SECTOR STUDY . FEBRUARY 2024

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# POLYESTER


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# Polyester

# Polyester

## Introduction

- Polyester is a generalized term for any fabric or textile, which is made using polyester yarns or fibers. It is a shortened name for a synthetic, man-made polymer, which, as a specific material, is most commonly referred to as a type called polyethylene terephthalate (PET). It is made by mixing ethylene glycol and terephthalic acid.
- Polyester is made through either naturally occurring chemicals (cutin of plant cuticles) or synthetic chemicals (polybutyrate). Natural polyesters and a few synthetic ones are biodegradable but most synthetic polyesters are not.
- Polyesters are extensively used in apparel and home furnishing, from shirts and pants to bedsheets, blankets, pillows, computer mouse mats and upholstered furniture. Moreover, Industrial polyester fibers and yarn are used in a wide variety of sectors for multi-purposes such as car tyre reinforcements, conveyer belts and safety belts. Polyesters are also used to make bottles, tarpaulin, films, wire insulation and insulating tapes. They can be used separately as well as spun together with natural fibers to produce cloths with blended properties.
- This synthetic fiber is produced entirely chemically in a plant or laboratory, almost always from by-products of petroleum or gas. Polyester, one of the cheapest synthetics, is essentially a plastic derived from crude oil. Plastic it may be, but the chemists helped produce a soft fabric that drapes easily, holds garment shapes well, is highly durable, fast drying, iron-free, wash-and-wear, mildew and soil resistant, retains pleats set by heat, and takes dye well.

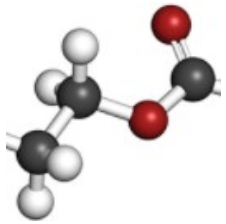

Source: Contrado

# Polyester

## Production Process

### 1. Creating a Monomer

The process begins with reacting ethylene glycol with dimethyl terephthalate at high heat, resulting in a monomer.

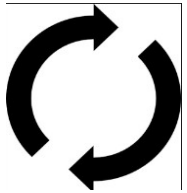


### 2. Creating a Polymer

The monomer is then reacted again with dimethyl terephthalate to create a polymer.

### 3. Extruding

The molten polyester polymer is extruded then into long strips which are cooled and dried and then are broken apart into small pieces.



### 4. Spinning

The resulting small pieces/chips are then melted again to create a honey-like substance, which is extruded through a spinneret to create fibers.

### 5. Finishing

The resulting fibers/filaments are either cut or reacted with other chemicals to achieve the desired type of end result.

Source: Sewport

# Polyester

## Global | Overview

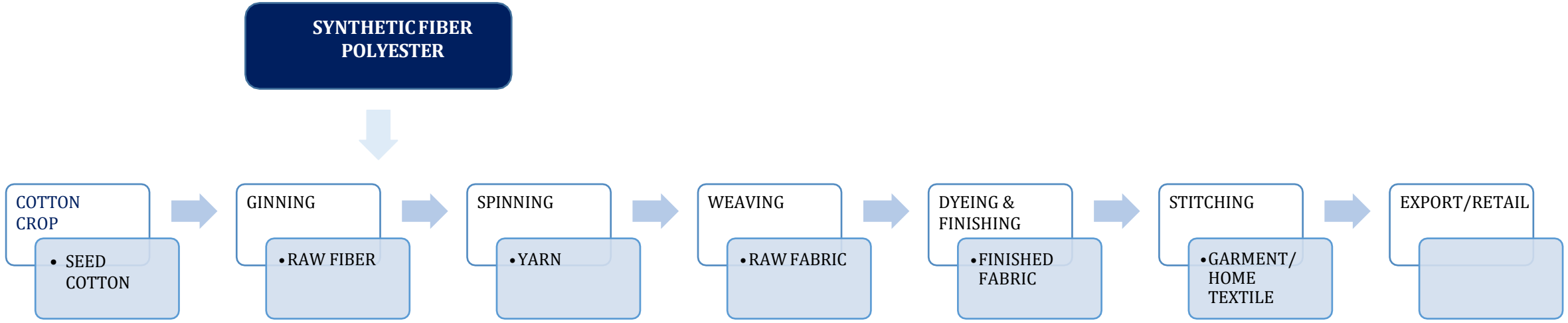
- The Polyester fiber market was valued at USD~81.1bln in CY22 and is forecast to record a CAGR of ~7.1% from CY23-32.
- Polyester fiber production volumes increased from ~61mln MT in CY21 to ~63mln MT in CY22. Making up ~54% of the global fiber production in CY22, polyester continues to be the most widely produced fiber. The market share of recycled polyester fibers slightly decreased to ~14% in CY22, down from ~15% in CY21.
- Polyester fiber used in a variety of industries. Textiles, automotive, and healthcare sectors are believed to drive the polyester market growth. The polyester market is further divided into segments based on the product types, grade types, and application of the polyester.
- There are two major product types in the polyester industry; one derived from solid fibers and the others made from hollow fibers. Solid fibers are gaining popularity over hollow fibers and are expected to retain the major market share in the days to come due to their moist-resistant and durable properties.
- Regarding grade/varieties, polyester fibers are available in two varieties – PET and PCDT (Poly-Cyclohexylene Dimethylene Terephthalate). PET is the most common production. It is stronger than PCDT, while PCDT has more elasticity and resilience. Gradually, PET has become the world's first choice in the packaging sector and more than half of the world's synthetic fiber and bottle demand is fulfilled by PET plastics.
- In CY22, the worldwide polyester fiber market was dominated by Asia-Pacific, with China holding the highest market share. Asia-Pacific's garment business is expanding significantly as a result of the region's fast urbanization and exponential population expansion. For this reason, polyester fiber is frequently used to make sportswear, dresses, and t-shirts.

