Batteries

Sector Study

© The Pakistan Credit Rating Agency Limited.

December 2021

TABLE OF CONTENTS

Contents	Page No.
Introduction	1
Local Overview	2
Production of Batteries	3
Imports & Exports	4
Business Risk	5
Margins & Cost Structure	6
Financial Risk | Working Capital Management	7
Financial Risk | Borrowing Mix	8

Contents	Page No.
Regulatory Framework	9
Rating Curve	10
SWOT Analysis	11
Outlook & Future Prospects	12
Bibliography	13

Batteries | Introduction

- A battery is a device that stores chemical energy and converts it into electrical energy. The chemical reactions in a battery involve the flow of electrons from one electrode to another.
- Every battery (or cell) has a cathode, or positive plate, and an anode, or negative plate. These electrodes must be separated by and are often immersed in an electrolyte that permits the passage of ions between the electrodes. The electrode materials and the electrolyte are chosen and arranged so that sufficient electromotive force (measured in volts) and electric current (measured in amperes) can be developed between the terminals of a battery to operate lights, machines, or other devices.
- Batteries are divided into two general groups: (1) primary batteries and (2) secondary or storage, batteries. Primary batteries are designed to be used until the voltage is too low to operate a given device and are then discarded. Secondary batteries have many special design features, as well as particular materials for the electrodes, that permit them to be reconstituted (recharged). After partial or complete discharge, they can be recharged by the application of direct current (DC) voltage.

Batteries | Local Industry

Overview

- Pakistan's local battery manufacturing industry consists an organized and unorganized segment. The organized segment occupies ~90% of the market share and includes approximately 6-8 large players and several smaller players. Major players in the organized segment include Exide, Atlas, Osaka, Phoenix, National and others.
- The local production of batteries stood at ~11.9mln batteries during FY21, exhibiting a growth of ~8% as compared to FY20 when ~11.1mln batteries were produced.
- Meanwhile, both the import and export of storage batteries increased during FY21. Imports increased to USD~52mln in FY21 from USD~40mln during FY20 and exports increased to USD~29mln in FY21 from USD~25mln in FY20.
- During FY21, the demand for batteries was boosted due to the increase in demand for automobiles. This was spurred partly by the lower policy rate which made auto financing more affordable for consumers across various segments.

Sector Overview	FY19	FY20	FY21
Export Value (USD mln)	20	25	29
Import Value (USD mln)	57	40	52
Local Production (No. of Batteries Produced)	~12.7mln	~11.1mln	~11.9lmn

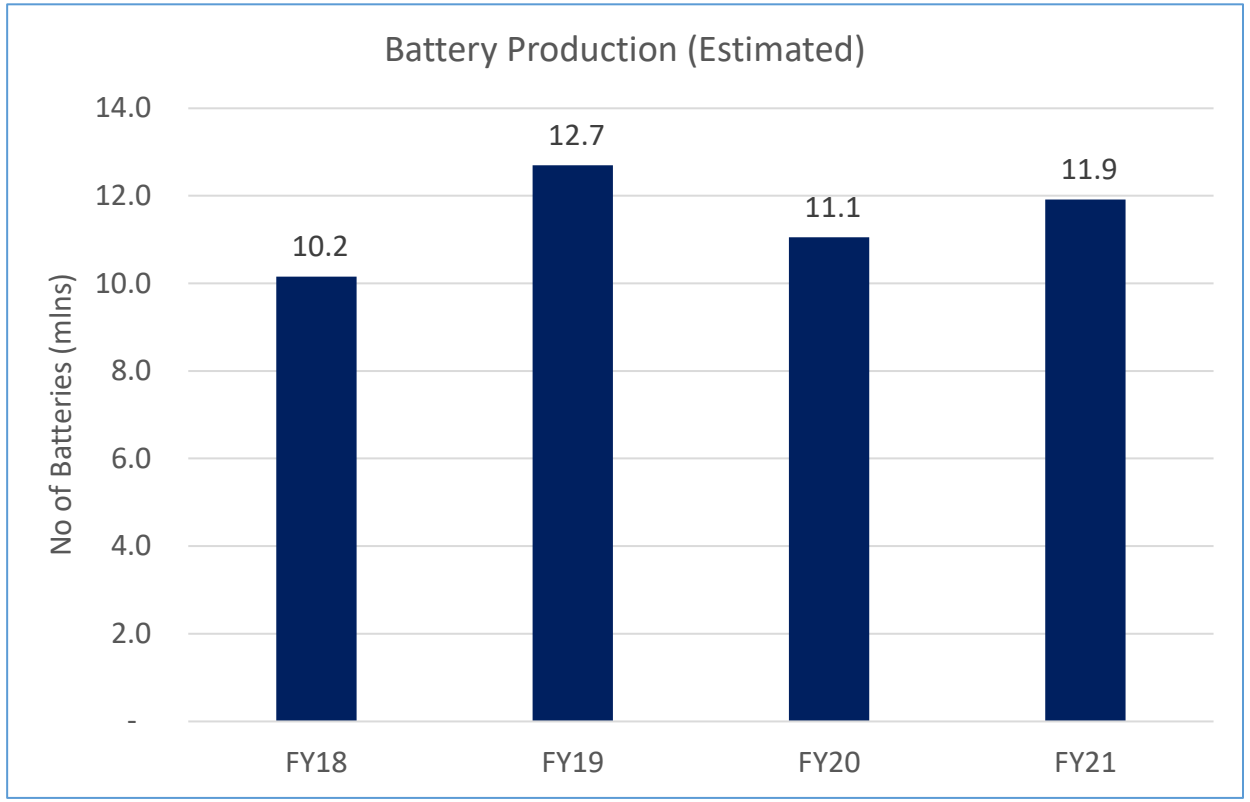
Note: The figure for batteries produced is estimated from market share of 1 listed/rated company

