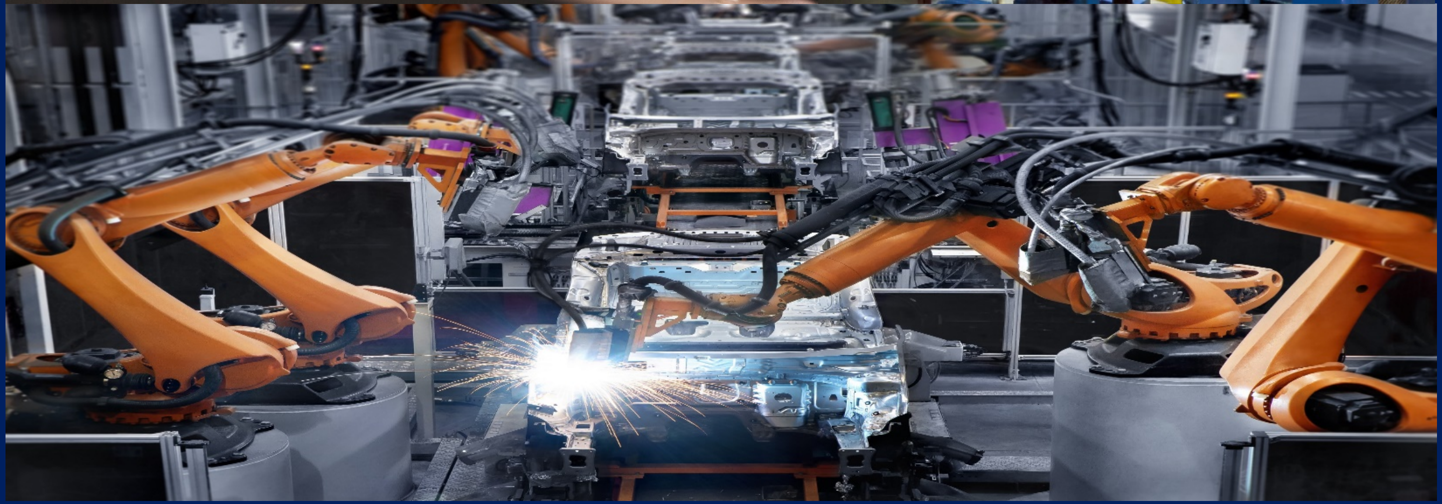

# Machinery

## Sector Study



September 2021

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## Introduction

- A machine uses power to control movement to perform a task or action, reducing the amount of human work required to complete it. Machines can also be mechanical systems, which include computers and sensors to control and monitor output.
- Machinery manufacturing encompasses a wide number of segments broadly classified into agricultural machinery, construction and mining machinery and industrial machinery. Other categories include commercial and service industry machinery, metalworking machinery, heating & refrigeration equipment. It also includes engine, turbine and power transmission equipment manufacturing and other general-purpose machinery.
- **Agricultural Machinery:** It includes tractors, cultivators, ploughs, harvesters, threshers and many other types of machinery employed by the agriculture industry in order to assist in various processes such as cultivating, planting and harvesting.
- **Construction Machinery:** Includes machinery such as bulldozers, excavators, cranes, graders and drilling machines.
- **Industrial Machinery:** There is a wide variety of machines used by various industries for example spindles and looms used in textile manufacturing, heating and mixing machinery used in food and beverage industry, packaging machinery and various types and components of assembly lines.
- This sector study will focus on industrial machinery and particularly the pumps and valves segment with respect to business and financial risk.

# Machinery

## Global Overview

- The global industrial machinery market is expected to grow from USD~535bln in CY20 to USD~573bln in CY21 at a compound annual growth rate (CAGR) of 7.1%. The growth is driven by resumption in economic activity and companies recovering from the impact of the COVID-19 pandemic which had disrupted various industries.

- The outbreak of COVID-19 had acted as a massive restraint on the industrial machinery manufacturing market in CY20 as supply chains were disrupted due to trade restrictions and manufacturing activity declined due to lockdowns imposed by governments globally. Machinery manufacturers depend heavily on supply of raw materials, parts and components from different countries across the globe. As many governments restricted the movement of goods across countries, manufacturers had to halt production due to lack of raw materials and components.

- Rapid advances in technology are expected to drive innovation in industrial machinery manufacturing, thus driving growth for the industry going forward. Furthermore, technologies such as 3D printing, artificial intelligence and big data analytics are being used in manufacturing thus resulting in higher productivity, lower operating costs and higher margins.

- Major players involved in the manufacturing of industrial machinery are Caterpillar Inc and Deere & Co, based in the United States, CNH Industrial, ABB Group and Linde AG, based out of UK, Switzerland and Germany, respectively and Daikin Industries and Komatsu Limited which are based in Tokyo, Japan. The countries account for a significant share in the global market due to high levels of R&D and technological advancements.