Source: PR Newswire, Material Market Report

# Polyester

## Local | Introduction

- Pakistan produces natural as well as man-made fibers. Natural fibers include cotton, wool and silk among which cotton is the most common textile fiber. In the synthetic/man-made fibers category, polyester is the main fiber. Other man-made fibers include Viscose Rayon and Acrylic Staple Fibers, which are produced on a limited scale.
- Over ~70% of the Polyester Staple Fiber (PSF) is supplied to the textile value chain, i.e., the spinning sector, as illustrated below. The remaining PSF is majorly supplied to the PET packaging industry used in making plastic bottles. The mix of natural and synthetic fibers varies depending on the type of yarn produced. For instance, fabric type S/J is produced through a mix of ~52% polyester and ~48% cotton, while fleece is composed of ~66% cotton and ~34% polyester. On the other hand, the loopback fabric is a mixture of ~30% cotton, ~31% polyester and ~30% linen.




Source: Textile Today

# Polyester

## Local | Overview

- The sector's revenue registered a ~6.2% YoY increase in FY23 owing to better marketing campaigns across major sector players and higher local prices of PSF by ~25.9% YoY of the sector.
- In volumetric terms, the production of polyester fibers was down ~5.0% during FY23, due to a lower demand and overall slowdown in economic activities. Meanwhile, imports registered ~53.0% YoY decline due to SBP-imposed import restrictions during May'22-Jun'23. These have since been lifted.
- In 1QFY24, the sector's revenue clocked in at PKR~12,265mln, reflecting a YoY growth of ~8.1%.

| Particulars | FY21 | FY22 | FY23 |
|---|---|---|---|
| **Revenue (PKR mln)** | 103,287 | 165,000 | 175,215 |
| **Share in GDP** | ~0.2% | ~0.3% | ~0.2% |
| **Annual Production (MT)** | 483,401 | 506,185 | 480,578 |
| **Annual Import (MT)** | 179,197 | 120,629 | 56,708 |
| **Market Structure** | Organized & Listed | | |
| **Sector Players (Listed)** | 3 | 3 | 3 |
| **Installed Capacity (MT p.a.)** | 534,950 | 534,950 | 534,950 |
| **Utilized Capacity** | ~90% | ~95% | ~90% |
| **Association** | All Pakistan Textile Mills Association | | |

***Note**: Revenue estimations are based on 3 sector players making up ~100% of the market share in terms of sales. 1QFY24 revenue figures pertain to ~2 sector players.*

