**60,101**	**42,361**	**(17,699)**	**(9,028)**	**21,292**
Taxation	25,538.0	23,022	5,669	8,770	(4,700)	(2,705)	4,576
Profit/(Loss) after Tax	**59,210**	**56,918**	**54,432**	**33,591**	**(12,999)**	**(6,323)**	**16,716**



Business Risk

- With a widened fiscal deficit, the PSDP spending has narrowed in the recent years and is expected to continue at the same average. On the other side, the sector's production capacity is continually jacking up in anticipation of ambitious initiatives such as NPHP, construction package and CPEC. Private investment in construction activities is crucial in this scenario for the sector's revenue. With dispatches picking up at a healthy pace, capacity utilization levels are expected to improve in FY21 supporting cement bag price.

- Also, with the strengthening of crude and coal prices in International markets, the manufacturers are expected to raise their prices likewise in order to keep their margins intact. Coal prices are expected to remain rangebound in FY22 and FY23.

- The sector's profitability is highly sensitive to change in prices. As per estimates, with other factors constant, a decrease of over PKR~60/bag in average retention prices has the potential to erode the operating profitability of the sector.

- Currently, interest rates are at historically low rates, as SBP slashed down interest rates from 14% to 7% as a proactive measure for support in COVID-19 environment. The cement sector has benefited substantially from low interest rates. Interest rates are expected to remain stable in the short term but may increase in next 9-12 months as the economy stabilizes.

Sensitivity Analysis

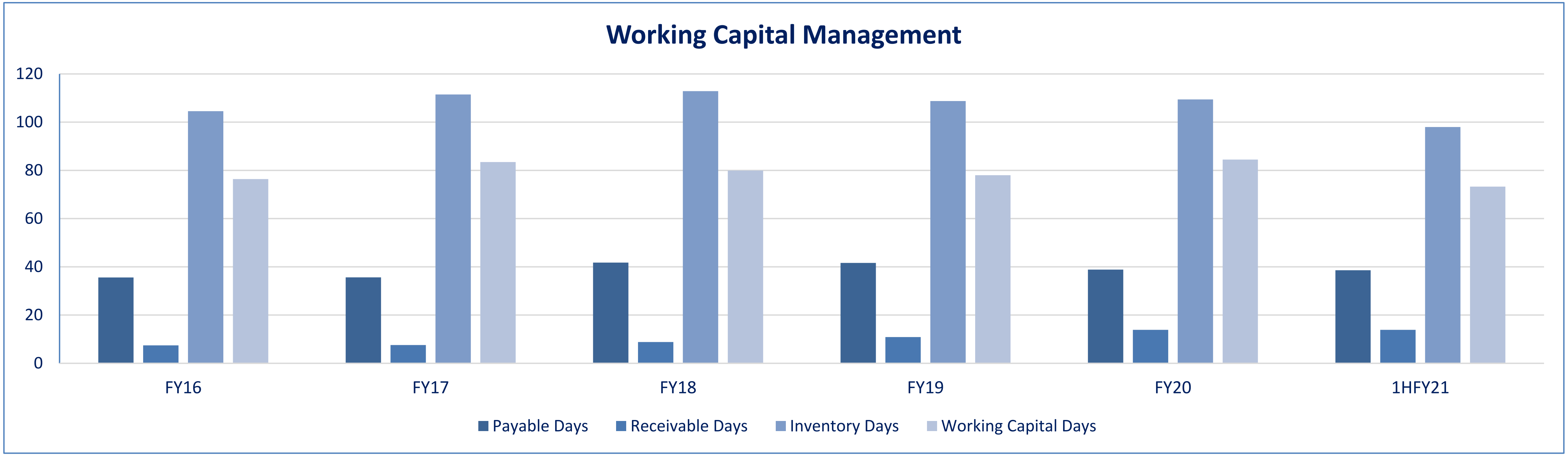
Scenario	A	B	C
Change in Price/bag (Local)	30	60	90
Impact in PKR mln	28,331	56,662	84,992
Prop of Sector's Operating Profitability	51%	101%	152%
Change in Avg. Annual Coal Price (USD/Ton)	5	10	15
Impact in PKR mln	6,412	12,824	19,236
Prop of Sector's Operating Profitability	11%	23%	34%
Change in Interest Rate	1%	2%	3%
Impact in PKR mln	2,014	4,027	6,041
Prop of Sector's Operating Profitability	4%	7%	11%

Note: Impact is considered keeping all other things constant. Profitability of the sector in 1HFY21 is extrapolated for calculations.

