

Metals

Sector Study

TABLE OF CONTENTS



Contents	Page No.
Local Overview	1
Lead Introduction	2
Lead Recycling Margins & Cost Structure	3
Copper & Aluminium Introduction	4
International Prices	5
Imports	6
Exports	7
Demand Drivers	8
Business Risks	9
Margins & Cost Structure	10

Contents	Page No.
Financial Risk	11
Regulatory Framework	12
Rating Curve	13
Outlook & Future Prospects	14
Bibliography	15

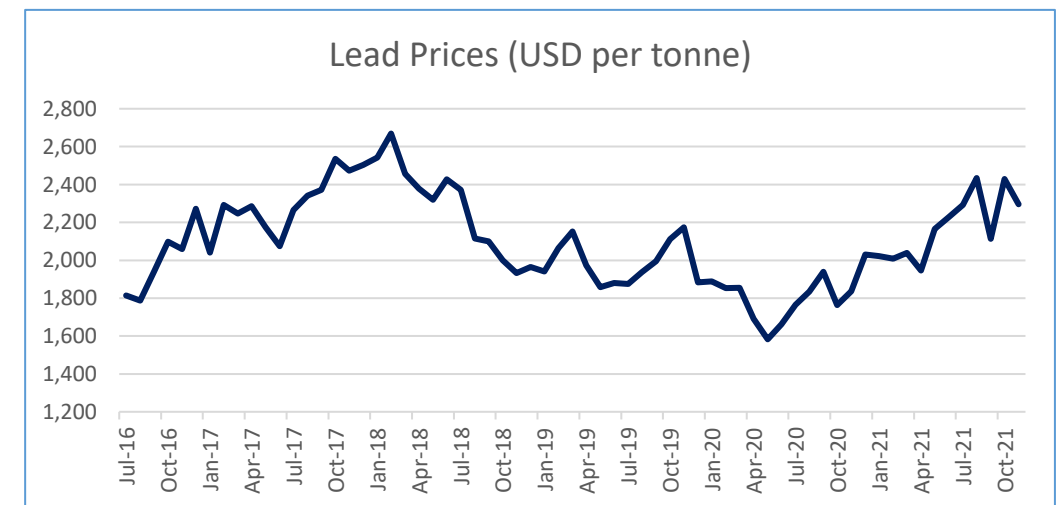
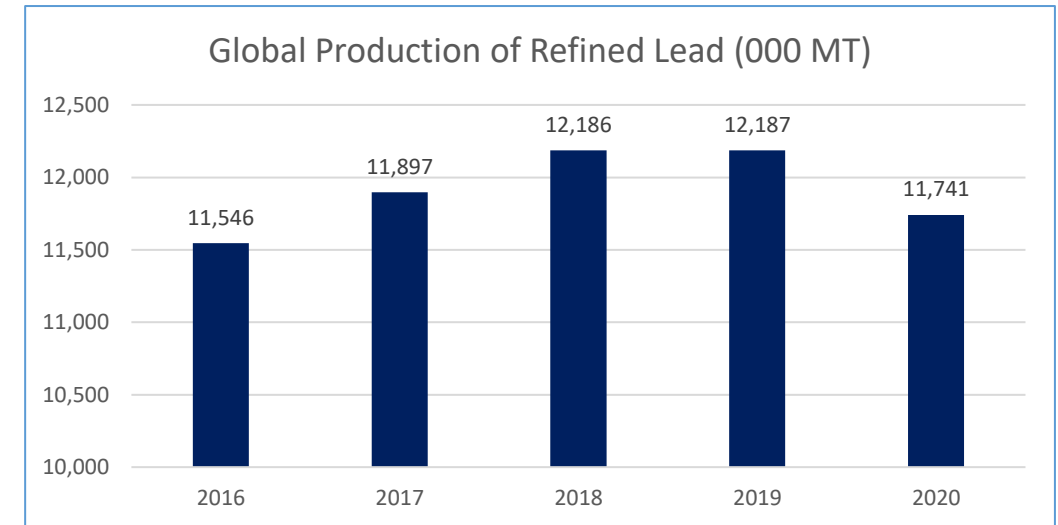
Overview

Sector Overview	
Lead Recycling	
Players:	Annual Capacity (tons)
Malik Mij Chunxing Resources Recycling Co. Ltd	50,000
International Metal Industries (Pvt) Ltd	86,400
Metpak Industries	Not Available
Beco Steel Re-rolling Mills (Pvt) Ltd	Not Available
Products:	Pure Lead, Refined Lead, Lead Alloys, Lead Slag
Uses:	Batteries, Construction Material, Cable Sheathing, and radiation sheathing

Sector Overview	
Copper & Aluminium	
Players:	Description
Allah Tawaqal Metals (Pvt) Limited	Converts Copper & Aluminium scrap into ingots. Capacity of ~24,000 MT per annum.
KBS Metals	Converts Copper scrap into products such as wires, strips, rods and billets
Cannon Metals	Deals in the recycling/processing of various metals including aluminium, copper, lead etc.
BR Metals	Deals in the recycling/processing of various metals in scrap form including aluminium and copper.
Products:	Copper & Aluminium scrap, ingots, billets, rods and strips.
Uses:	Wiring, building material, industrial machinery, household appliances and utensils.

Lead | Introduction

- Lead is one of the most recycled materials in the world due to its high recovery rate. It can be remelted infinitely to remove impurities. In addition, its fundamental properties make it easily identifiable and cost effective to collect and recycle. More than 50% of lead used in production of new products around the world is sourced from recycled lead. Moreover, the quality of recycled lead is almost identical to primary or unrecycled lead. Therefore, the demand and value of recycled lead is quite high.
- The most common use of lead is in the production of batteries. Globally, ~85% of lead is used in the production of lead-acid batteries and the most common application of these batteries are in automobiles. The main properties of lead-acid batteries are that they are cheap, heavy, have a long life, and a wide range of discharge rates.
- **Lead Recycling Process:**
 1. Collection: products made of lead are collected by metal dealers, recycling businesses and car workshops and sent to smelters.
 2. Processing: the collected products are broken and scrap lead is safely separated from other components. Then, lead components are systematically smelted and refined.
 3. Use in Production: This refined lead is then used in the production new of lead-acid batteries, building construction material, cable sheathing and for various other applications.