Source: PACRA Database, Company Financials

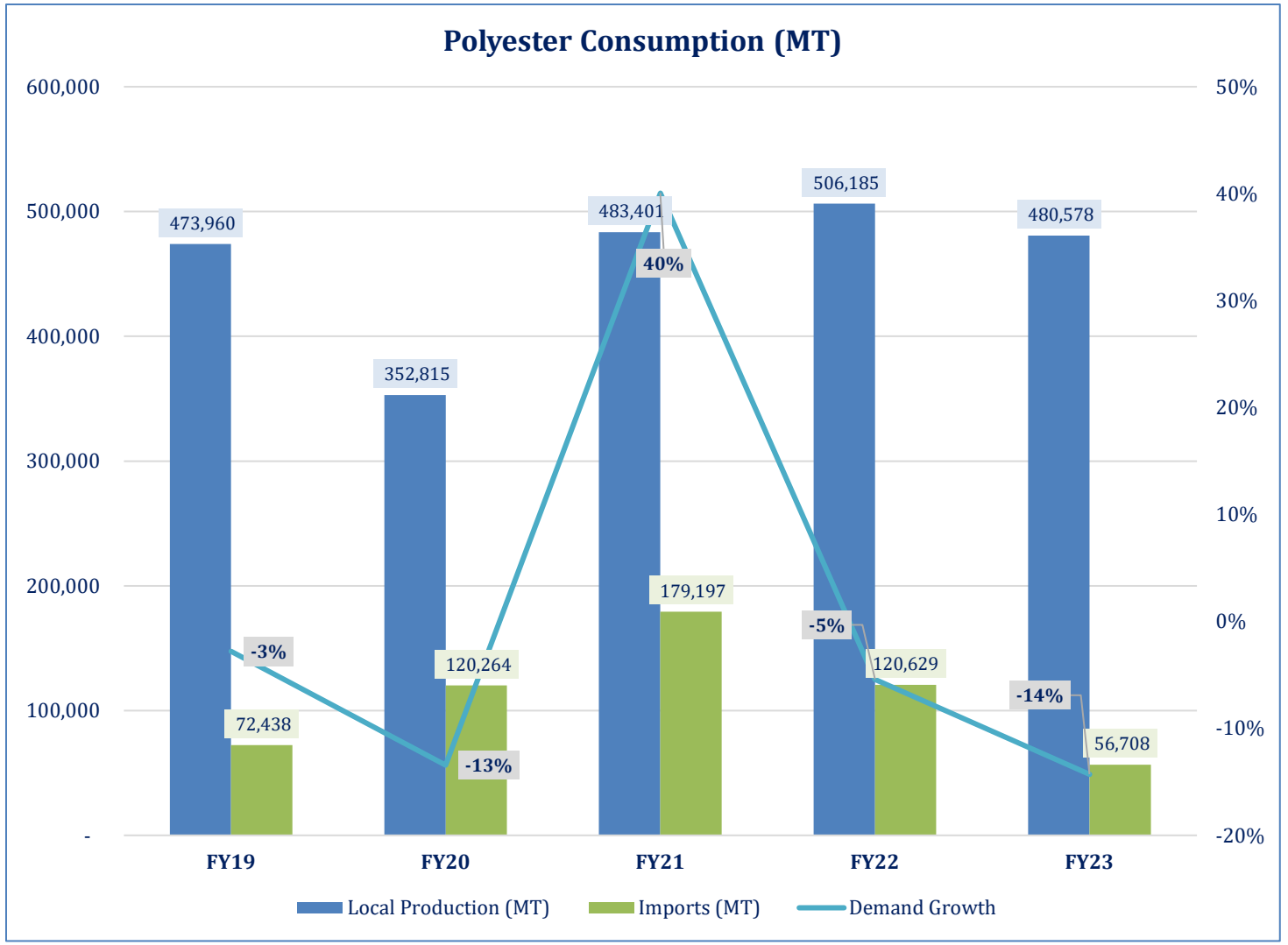
# Polyester

## Local | Consumption

- Pakistan's average polyester demand hovered at ~459,388MT during FY19-23 and exhibited a dip of ~14.3% in FY23, owing to a halt in business activities and reduced demand from the textiles sector.

- The country's demand is majorly met through local sales (~80.9% on average during FY19-23), while some portion is catered through imports (~19.1% on average from FY19-23). The share of imports in the total polyester demand, stood at ~10.6% in FY23 while that of local production was recorded at ~89.4%. While production was down ~5.1% YoY in FY23, imports also went down by ~53.0% in FY23 due to SBP-imposed import restrictions.

- However, polyester being the main synthetic fiber, has the potential to grow. Decline in cotton production, polyester's durability, insulating properties, and recyclability are a few of the factors that create potential growth opportunities for the sector.




***Note**: Import data is taken from PBS with HS codes 5403.2010, 5403.2090, 5402.5200, 5402.6200, 5509.2200 & 5509.5300*

