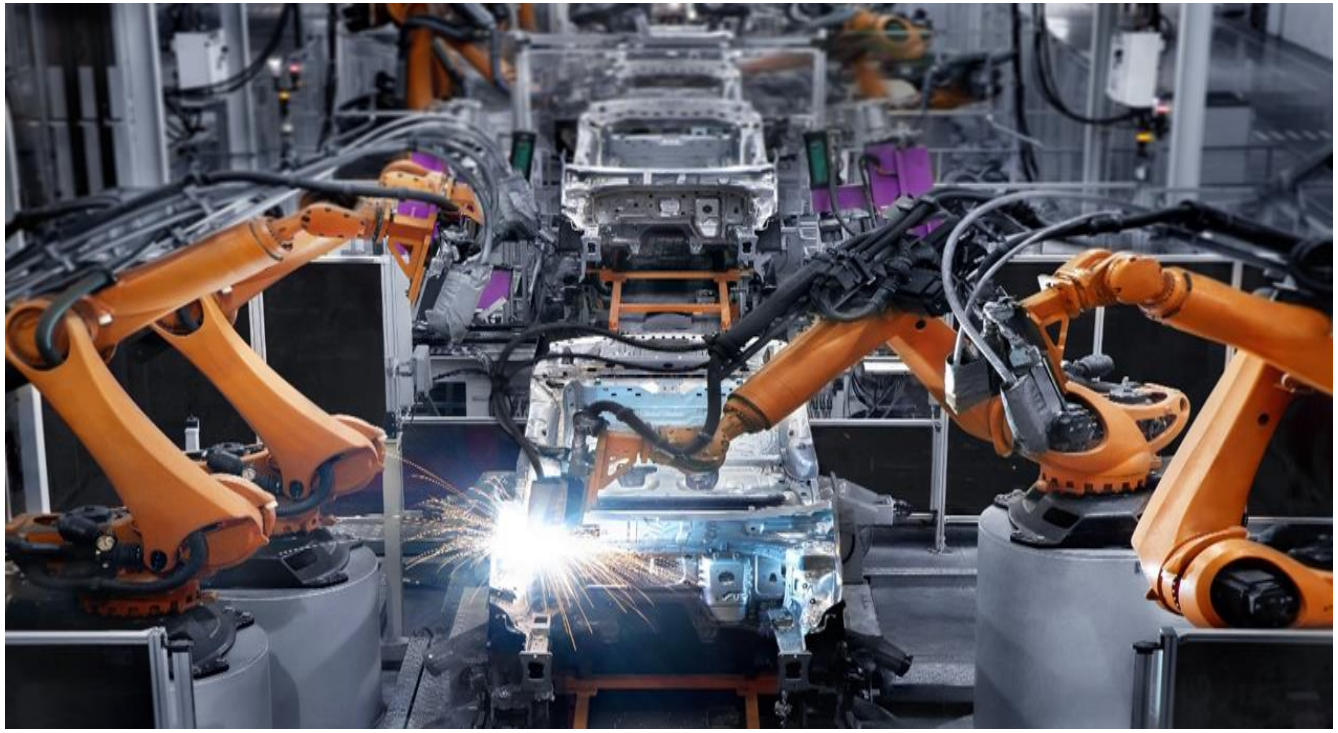
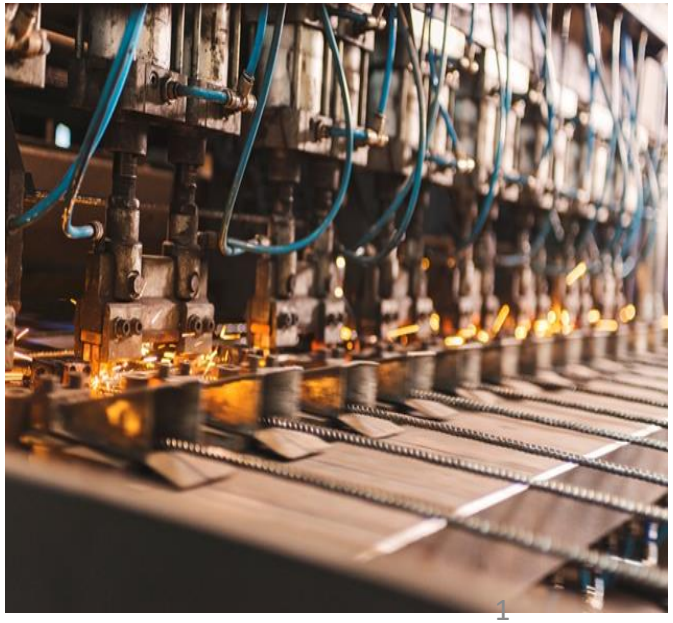
SECTOR STUDY | 3 JANUARY 2026

Together. Creating Value.

Machinery





Research Team

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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, Mining, and Industrial Machinery. Other categories include Commercial and Service industry Machinery, Metalworking Machinery, and Heating & Refrigeration equipment. It also includes Engines, Turbines Power transmission equipment, and other general-purpose Machinery.

Agricultural Machinery: This includes tractors, cultivators, plows, harvesters, threshers, and many other types of Machinery used by the agricultural industry to assist in various processes, such as cultivation, 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 the food and beverage industry, packaging Machinery, and various types and components of assembly lines.

Machinery

Global | Overview

- **Market Size**: The global Machinery market was recorded at USD~3,782.0bln in CY24 up ~5.6% YoY (CY23: USD~3,581bln). The growth experienced an uptick technological advancements and their transformative impact on Machinery manufacturing. The Sector is further expected to grow to USD~4,001.2bln in CY25 at a compound annual growth rate (CAGR) of ~5.8%.

- **Demand**: Rapid advances in technology are expected to drive innovation in industrial Machinery manufacturing, thus driving growth for the industry, going forward. Technologies such as 3D printing, artificial intelligence, and big data analytics are being used in manufacturing, resulting in higher productivity, lower operating costs, and higher margins. Energy efficiency and environmental impact are key consideration in new machinery procurement, especially in developed economies.

- **Region**: The top global Machinery manufacturers are Asia-Pacific, China, Western Europe, Eastern Europe, North America, the USA, South America, the Middle East, and Africa. Among these regions, the Asia-Pacific Machinery manufacturing market accounts for the largest share of the global Machinery manufacturing market.

- **Major Players**: The 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 in the UK, Switzerland, and Germany, respectively, and Daikin Industries and Komatsu Limited, which are based in Tokyo, Japan. These companies account for a significant share of the global market due to high levels of R&D and technological advancements.

Source: Business Research Company

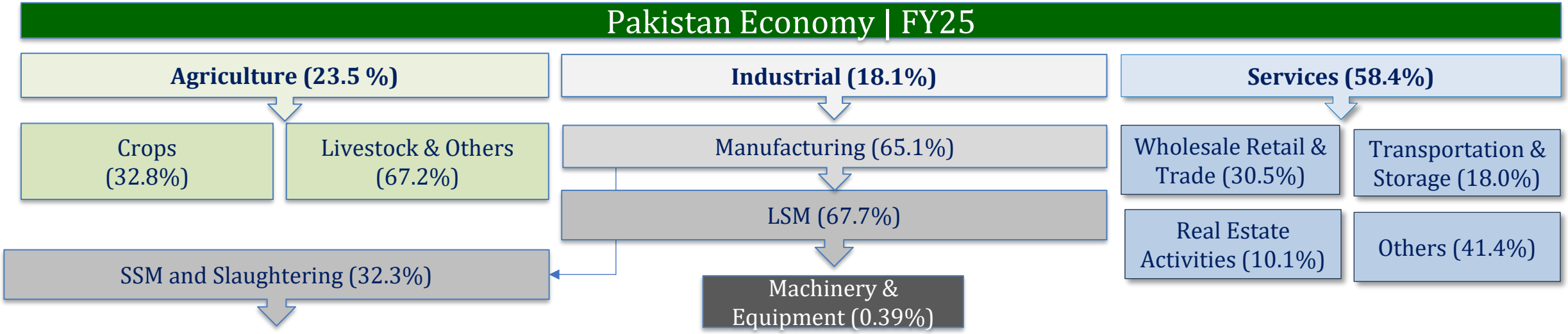
Machinery

Local | Overview

- In FY25, Pakistan's GDP (nominal) increased to PKR~114.7trn (FY24: PKR~105.1trn). The GDP in real terms grew by ~2.7% YoY in (FY24: ~2.5%) and ~3.7% in 1QFY26. The GDP growth target for FY26 is ~3.25% according to the State Bank of Pakistan and ~4.2% according to the Government of Pakistan.