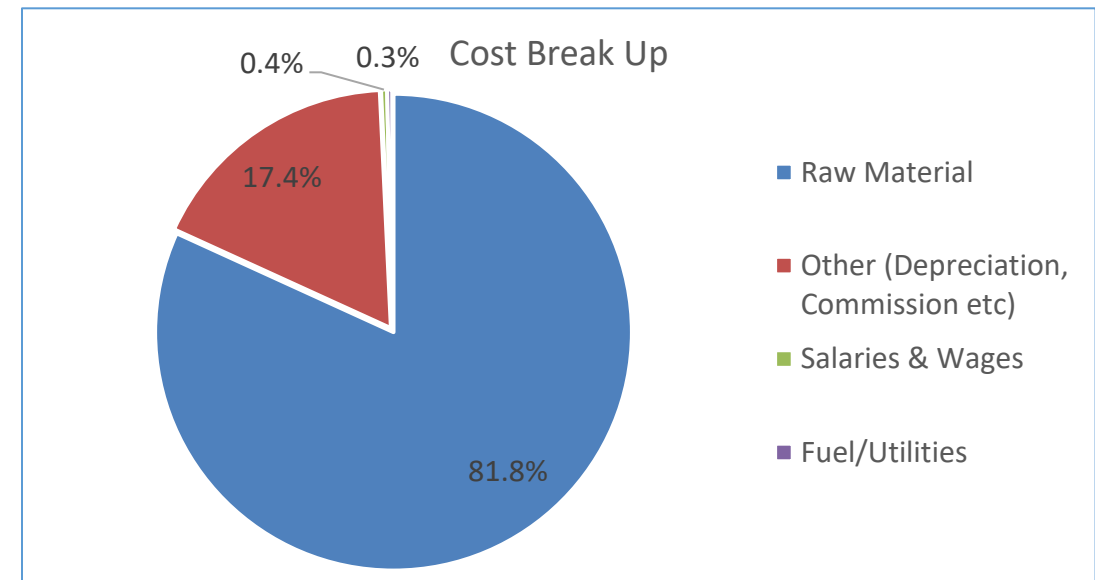
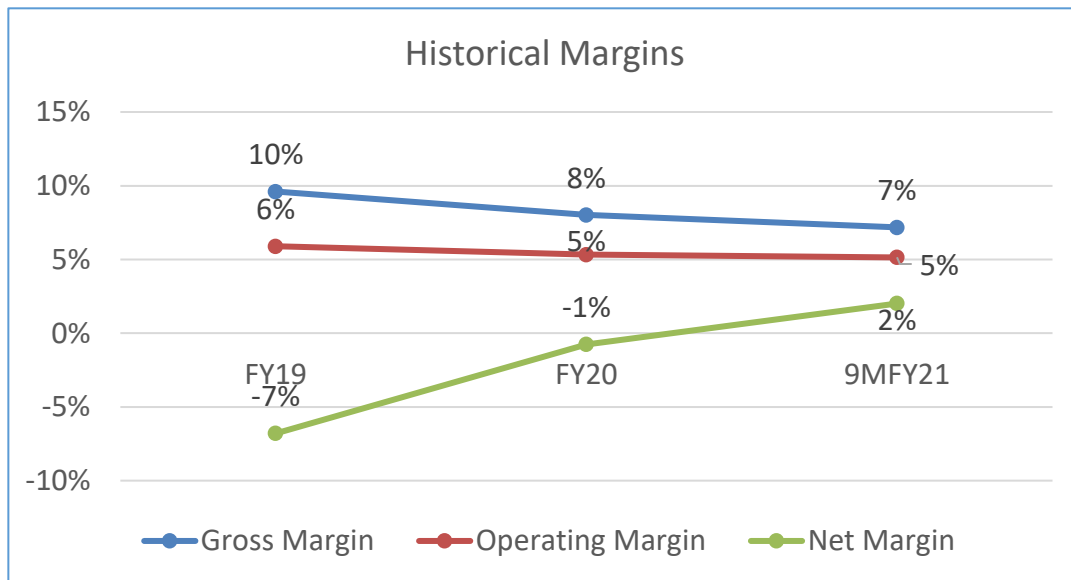




Metals | Local Industry

Lead Recycling | Margins & Cost Structure

- The lead recycling sector's margins have remained relatively stable in recent periods with gross margin standing at ~7% during 9MFY21. Meanwhile, the net margin improved to ~2% during 9MFY21 as compared to -1% during FY20 as a result of lower finance costs on the back of lower policy rates during the period.
- The largest component in the lead recycling sector's direct costs is raw material which contributes ~82% to total direct costs. The raw material consists of used lead products.