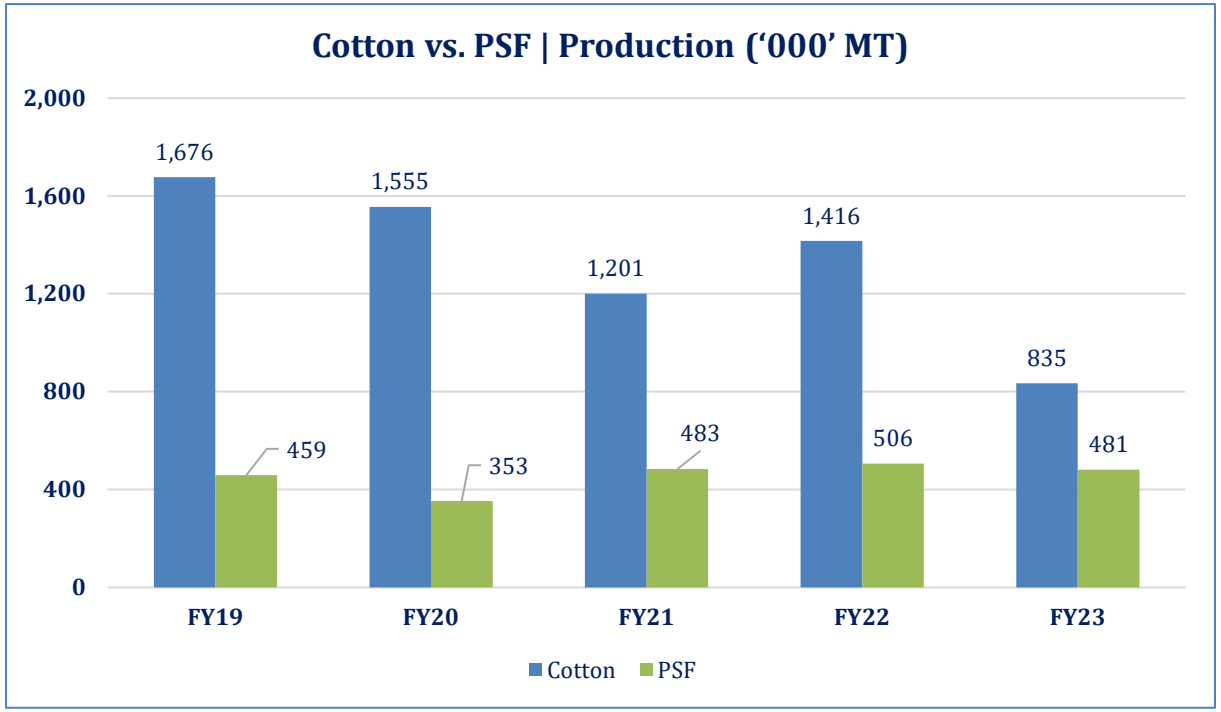
Source: PACRA Database, PBS

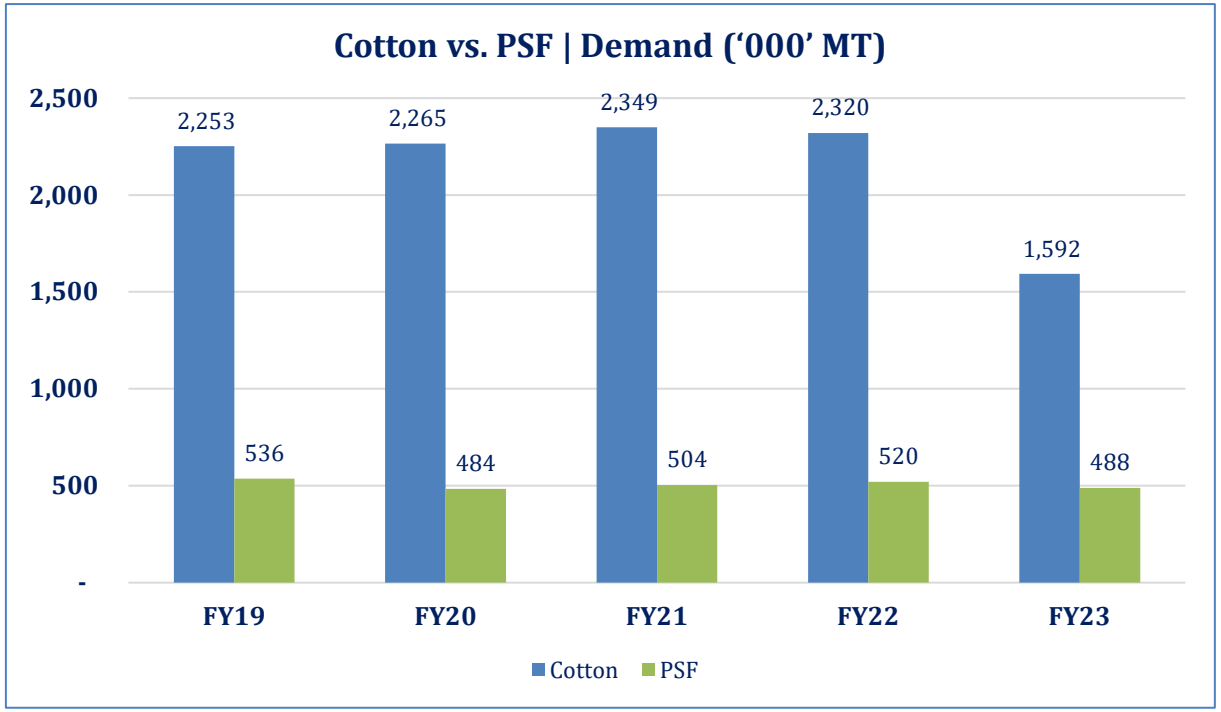
# Polyester

## Demand | Comparison with Cotton

- The figures below depict production and demand levels across the cotton and polyester sectors. During FY23, production of cotton and polyester decreased by ~41.0% and 5.9% YoY, respectively.