Source: https://www.thebusinessresearchcompany.com/report/industrial-machinery-global-market-report-2020-30-covid-19-impact-and-recovery

# Machinery

## Local Industry | Overview

- Pakistan's local machinery manufacturing sector is relatively small in size and a majority of the demand for machinery emanating from large industries such as construction, textile, energy etc are met through imports. In addition, there is a lack of investment in technology and R&D in Pakistan due to which the country's machinery sector lags behind the international market in terms of quality.
- Imports of machinery have grown consistently in recent years and stood at PKR~1,617bln in FY21. The recovery in economic activity in the aftermath of the COVID-19 pandemic has spurred growth during the current period.
- Local production of heavy machinery has declined in recent years. During FY21, production stood at only ~284 MTs, a decline of ~20% from ~357 MTs produced in FY20. Demand for locally produced machinery is low since imported machinery has more advanced technology and better quality.
- Moreover, the government has given various incentives, such as sales tax and custom duty exemptions on imported machinery for the Special Technology Zones and Export Processing Zones to encourage investments and new ventures.

| Sector Overview | FY19 | FY20 | FY21 |
|---|---|---|---|
| Import Value (PKR bln) | 1,212 | 1,388 | 1,617 |
| Import Value (USD mln) | 8,922 | 8,296 | 10,145 |
| Local Production of Heavy Machinery (MT) | 873 | 357 | 284 |
| Industry Association | Engineering Components & Machinery Manufacturing Association of Pakistan (ECMMA) [Members: 194] | | |

Source: PBS

# Machinery

## Production

- Although majority of machinery demand is met through imports, there is some local production of agricultural and industrial machinery.
- However, the number of units produced has been declining since FY20 when the COVID-19 pandemic caused disruption to various industries.
- Agricultural machinery comprises of chaff cutters, sugarcane machinery and wheat thrashers. While industrial machinery includes power looms, electric motors, switch gears and electric transformers.

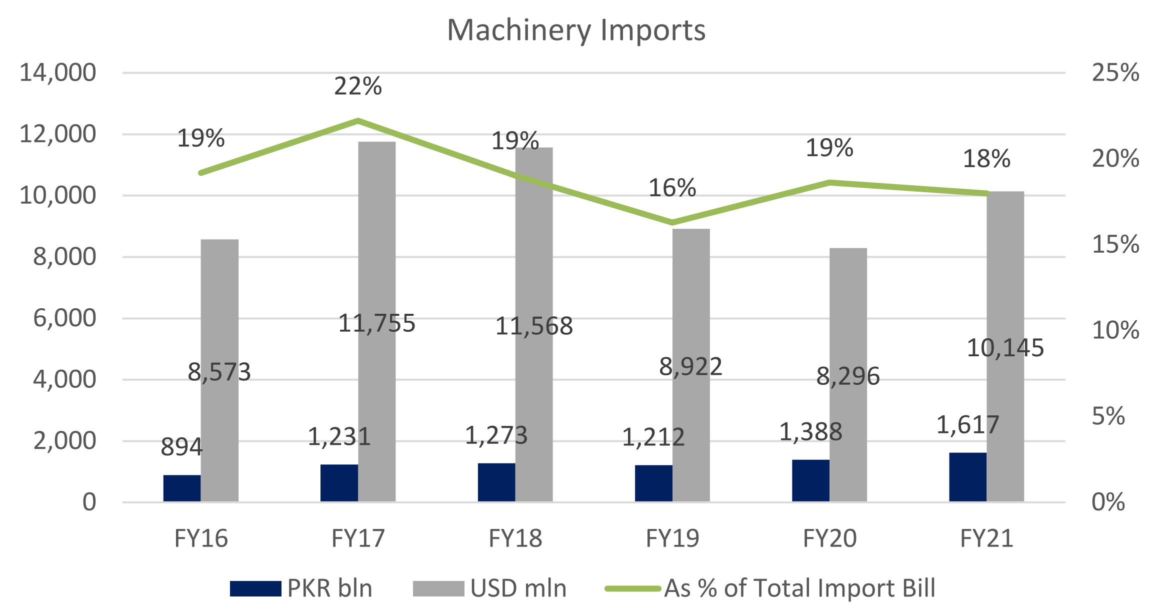
| Local Machinery Production (No. of Units) | | | | | | |
|---|---|---|---|---|---|---|
| **Category** | **FY16** | **FY17** | **FY18** | **FY19** | **FY20** | **FY21** |
| Agricultural | 19,609 | 15,800 | 13,609 | 16,911 | 13,878 | 11,450 |
| Industrial | 53,511 | 58,852 | 86,285 | 93,250 | 65,034 | 65,690 |

