



# Coal Mining & Trading Sector Study



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# Coal Mining & Trading

## Global Overview

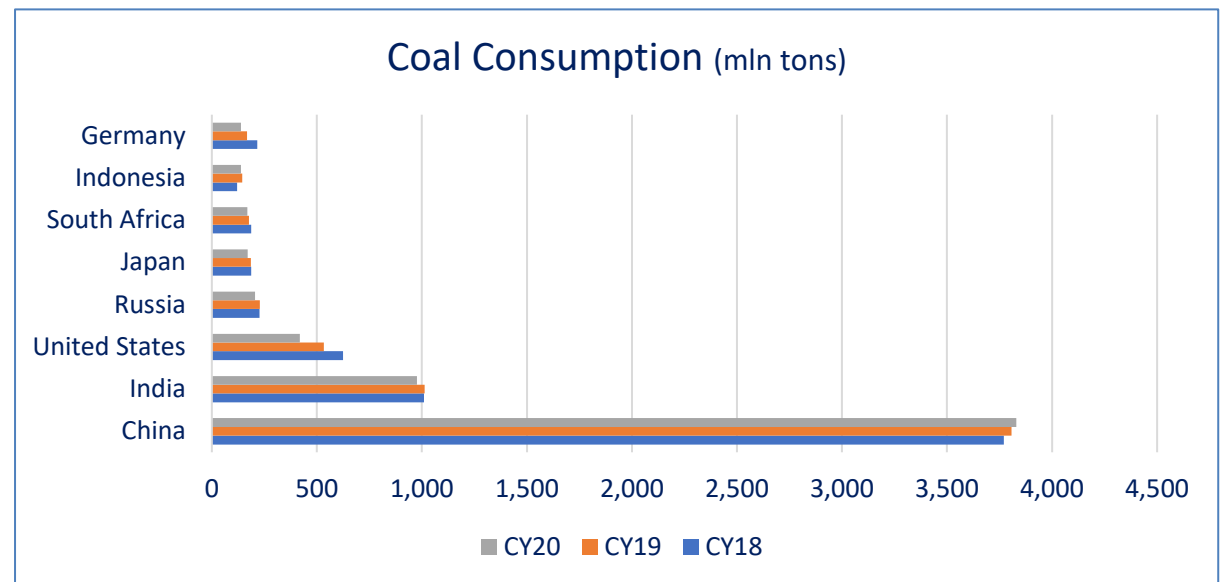
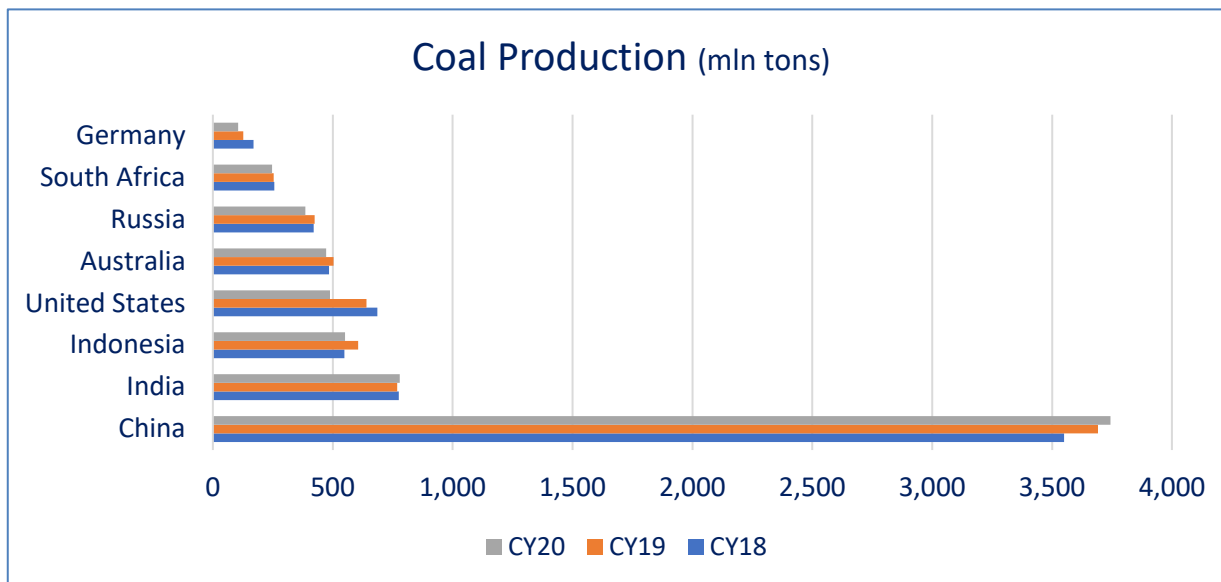
- Coal is a combustible organic rock, composed mainly of carbon, hydrogen and oxygen. It is formed from vegetation, which has been consolidated between other rock strata and altered by the combined effects of pressure and heat over millions of years to form coal seams.
- Coal plays a vital role in electricity generation worldwide. Coal-fired power plants currently fuel ~37% of global electricity. Coal has even higher share in energy mix of some countries.
- Coal Uses can be classified into two broad categories:
  - Metallurgical coal** (or “coking coal”) is mined to produce the carbon used in steelmaking and allied products.
  - Thermal coal** is used to make steam that generates electricity and provide thermal energy.
- The global coal reserves are estimated to be over approximately ~1,100bln tons in CY20 and with an estimated global annual consumption of ~8bln tons, the world has enough coal for ~137 years to meet its coal demand at current level of consumption rate. Top ten countries combined hold ~90% of the global reserve.

Country	Reserve (bln Tons)	Share in Global Reserve
USA	250.2	24%
Russia	160.3	15%
Australia	147.0	14%
China	139.0	13%
India	101.3	9%
Indonesia	37.0	4%
Germany	36.0	3%
Ukraine	34.3	3%
Poland	26.4	3%
Kazakhstan	25.6	2%
Others	142.9	10%
<b>Total</b>	<b>1,100</b>	<b>100%</b>

# Coal Mining & Trading

## Global Overview | Production and Consumption

- By CY25, global coal demand is forecasted to flatten out at around ~7.4bln tons due to environmental concerns. Usage of coal is expected to vary by region over the next five years. In Europe and North America, coal continues its decline after a temporary uptick in CY21. India and China are expected to see their coal consumption increase because of their reliance on coal as a energy source.
- The prominent segment that drives the demand is industry usage. A huge chunk of global coal is used towards electricity generation, cement production and metallurgy. Rising environmental concerns about coal consumption due to its carbon content and green house affect resulting in global warming is a major threat to demand going forward. The world is paving its way towards renewable/cleaner energy sources. However, coal consumption is still expected to remain stable in the short-term due to limited technology and barriers in renewable sources.