- Industrial activities in FY25 contributed ~18.1% share to the GDP, while the manufacturing activities made up ~65.1% of the value addition in the Industrial activities. Large-scale manufacturing (LSM) in Pakistan is considered essential for economic growth, given its linkages with other sectors. LSM represented ~67.5% of the value of the manufacturing activities in FY25. However, the LSM contracted by ~1.5% YoY in FY25 (FY24: ~0.9% YoY). In 4MFY26, LSM has posted growth of ~5.02% after several quarters of negative or stagnant growth.

- The Machinery and Equipment Sector is classified as a Large-Scale Manufacturing (LSM) component within the industrial sector. In FY25, the sector's weight in the Quantum Index of Manufacturing (QIM) remained limited at ~0.39%, reflecting Pakistan's significant lag in technological advancement and high-end manufacturing capabilities, alongside a heavy reliance on imported machinery and equipment.



Source: PBS

Machinery

Local | Snapshot

- The majority of Machinery demand in Pakistan is driven by large industries such as construction, textiles, manufacturing, and energy. This is primarily met through imports. Limited investment in technology and R&D has constrained the domestic Machinery Sector, resulting in lower production efficiency, technological advancement, and quality compared to international benchmarks.
- During FY25, Machinery imports accounted for ~16.5% of the country's total import bill (FY24: ~15.5%), with import value of USD~9,637.0mln (FY24: USD~8,501.0mln). This reliance on imported Machinery persisted into 5MFY26, during which Machinery imports increased by ~20.3% YoY and were recorded at USD~4,273.0mln in value terms (SPLY: USD~3,553.0mln).
- Imported Machinery primarily comprises Electrical Machinery, Power Generating Machinery, and other equipment, including but not limited to printing, laundry, and shoemaking Machinery.
- Local Machinery production encompassing agricultural Machinery (chaff cutters, sugarcane machines, wheat thrashers) and industrial Machinery (power looms, electric motors, switch gears, electric transformers) declined by ~8.1% to ~53,336 units in FY25 (FY24: ~58,040 units).
- In 4MFY26, Machinery production stood at ~17,529 units, reflecting a ~10.3% YoY increase. A category-wise breakdown of Machinery production volumes is provided in the next table. Despite this recovery, overall Machinery demand continues to be met largely through imports, as domestic manufacturing remains constrained.
- Machinery exports remain modest and showed some improvement during FY25, rising by ~19.1% YoY to USD~218.0mln (FY24: USD~183.0mln). During 5MFY26, export value was recorded at USD~107.0mln, up ~9.2% YoY (SPLY: USD~98.0mln).
- Machinery exports mainly consist of Electrical Machinery, Specialized Machinery, and Other Machinery, which includes but is not limited to mechanical appliances, agricultural Machinery, and tobacco Machinery.

Sector Overview	FY23	FY24	FY25	5MFY25	5MFY26
Local Production* (Units)	70,804	58,040	53,336	15,898	17,529
Imports (USD mln)	5,808	8,501	9,637	3,553	4,273
Total Country Imports (USD mln)	55,330	54,779	58,386	24,998	28,405
Imports (% of Total Country Imports)	10.5%	15.5%	16.5%	14.2%	15.0%
Exports (USD mln)	180	183	218	98	107
Industry Association	Engineering Components & Machinery Manufacturing Association of Pakistan (ECMMA)				

** Production data is reflective of 4MFY26 and its corresponding period.*

Source: PBS

Machinery

Local | Production

- Although most Machinery demand is met through imports, local production of agricultural and industrial Machinery is primarily used in the Small and Medium Enterprises and agriculture chain. Agricultural Machinery includes chaff cutters, sugarcane Machinery, and wheat thrashers, while industrial Machinery comprises power looms, electric motors, switch gears, and electric transformers.
- Agricultural Machinery production recorded a marginal YoY decline of ~0.8%, standing at ~8,819 units during FY25 compared to ~8,886 units in FY24. This slight contraction is primarily attributable to the negative performance of the LSM sector. However, production witnessed a marginal recovery in 4MFY26, increasing by ~0.9% YoY to ~2,924 units (SPLY: ~2,897 units).
- On the other hand, industrial Machinery production stood at ~44,517 units in FY25, reflecting a YoY decline of ~9.4% from ~49,154 units recorded in FY24. Despite this contraction, production showed signs of recovery in 4MFY26, rising by ~12.3% YoY to ~14,605 units (SPLY: ~13,001 units).
- Overall, the number of units produced has been on a declining trend since FY23. The decline is due to subdued post-COVID growth across industries and the broader economy.
- However, with the gradual recovery in economic activity during FY26, local Machinery production has begun to show early signs of improvement.

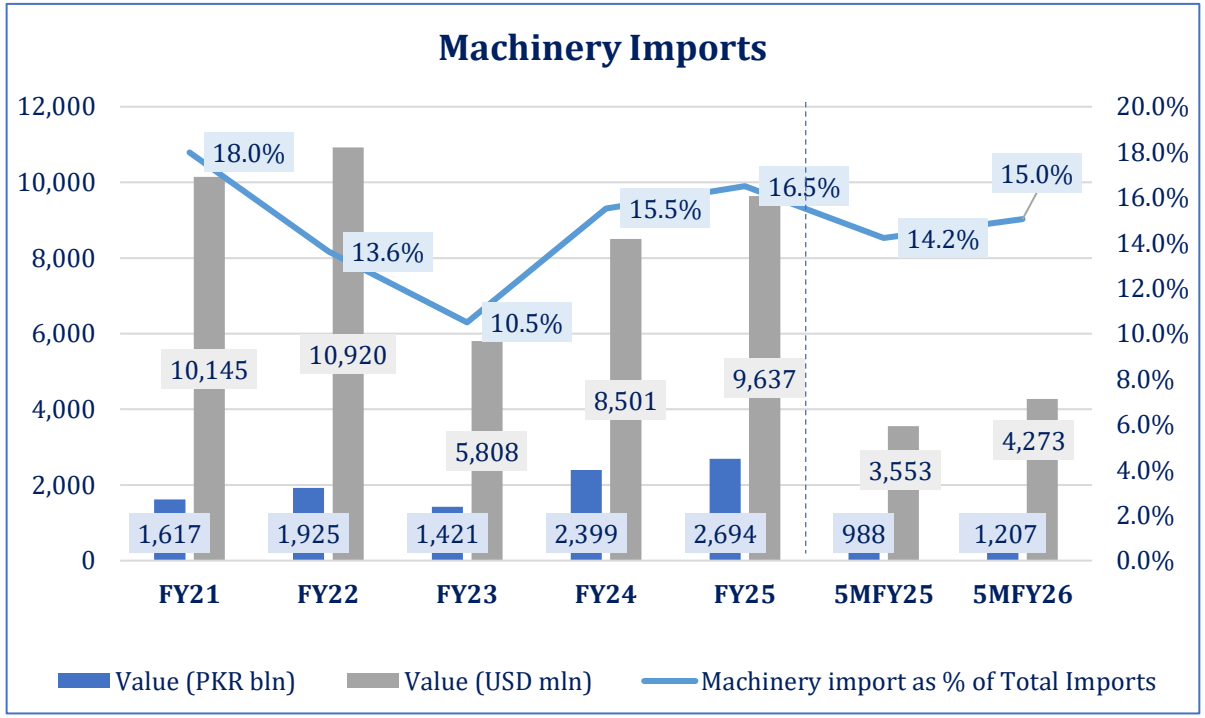
Local Production (Units)					
Category	**FY23**	**FY24**	**FY25**	**4MFY25**	**4MFY26**
Agricultural	**8,617**	**8,886**	**8,819**	**2,897**	**2,924**
Chaff Cutters	8,246	8,276	8,080	2,665	2,685
Wheat Thrashers	331	579	707	224	231
Sugarcane Machines	40	31	32	8	8
Industrial	**62,187**	**49,154**	**44,517**	**13,001**	**14,605**
Power Looms	552	605	646	211	216
Electric Motors	18,756	16,539	16,661	5,412	7,083
Switch Gears	11,103	9,660	9,117	1,943	1,710
Electric Transformers	31,776	22,350	18,093	5,435	5,596
Total	**70,804**	**58,040**	**53,336**	**15,898**	**17,529**