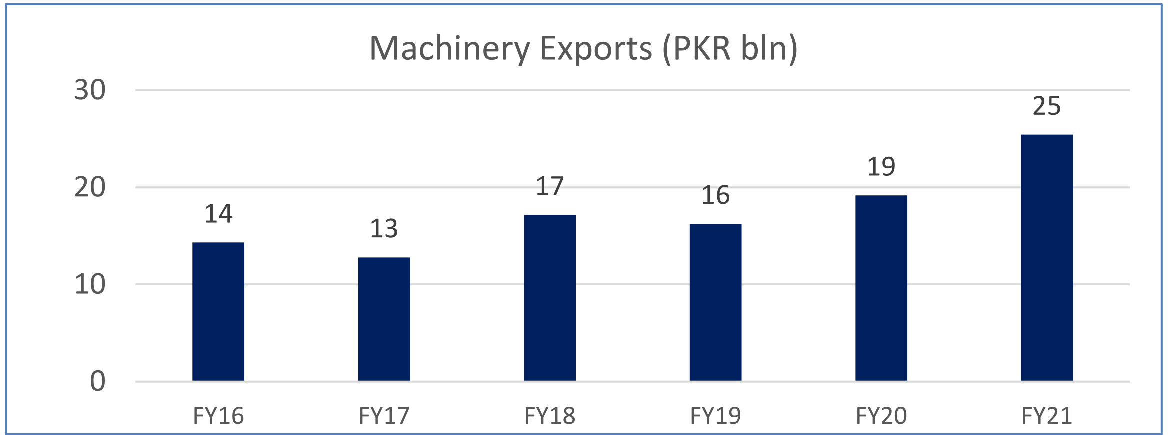
Source: PBS

# Machinery

## Imports & Exports

- Due to the absence of a significant local machinery manufacturing industry, most of Pakistan's industrial segments rely on imported machinery.
- During FY21, import of machinery grew ~17% YoY and stood at PKR~1,617bln. The increase was due to the general increase in economic activity in the country. Moreover, SBP introduced Temporary Economic Refinance Facility (TERF) which offered discounted rates of borrowing for new plants, expansion and BMR activities in the aftermath of COVID-19. Due to this investments and import of machinery increased during FY21.
- During FY21, machinery imports accounted for ~18% of the country's total import bill. The share of machinery imports in the country's export bill has remained relatively stable in recent years.
- In comparison with the large size of imports, Pakistan's machinery exports remain minimal. During FY21, exports stood at PKR~25bln, an increase of ~33% from PKR~19bln in FY20.