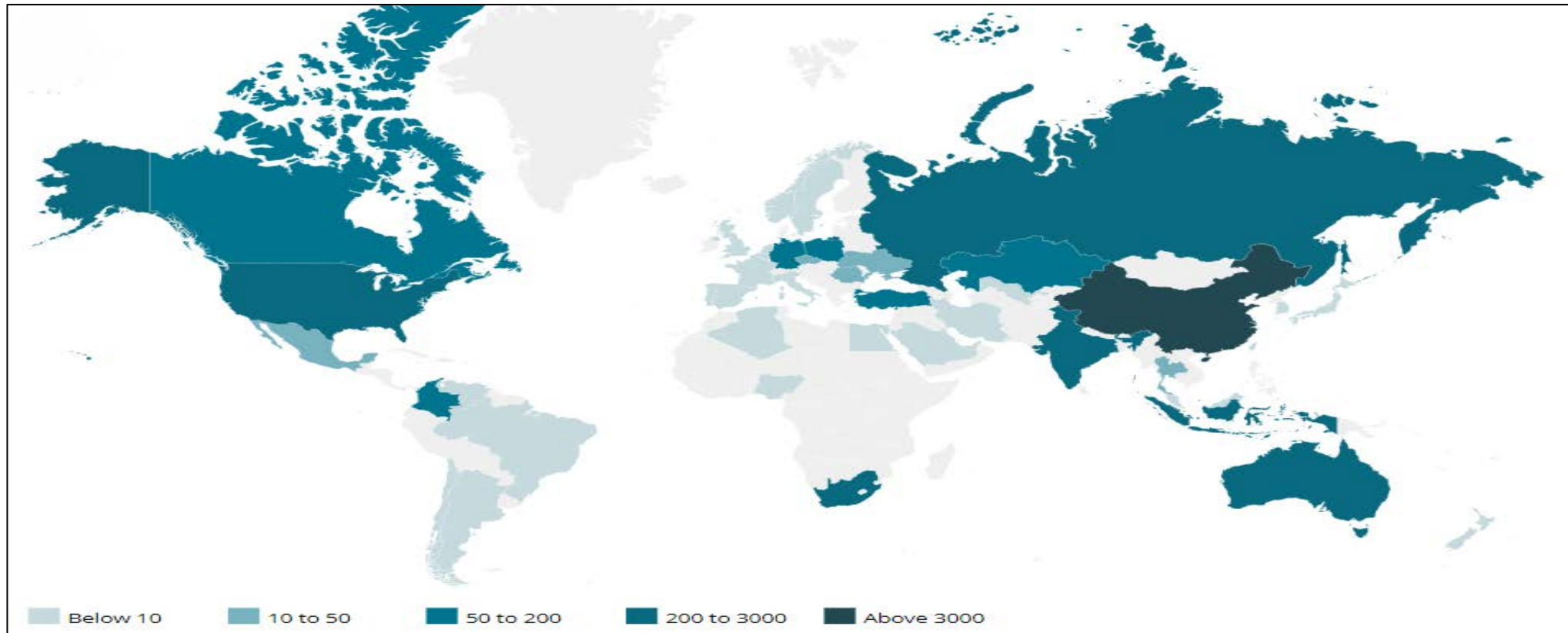




# Coal Mining & Trading

## Global Overview | Heat Map

### Global Coal Production (mln tons) Heat Map:



- Estimates indicate that global coal production slumped 6.5% in CY20, primarily in response to falling demand. Thermal coal and lignite made up around ~86% of this production and the remainder was metallurgical coal. China, the world's largest coal producer, accounted for about ~49% of global coal production in CY20. Coal production is expected to increase to ~7,575mln tons in CY21.

# Coal Mining & Trading

## Local Industry Snapshot

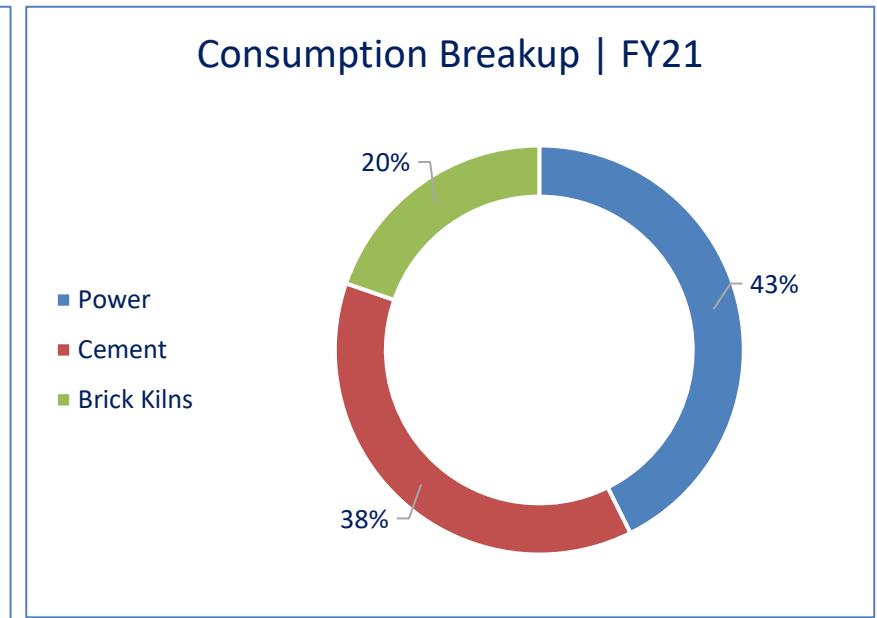
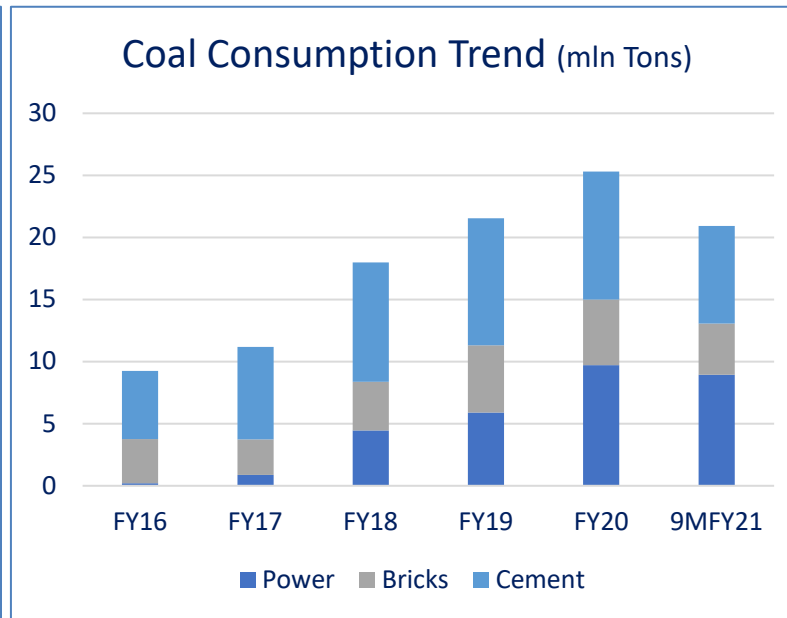
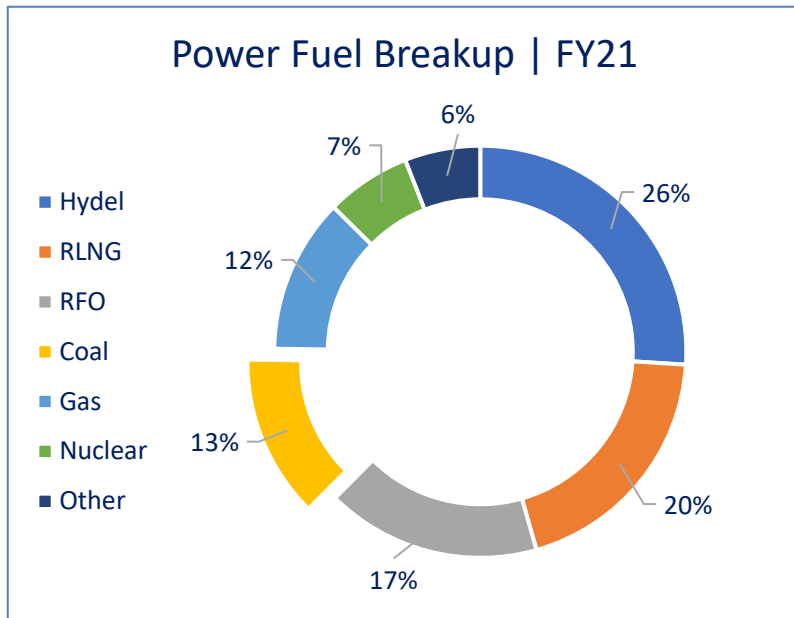
- Coal in Pakistan is made available broadly from two sources, extraction and import. Exports of coal to other countries are almost non-existent.
- Pakistan has an estimated ~185bln tons of coal reserve, which are largely found in Sindh. These account for ~99% of total coal reserves in the country.
- The local price is linked to international price of coal, exposing the consumers of coal to international price fluctuations and exchange rate risk.
- Coal consumption for the 9MFY21 is estimated to be around ~21mln tons (9MFY20: ~19mln tons) resulting in an increase of ~9.6%. This upsurge in consumption is mainly on the back of economic recovery post COVID-19 lock down.
- Coal plays a vital role in energy mix of Pakistan. Over the years, number of coal power plants have increased but rising concern about global warming and environmental pollution is a major issue.