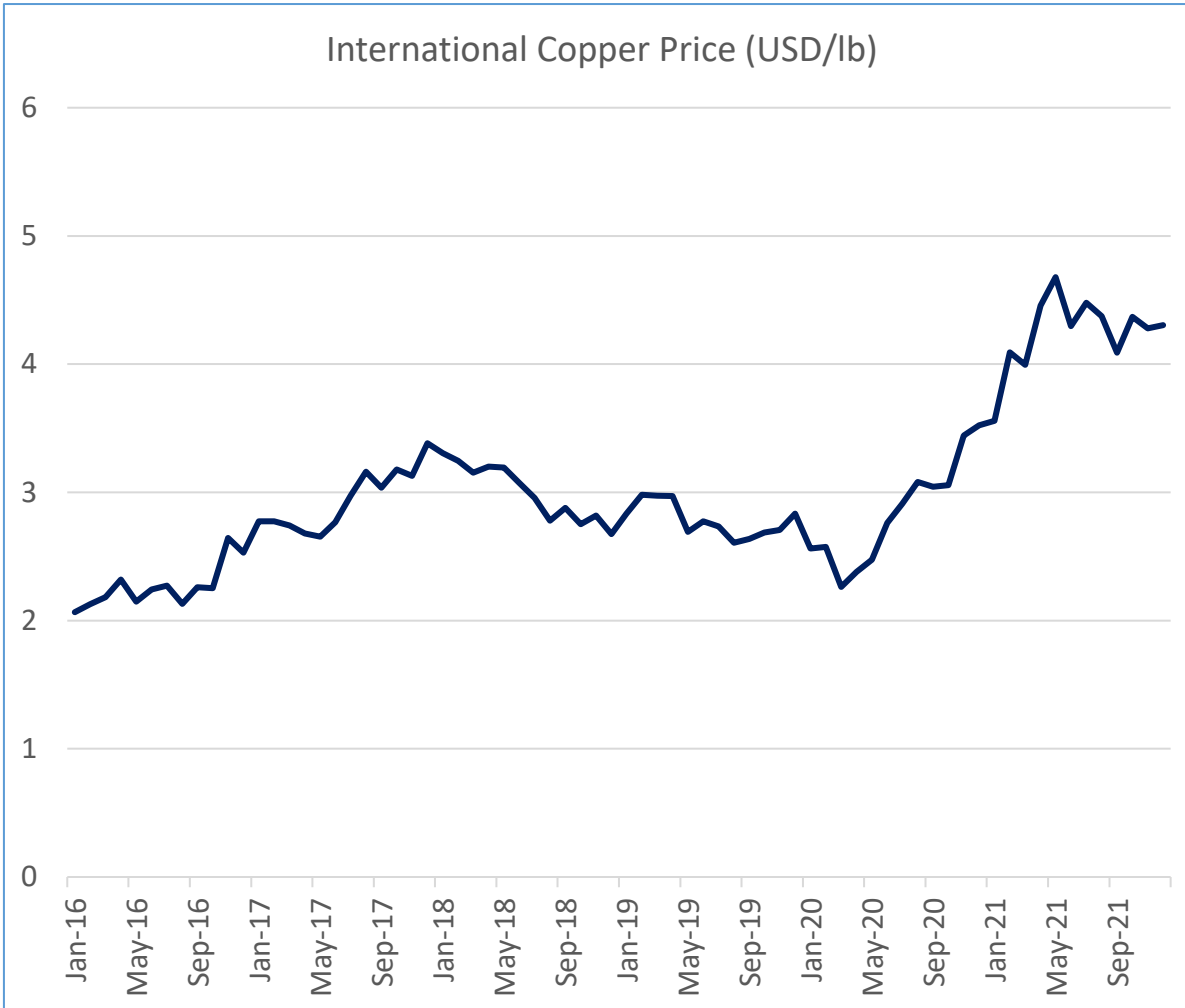
Note: Margins and cost break up are reflective of ~1 listed/rated player belonging to lead recycling segment

Copper & Aluminium | Introduction

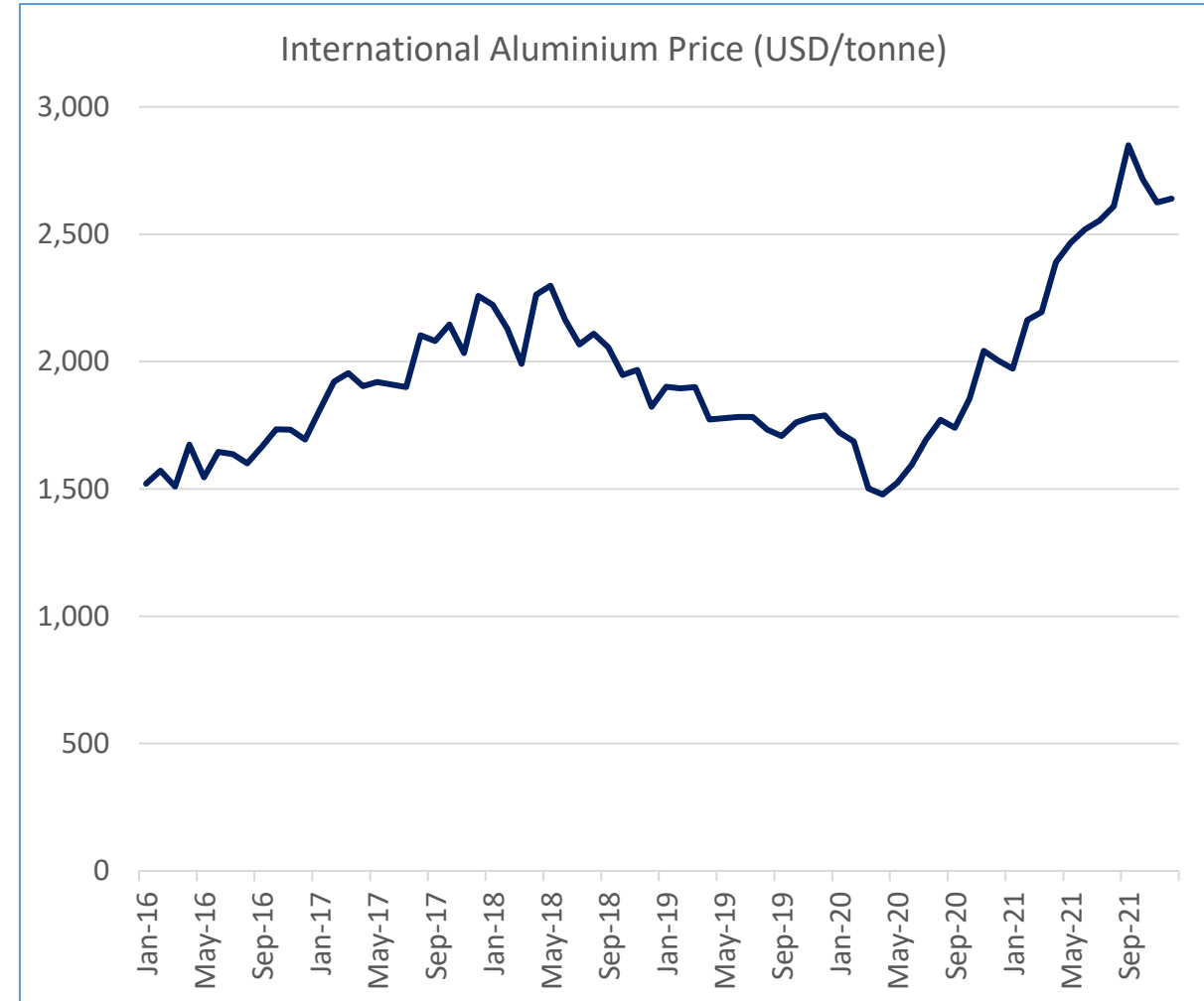
- Copper, a chemical element, is an extremely ductile metal with a reddish hue that is a great conductor of electricity and heat. Copper is commercially produced through the process of smelting. The majority of copper produced in the world is used by electrical industries and the remaining is largely used to form alloys by combining with other metals, such as brass and bronze. Common applications for copper and copper alloys are for making electrical wiring, building construction and industrial machinery.
- Copper is found as a primary mineral in many locations around the world. The total global production of copper from mines amounted to ~20mln MT in CY20, as compared to ~20.4mln MT in CY19. Meanwhile, the production of refined copper, through process of smelting, stood at ~24.5mln MT during CY20, as compared to ~24mln MT in CY19. The world's leading copper producer is Chile, producing ~5.7mln MT of copper during CY20, due to the presence of the world's largest copper mine in the country. Other major producers are Peru, China, Congo and the United States.
- There are two copper mines located in Pakistan, the Reko Diq mine and the Saindaq mine, both of which are located in the province of Balochistan. The Reko Diq mine contains copper and gold reserves of ~5.9bln tonnes. However, the mine remains undeveloped due to a legal dispute that arose after exploration and mining license was given and then withdrawn from an international firm. Recently, a local joint venture company has presented a proposal to the Balochistan Mineral Exploration Company (BMEC) to help the provincial government pay fines associated with the legal dispute and initiate the development of the Reko Diq mine.
- Aluminium is a lightweight silvery white metal which is the most abundant metallic element in the Earth's crust and the most widely used non-ferrous metal. Aluminium is added in small amounts to certain other metals to improve their properties for other uses. Aluminium and its alloys are used extensively for producing aircrafts, building material, household appliances and utensils, electrical conductors and other equipment. It is a ductile and highly malleable metal which can be drawn into wire or rolled into thin foil.
- During CY20, the global primary production of aluminium stood at ~65.3mln MT as compared to ~63.6mln MT during CY19. The largest producer of aluminium is China, with production of ~37.3mln MT of aluminium.