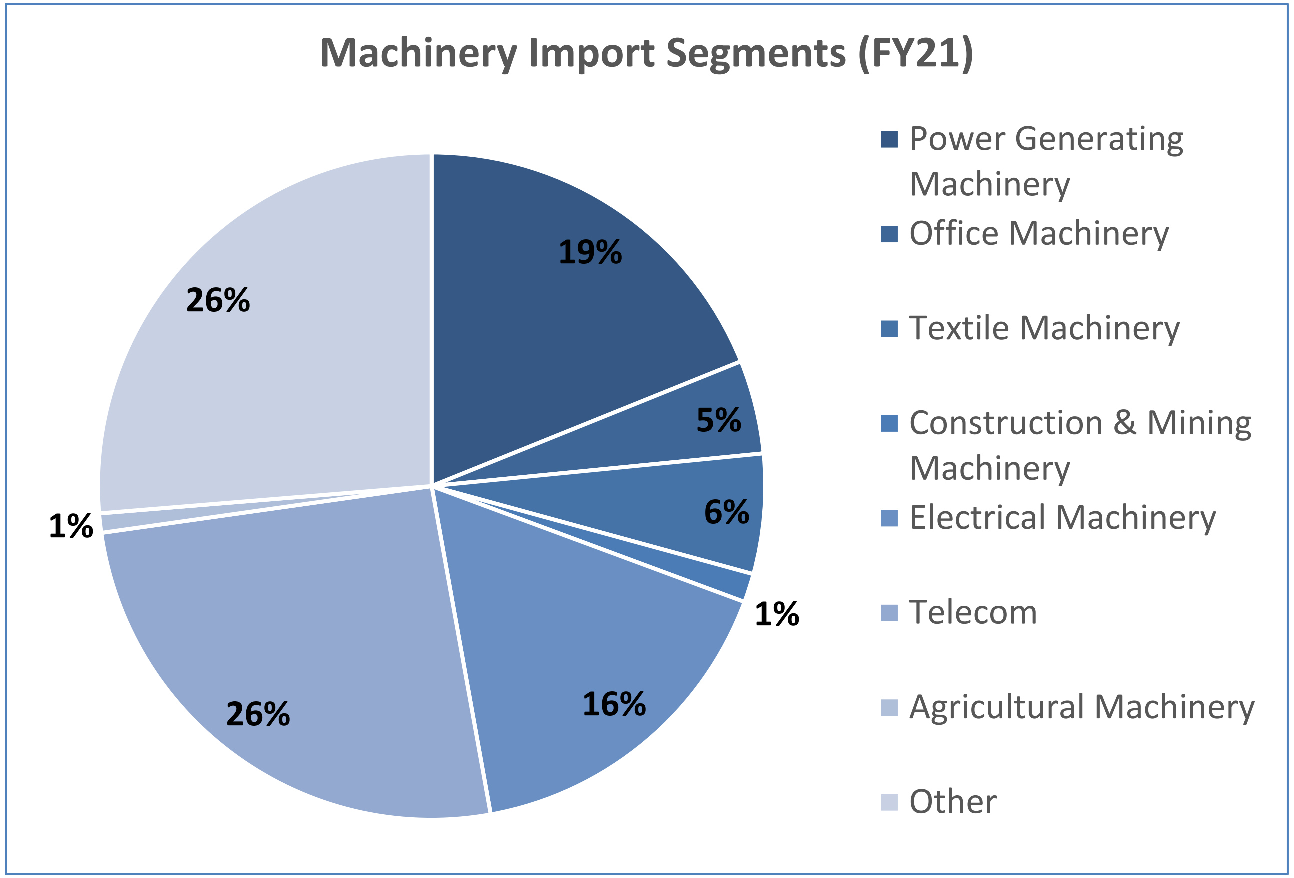




Source: PBS

# Machinery

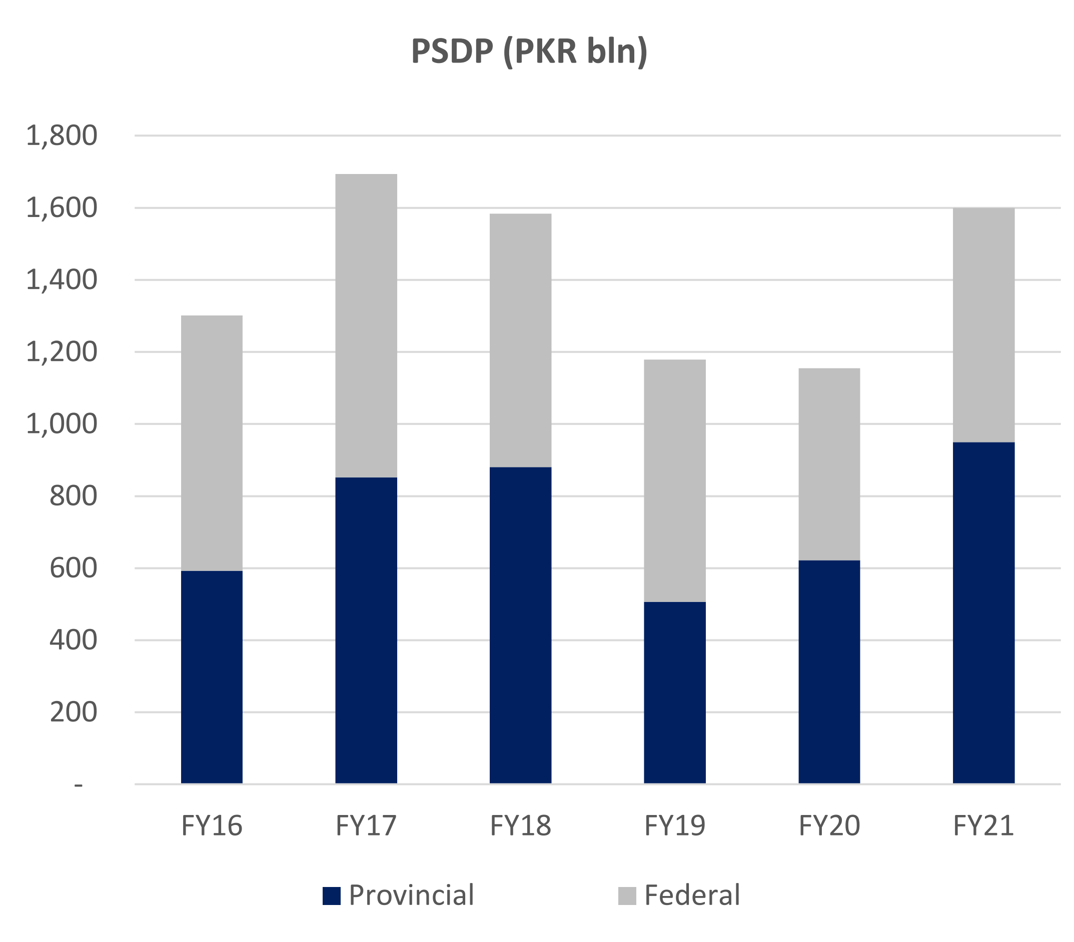
## Import Segments

- There are various segments that make up the machinery group imports.
- The largest segment is telecom which accounts for ~26% of total machinery imports and stands at PKR~414bln. Mobile phone imports make up a significant portion of telecom machinery imports.
- Another large segment is power generating machinery, which accounts for ~19% of total machinery imports. During FY21, this segment had the highest growth of ~40% and stood at PKR~306bln.
- In addition, electrical machinery accounts for ~16% of total imports and stood at PKR~267bln during FY21.



## Pumps & Valves

- A pump is a device which moves fluids by mechanical action, from one place to the other. It is, essentially, the earliest form of machine, dating back to ancient Egypt. Contrary to general misunderstanding, pumps are used for any kind of fluids not just water. Centrifugal pumps are the most commonly used pumps.
- Valves are mechanical devices that controls the flow and pressure within a system or process. They are essential components of a piping system that transfer liquids, gases, vapours, slurries etc.
- The estimated market size of pumps and valves segment was PKR~9.0bln during CY20, with a slight decline of ~4% in market size from PKR~9.4bln in CY19 due to the COVID-19 pandemic which caused hinderance to economic activities including in the form of delayed investments.
- The pumps and valves manufacturing segment receives significant demand from government departments such as Water and Sanitation Agency (WASA) and Karachi Water and Sewerage Board (KWSB). In addition, PSDP spending on various projects also spurs demand for these segments.
- The increase in budgeted federal PSDP from PKR~650bln in FY21 to PKR~900bln in FY22 should result in growth for sectors catering to the machinery demand from government departments and projects.