Source: APCMA, PBS, PACRA Internal Database

Financial Risk - Working Capital

- The sector's working capital (WC) days were recorded at ~85 during FY20 (FY19: ~78 days) mainly due to increase in receivable days - ~14 days in FY20 (~11 days in FY19). The sector experienced delays in payments due to halt in production activity in 4QFY20 after the imposition of COVID-19 lockdown.
- The resumption in construction activities post COVID-19 lockdown resulted in revived construction activity in the country. Eventually, inventory days reduced substantially from ~108 days in FY20 to ~98 days in 1HFY21.
- Reduced inventory days result in improved working capital cycle of the sector as the WC days of the sector reduced to ~73 days in 1HFY21 from ~84 days in FY20.



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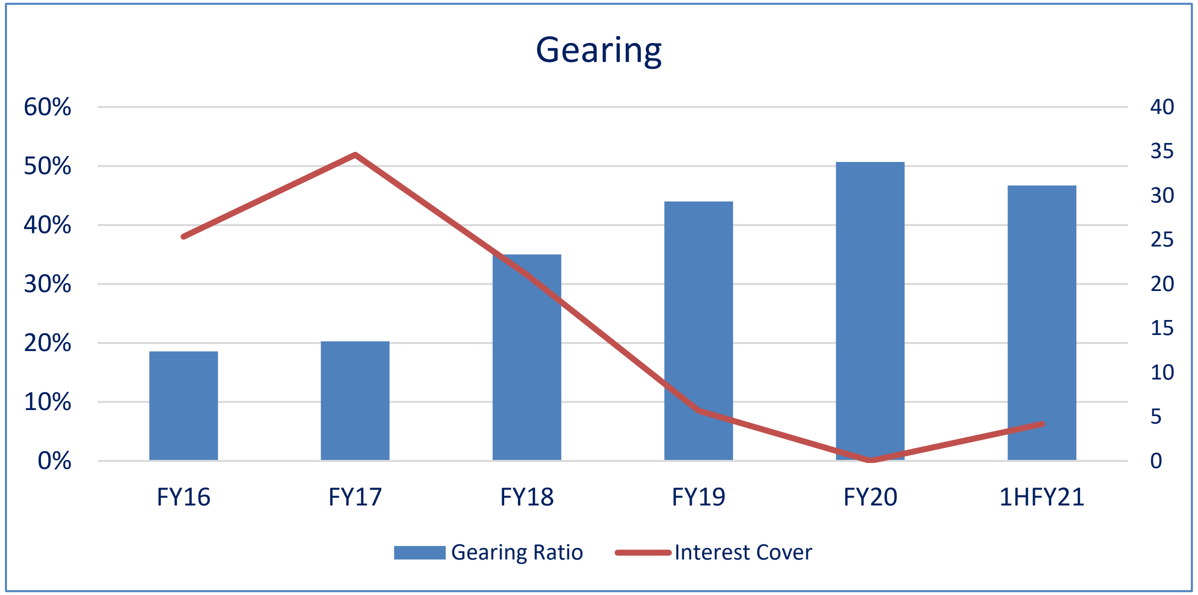
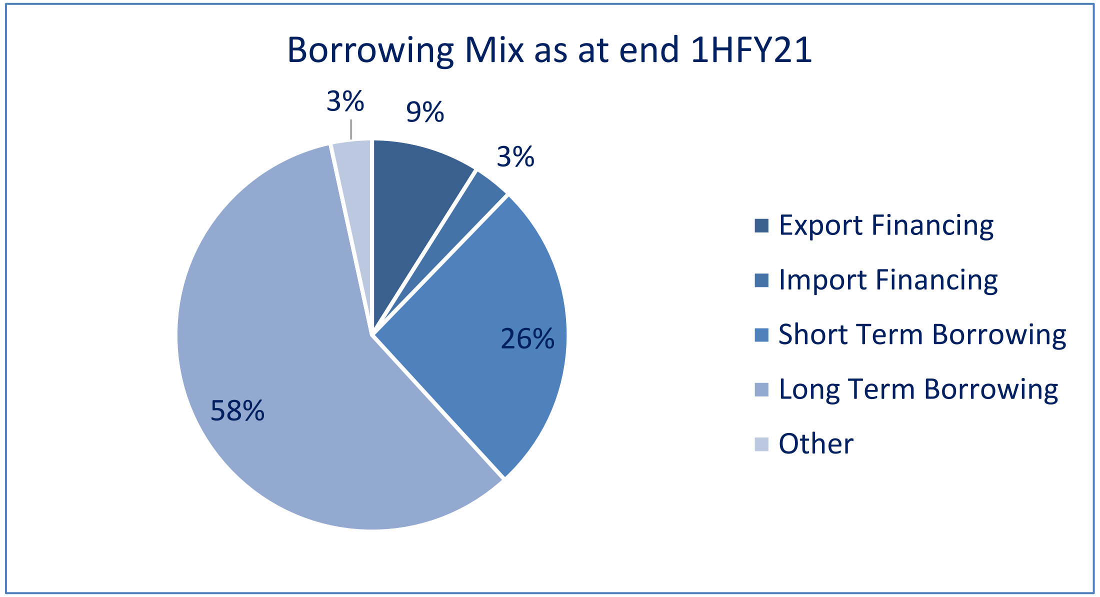
Financial Risk - Borrowings