International Prices

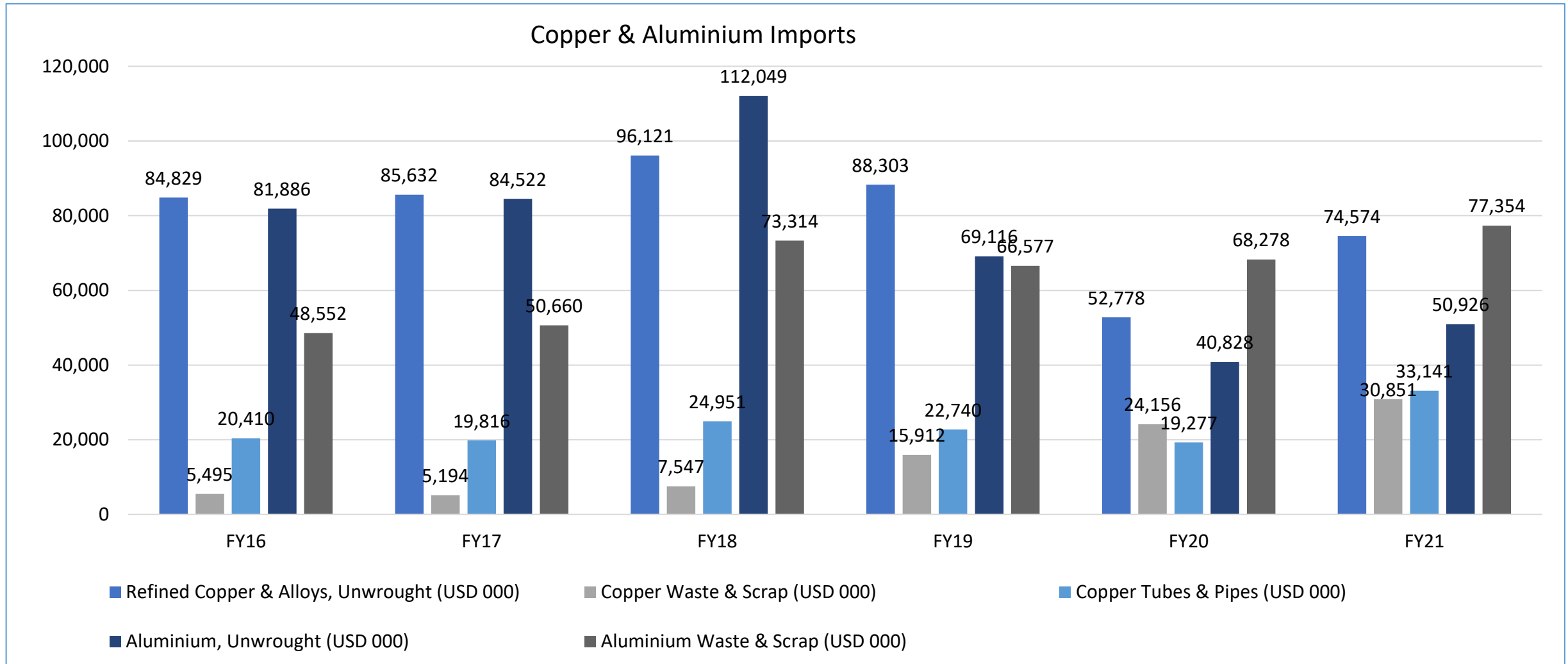
International Copper Price (USD/lb)