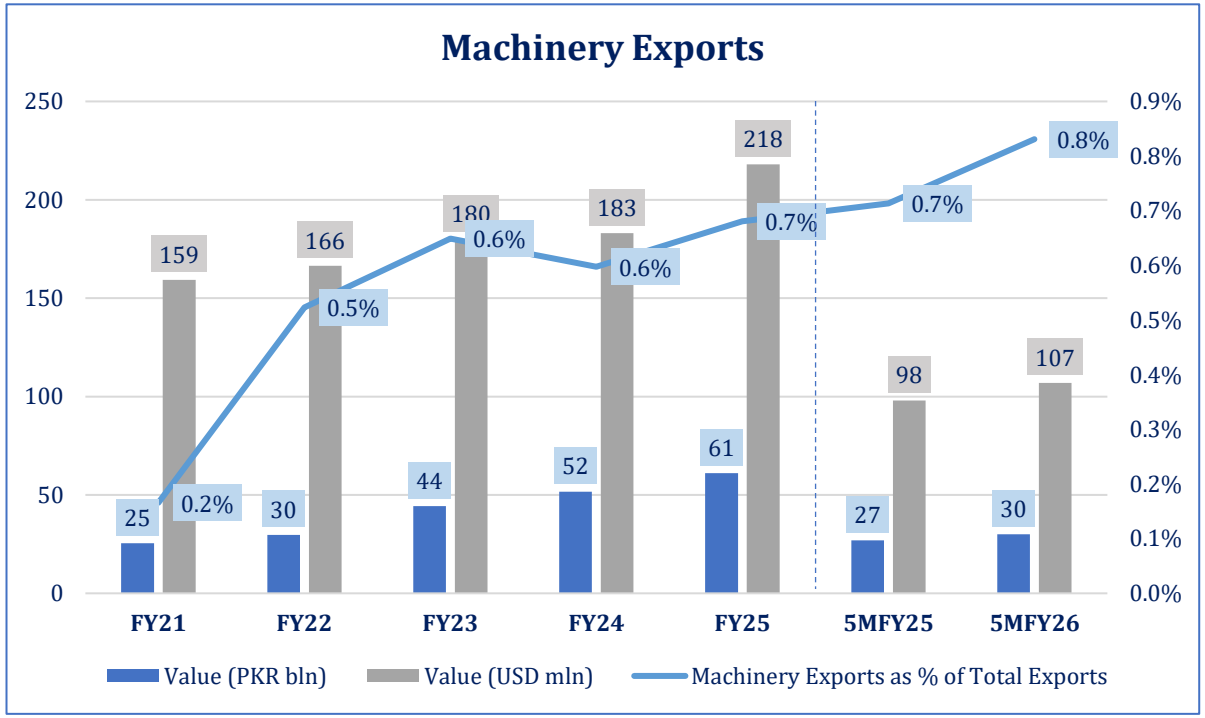
Source: PBS

Machinery

Local | Imports and Exports

- A segment-wise analysis of exports shows that Electrical Machinery and Other Machinery (which includes mechanical appliances, agricultural Machinery, tobacco Machinery, rubber and plastic Machinery, dairy Machinery, among others) recorded growth of ~31.3% and ~8.9%, respectively, during FY25.
- This growth further accelerated in 5MFY26, with exports rising by ~52.2% for Electrical Machinery and ~24.5% for Other Machinery.
- On the other hand, Specialized Machinery exports increased by ~23.6% during FY25 but witnessed a significant decline of ~42.2% in 5MFY26, indicating volatility within this segment.





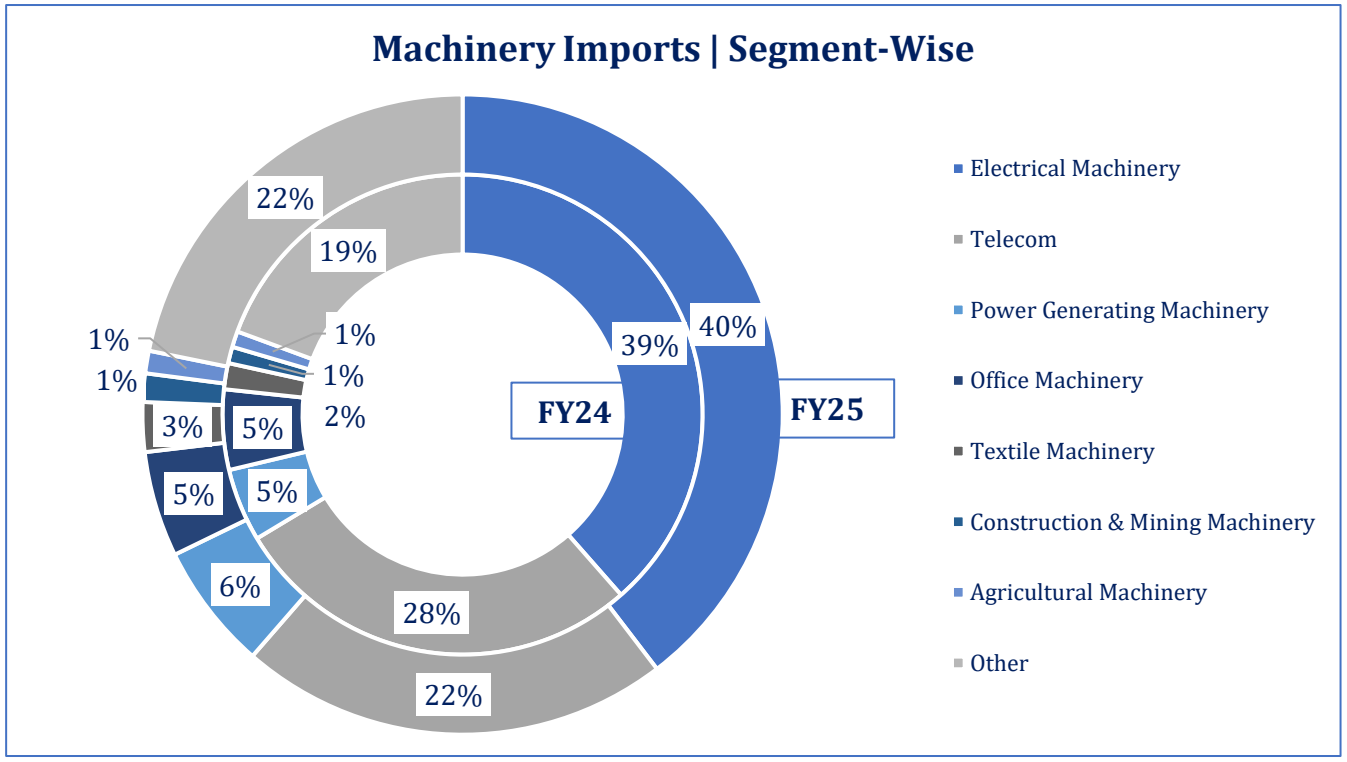
Note: *HS code: 8413, 8414, 8417, 8432, 8433, 8501, 8502*

Source: PBS

Machinery

Local | Segment-wise Imports

- In FY24, Electrical Machinery, and Telecom comprised ~39.0% and ~28.0%, respectively, of the total Machinery group imports. Other Machinery (including but not limited to mechanical appliances, agriculture Machinery, tobacco Machinery, rubber and plastic Machinery, and dairy Machinery among others) was second largest importing group, forming ~19.0% of the total Machinery import.
- In FY25, the largest import segment was once again Electrical Machinery which accounted for ~40.0% of the total Machinery imports and stood at USD~3,818mln (FY24: USD~3,275mln). The second largest individual import segment is Telecom (~21.8%), with the third largest overall import segment being Power Generating Machinery (~6.4%).