- According to the SBP Report, total borrowings of the cement sector clocked in at PKR~201bln as at End-Dec'20, i.e., ~50% of the Sector's revenue in FY20. The capacity expansion cycles are majorly financed through external debt, which results in the sector's borrowing to increase. Almost ~60% of the Sector's borrowings are long term in nature.

- The Sector is moderately leveraged (~47%). A leverage ratio ranging between 45%-50%, despite hefty CAPEX and debt financing, reflects good capital formation.

- With new capacity enhancement on cards, the sector's leverage ratio may slide up in the coming periods, owing to additional long term debt financing needs.





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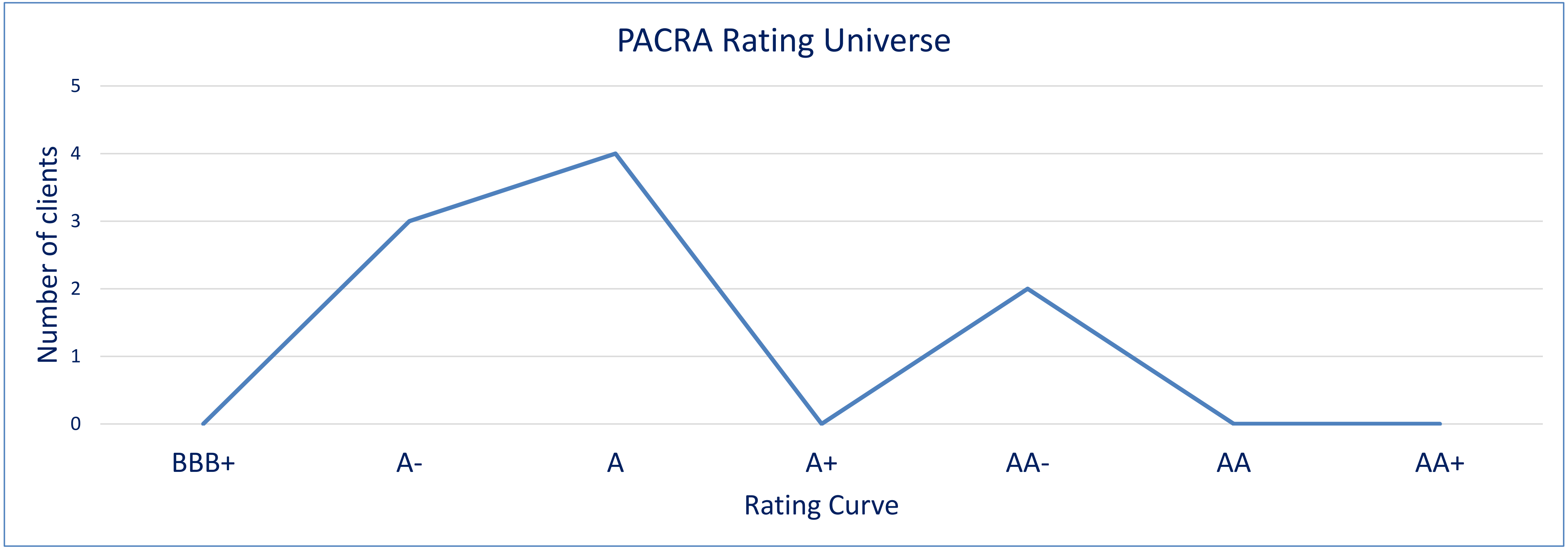
Rating Curve

- PACRA rates 9 clients in the cement sector. Rating bandwidth of the sector ranges from A- to AA-.
- Collectively PACRA rated clients makeup ~60% of the total sector in terms of its production capacity.