- Cotton production registered a significant decline primarily due to the devastating flood that struck the country in Jul-Aug'22. Additionally, there was a notable decrease in the demand for both cotton and PSF during FY23, with a decline of ~31.4% and ~6.1%, respectively. This decline can be attributed to an overall slowdown in textile-related activities and inflationary pressures during the year.



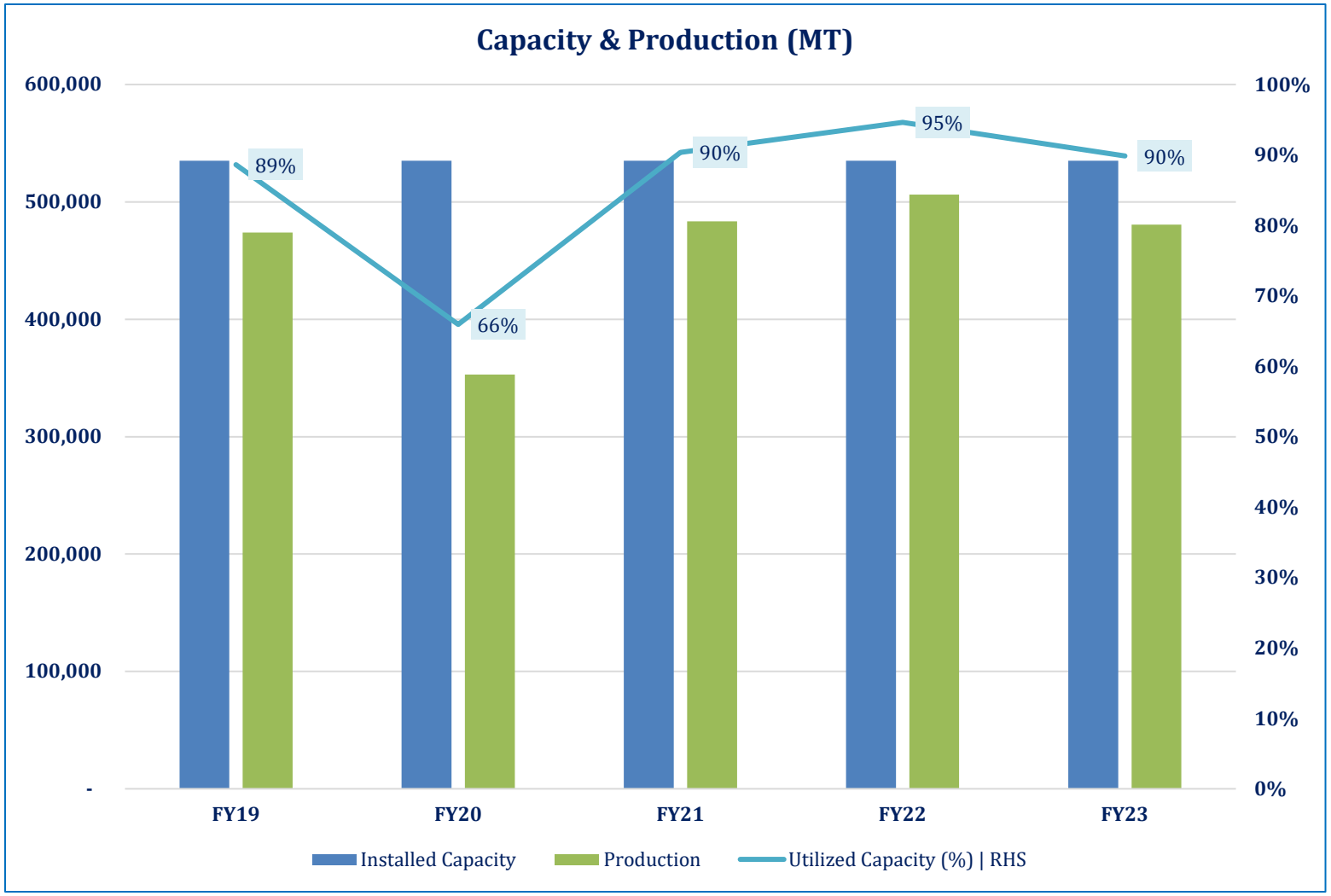

***Note**: For the purpose of comparison, cotton production & demand is converted from bales to tons, using a conversion factor of 1 bale = ~170 kgs.*

Source: Economic Survey, Company Financials

# Polyester

## Local | Production Capacities

- At present, three significant players are producing and fulfilling almost the entire local demand of PSF (Polyester Staple Fiber).
- PSF brings huge advantages to the domestic textile industry in making a viable substitute for cotton, allowing for maximum utilization of the textile resources.
- The sector's total installed capacity did not register a change during FY23 and was recorded at ~535,000 MT.
- Actual production increased at a CAGR of ~0.28% during FY19-23 while it dipped by ~5.1% in FY23 (SPLY: ~4.7% growth).