	FY20	FY21
Coal Consumption (mln tons)	25	28
Local Production (mln tons)	9	9
Import (mln tons)	16	19
Regulatory Authority	Ministry of Petroleum	
Association	All Pakistan Mines & Minerals Association	
Coal Used in Power Generation (mln tons)	9.7	11.9
Avg. Coal Price (USD/Ton)	67.4	79.9

# Coal Mining & Trading

## Demand

- Coal consumption is expected to reach ~28mln tons in FY21. Pakistan has increased its coal based power production in the last 5 years. The share of coal consumption in power generation was ~2.2% in FY16. The same was significantly increased to ~43% in 9MFY21. However, electricity produced by coal accounts for only ~13% of total power generation in 9MFY21. Due to rising concern about green house affects and environmental pollution, coal demand from power production is expected to remain come under pressure.
- Cement accounts for ~38% of total coal consumed in FY21 (FY20: ~41%). With uptick in economic activity, especially from the construction side, demand is expected to receive a boost in the coming years. Bricks demand is also linked to construction and increased demand pull is also expected as bricks production is increased to match construction demand.

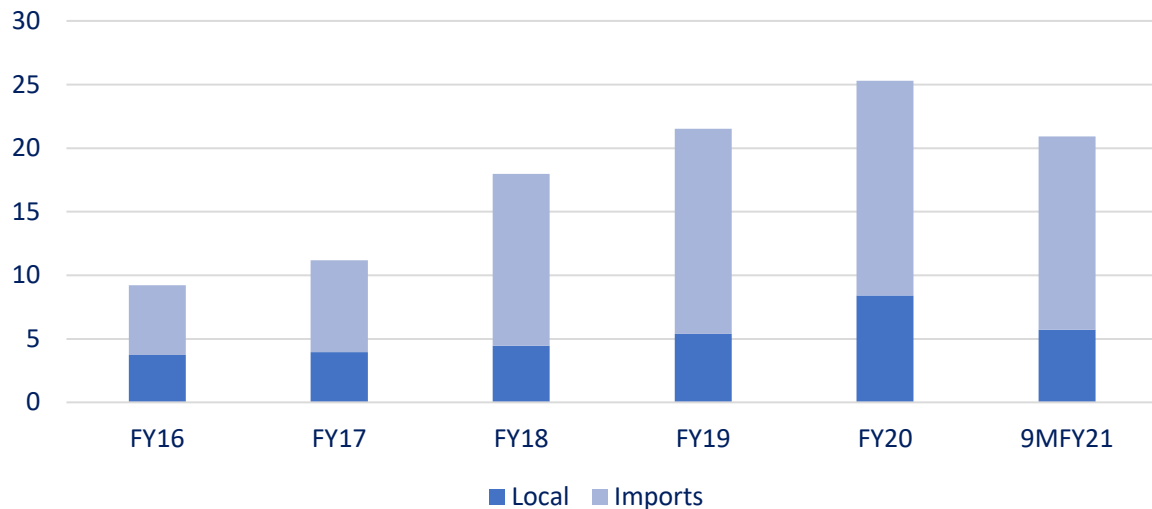


# Coal Mining & Trading

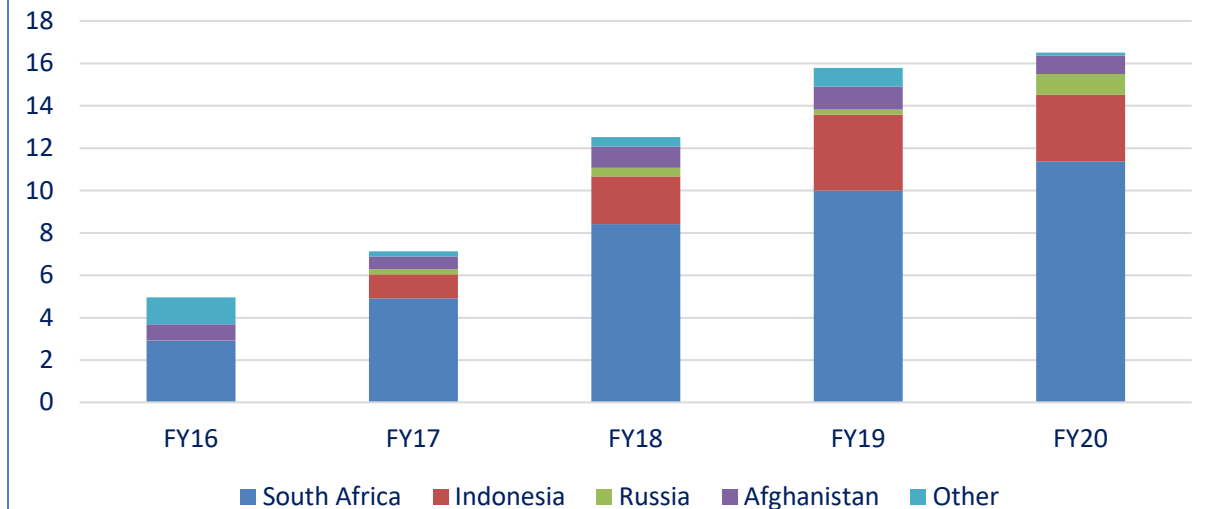
## Supply

- The share of imported coal has increased over the years in the supply mix in the country. Almost ~68% of the total imported coal was imported from South Africa in FY20, while Indonesia, Russia and Afghanistan make up ~17%, ~7% and ~5%, respectively.
- Coal is easily and abundantly available inside Pakistan and through imports.
- Increase in imports trend is observed from FY16 till FY20 and is expected to continue in FY21 as well.

Local Production and Imports (mln tons)



Imports by Country (mln tons)