International Aluminium Price (USD/tonne)

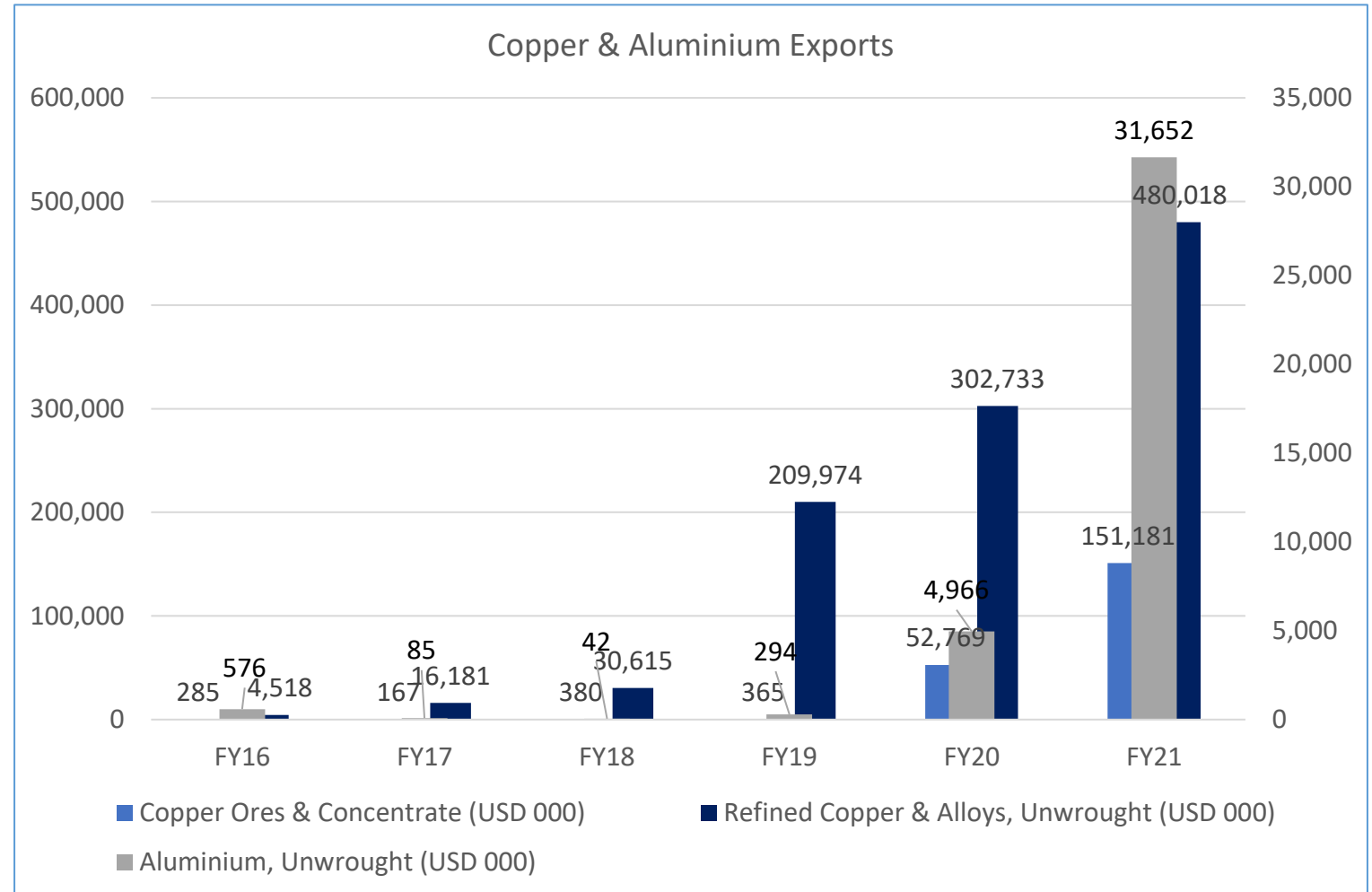


Imports



Exports

- Pakistan’s exports of copper and aluminium has seen significant increase since FY19. This is largely due to increase in exports of these products to China which is the largest import destination for refined copper, copper alloys and unwrought aluminium in particular.
- The categories where most significant exports have taken place are Copper Ores & Concentrate, Refined Copper & Alloys and Unwrought Aluminium.
- During FY21, exports of Copper Ores stood at USD~151mIn an increase of ~186% as compared to USD~53mIn in FY20. Meanwhile, exports of refined copper and alloys increased ~59% from USD~303mIn in FY20 to USD~480mIn in FY21.
- In addition, exports of unwrought aluminium increased over 5 times from USD~5mIn in FY20 to USD 32mIn in FY21.



Demand Drivers

- Copper and aluminium have a variety of uses and applications such as electrical wiring, building material, household appliances and utensils. Therefore, demand for the two metals also emanates from different industries and sectors. However, the largest industry from which demand for copper and aluminium is derived is the construction sector where there is significant use of wiring, pipes, tubes and extrusions made from either type of metal. In addition, aluminium also has considerable application in the automobile industry.
- The construction industry has exhibited significant growth with cement dispatches and steel production both displaying growth. This growth has resulted from the government's incentive package for the construction industry in the aftermath of the COVID-19 pandemic. The incentive package included an amnesty scheme, exemption from certain taxes as well as subsidy for the Naya Pakistan Housing Scheme (NPHS). Alongside this the significant increase in PSDP budget for FY22 as well as SBP's discounted borrowing scheme for low cost housing has also had a positive impact on the construction and allied industries.
- However, recent developments such as increase in policy rate and the continuing trend of rising raw material prices may dampen demand, going forward. Despite this, other factors such as the capacity enhancements undertaken by the cement manufacturers and increase in loan disbursements by commercial banks for construction/housing projects highlights expectation for continued growth in the construction industry. This growth would also bode well for all allied industries including copper and aluminium producers.
- In addition, the consistent increase in imports of copper and aluminium scrap materials over recent years indicates continued increase in demand for copper and aluminium products produced through the recycling process. With respect to exports, as per news reports copper and aluminium ingots exported to China reached a value of USD~730mln during 2020 on the back of zero rating by China under the free trade agreement signed between the two countries.