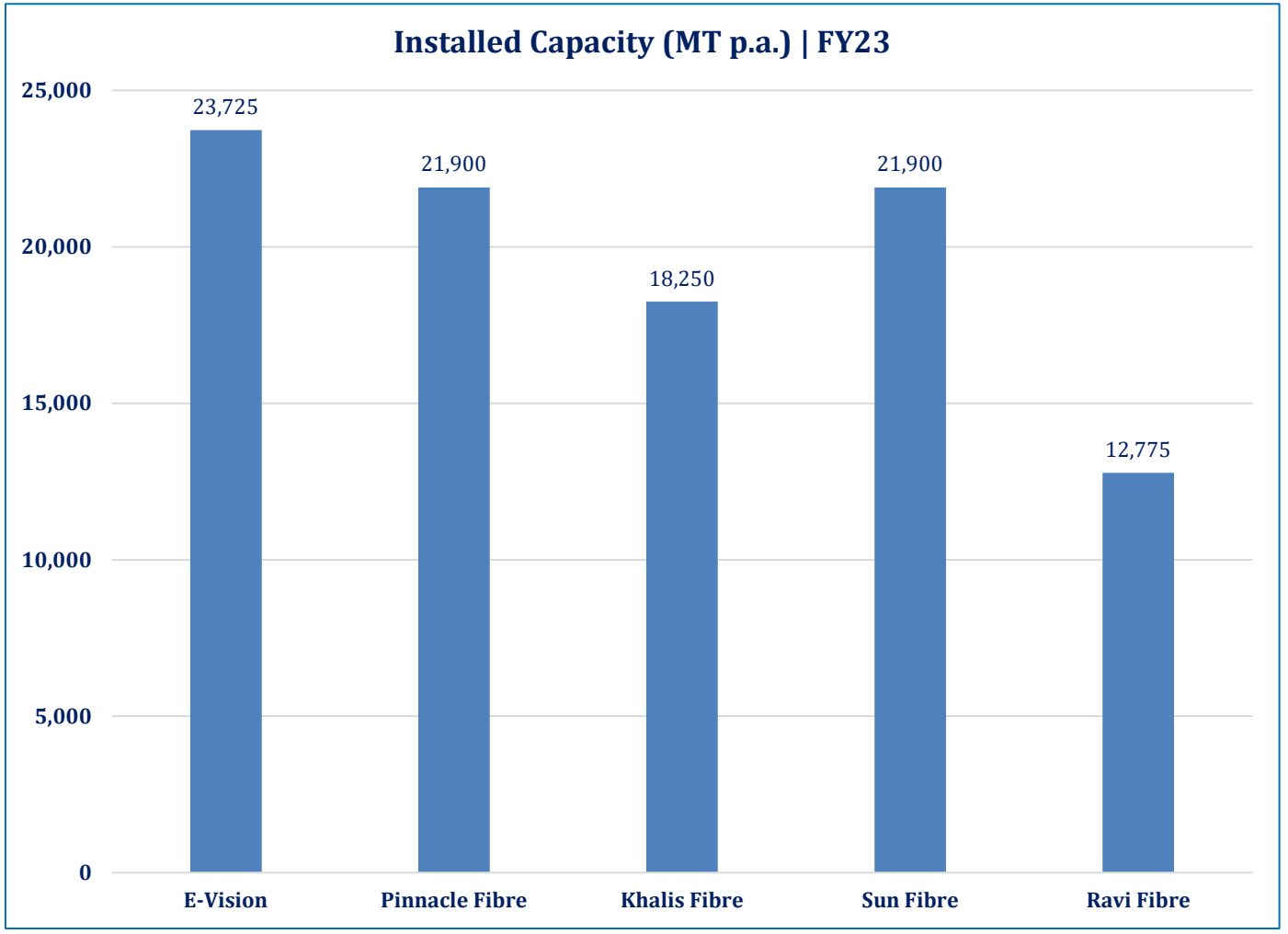

***Note**: Industry averages are based on 3 sector players making up near ~100% of the market share in terms of sales.*

Source: PACRA Database

# Polyester

## Recycled PSF (rPSF) | Overview

- Recycled Polyester Staple Fiber (rPSF) is a prominent segment in recycling PET and has been projected to be the fiber of the future in the entire textile industry. rPSF is used for both woven and non-woven industries. The annual turnover of the rPSF segment in the country was PKR~8,656mln* during FY23 (FY22: PKR~6,056mln).
- In Pakistan, the market is relatively new and small. However, it has an immense potential to grow due to the recyclability of PET waste and used bottles, which reduces the risk of cost volatility associated with firsthand PSF formation.
- The segment's total installed capacity stands at ~98,550 MT p.a., with ~5 players presently dominating the market.