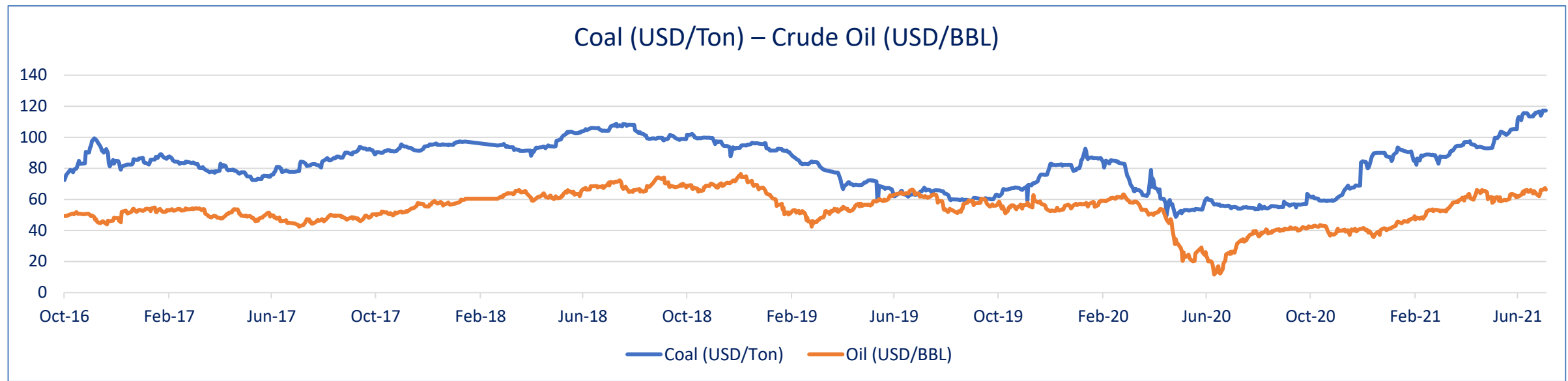




# Coal Mining & Trading

## Business Risk | Pricing

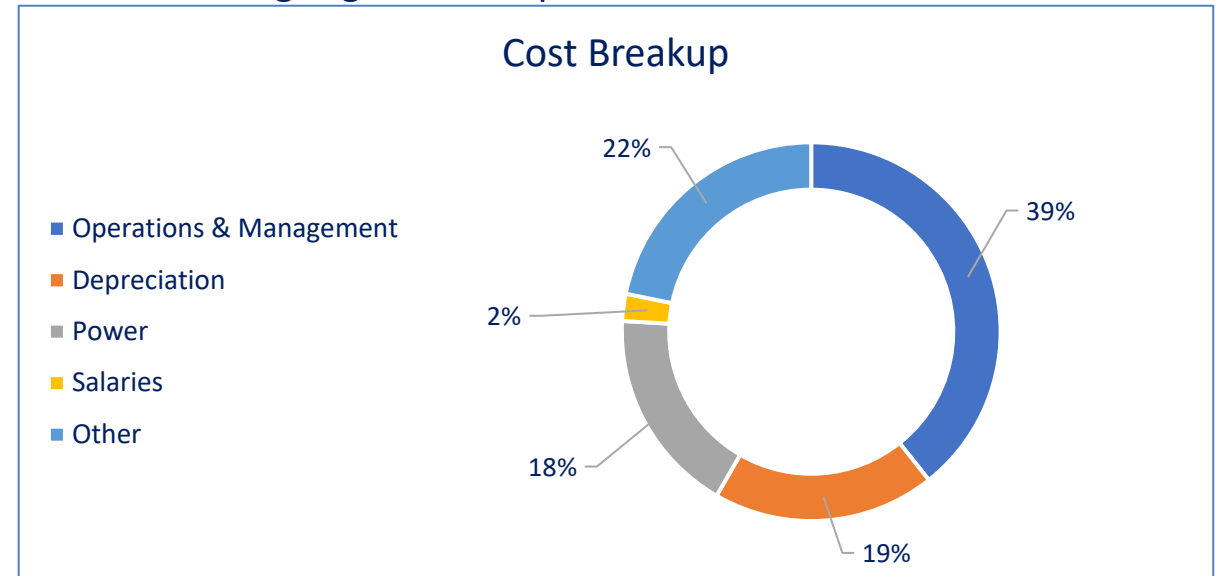
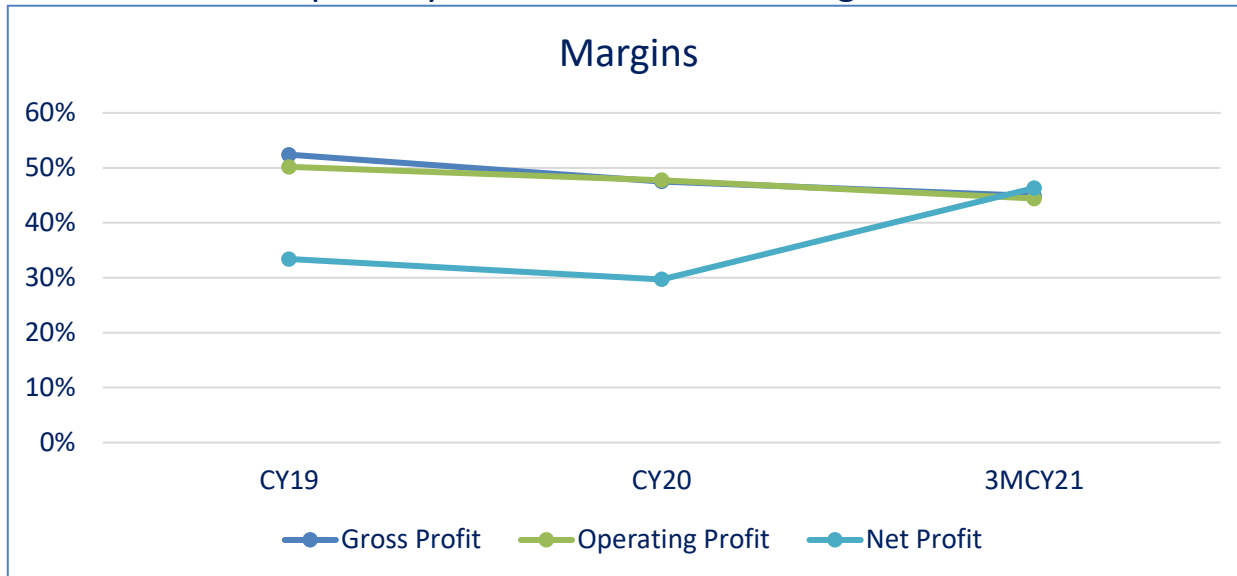
- The glut in coal and oil markets has driven higher cost producers out of business. Three of the six largest coal exporters (Russia, South Africa and Colombia) had their currencies depreciated against US dollar making them more competitive.
- Diesel accounts for approximately ~40% of global coal mining and inland transport cost. International crude oil price plays a vital role in determining the global coal price. Rising concern about global warming and negativity towards fossil fuels have led similar affect on price of both coal and oil. The trend is observable in the price movement of these two fossil fuels largely remain in same direction. Lately, coal prices have shown higher resilience and stability than oil. As major portion coal available is imported, the sector is exposed to exchange rate exposure.