Segment-wise Imports (USD mln)	FY23	FY24	FY25	5MFY26
Electrical Machinery	1,667	3,275	3,818	1,179
Telecom	957	2,367	2,099	1,086
Power Generating Machinery	500	418	616	305
Office Machinery*	340	459	514	297
Textile Machinery	329	149	241	257
Construction & Mining Machinery	85	94	138	98
Agricultural Machinery	41	91	110	58
Others	1,889	1,647	2,101	994
Machinery Group	**5,808**	**8,501**	**9,637**	**4,273**

Note: *Office Machinery includes computer equipment, photocopiers, printers, scanners, and others*

Source: PBS

Machinery

Local | Types of Machinery

Pumps

- A pump is a hydraulic device that lifts fluids from low to high levels and moves fluids from low to high-pressure areas. It transfers fluid by converting the fluid's mechanical energy into pressure energy (hydraulic energy). It is, essentially, the earliest form of machine, dating back to ancient Egypt.
- Centrifugal pumps are the most commonly used pumps. These pumps are mostly used for pumping water, solvents, organics, oils, acids, bases, and any 'thin' liquids in both industrial, agricultural, and domestic applications.

Valves

- Valves are mechanical devices that control the flow and pressure within a system or process. Valves are essential components of a piping system that transfer liquids, gases, vapors, slurries, etc.
- Different types of valves include gate, globe, plug, ball, butterfly, check, diaphragm, pinch, pressure relief, control valves, etc. Each of these types has several models with different features and functional capabilities.

"The focus of this study will be limited to Pumps, Valves, and Industrial Engineering/Power Generation equipment. "

Source: Economic Survey, Planning Commission

Machinery

Local | Types of Machinery

Generator Sets

- A Generator set or a "genset" is a portable energy-producing equipment that consists of an engine and an alternator/electric generator. Generators are frequently utilized in developing countries and other non-grid-connected locations where power outages are common. An engine turns a fuel's chemical energy into mechanical energy. The mechanical energy is converted to electrical energy by spinning the alternator rotor.
- An alternator is composed of two major components: a rotor and a stator. Through the phenomena of electromagnetic induction, spinning the alternator rotor through the magnetic field between the rotor and stator generates a voltage on the alternator stator. When the stator voltage is coupled to a load, electrical current flows and the generator generates electricity.

Solar Panels

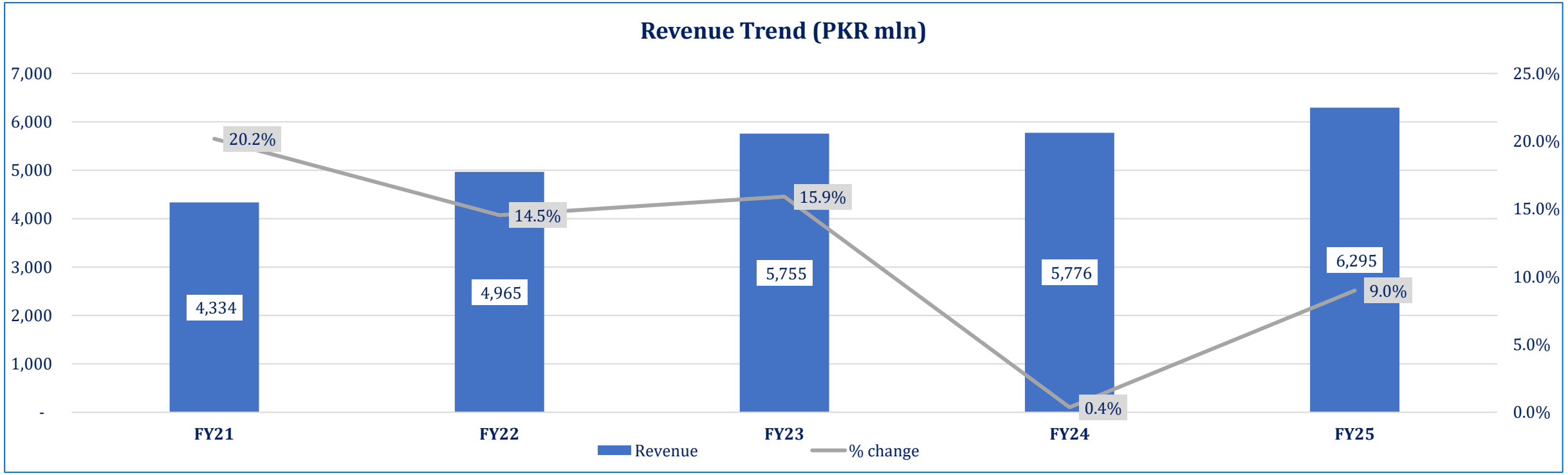
- Solar technologies use photovoltaic (PV) panels or mirrors to concentrate solar radiation to convert sunlight into electrical energy. This energy can be converted into electricity or stored in batteries or thermal storage.

Pumps & Valves

Machinery

Pumps & Valves | Revenue Trend

- The segment primarily derives demand from government-led projects, including those related to water pumping and thermal power, among others. However, the private sector is also increasingly being served, while the focus on expanding the segment's export footprint remains upfront.
- With local and export sales revenue rising by ~23.2% and ~28.7%, respectively, the segment's cumulative revenue reached PKR~6.3bln during FY25, registering a ~9.0% YoY increase (FY24: PKR~5.8bln).



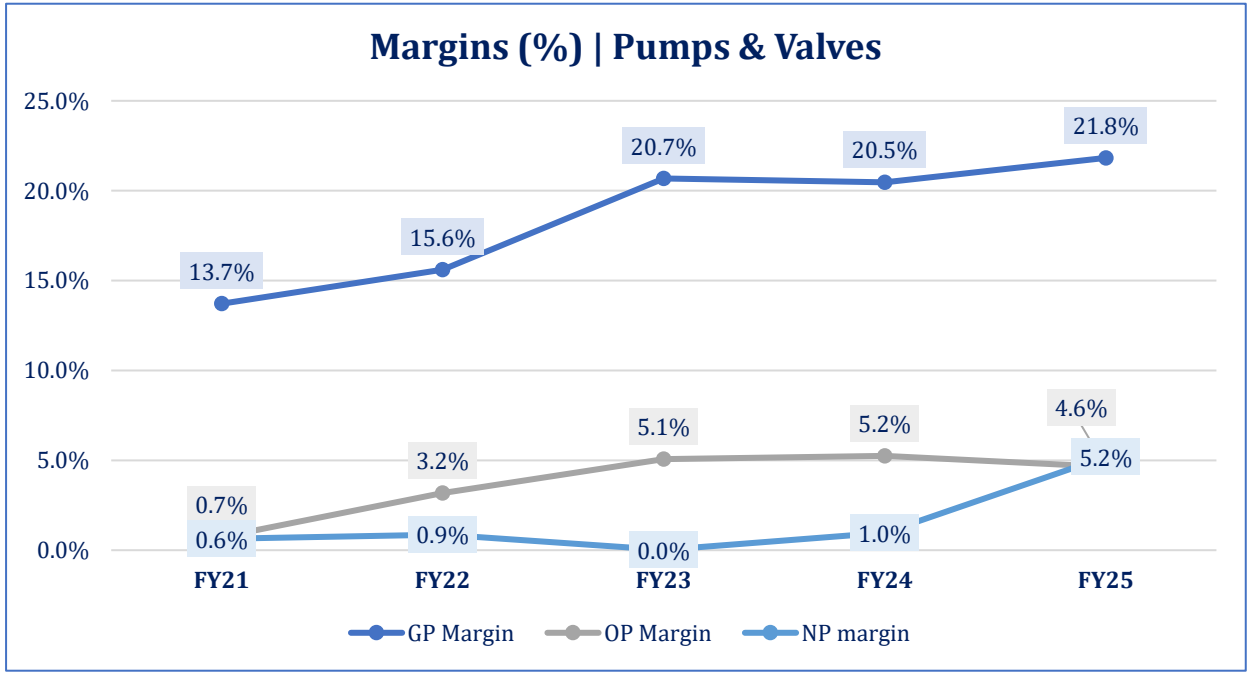
***Note**: Data is reflective of ~1 listed/rated player, where FY25 numbers are prorated based on the latest available quarterly accounts.*