Source: PBS, SBP

Batteries | Local Industry

Production

- The production level of batteries varies according to the prevailing demand dynamics in the market. Demand for batteries is particularly influenced by the demand for automobiles.
- In the previous year, production of batteries had fallen ~13% from ~12.7mln batteries in FY19 to ~11.1mln batteries in FY20, This was likely due to the decline in demand for automobiles as a result of the COVID-19 pandemic and deteriorating economic conditions.
- During FY21, the production of batteries is estimated to stand at ~11.9mln units, a growth of ~8% as compared to ~11.1mln batteries produced during FY20. The growth came on the back of improved automobile demand during the year. Automobile demand was bolstered by the reduced policy rate which increased demand for auto loans and thus also had a positive impact on demand for batteries.

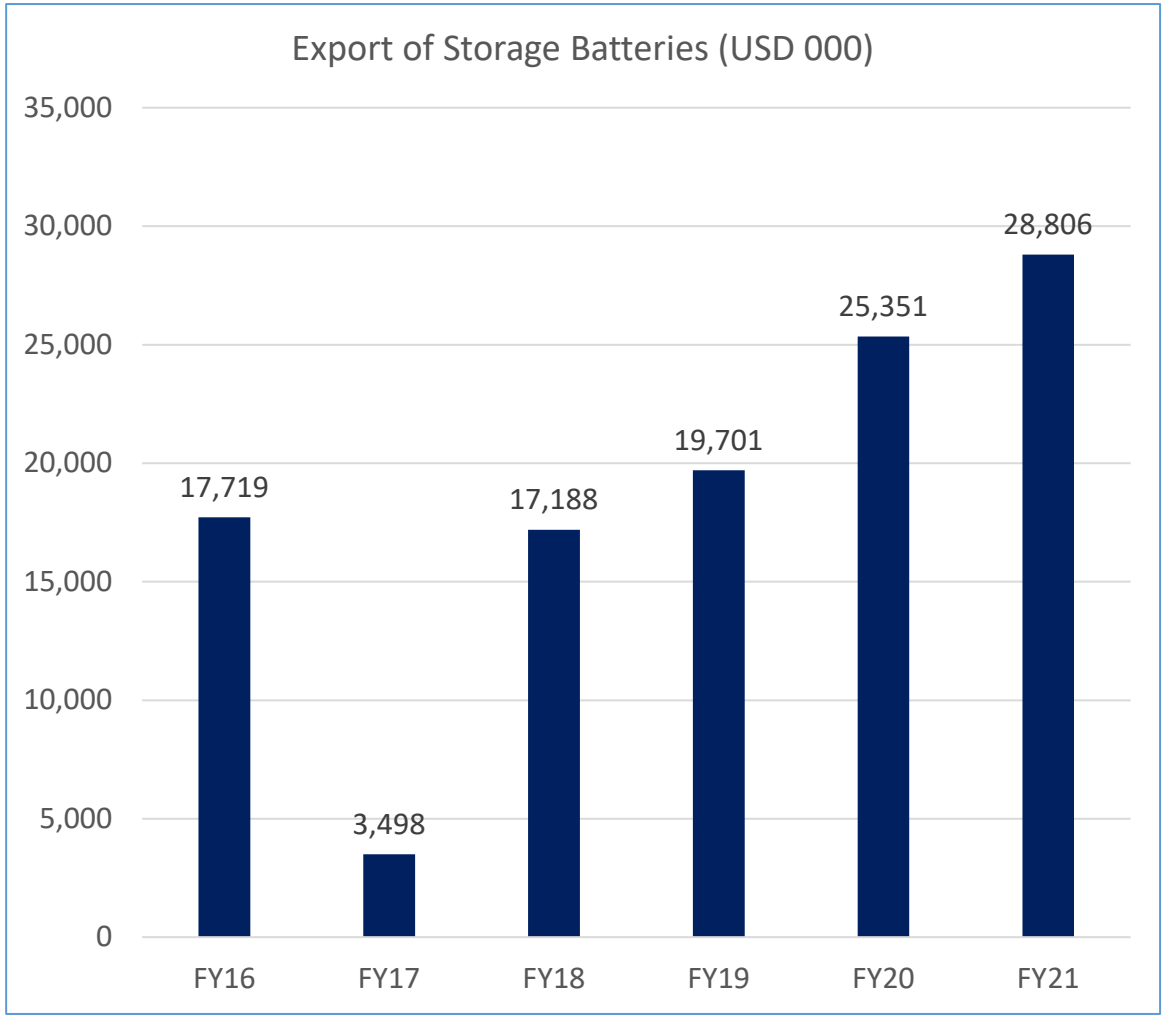


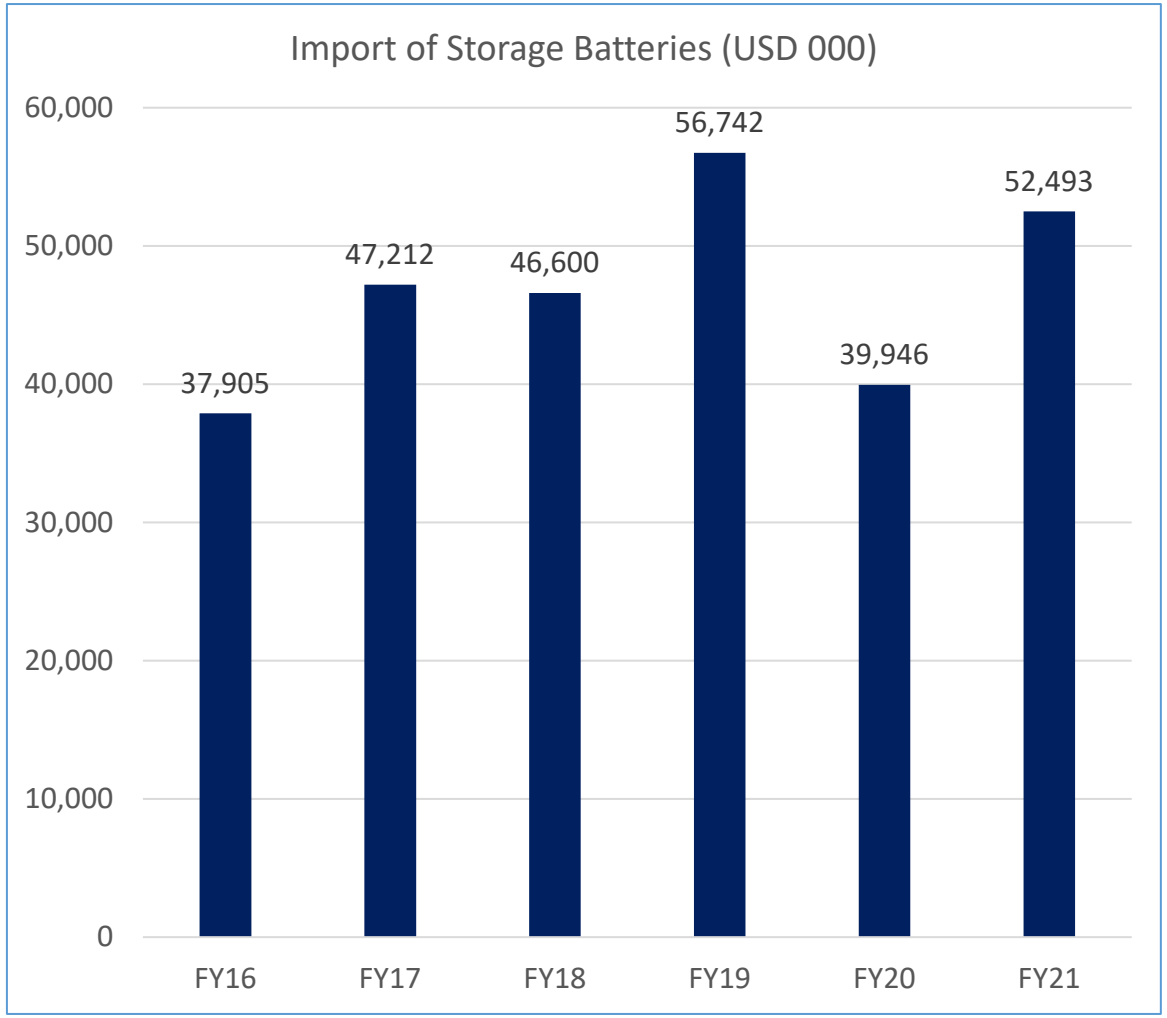
Note: The figure for batteries produced is estimated from market share of 1 listed/rated company