# Coal Mining & Trading

## Business Risk | Mining

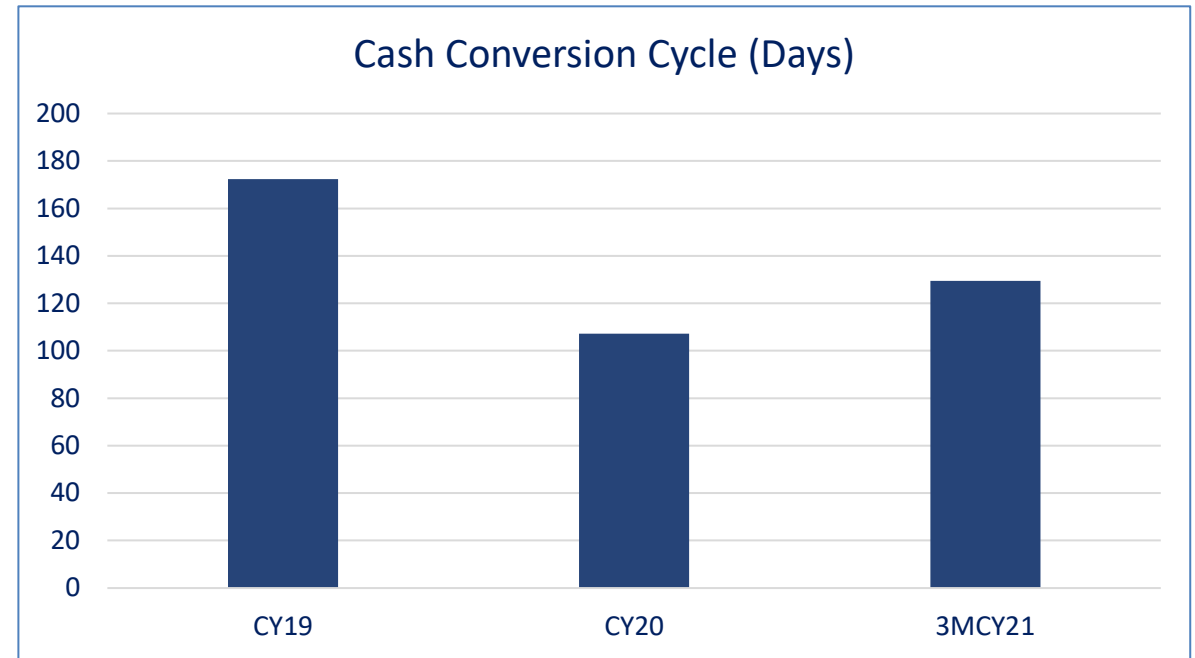
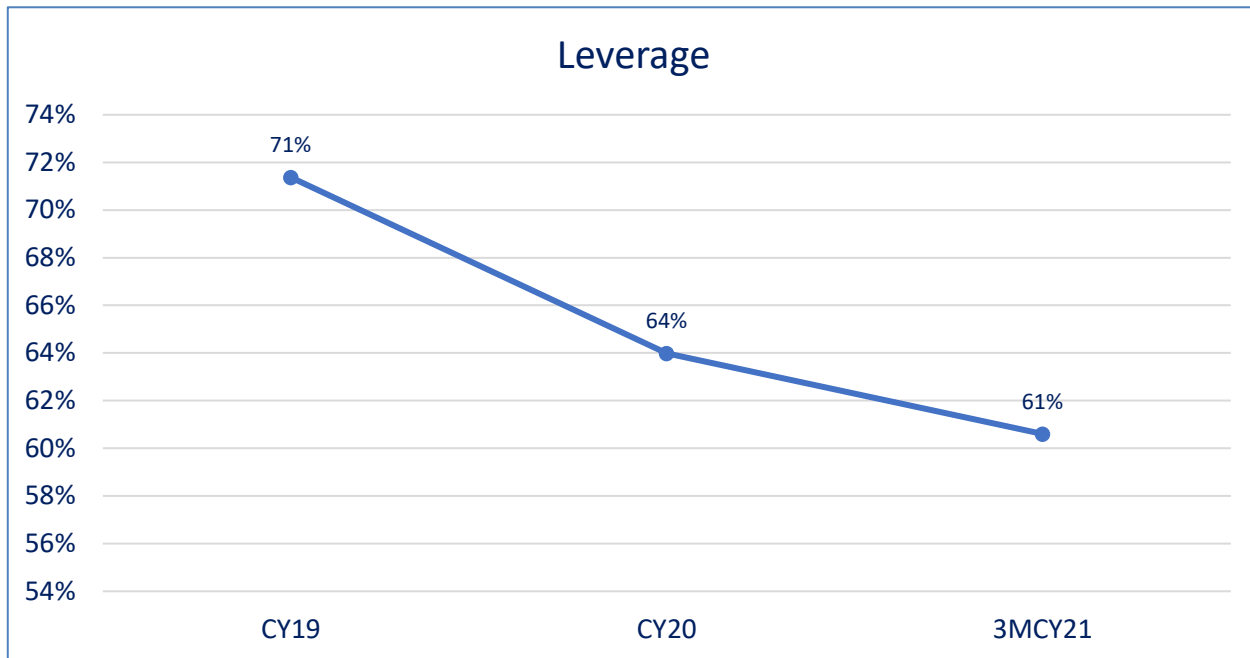
- The primary operation of mining companies is mining of coal. Sindh Engro Coal Mining Company is largest coal mining player in the sector having a supply capacity of ~3.8mln tons annually as of Mar-2021.
- Mining Segment has operations planned in different phases (blocks), due to which operations and management (contractors) cost is biggest portion of cost of production accounting for ~39%. Mining business is highly capital intensive in nature, as large machinery and heavy equipment is required. Meanwhile, smaller players have labor intensive operations.
- Net profit significantly increased owing to lower cost of financing in 3MCY21 for the mining segment. The revenue source is a function of coal tariff and quantity of coal sold. With rising coal demand the revenue of the mining segment is expected to remain robust.



# Coal Mining & Trading

## Financial Risk | Mining

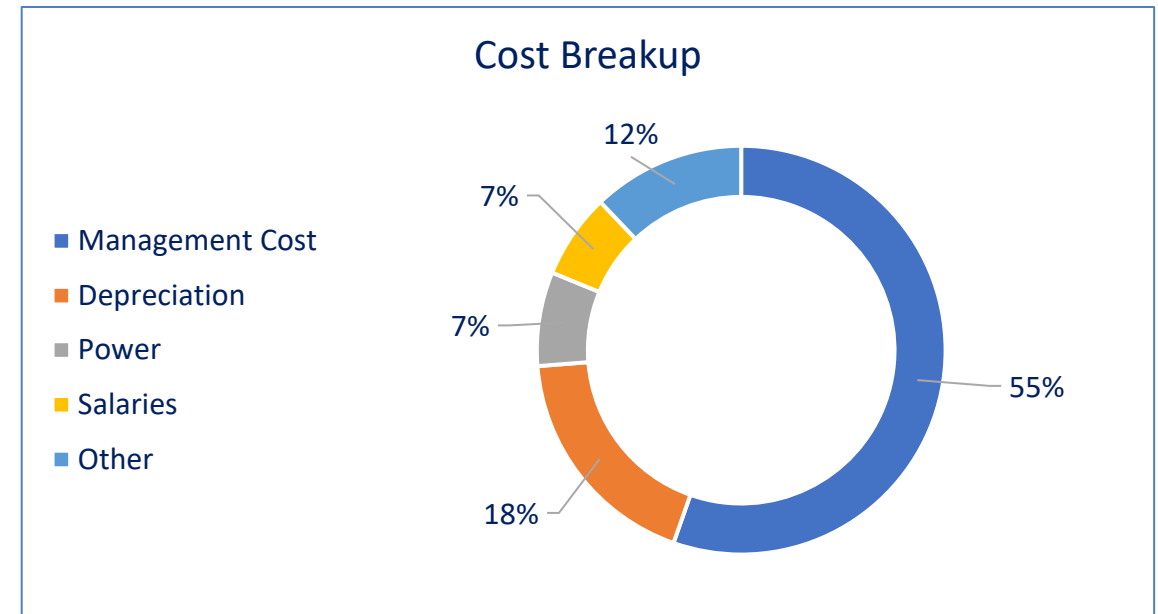
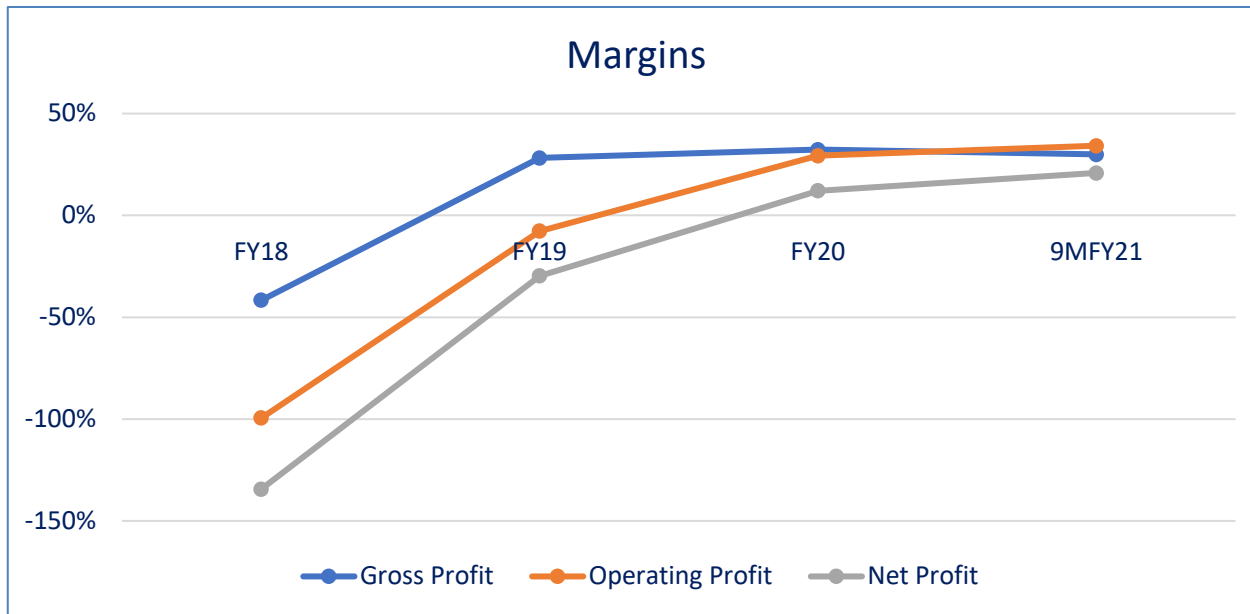
- Cash Conversion Cycle increased from ~107 days in CY20 to ~129 days in 3MCY21 owing to significant increase in receivables. Receivables days stood at ~258 days in CY20 and increased to ~297 days in 3MCY21. Receivables increased on account of rising circular debt and mark up interest on aging receivable.
- Leverage ratio has showed improvement in last two years as it declined from ~71% in CY19 to ~61% in 3MCY21. However, the sector still remains highly leveraged. Interest coverage also showed significant improvement in 3MCY21 owing to reduced interest cost in low interest rate environment. Overall, the financial risk of the segment is considered high.