*rPSF segment turnover is extrapolated on 1 sector player's data, making up ~24% of the market share in terms of sales.*

Source: PACRA Database, Company Financials

# Polyester

## Supply | Raw Materials

**Purified Terephthalic Acid (PTA):** PTA is an organic compound majorly used in the development of polyester resins, polyester fiber & yarn, and PET material bottles.

**Monoethylene Glycol (MEG):** Belonging to the petrochemical family, MEG is an odorless, colorless, syrupy liquid used as a raw material for polyester and PET polymer. It is used in home textiles, food/drink containers, clothing, medical textiles, and others. It is majorly imported in Pakistan.

**rPSF:** Recycled PET/Polyester waste or recycled consumed PET bottle flakes is regenerated into Polyester Stable Fiber. This market is relatively new in Pakistan, however, is growing at a fast pace. Globally, the rPSF technique has already captured a significant market segment.

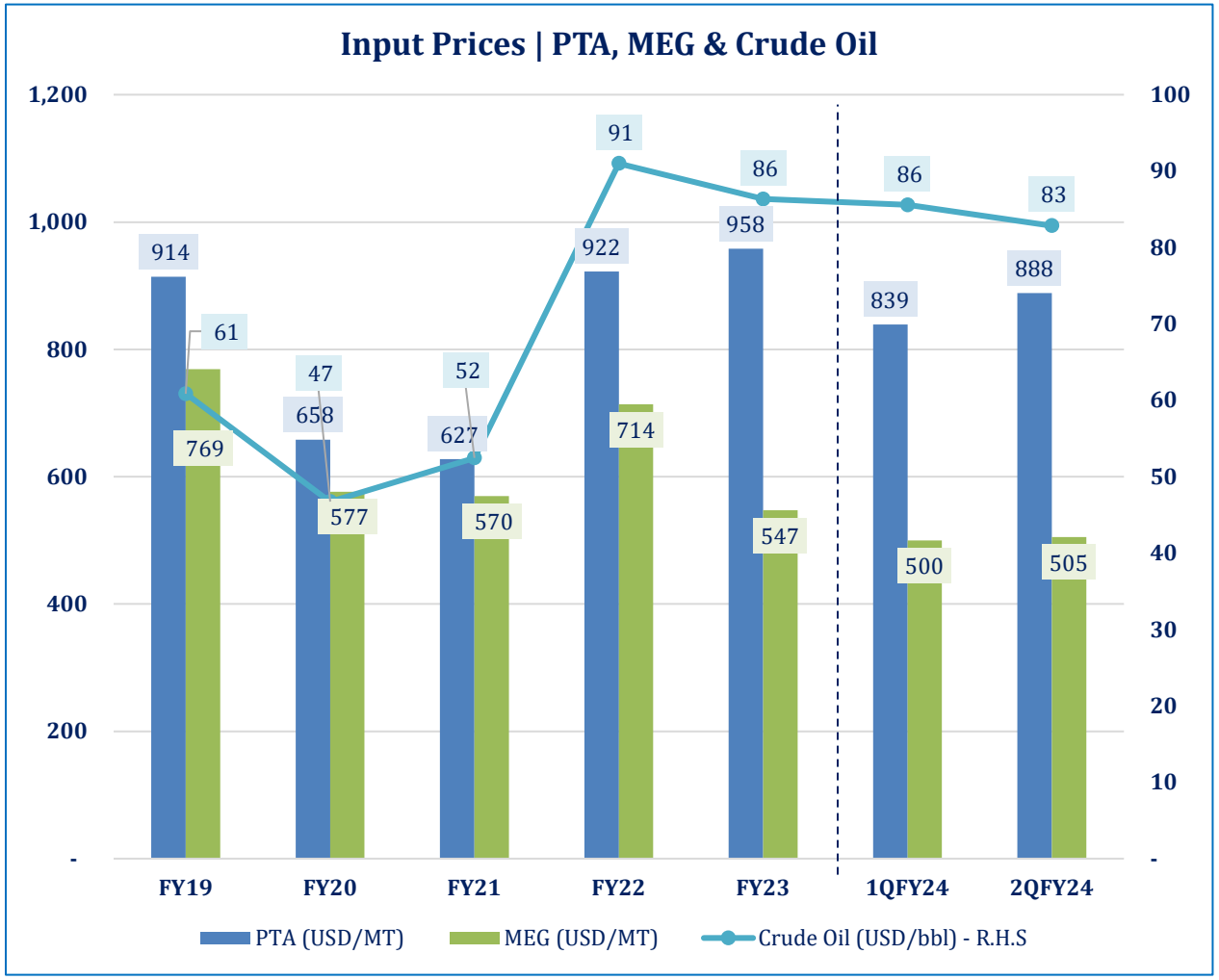
- Raw material cost is the key component of the sector's cost structure, therefore, it is essential in determining the output price and margins of the sector.
- PTA is majorly procured locally through its sole supplier, Lotte Chemicals Pakistan Limited, while some portion of it is imported too. Oil is a major resource for the production of PTA, therefore, PSF price is also subject to variations in oil prices.
- MEG is entirely imported. The highest share of imports comes from China followed by the Middle East.
- rPSF is a recycled product. rPSF is a relatively new technique adopted by international brands and gradually penetrates the Pakistani market.