Business Risk

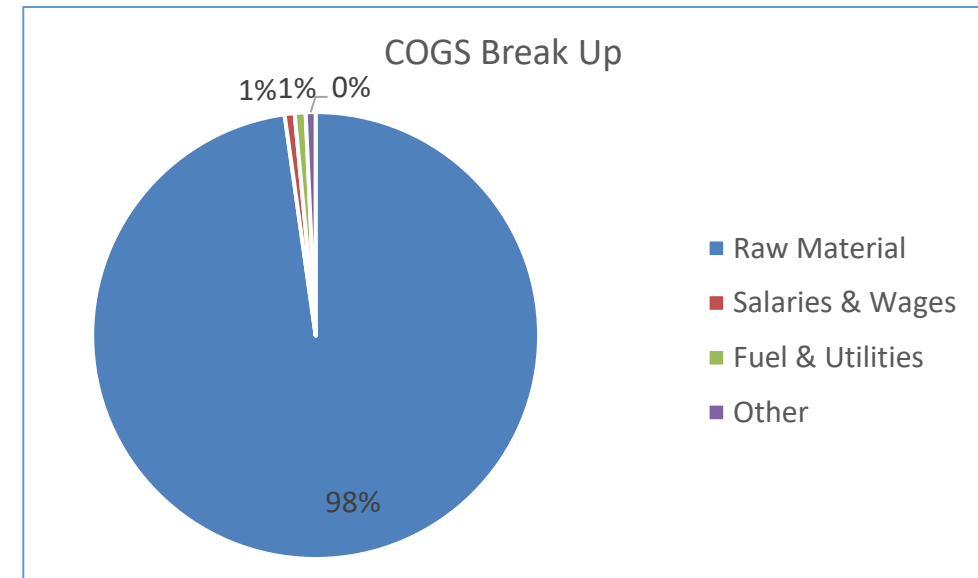
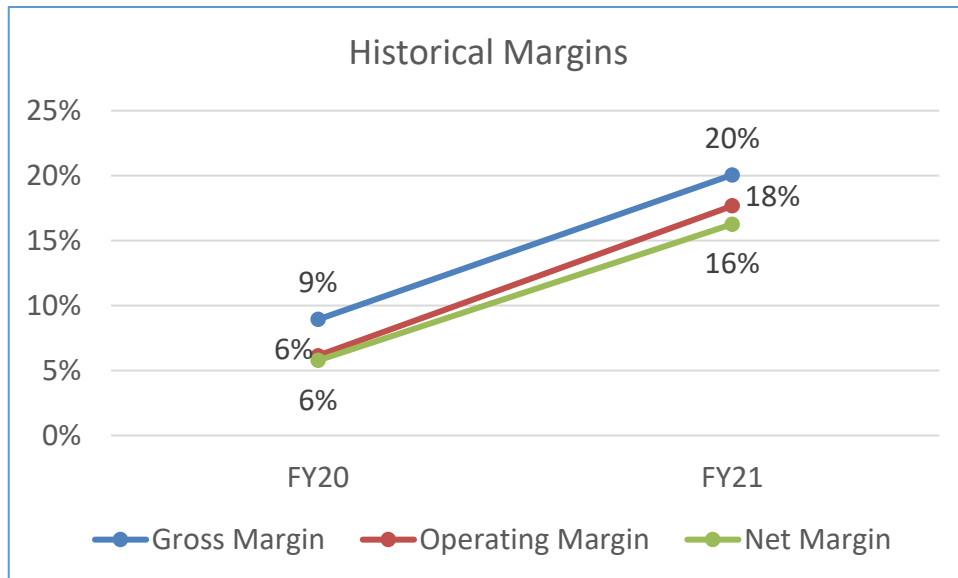
- **Environmental Concerns:** Copper and most of its compounds are not hazardous but despite this recycling of copper scrap without taking appropriate measures can be harmful for the environment. While other countries, such as China and Malaysia, have introduced import restrictions which only allow high grade copper scrap to be imported, no such measures are in place to regulate or monitor copper recycling in Pakistan.
- In addition, the EU has recently introduced regulations for scrap export that permit export to only those countries that express their willingness to receive EU waste exports and also demonstrate their ability to treat it in an environmentally sustainable manner. It is unclear whether Pakistan will be able to comply with these requirements, however, the bulk of Pakistan's copper and aluminium scrap imports are not sourced from the EU but rather countries like China, UAE and USA.
- With regards to aluminium recycling, it produces a substance known as dross which is hazardous for the environment. Therefore, there are more stringent regulations in place to regulate the import of aluminium scrap. Import of aluminium scrap is only permitted if the company has adequate recycling facilities, obtains NOC from Ministry of Climate Change and is certified by the provincial Environment Protection Agency (EPA). These restrictions are in place to prevent the import of hazardous scrap while allowing recyclable scrap to be imported.
- While increasing awareness about the environment may lead to more stringent regulations in the future, since new regulations take significant amount of time to be implemented it is not a risk in the near term. Moreover, recycling using appropriate methods and machinery can be beneficial for the environment since it consumes less energy than the mining process and also prevents metal scrap from ending up in landfills. Therefore, any future regulations are not likely to ban metal recycling entirely but introduce measures to ensure use of appropriate methods.
- **International Prices:** Local prices of metals are determined by international price trends. Recently, prices of both copper and aluminium have witnessed a rising trend which may squeeze margins of local players if they are unable to pass on the price impact.



Metals | Local Industry

Margins & Cost Structure

- The copper and aluminium segment’s margins increased during FY21, with gross margin increasing to ~20% from ~9% in FY20. Meanwhile, net margins increased to ~16% in FY21 from ~6% in FY20. The increase occurred due to higher demand, also reflected in higher export levels as well as lower finance costs during the period.
- The segment’s direct costs consist almost entirely of raw material. The raw material consists of copper and aluminium either in its raw form or in the form of scrap material.