Source: Economic Survey, Planning Commission, Market Estimates

# Machinery

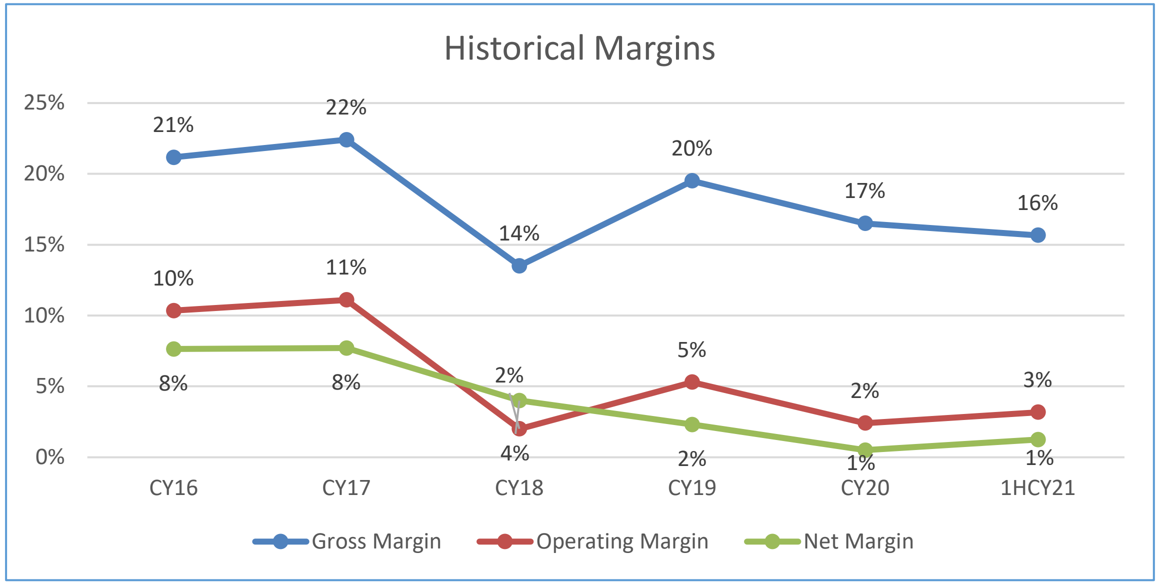
## Business Risk

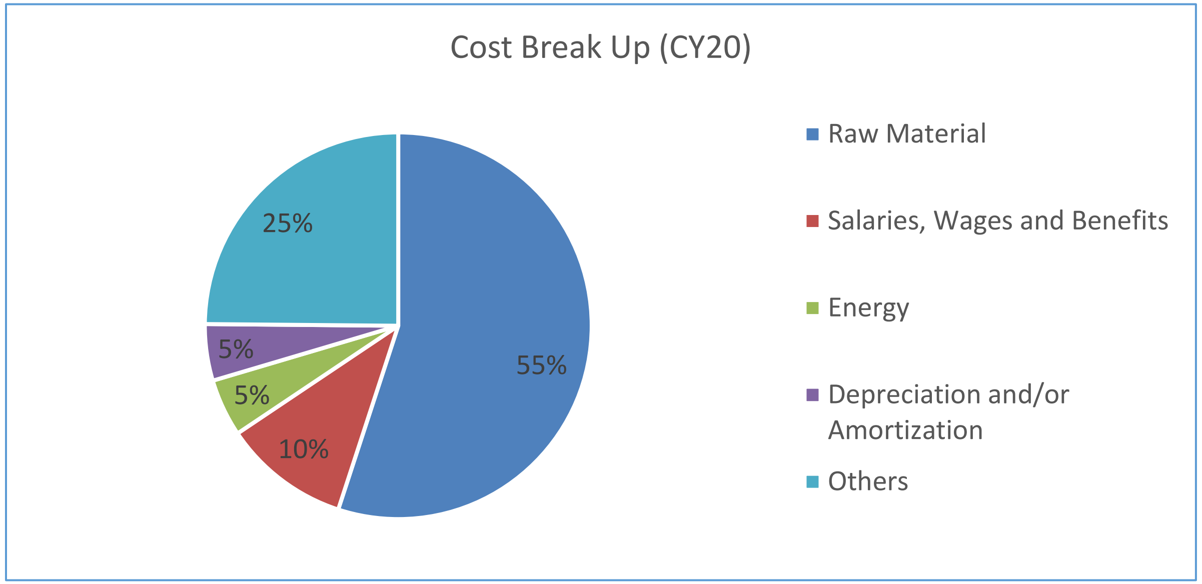
- **Lack of advanced technology:** While the international machinery industry makes continuous advances in terms of technology, particularly with rapid growth in areas such as Artificial Intelligence and Big Data Analytics, the local industry is significantly lagging behind. Most of the machines produced by local manufacturers are not consistent with the latest and most advanced technology adopted in the rest of the world.
- **Reliance on imports:** Since the local industry does not cater to latest technological advances and a number of types of machinery are not produced in the country, as a result, various industries are reliant on imported machinery. The import of machinery constitutes a large portion of the country's import bill while the reliance on imports also makes importers more vulnerable to exchange rate risk.
- **Delay in receivables:** A significant portion of demand, particularly for the pumps and valves segment, is based on orders from government departments such as WASA and KWSB. While this provides a steady income stream for the manufacturers it can also create issues with regards to working capital as often receipt of payments from government organizations can be delayed.
- **Sensitive to economic conditions:** Demand for new machinery is linked to general economic conditions. During periods of growth and in low interest rate environment new investments are likely to increase. However, during periods of economic uncertainty or contraction, new investments are likely to slow down and government spending would also decrease. Thus reducing demand for the machinery manufacturing sector



## Margins & Cost Structure

- Over the last five years, the sector's average gross margins have stood at ~19% while average net margins stood at ~4%. The sector has moderate level of gross margins. However, there has been a declining trend in net margins largely due to rising finance costs. The sector was negatively impacted by the COVID-19 pandemic which resulted in an overall decline in margins during CY20. Gross margin fell from ~20% in CY19 to ~17% in CY20, operating margin fell from ~5% to ~2% and net margin fell from ~2% to ~1%.
- During 1HCY20, gross margin declined slightly to ~16% from ~17% in CY20. However, operating margin improved slightly from ~2% in CY20 to ~3% in 1HCY21 and net margin remained stable at ~1%.
- The largest component within the sector's direct costs is raw material which contributes ~55% to total direct costs. The raw material largely consists of various types of metals such as iron and steel.