# Coal Mining & Trading

## Business Risk | Terminal

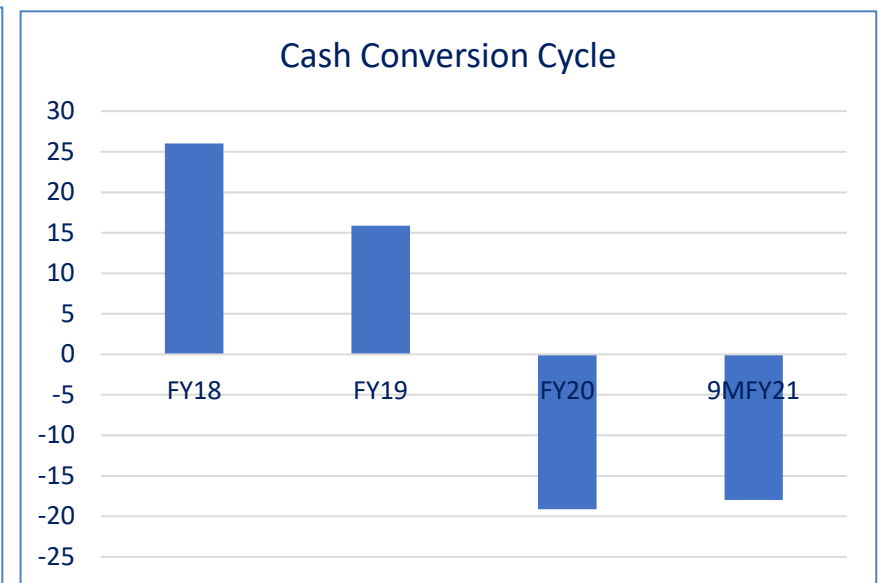
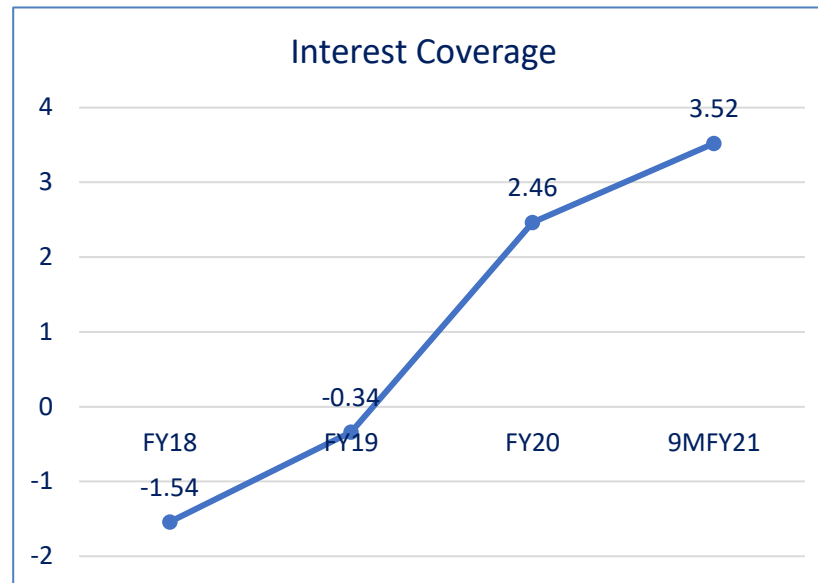
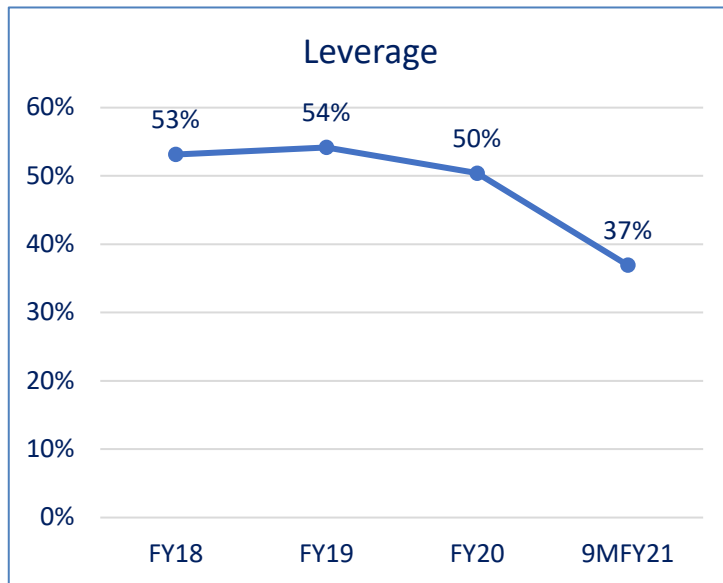
- The primary operation of terminal segment in the coal sector is the handling of imported coal on the port. The total coal handling capacity stands at ~12mln tons of coal and ~4mln tons of clinker/cement.
- Management cost constitute major portion of the terminal operations, followed by depreciation, power and salaries. Dominant by a single player in the segment, competitors presence is non existent.
- On the back rising demand and USD linked revenue tariff, the revenue and margins of the segment are expected to remain robust. Moreover, inherent business threat to terminal operators at Port Qasim is the start of coal handling at Karachi Port again.



# Coal Mining & Trading

## Financial Risk | Terminal

- Terminal segment has no inventory of its own. There is only one commercial coal terminal in the country which started its operations in FY17, after which its cash conversion cycle drastically improved over the years from positive ~26 days in FY18 to negative ~18 days in 9MFY21.
- Leverage ratio declined from highly leveraged, ~53% in FY18 to moderately leveraged, ~37% in 9MFY21. As the segment is paying out its debt the pressure of leverage will further ease out. Interest coverage ratio improved significantly from negative ~1.54 times in FY18 to positive 3.52 times in 9MFY21. With improving Cash Conversion Cycle, leverage ratio and interest coverage and is expected to improve further in the coming period, the financial risk of the terminal segment is improving and considered strong.