Source: PACRA Database

Batteries | Local Industry

Exports & Imports



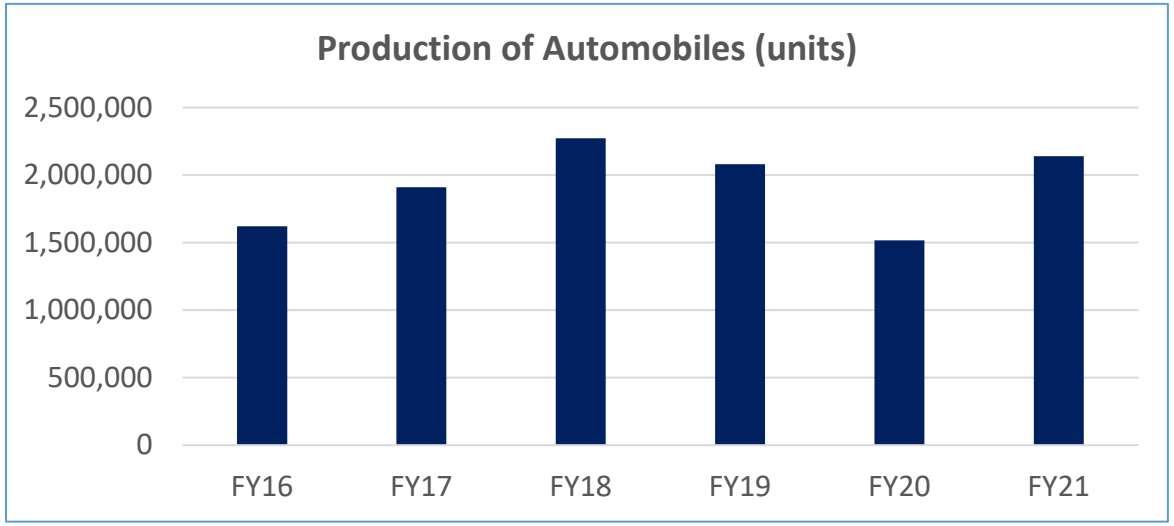


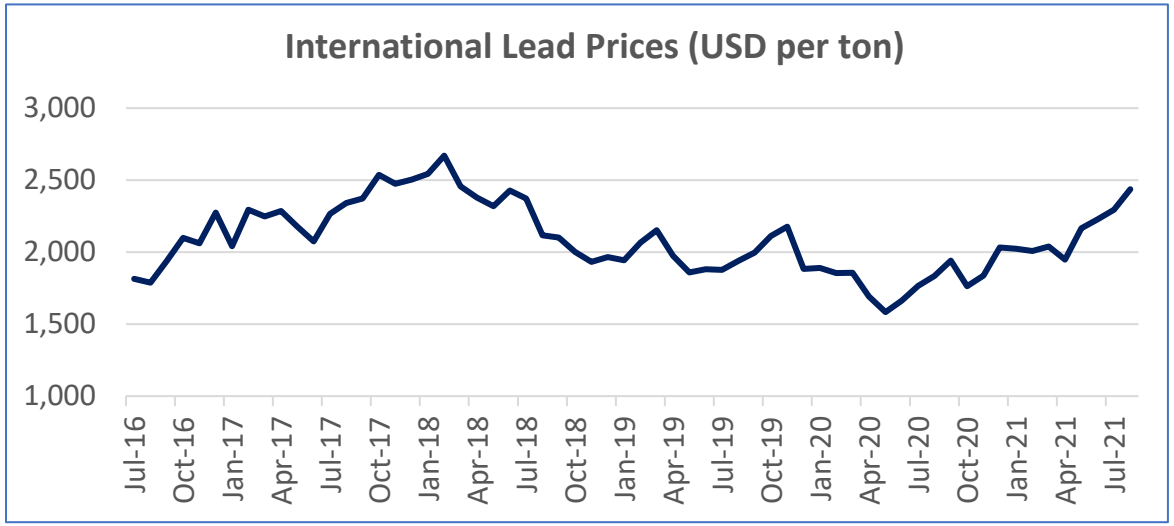
Source: SBP

Batteries | Local Industry

Business Risk

- The main demand driver for the battery manufacturing sector is the automobile industry. Any decline the automobile demand also has adverse effects on demand for batteries.
- As the adjacent graph shows, the production of automobiles declined during FY19 and FY20, due to adverse economic conditions as well as the COVID-19 pandemic.
- Other sources of demand for batteries are domestic appliances and industrial equipment. In addition, electricity shortages also increase demand for batteries due to greater usage of generators and UPS devices.
- Demand for batteries grows during periods of economic growth due to increase in industrial activity as well as increase in individual's disposable incomes. However, there is an adverse impact on demand for batteries during periods when economic growth slows down.
- The major raw material in the production of batteries is lead. International prices of lead have been relatively volatile in recent years. In recent months, there has been a rising trend in the international prices of lead which may create pressure on margins for the sector.