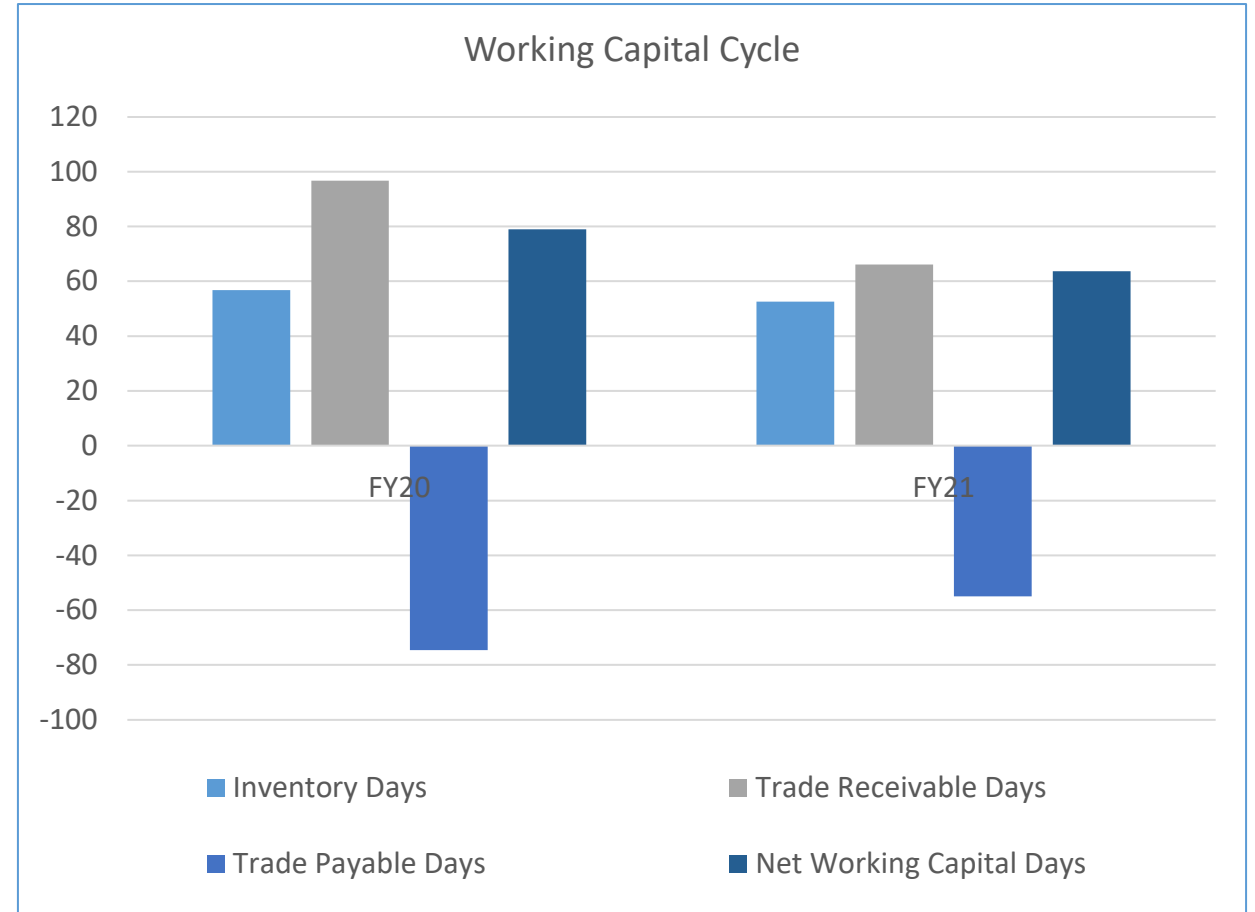
Note: Margins and cost break up are reflective of ~1 player belonging to copper & aluminium segment



Metals | Local Industry

Financial Risk

- Working Capital Management:** The average working capital cycle is a function of inventory, trade receivables and trade payables. Inventory consists largely of raw material and finished goods, with little work-in-process inventory due to a short production process.
- During the last two years, the average working capital cycle has stood at ~70 days. The working capital cycle decreased during FY21 due to increase in the sales during the period.
- Borrowing Mix & Leverage:** The copper and aluminium segment has a moderate level of average leveraging at ~40%. Meanwhile, the borrowing mix entirely consists of short term borrowing.