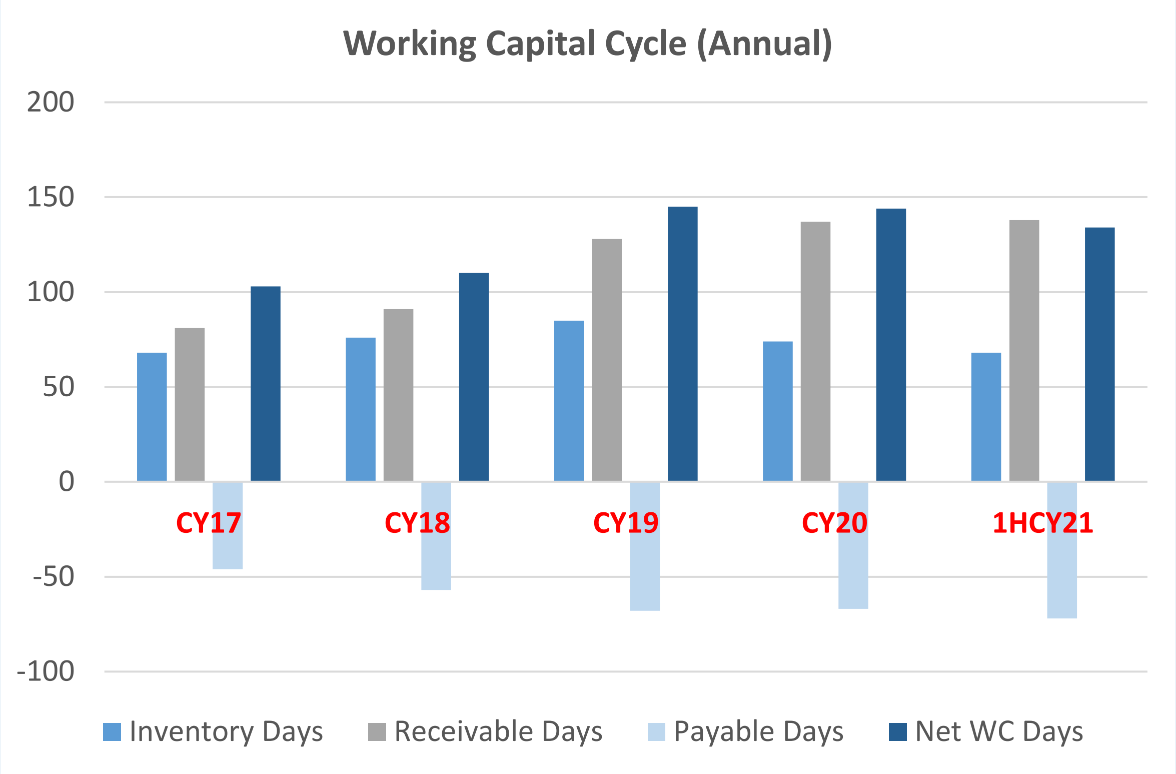



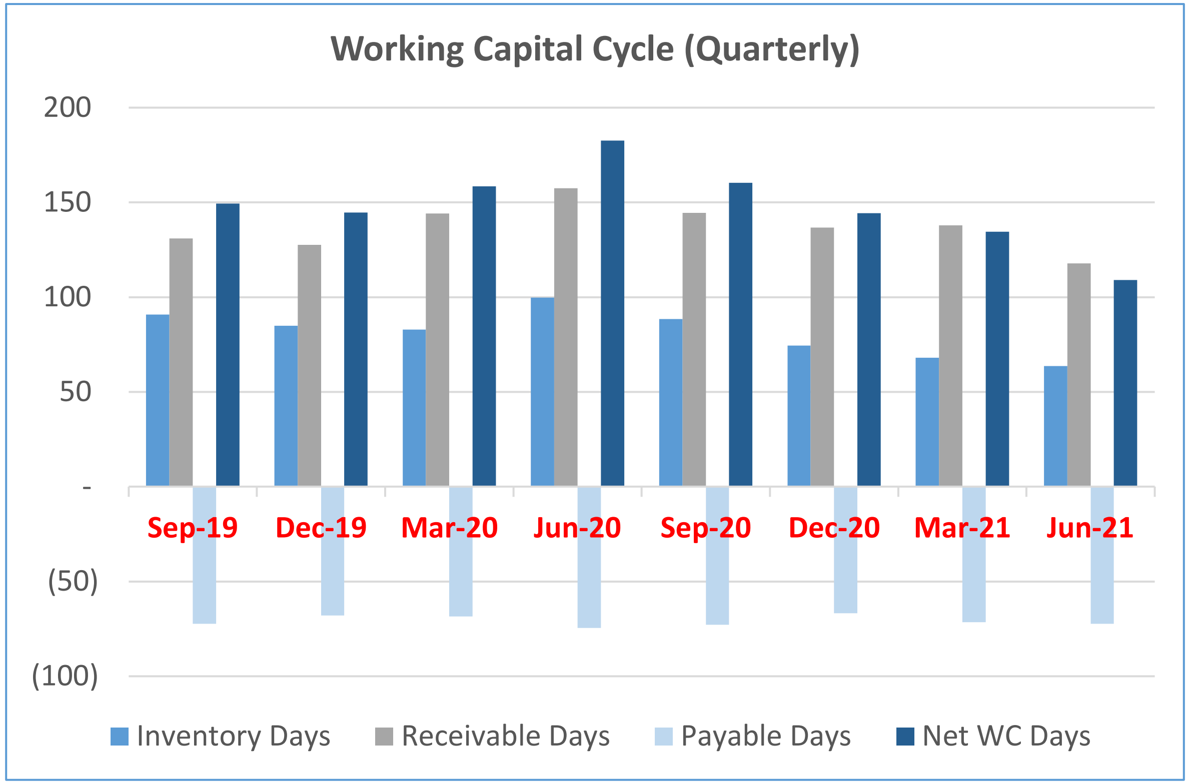

*Note: Margins and cost break up are reflective of ~1 listed/rated player belonging to pumps and valves segment*

Source: PSX, PACRA Database

# Financial Risk – Working Capital

- Over the last four years, the sector's working capital cycle has averaged ~125 days. Although in recent periods there has been an increasing trend in net working capital days due to slower receivable conversion rate.
- The sector's receivable days are relatively high as a significant portion of sales are to government departments and projects from which receipts can be delayed.