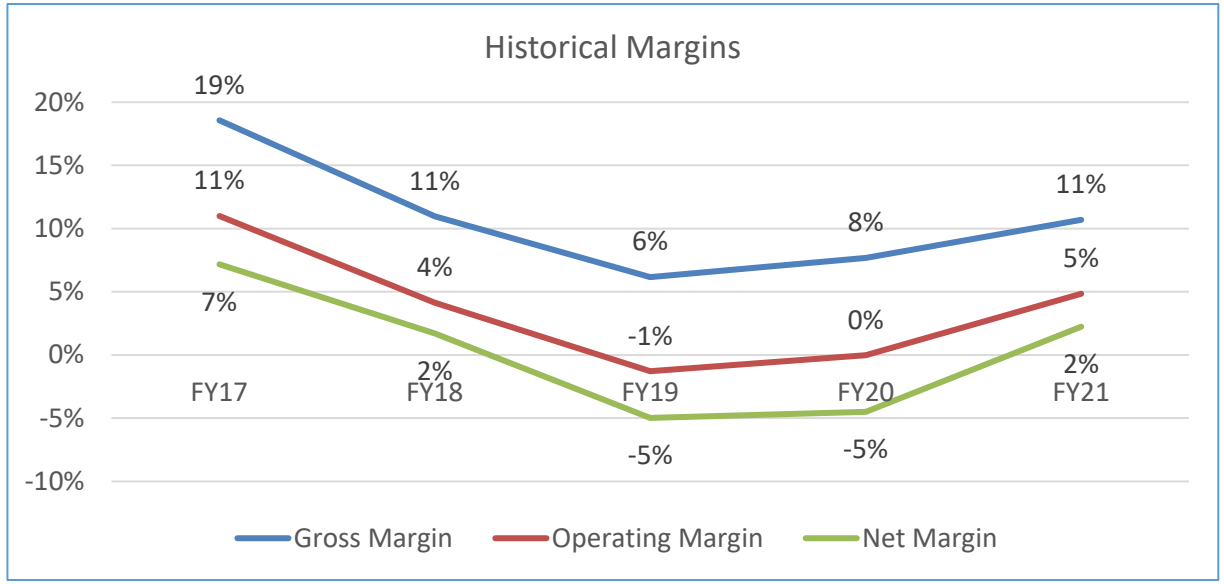


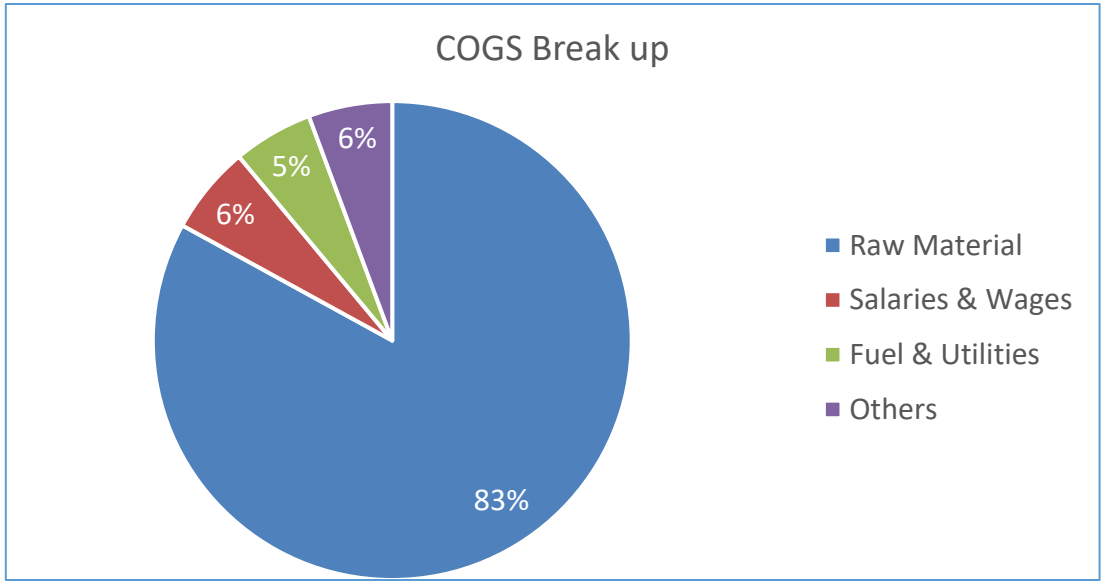


Source: PAMA, LME

Margins & Cost Structure

- Over the last five years, the sector's average gross margins have stood at ~12% while average net margins have stood at ~1%. The sector's margins were under pressure in recent years due to decline in demand for batteries emanating from the lower demand for automobiles.
- During FY21, the margins exhibited a recovery with gross margin improving to ~11% as compared to ~8% during FY21 and net margin improving to ~2% from -5% during FY20. The improvement in margins came on the back of improved automobile demand and sales during the period as well as lower finance costs due to the decline in policy rate.
- The largest component within the sector's direct costs is raw material which contributes ~83% to total direct costs. The main raw material for batteries consist of materials such as lead or lithium from which a majority of batteries are made.