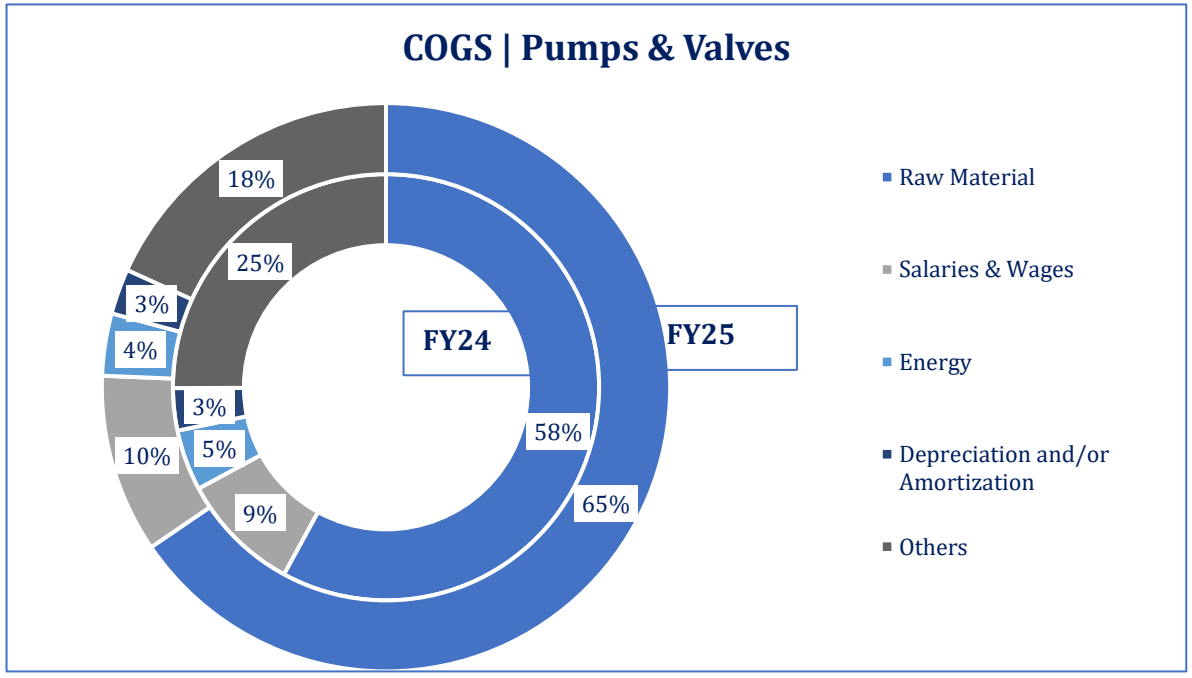
Source: PSX

Machinery

Business Risk | Margins and Cost Structure

- Over the last five years (FY21–FY25), the segment's average gross margins have stood at ~18.5%. In FY25, gross profit increased by ~16.2% YoY on the back of a ~9.0% rise in revenue, with margin expansion to ~21.8% (FY24: ~20.5%) driven by a stronger product and export mix and operating leverage from higher volumes.
- The operating margins of the sector, however, remained under pressure during FY25 and were recorded at ~4.6% (FY24: ~5.2%), declining by ~3.4% YoY. Finance costs dropped significantly in FY25, leading to an improvement in net margins to ~5.2%, compared to ~1.0% in the corresponding period last year.
- On the cost side, raw materials constituted the largest component, accounting for a share of ~65.0% in FY25 (FY24: ~58.0%) of the segment's total direct costs. These raw materials primarily comprise various types of metals, including iron, steel, and copper, depending on product specifications and requirements, followed by salaries and wages (~10.0%), energy (~4.0%), depreciation (~3.0%), and others (~18.0%).





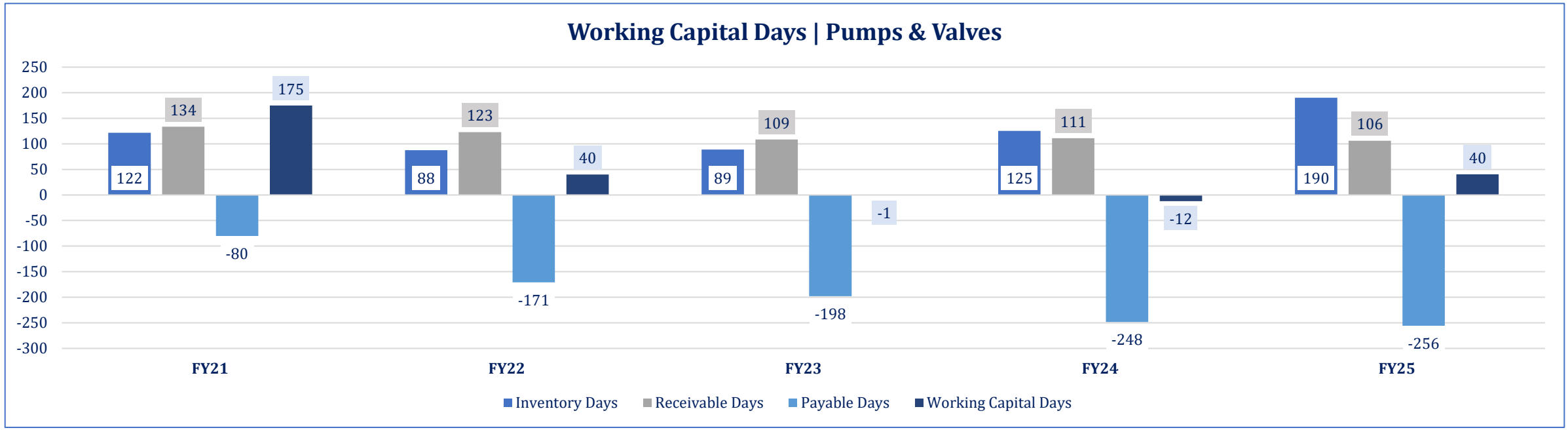
Note: *Margins and cost break up are reflective of ~1 listed/rated player belonging to Pumps and Valves segment.*

Source: PSX, PACRA Database

Machinery

Financial Risk | Working Capital Days

- Over the last five years (FY21-25), the segment's net working capital cycle has averaged ~49 days. In FY25, net working capital days were recorded at ~40 days compared to negative ~12 days in the same period last year.
- The segment's receivable days and payable days are high recording at ~106 days and ~256 days in FY25 (FY24: ~111 days ; ~248 days, respectively).
- The pumps and valves segment managed its working capital requirements primarily through effectively managing payable days and internal cash generation instead of utilizing short-term borrowing for meeting working capital needs. This (mainly supplier credit) has increased over the past 5 years.



Note: *Data is reflective of ~1 listed/rated player belonging to Pumps and Valves segment.*