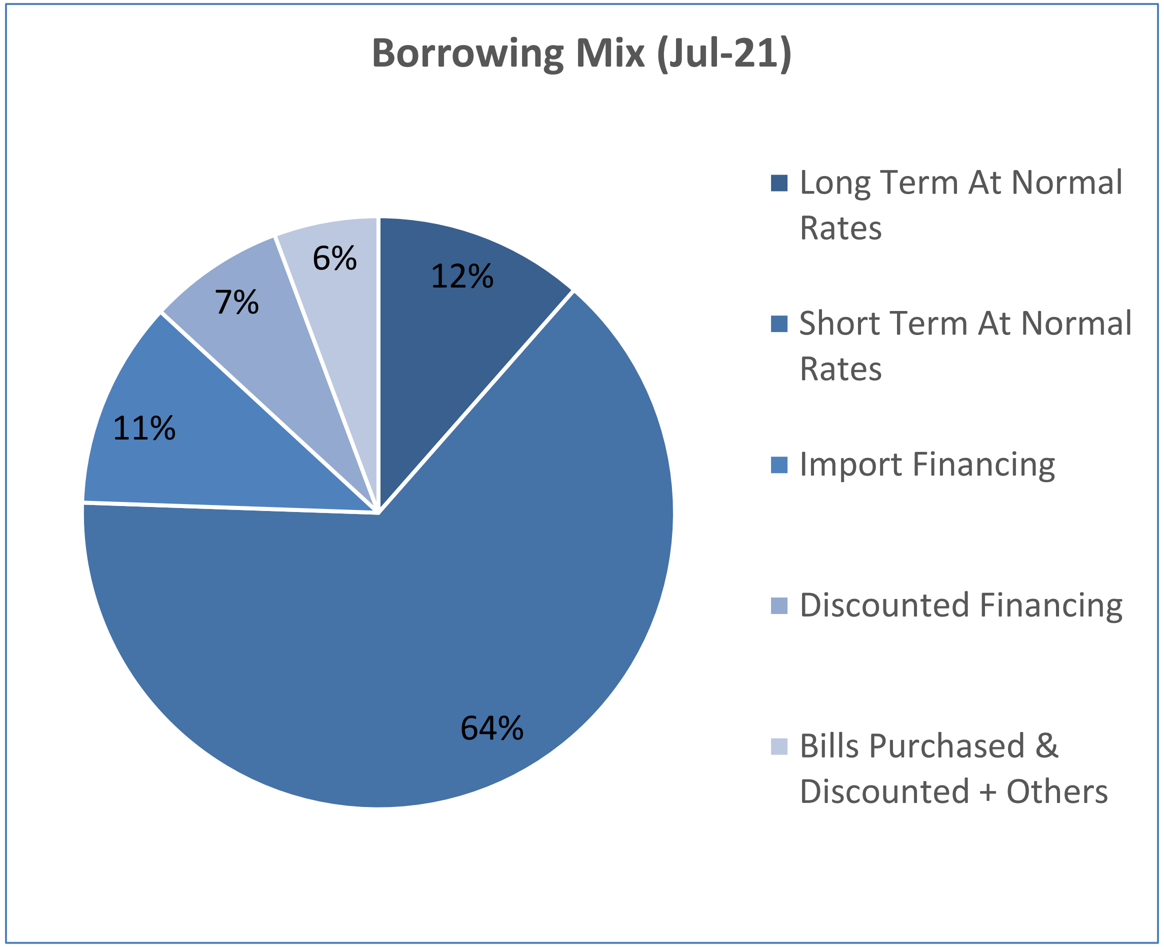




*Note: Working capital cycle is reflective of ~1 listed/rated player belonging to pumps and valves segment*

Source: PSX, PACRA Database

## Financial Risk – Borrowing Mix

- The total borrowing of machinery sector as at End-Jul-21 stood at PKR~13,575mln as compared to PKR~19,377mln at End-Jun-20.
- The largest share is occupied by short term borrowing at normal rates which accounts for ~64% and stands at PKR~8,698mln. In addition, long term borrowing at normal rates and import financing contribute ~12% and ~11%, respectively to total borrowing and stand at PKR~1,558mln and PKR~1,536mln.
- Discounted borrowing for the sector amounts to ~7% of total borrowing which consists of Export Finance Scheme (EFS), Long Term Financing Facility (LTFF) and Temporary Economic Refinance Facility (TERF) (EFS: PKR~763mln, LTFF/TERF: PKR~247mln).
- The average leveraging for the sector stands at ~40% (moderately leveraged).