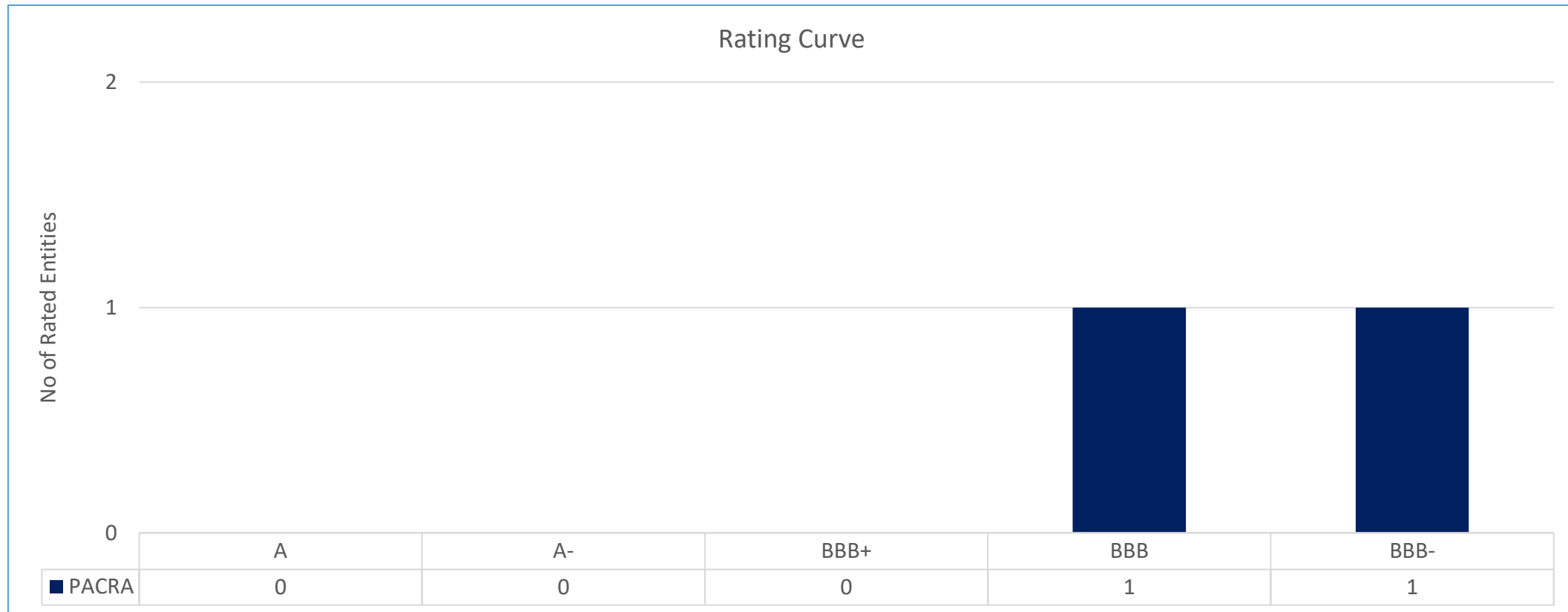
Regulatory Framework

- With respect to Income Tax, the metals sector is under the Normal Tax Regime (NTR). Further, Minimum Tax @ 1.5% of turnover is also applicable, if tax liability under NTR is lower than minimum tax.
- The Environment Protection Department (EPD), Govt of Punjab has introduced Draft Punjab Batteries (Environmental Management and Handling) Rules, 2020. If these draft rules are implemented, lead recyclers would be required to register with and report relevant data to the EPD.
- The sector's custom duty structure has remained unchanged from the previous year. It largely provides protection to the local manufacturers with lower duties on raw materials and higher duties for finished goods.

PCT Code	Description	Custom Duty		Additional Custom Duty		Total	
		FY22	FY21	FY22	FY21	FY22	FY21
26.03	Copper Ores & Concentrates	0%	0%	0%	0%	0%	0%
26.06	Aluminium Ores & Concentrates	0%	0%	0%	0%	0%	0%
26.07	Lead Ores and Concentrates	0%	0%	0%	0%	0%	0%
78.01	Unwrought Lead (including refined lead)	0%	0%	0%	0%	0%	0%
78.02	Lead waste and scrap	0%	0%	0%	0%	0%	0%
78.04	Lead plates, sheets, strip, foil, powders and flakes	16%	16%	4%	4%	20%	20%
26.03	Copper Ores & Concentrates	0%	0%	0%	0%	0%	0%
74.01 - 74.07	Copper Mattes, Unrefined Copper, Refined Copper & Alloys, Copper Waste & Scrap, Copper Bars & Rods etc.	0%	0%	0%	0%	0%	0%
74.08 - 74.12	Copper wire, plates, sheets, foil, tubes and pipes	0-20%	0-20%	0-6%	0-6%	0-26%	0-26%
76.01 - 76.03	Unwrought aluminium, waste or scrap, powders and flakes	0%	0%	0%	0%	0%	0%
76.04 - 76.09	Aluminium bars, rods, wires, plates, sheets, tubes and pipes	3-20%	3-20%	2-6%	2-6%	5-26%	5-26%

Rating Curve

- PACRA rates 1 player in the lead recycling segment with a long term rating of BBB and 1 player in the copper and aluminium segment with a long term rating of BBB-.



Outlook: STABLE

- The domestic economy has started to gradually recover from the impact of the COVID-19 pandemic which slowed down industrial activities and brought various businesses to a halt. Despite steady increase in the rate of vaccinations, the country is experiencing a fourth wave of the pandemic which could hinder economic activity.
- The economic recovery is exhibited by the GDP growth of ~3.9% during FY21 (based on provisional figures). Among the contributors of GDP growth is industrial activity which has picked up in various sectors with the Large Scale Manufacturing Industries output increasing ~15% YoY during FY21.
- Demand for lead largely emanates from the auto and allied industry which has experience significant growth during the recent fiscal year. Production of vehicles increased ~39% in FY21. Demand for copper and aluminium emanates from a variety of industries and sectors, the largest of which is the construction industry which has experienced significant growth on the back of the government's incentive package.
- The decision taken by the State Bank of Pakistan (SBP) to lower the policy rate by 625bps to 7% in the last quarter of FY20 has lowered the finance costs for the sector. However, the policy rate has recently been increased to 8.75% and further increase may also occur which could put pressure on the sector's margins.
- The recent exchange rate depreciation would bode well for players involved in export of metal products but on the other hand would increase the cost of imported raw materials for the sector.

- State Bank of Pakistan (SBP)
- Pakistan Bureau of Statistics (PBS)
- PACRA Database
- Pakistan Stock Exchange (PSX)
- Federal Board of Revenue (FBR)
- Statista
- Britannica
- Investing.com
- Pakistan Automobile Manufacturers Association (PAMA)
- <https://www.thebalancesmb.com/the-amazing-story-of-lead-recycling-2877926>
- <https://www.britannica.com/technology/battery-electronics>
- <https://profit.pakistantoday.com.pk/2020/12/27/govt-urged-to-avoid-imposing-duty-on-export-of-copper-aluminium-ingots/>
- <https://tribune.com.pk/story/2028967/government-allows-aluminium-scrap-import-industrial-use>

Research Team	Saniya Tauseef <i>Asst. Manager</i> saniya.tauseef@pacra.com	Insia Raza <i>Research Analyst</i> insia.raza@pacra.com
Contact Number: +92 42 35869504		

DISCLAIMER

PACRA has used due care in preparation of this document. Our information has been obtained from sources we consider to be reliable but its accuracy or completeness is not guaranteed. The information in this document may be copied or otherwise reproduced, in whole or in part, provided the source is duly acknowledged. The presentation should not be relied upon as professional advice.