Source: PACRA Internal Database

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Duties & Taxes

- Duty structure of the sector is designed to encourage local production of the cement.
- To support local demand, FED on local cement reduced from PKR 100/bag to PKR 75/bag during the period.

PCT Code	Description	Custom Duty		Additional Custom Duty		Federal Excise Duty		Sales Tax		Income Tax	
	Raw Material for Cement	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**
2701.1200	Bituminous Coal	3%	3%	2%	2%	-	-	17%	17%	11%	11%
2701.1900	Other Coal	3%	3%	2%	2%	-	-	17%	17%	11%	11%
2523.1000	Cement Clinker	11%	11%	2%	2%	PKR 150/Ton	PKR 150/Ton	17%	17%	11%	11%
	Finished Goods	**FY20**	**FY19**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**
6810.1100	Building Block and Bricks	20%	20%	7%	7%	-	-	17%	17%	11%	11%
2523.2100	White Cement	20%	20%	7%	7%	PKR 150/Ton	PKR 150/Ton	17%	17%	11%	11%
2523.2900	Other Cement	20%	20%	7%	7%	PKR 150/Ton	PKR 150/Ton	17%	17%	11%	11%

Source: PACRA Internal Database

Cement

Porter 5 Forces Model

POTENTIAL NEW ENTRY

- Low threat to Entry
- High Capital cost of plant development and query availability
- Extensive regulatory requirement to establish new plants
- Strong dealer network of established players

BUYERS

- Low
- Abundance supply
- Homogeneous nature of the product

SUBSTITUTES

- No/Low threat of substitutes
- Indispensable component of construction

SUPPLIERS

- Medium to High
- Abundance supply of basic raw material
- Heavy reliance on imported coal comes with its set of challenges

COMPETITIVE RIVALRY

- High
- Capacity enhancement amid stagnant demand increases competition

SWOT

Strengths

- Abundance local availability of basic raw material
- Low cost skilled and unskilled labor
- Capital intensive sector
- Good margins in period of robust demand
- Demand Potential
- Strong dealership and distribution network
- Non-availability of substitute

Weaknesses

- Heavy reliance on imported coal
- Exposure to exchange rate volatility
- Extensive regulatory requirements
- Inability to pass on increased cost of production to end consumers

Threats

- High Production capacity – supply surplus
- Increasing cost of energy
- Low PSDP spending in a wake of increasing fiscal deficit
- Rising environmental concerns related to production of cement
- Competition in export markets with cheaper Iranian cement
- Third wave of COVID-19 lockdown and possible lock down

Opportunities

- Low per capita consumption
- Government initiatives to spur construction activities and establish a large number of low cost houses.
- Pakistan GDP recovery and reduced finance costs leading to opportunities for investment
- Improving infrastructure under CPEC related projects

Cement

Outlook: Stable

- Post COVID-19 lockdown, cement dispatches have shown significant growth. Total dispatches are expected to register more than ~20% YoY growth to stand at ~57mln tons during FY21 on account of low base effect and increase in construction activity.

- During FY21, the government has announced construction package along with other regulatory relaxations to spur construction activity. These measure are yielding positive results as the sector has shown positive growth since then.

- Recently, many cement players have announced capacity expansions, the production capacity of the sector is expected to cross ~80mln tons by 2023. Amid low PSDP spending, sustainability of growth derived from private investment would be crucial for the sector.

- The sector's profitability is highly sensitive to changes in retention prices. Low capacity utilization usually increases competition amongst local players and hence reduces the retention prices. The sector has benefitted from low interest rate and low coal prices during 1HFY21. Interest rates are expected to increase in coming periods and average coal prices are also expected to increase in 2HFY21 as compared to 1HFY21. Both these changes would have a negative impact on sector's profitability.

- Any adverse outcome of the ongoing proceedings of the Competition Commission of Pakistan (CCP) would result in heavy fines that would impact the sector's cash flow position negatively.

- The growth in export of clinker to Bangladesh is expected to remain robust owing to growing economy of the country and non-availability of indigenous raw material locally. Whereas, the export of cement to Afghanistan is expected to remain under pressure owing to influx of cheaper Iranian cement. Meanwhile, positive prospects are expected from the South African Market.

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