*Note: Leverage figure is reflective of ~1 listed/rated weaving players belonging to pumps and valves segment*

Source: SBP, PACRA Database

## Regulatory Framework

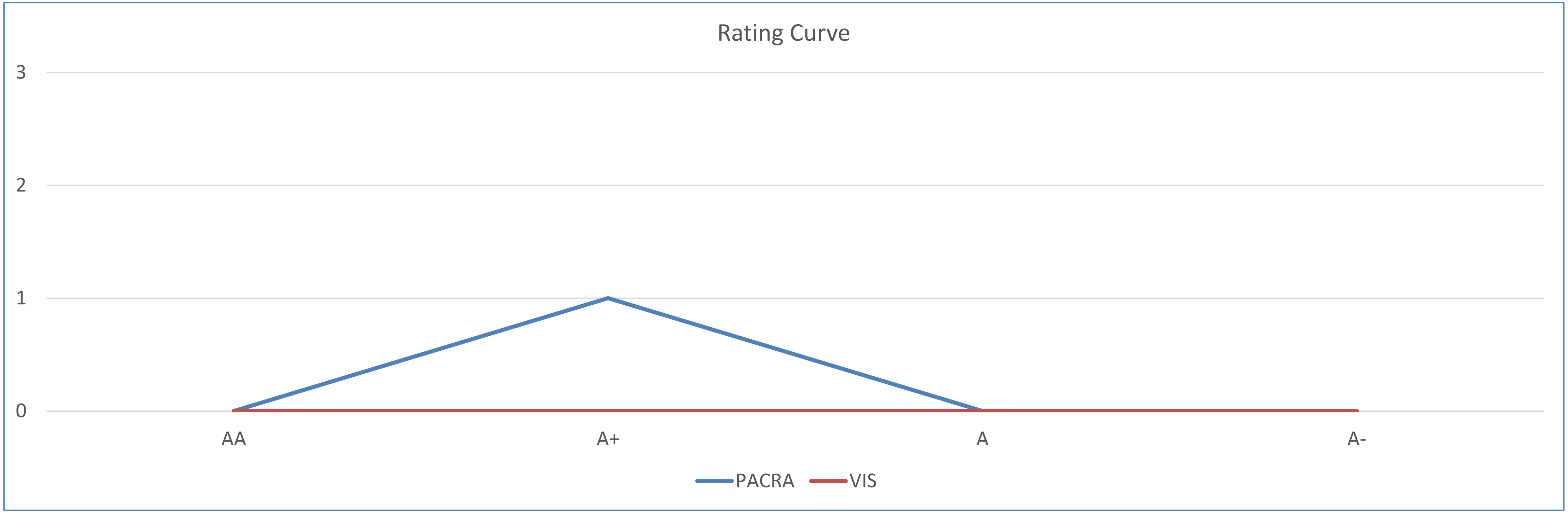
- With respect to Income Tax, the machinery manufacturing sector is under the Normal Tax Regime (NTR). Further, Minimum Tax @ 1.5% of turnover is also applicable, if tax liability under NTR is lower than minimum tax. However, the additional tax paid under minimum tax is adjustable against future tax liabilities for the next five years.
- While sales tax of 17% is generally applicable on the sale of machinery there are several exemptions. For example, sales tax of 7% is applicable on agricultural machinery. Moreover, plant and machinery, both locally manufactured and imported, intended for use in Export Processing Zones and Special Technology Zones are exempt from sales tax payment, subject to certain conditions.
- In response to the COVID-19 pandemic, SBP introduced several measures intended to provide relief to the industries. These measures included loan extension and refinancing, loan for payment of employee salaries and wages and facilitation of new investment, expansion and BMR activities through the Temporary Economic Refinance Facility (TERF).
- In addition, SBP also reduced the monetary policy rate by 625bps to 7% which significantly reduced the sector’s finance costs.
- The custom duty structure for the import of machinery is greatly varied, with different rates applicable to different types of machinery. Agricultural machinery is exempt from custom duty. Moreover, machinery imported for use in Special Technology Zones is also exempt from payment of custom duties for up to 10 years.
- The industry is represented by the Engineering Components & Machinery Manufacturing Association of Pakistan (ECMMA) which has approximately 194 members.

Source: SBP, FBR

# Machinery

## Rating Curve

- PACRA rates 1 machinery player with a rating of long term rating of A+ and short term rating of A1.




Source: PACRA Database

# Machinery

## SWOT Analysis

### Strengths

- Certain segments benefit from demand from government departments and projects
- Reduced sales tax and custom duty rates for various sectors in order to encourage investment.

### Weaknesses

- Lack of advanced technology
- Reliance on imports
- Government clients often have delays in payments

### Threats

- Uncertainty due to the continuing COVID-19 pandemic.
- Significant competition from imports
- Obsolescence of machinery

### Opportunities

- Increase in budgeted PSDP is likely to increase demand
- SEZs/STZs provide incentives for new investments
- Availability of discounted borrowing in the form of LTFF/TERF.

# Machinery | 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.

- The government's increased Federal PSDP budget for FY22 at PKR~900bln as compared to PKR~650bln in the previous year is likely to boost demand for those machinery segments, such as pumps and valves, which receive significant demand from various government departments and projects.

- Moreover, the government has introduced incentives for various sectors such as the construction sector, the technology sector as well as export oriented sectors which are likely to boost investments and thus increase demand for machinery. In addition, the introduction of Temporary Economic Refinance Facility (TERF) at discounted rates for the purpose of investments and BMR activities is also likely to have a positive impact on demand for machinery.

- 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. Moreover, the interest rate is also not expected to witness any major hike in the short-term.

- Despite the government of Pakistan's efforts to boost economic activity in various sectors and increase import substitution, the country's dependence on imported machinery is expected to remain high in the medium to long-term due to lack of technological development, financial resources and R&D.

Source: PBS, SBP

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