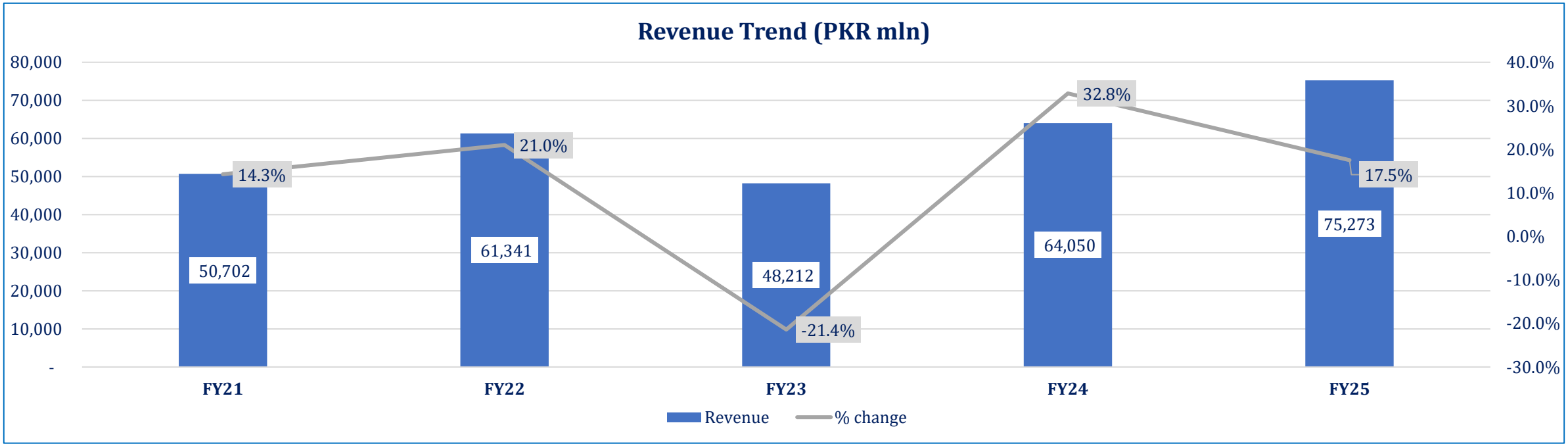
Source: PSX, PACRA Database

Power Generation

Machinery

Power Generation | Revenue Trend

- The estimated revenue of the local energy Machinery segment reached PKR~75.3bln in FY25, reflecting a ~17.5% YoY increase from PKR~64.1bln in FY24. Revenue growth was primarily driven by product support and services, along with contributions from solar and wind projects, while the remaining share comprised equipment installation and related service activities.
- The Engineering and Technology services segment is a very niche sector that caters to a specific target market, including infrastructure development projects (highways, exploration, and production sites), private sector projects (solar and wind power generation), different industrial sectors, and providing equipment to large-scale local projects (shopping malls, banks and hospitals) among others. The segment is primarily reliant on equipment and replacement parts imports. As a result, the segment players are exposed to cyclicality, import limitations and taxes, and foreign exchange risk.



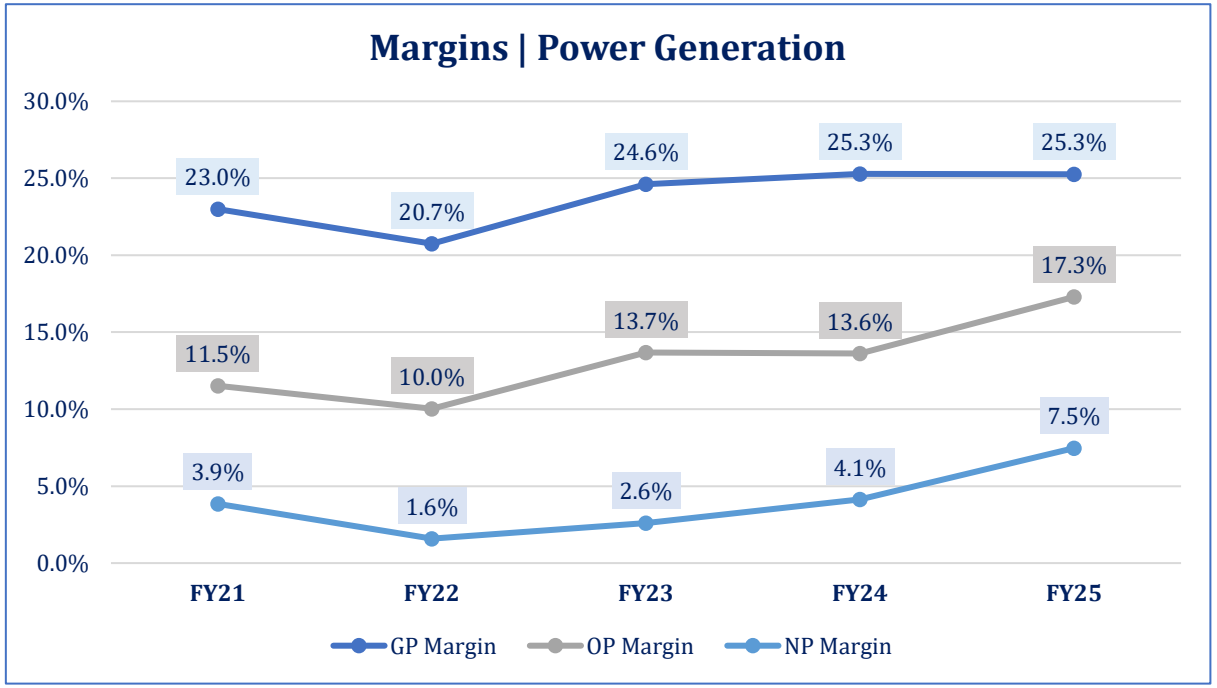
**FY25 data is pro-rated based on ~2 listed/rated players.*

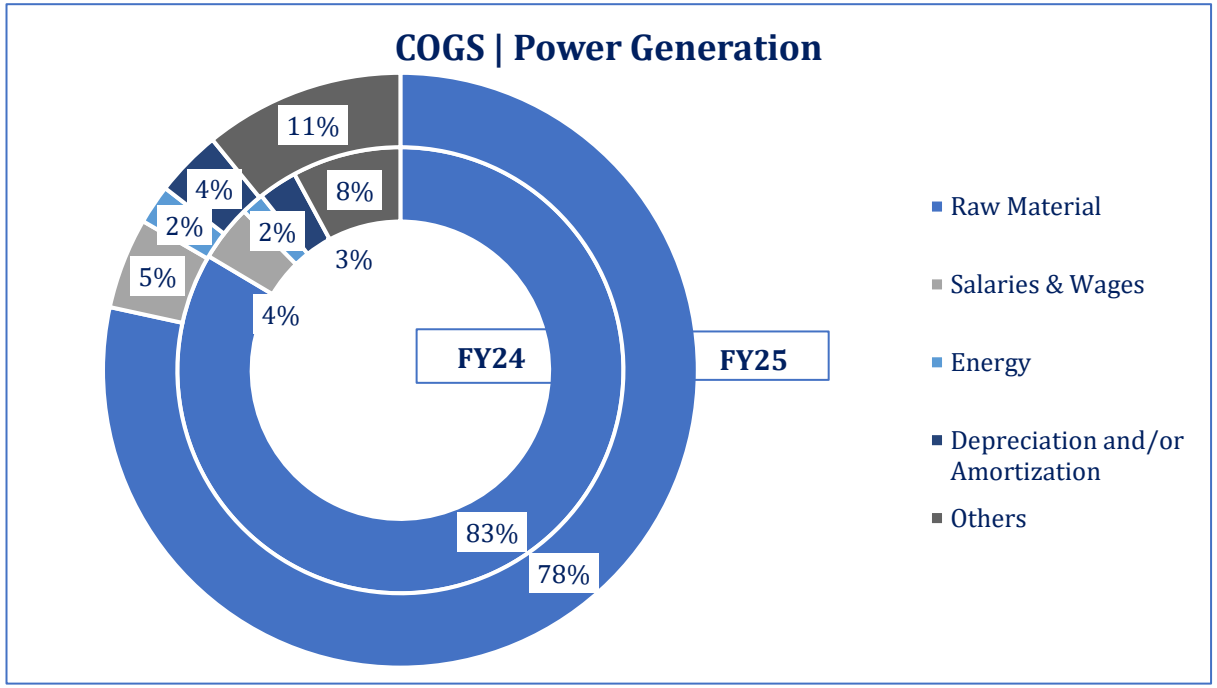
Source: PSX, PACRA Database

Machinery

Business Risk | Margins & Cost Structure

- Over the last five years (FY21-25), the segment's average gross margins have stood at ~23.8% while average net margins stood at ~3.9%.
- Gross margin was calculated at ~25.3% in FY25, while the average operating margin improved from ~13.6% in FY24 to ~17.3% in FY25 reflecting better operational performance. Consequently, with improved revenue, better operational performance and reduction in finance cost by ~39.0% in FY25, net margin also improved to ~7.5% YoY (FY24: ~4.1%)
- The largest component within the segment's direct costs comprises raw materials, which contributed ~78.0% to the total cost of production. The segment is primarily reliant on equipment and spare parts imports. As a result, all involved players remains at a risk to restrictions on imports and taxes, and foreign exchange rate.