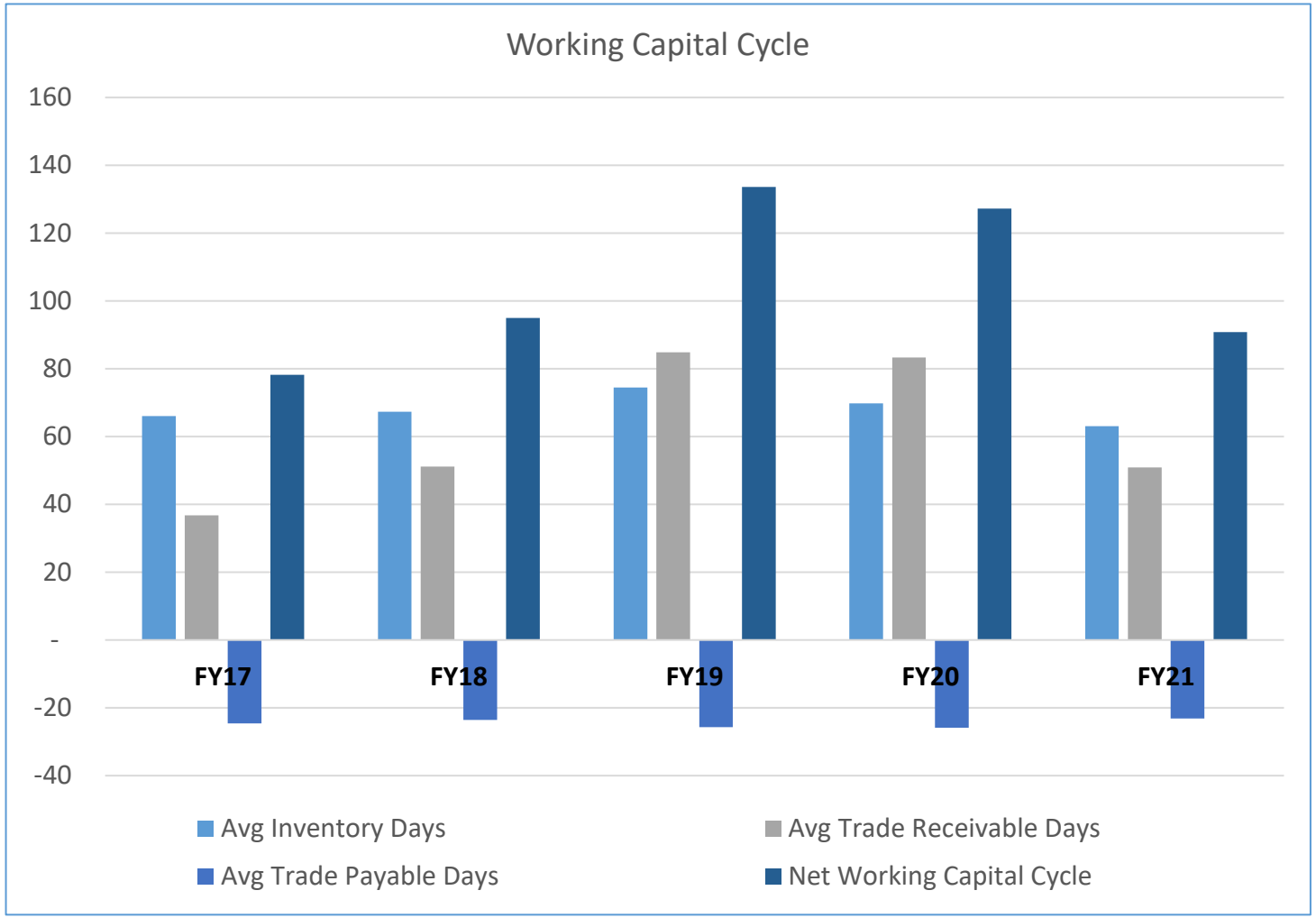
Note: Margins and cost break up are reflective of ~2 listed/rated player belonging to batteries segment

Source: PSX

Batteries | Local Industry

Financial Risk | Working Capital Management

- The sector's working capital cycle is predominantly a function of its inventory and trade receivables.
- The average working capital cycle during the last five years has stood at ~105 days. The working capital cycle increased during FY19 and FY20 due to lower sales in those periods in correlation with the decline in automobile demand during the same period.
- During FY21, the working capital cycle reduced to 91 days from 127 days during FY20, on the back of higher sales as demand for batteries increased in line with higher automobile demand.