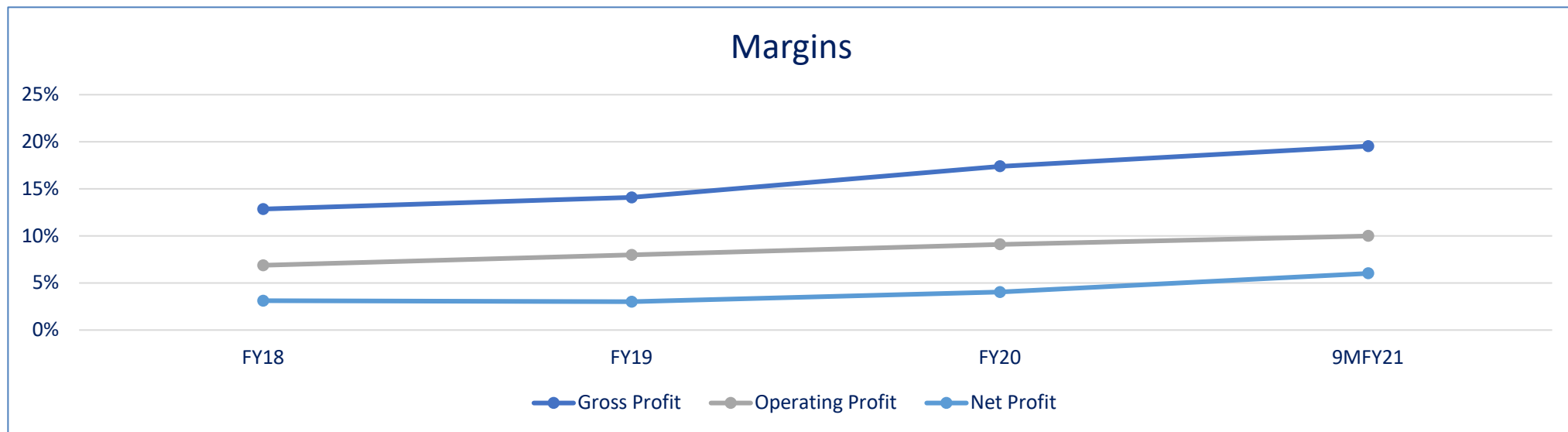




# Coal Mining & Trading

## Business Risk | Trading

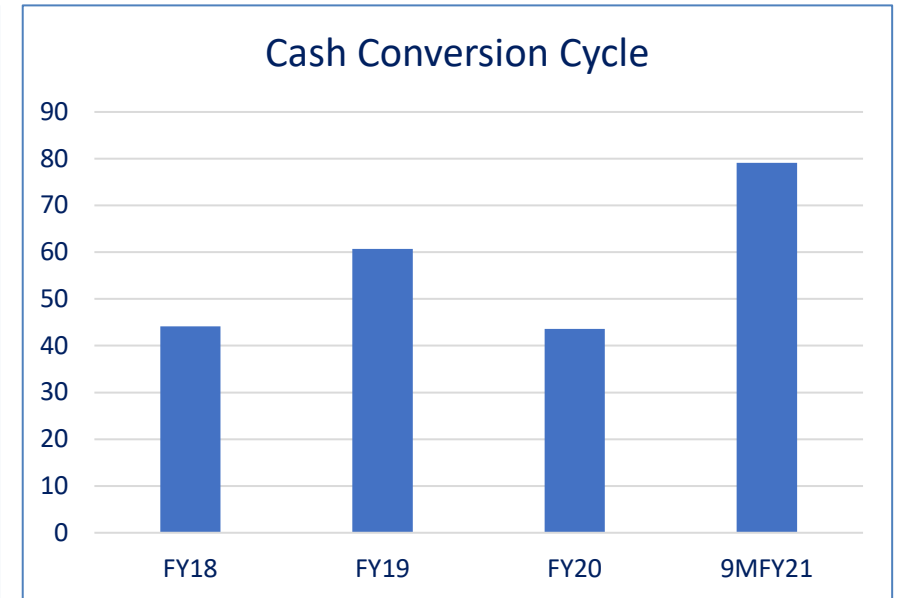
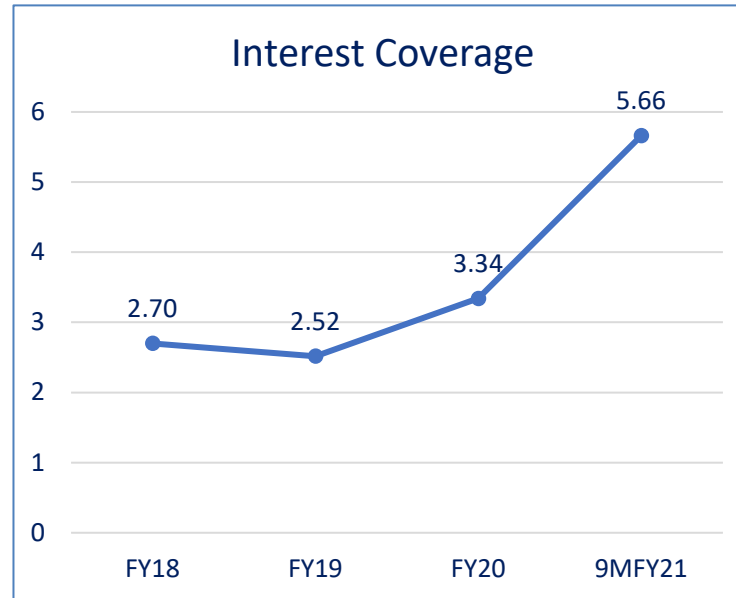
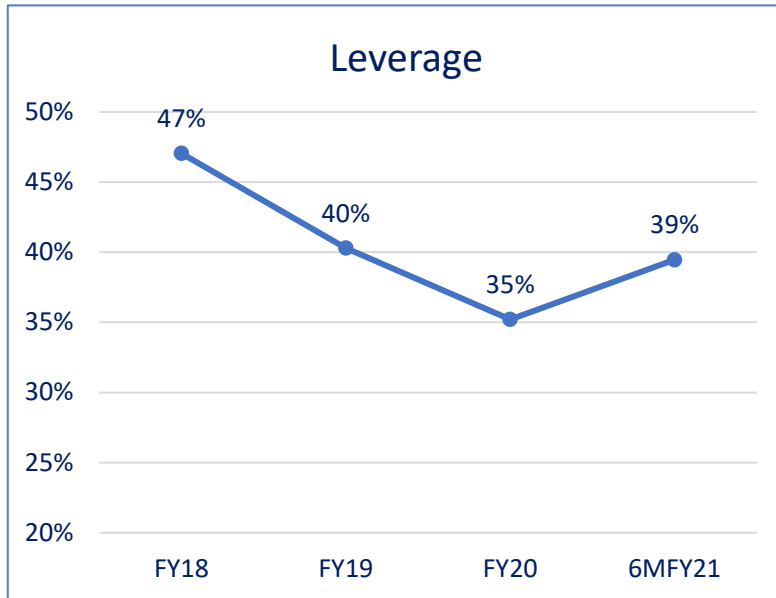
- Trading segment engages in the activity of storage and supplying coal to various factories throughout the country, mainly cement, steel and textile.
- Due to the nature of trading operations, raw material makes up the biggest portion to its cost of sales, followed by transportation. Coal is exposed to exchange rate risk and international coal price which bear the risk loss on inventory if prices declined and vice versa.
- The margins have been steadily increasing owed to overall increase in coal consumption leading to higher volumes in the last four years. Trading segment operates with tight margins due to competition from large number of players. Due to presence of competitors and lower barriers to entry, increase in cost of operation cannot be fully passed on to consumers at times.