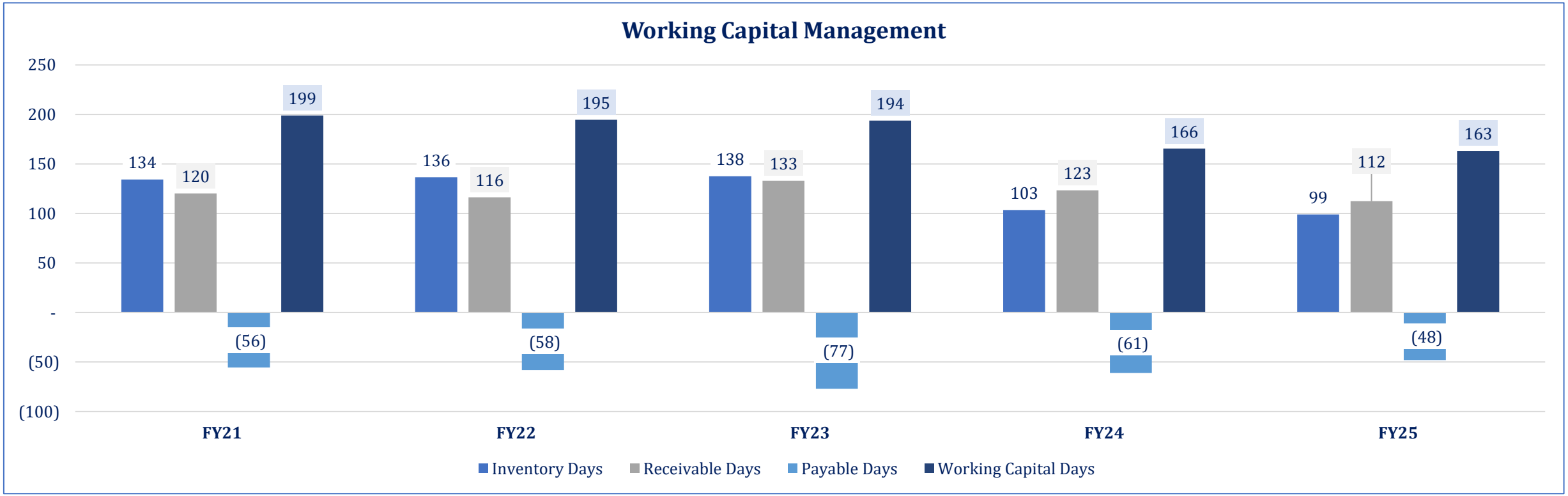
Note: *Margins are reflective of ~2 listed/rated players belonging to power generation segment.*

Source: PSX, PACRA Database

Machinery

Financial Risk | Working Capital Management

- Over the last five years (FY21-25), the segment's working capital cycle averaged ~183 days. During FY25, Working capital days reduced marginally to ~163 days (SPLY: ~166 days).
- Average inventory days were recorded at ~99 days, down ~4 days, in FY25 (SPLY: ~103 days) while average receivables days were down ~11 days and recorded at ~112 days (FY24: ~123 days). Payable days significantly reduced to ~48 days, down ~13 days, as compared to same period last year.



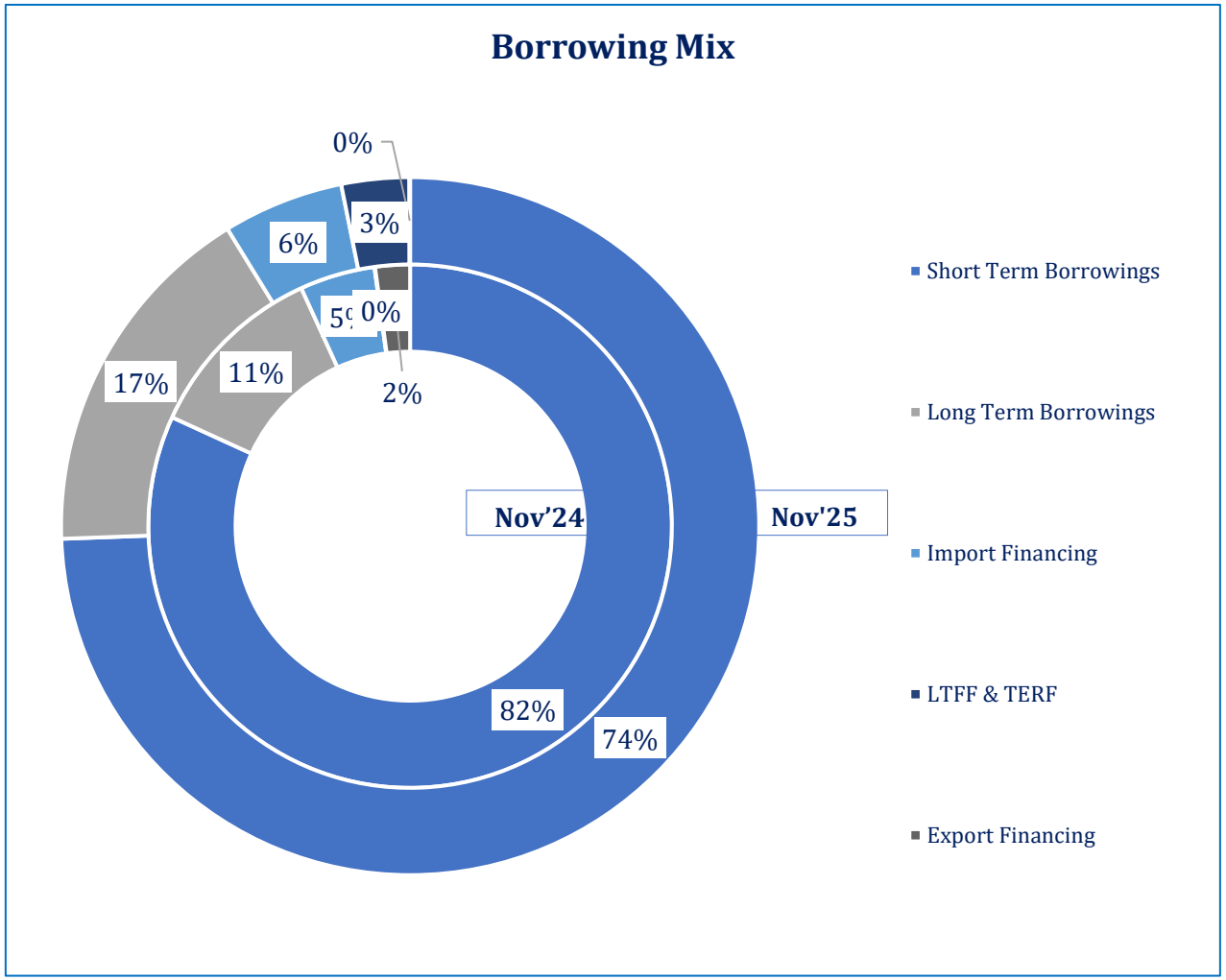
Note: *Data is reflective of ~2 listed/rated players belonging to power generation segment.*

Source: PSX, PACRA Database

Machinery

Financial Risk | Borrowing Mix

- Total borrowings of the Machinery Sector, as Nov'25, stood at PKR~23,949mln as compared to PKR~28,757mln as of End-Nov'24, a decrease of ~16.7% during the period.
- The largest share is taken up by short-term borrowings which account for ~74.4% and stood at PKR~17,823mln as of End-Nov'25 (SPLY: PKR~23,531mln)
- In addition, long-term borrowing Nov'25 contributed ~16.8% to the total borrowing mix and stood at PKR~4,026mln (SPLY: PKR~3,263mln).
- Import financing increased marginally by ~0.4% to PKR~1,341mln as of End-Nov'25 (SPLY: PKR~1,336mln) while LTFF and TERF rose substantially and clocked in at PKR~751.0mln (SPLY: PKR~11.0mln).
- The average leveraging for the Power-Generating Machinery stood at ~29.4% (SPLY: ~31.3%).