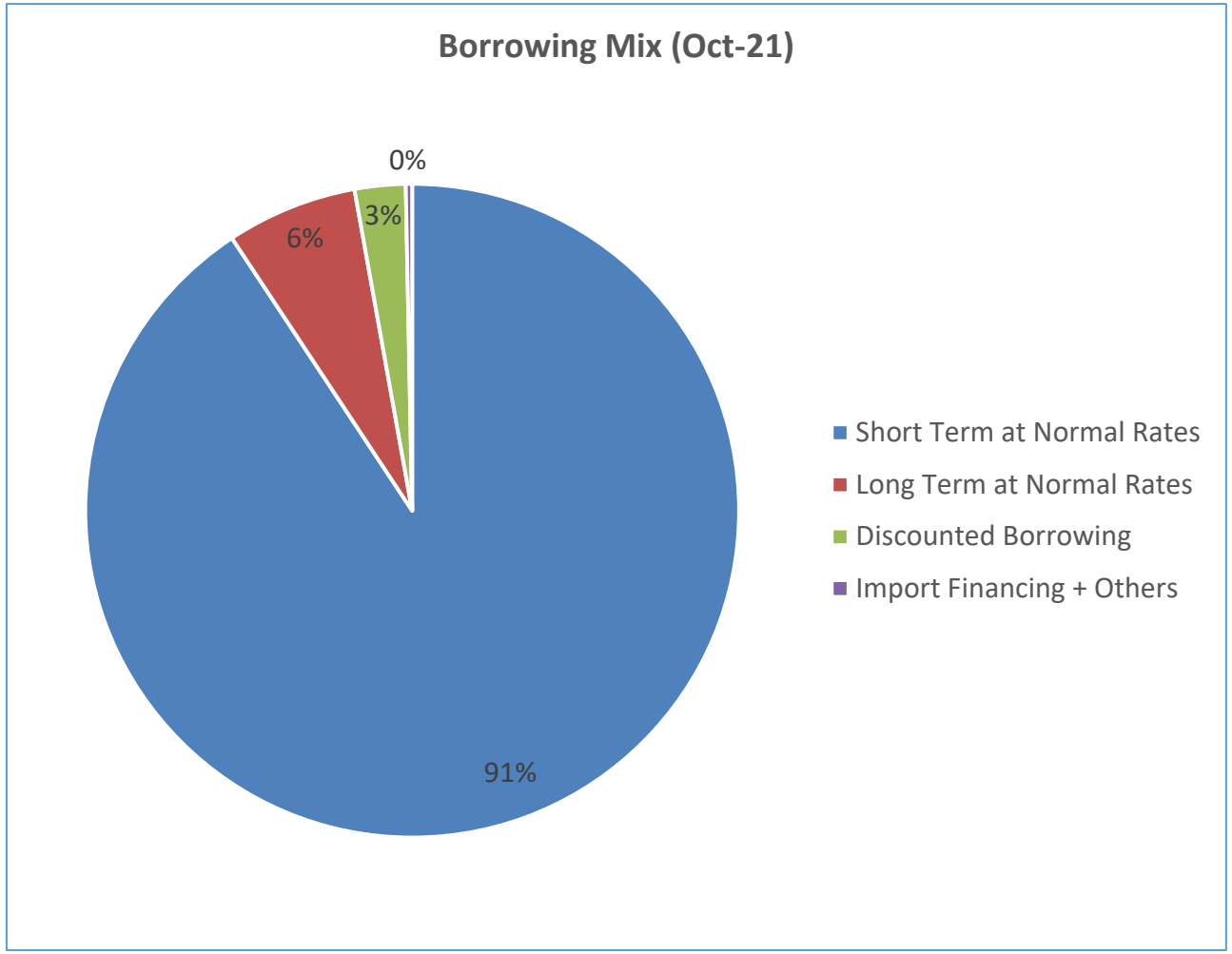
Note: Working capital cycle is reflective of ~2 listed/rated player belonging to batteries segment

Source: PSX

Batteries | Local Industry

Financial Risk | Borrowing Mix

- The batteries manufacturing industry had total borrowing of PKR~9,204mln as at End-Oct-21, a growth of ~59% as compared to PKR~5,793mln as at End-Oct-20.
- The largest component is short term borrowing, which constitutes ~91% of the total borrowing and stands at PKR~8,348mln.
- Meanwhile, long term borrowing stands at PKR~595mln and accounts for ~6% of total borrowing while discounted borrowing, which largely consists Long Term Financing Facility (LTFF) and Temporary Economic Finance Facility (TERF), stands at PKR~232mln and accounts for ~3% of total borrowing.
- The industry is moderately leveraged with an average leveraging ratio of ~30%.



Note: Borrowing mix and leveraging are reflective of ~2 listed/rated player belonging to batteries segment

Source: SBP, PSX

Batteries | Local Industry

Regulatory Framework

- With respect to Income Tax, the battery manufacturing 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 applicable custom duty structure is below:

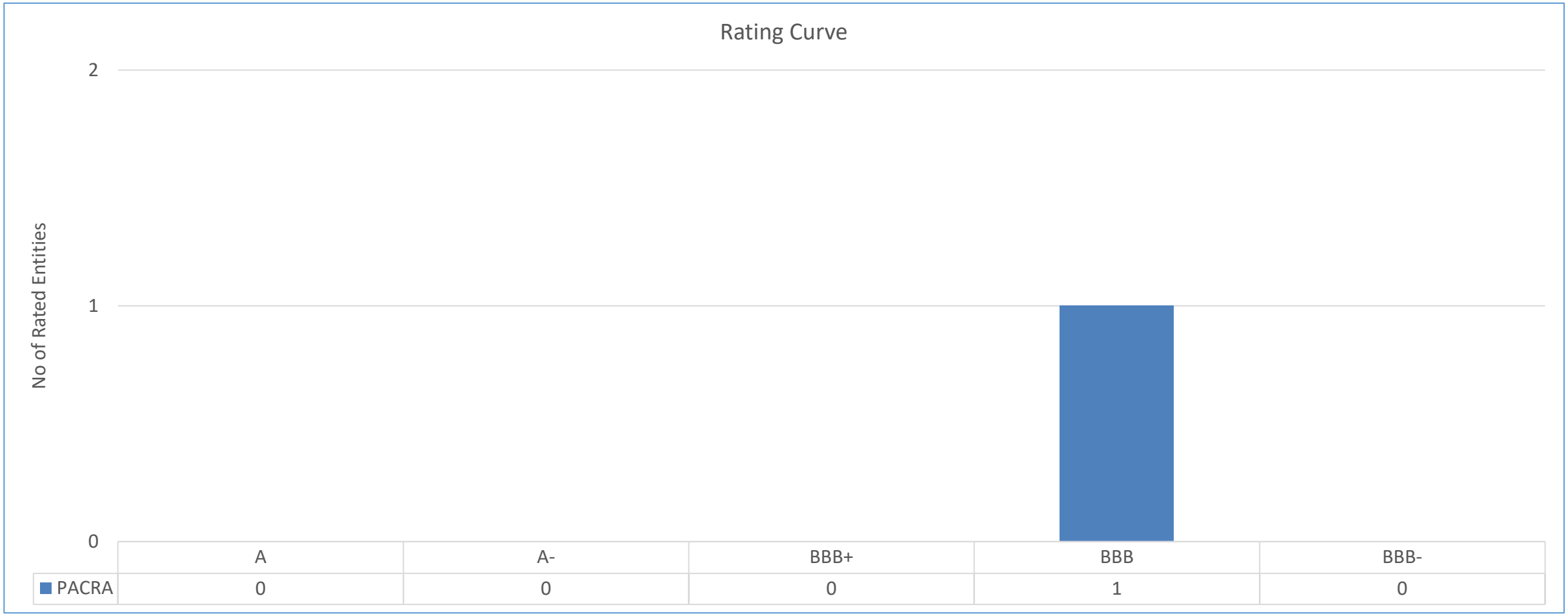
PCT Code	Description	Custom Duty		Additional Custom Duty		Total	
		FY22	FY21	FY22	FY21	FY22	FY21
26.07	Lead Ores and Concentrates	0%	0%	0%	0%	2%	2%
2620.20	Slag, ash and residues of lead	0%	0%	0%	0%	2%	2%
78.01	Unwrought Lead (including refined lead)	0%	0%	0%	0%	2%	2%
78.02	Lead waste and scrap	0%	0%	0%	0%	2%	2%
78.04	Lead plates, sheets, strip, foil, powders and flakes	16%	16%	4%	4%	20%	20%
78.06	Other articles of lead	20%	20%	6%	6%	26%	26%
8507.10	Batteries/Electric Accumulators, made from lead-acid, for use in vehicles	35%	35%	7%	7%	42%	42%
85.48	Waste and scrap of cells, batteries and electric accumulators	3%	3%	2%	2%	5%	5%

Source: FBR

Batteries | Local Industry

Rating Curve

- PACRA rates 1 player in the batteries sector with a long term rating of BBB.



Source: PACRA Database

Batteries | Local Industry

SWOT Analysis

Strengths

- A few large players which occupy significant market shares.
- High quality products with ample surplus capacity available which provides room for growth.

Weaknesses

- Presence of unorganized segment which provides substitutes at low prices.
- Limited suppliers of lead
- Volatile raw material prices

Threats

- Uncertainty due to the continuing COVID-19 pandemic.
- Significant level of competition and threat of new entrants

Opportunities

- Recent surge in automobile demand should bode well for battery manufacturers
- Increasing demand for alternative energy sources such as generators, UPS and solar connections which require batteries.

Batteries | Outlook & Future Prospects

Outlook: STABLE

- The domestic economy has started to gradually recover from the impact of the COVID-19 pandemic which slowed down industrial activities and bought 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.

- Moreover, there has been significant growth in Pakistan's auto and allied sector from which largest demand for lead acid batteries emanates. Production of vehicles increased ~39% in FY21. In addition, the estimated production of batteries increased ~8% during FY21 and stood at ~11.9mln batteries.

- The imports of storage batteries stood at USD~52mln during FY21 an increase of ~30% as compared to imports of USD~40mln during FY20. Meanwhile, export of storage batteries stood at USD~29mln in FY21 as compared to USD~25mln during FY20.

- 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. In addition, it also increased demand for auto loans and thus bolstered demand for auto and allied sectors. However, the policy rate has recently been increased to 9.75% and further increase may also occur which could put pressure on the sector's margins.

Source: PBS, SBP

Batteries | Bibliography

- State Bank of Pakistan (SBP)
- Pakistan Bureau of Statistics (PBS)
- PACRA Database
- Pakistan Stock Exchange (PSX)
- Federal Board of Revenue (FBR)
- Pakistan Automobile Manufacturers Association (PAMA)
- London Metal Exchange (LME)
- https://www.thebalancesmb.com/the-amazing-story-of-lead-recycling-2877926
- https://www.britannica.com/technology/battery-electronics

Research Team	Saniya Tauseef ***Asst. Manager*** saniya.tauseef@pacra.com	Insia Raza ***Research Analyst*** 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.