# Coal Mining & Trading

## Financial Risk | Trading

- Cash Conversion Cycle deteriorated in 9MFY21 to ~79 days from ~43 days in FY20. The increased cash conversion cycle is majorly due to decline in payable days from ~78 day in FY20 to ~37 days in 9MFY21.
- Leverage ratio increased in the last six months. However, over the four years tenure, leverage ratio declined from ~47% to ~39% between FY18 to 6MFY21. Interest coverage has also improved in the four year tenure from ~2.7 times in FY18 to ~5.66 times in 9MFY21.
- Overall, the trading segment of the coal sector is moderately leveraged.



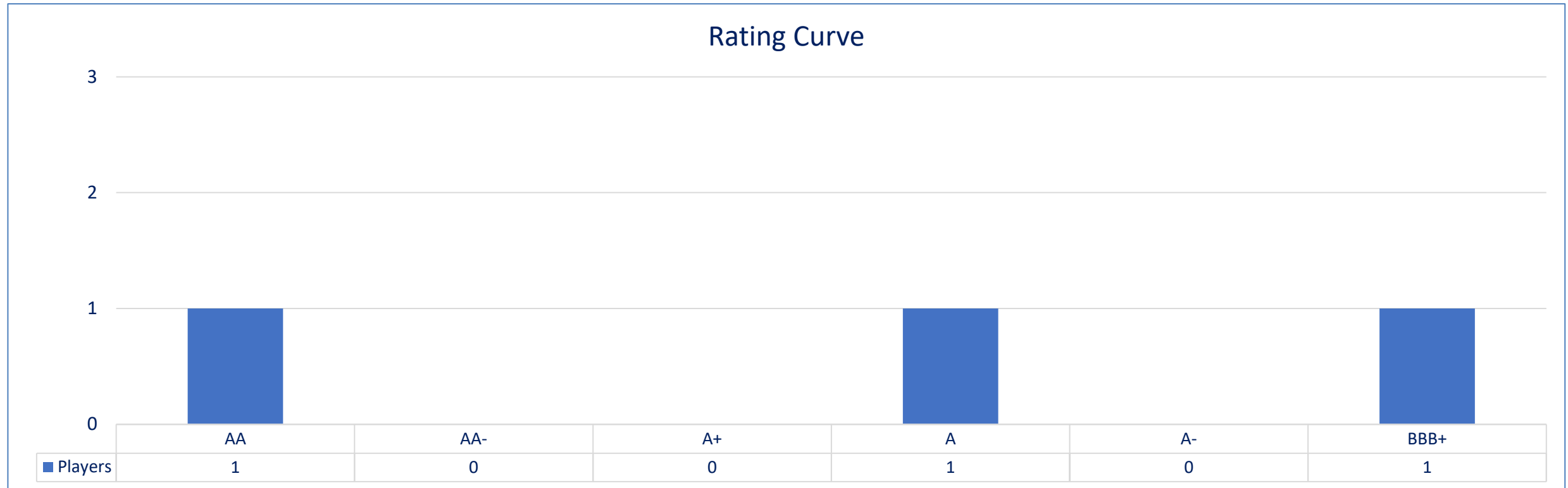
Note: Data based on PACRA rated client.

Note : Cash Conversion Cycle and interest coverage has been estimated on prorata basis.

# Coal Mining & Trading

## Rating Curve

- PACRA rates three players of Coal Mining & Trading sector. One player's rating was upgraded from A- to A. No change in rating was observed for the remaining two players.
- Rating bandwidth is from AA to BBB+





# Coal Mining & Trading

## Duties & Taxes

- The duty structure is designed to keep the cost of coal low mainly to support power and cement sector, mainly its biggest consumers.

### Duty Structure FY22:

HSD code	Product	Custom Duty	Sales Tax	Income Tax	Additional Custom Duty	Regular Duty
2701.1200	Bituminous Coal	3%	17%	11%	2%	0%
2701.1900	Other Coal	3%	17%	11%	2%	0%
2704.0010	Coke of Coal	3%	17%	11%	2%	0%

# Coal Mining & Trading

## Porters 5 Forces Model

### POTENTIAL NEW ENTRY



- **Mining** | Low | Regulated and licensing.
- **Terminal** | Low | Huge investment and licensing.
- **Trading** | High | Less capital intensive.

### BUYER Power



- **Mining** | Low | Contract based customer base.
- **Terminal** | Low | PIBT only commercial purpose inbound terminal.
- **Trading** | High | Multiple coal suppliers in the country.

### SUBSTITUTES



- **Mining** | Low | Homogenous source .
- **Terminal** | High | Risk of government policies to use local coal.
- **Trading** | Low | Homogenous source.

### SUPPLIER Power



- **Mining** | Low | Mining contracts reduced uncertainty of supply
- **Terminal** | Low | PIBT only commercial purpose inbound terminal.
- **Trading** | High | Reliance on local and imported coal.

### COMPETITIVE RIVALRY



- **Mining** | Low | Small large scale of miners
- **Terminal** | Low | PIBT only commercial purpose inbound terminal.
- **Trading** | High | Multiple large and small scale trading companies.

## Outlook | Stable

- Coal is one of the major energy sources that fuels the economy. The two biggest consumers of coal in Pakistan are power and cement sector. Coal consumption in power sector has increased over the last six years as more coal based power based plants were installed. The demand of coal from cement sector is also expected to remain robust, as many players in cement sector have announced capacity expansion with the aim to take total production capacity of the country to ~99 mln tons with ~40% increase from current level.
- With the expected increase in coal demand, the quantum of imported coal is also expected to increase accordingly. Currently, the terminal segment has limited coal handling capacity, further expansion of coal terminal will be required to support rising demand volumes. Pakistan holds approximately ~185bln tons of coal reserve, ~99% of coal reserves are found in Sindh. Despite having significant coal reserves local consumers prefer imported coal due to its lower carbon content, which has higher heating value and results in less residue slag.
- Whole supply chain of coal operations including mining, terminal and trading are characterized by moderate to low business risk. With USD linked revenue base and non existent competition the terminal operators are expected to perform well in coming periods. Further delay in competition of different phases of mining operations will have a negative impact on mining segments' profitability. Local coal prices are function of international coal prices thus, expose the trading sector to fluctuation in international coal prices and exchange rate movements.
- Inline with strong business model the terminal segment has low financial risk. Whereas, with the rising circular debt problems the financial risk of mining segment is expected to increase which has the ability to hamper future operations of the segment. Moreover, the financial risk of the trading segment is expected to remain moderate with no significant deterioration expected in coming periods.



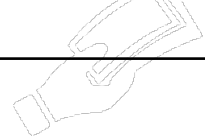
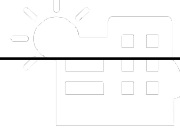
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- International Energy Agency
- Argus Media



<b>Research Analysts</b>	<b>Saniya Tauseef</b> <b>Assistant Manager</b> <a href="mailto:saniya.tauseef@pacra.com">saniya.tauseef@pacra.com</a>	<b>Muhammad Nadeem Sheikh</b> <b>ACCA, CFA</b> <b>Supervising Senior</b> <a href="mailto:nadeem.sheikh@pacra.com">nadeem.sheikh@pacra.com</a>	<b>Zohaib Khalid</b> <b>Research Analyst</b> <a href="mailto:zohaib.khalid@pacra.com">zohaib.khalid@pacra.com</a>
<b>Number: +92 42 35869504</b>			



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