Note: *Data is reflective of SBP's classification "Manufacture of Machinery and Equipment".*

Source: SBP

Machinery

Duty Structure

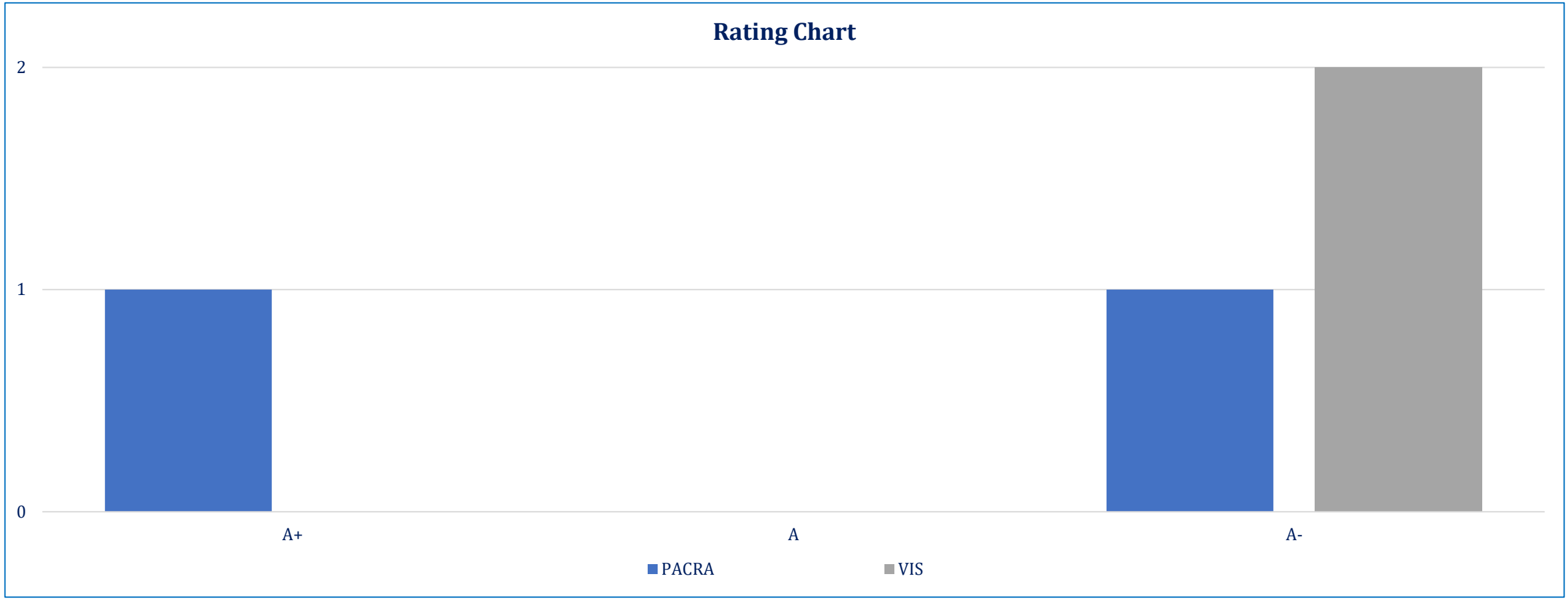
HS Code	Description	Additional Duty		Customs Duty		Regulatory Duty		Total	
Pumps & Valves		**FY25**	**FY26**	**FY25**	**FY26**	**FY25**	**FY26**	**FY25**	**FY26**
8413.1100	Pumps for dispensing fuel and lubricants	2%	0%	11%	10%	0%	0%	**13%**	**10%**
8413.1910	Pumps for dispensing chemicals	2%	0%	0%	0%	0%	0%	**2%**	**0%**
8413.2000	Hand pumps	4%	2%	16%	15%	0%	0%	**20%**	**17%**
8413.6011	For Motor Cars and Vehicles	0%	6%	35%	35%	0%	0%	**35%**	**41%**
8413.6019	Other	0%	0%	3%	0%	0%	0%	**3%**	**0%**
8413.6090	Other	4%	4%	20%	20%	4%	0%	**28%**	**24%**
8413.7011	Submersible pumps having 5 to 10 inches diameters, Other submersible pumps	2%	0%	11%	10%	0%	0%	**13%**	**10%**
8413.7019	Other	0%	0%	3%	5%	0%	0%	**3%**	**5%**
8413.9150	Plunger and other pumps parts for the vehicles of chapter 87	7%	6%	35%	35%	0%	0%	**42%**	**41%**
8413.9190	Parts of Other Pumps	6%	4%	20%	20%	0%	0%	**26%**	**24%**
Power Generating Equipment									
8501.1000	Motors of an output not exceeding 37.5 W	2%	0%	0%	0%	0%	0%	**2%**	**0%**
8501.2000	Universal AC/DC motors of an output exceeding 37.5 W	0%	0%	0%	0%	0%	0%	**0%**	**0%**
8502.1130	Electric Generating Sets Exceeding 20 KVA but not exceeding 50 KVA	6%	4%	20%	20%	10%	10%	**36%**	**34%**
8502.2010	Electric Generating Sets Of an output not exceeding 5 kVA	2%	0%	11%	10%	0%	0%	**13%**	**10%**
8502.3100	Wind-powered	2%	0%	0%	0%	0%	0%	**2%**	**0%**
8503.0010	Parts of Machine (Electric Motors/ Generators/ Generator Sets)	4%	0%	0%	0%	0%	0%	**4%**	**0%**
8503.0020	Other	0%	0%	11%	10%	0%	0%	**11%**	**10%**
8503.0090	Other	0%	2%	16%	15%	0%	0%	**16%**	**17%**

Source: FBR

Machinery

Rating Curve

- PACRA rates 2 players in the Machinery Sector with a long-term rating of A+ and A-.



Machinery

SWOT

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

- Lack of advanced technology.
- Reliance on imports.
- Little to no focus on R&D.
- Delays in payments, especially in Government projects.
- Obsolescence of technology.

- Disruptions in supply chain.
- Significant competition from imports.

- Increase in budgeted PSDP likely to increase demand.
- SEZs/STZs provide incentives for new investments.
- Growing acceptance of local Machinery for exports in developing countries.

Machinery

Outlook: Stable

- According to the IMF's estimated figures, Pakistan's economy is expected to grow by ~3.2% in FY26. This would increase the demand for Machinery's production, imports, and exports in FY26, as can be seen by the trend in 5MFY26. Recent growth in LSM, albeit due to a smaller base, is an encouraging sign for the sector.

- Easing inflation (~5.6% YoY in Dec'25) and a reduction in policy rate to ~10.5% would encourage private sector borrowing and potentially upgrades in production facilities.

- Machinery imports are likely to remain elevated. Imports rose ~20.3% YoY in 5MFY26 and may exceed USD~10.0bln in FY26, reflecting continued import reliance. Export momentum is improving but remains small. Exports increased ~9.2% YoY in 4MFY26 and are expected to surpass USD~250.0mln in FY26.

- However, despite higher exports, lower production shows low demand for the local Machinery in the domestic market. Current production stands at ~17,529 units for 4MFY26, which would propel the country to produce only ~52,587 units or less during the whole year. A long-awaited upgrade of production processes could also take place during this time. This, alongside the winter harvesting season, could propel the demand for local agricultural Machinery, providing the producers with an incentive to produce more.

- The revenues increased for the power generation segment during FY25 by ~17.5%, and the trend is expected to continue in FY26 on the back of increased demand from the public and private sector, especially in Solar and other projects. Moreover, the Pumps and Valves segment saw an increase in revenue of ~9.0% to PKR~6,295.0mln. The revenue growth in the power generation segment during FY25 and its continuation into FY26 is driven by increased public and private sector demand, supported by energy infrastructure expansion and rising renewable energy installations. Meanwhile, the Pumps and Valves segment recorded higher revenues on the back of government-led infrastructure and water management projects, along with a gradual recovery in industrial activity amid easing inflationary pressures.

- With companies shifting focus to more sustainable and eco-friendly production, the demand pick up for local machinery producers will be contingent on technological upgrades and improving quality and environmental standards in line with international benchmarks. In the domestic market, however, competition from international players and imported Machinery would remain stiff and fulfill the major portion of demand.

Source: PBS, SBP

Machinery

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