Source: PACRA Database

# Polyester

## Local | Input Prices

- Prices of PTA are usually subject to variations in oil prices, while those of MEG, which is entirely imported, remain exposed to exchange rate volatility as well. The graph on the right depicts global average price trends of PTA and MEG tracing similar patterns, in connection with global average oil price levels.
- While significant volatility in oil prices was recorded during FY19-22 ( with CAGR of ~10.6%), owing to the global demand and supply pressures, these have stabilized post-FY22, recording at USD~85/bbl, on average, during FY23-2QFY24. Simultaneously, PTA prices recorded a CAGR of ~0.2% during FY19-22, and have averaged at USD~895/MT during FY23-2QFY24.
- During FY23, average prices for crude oil and MEG were down by ~23.4% and ~5.1% YoY, respectively, owing to reduced global demand and looming global recession.
- Global conditions worsened due to high inflation, supply chain disruptions, and the Russia-Ukraine conflict. Rising food and energy prices caused a global cost-of-living crisis. Monetary tightening slowed the global economy, but easing inflation offers hope for improvement in FY24.

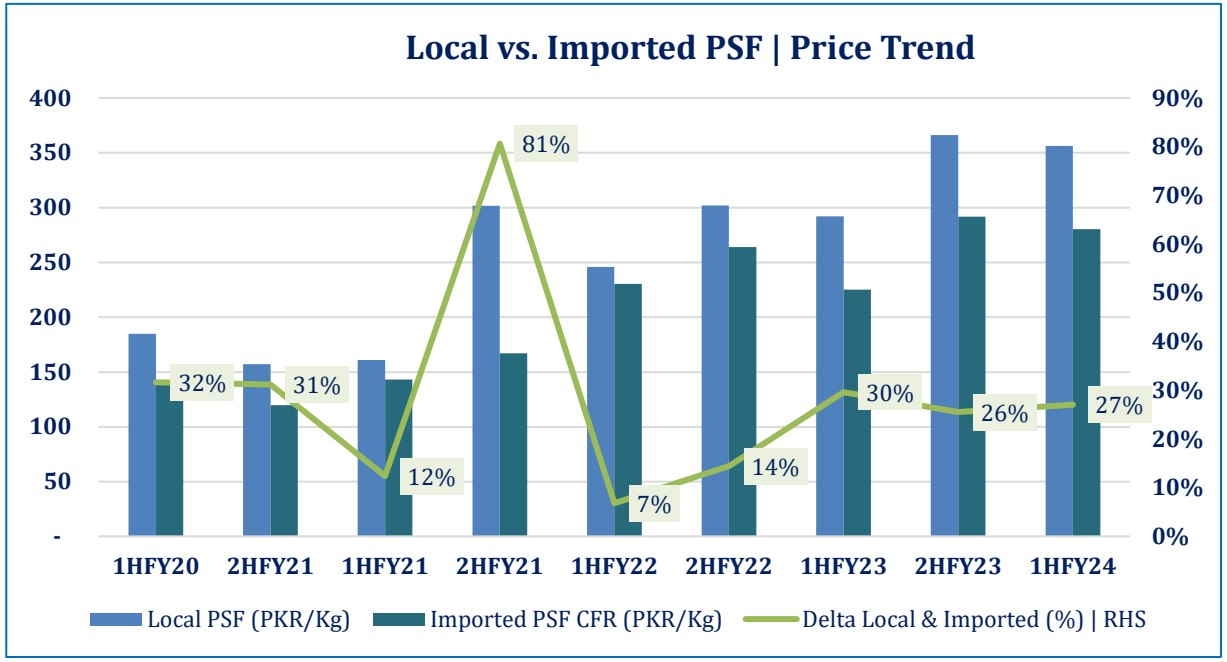


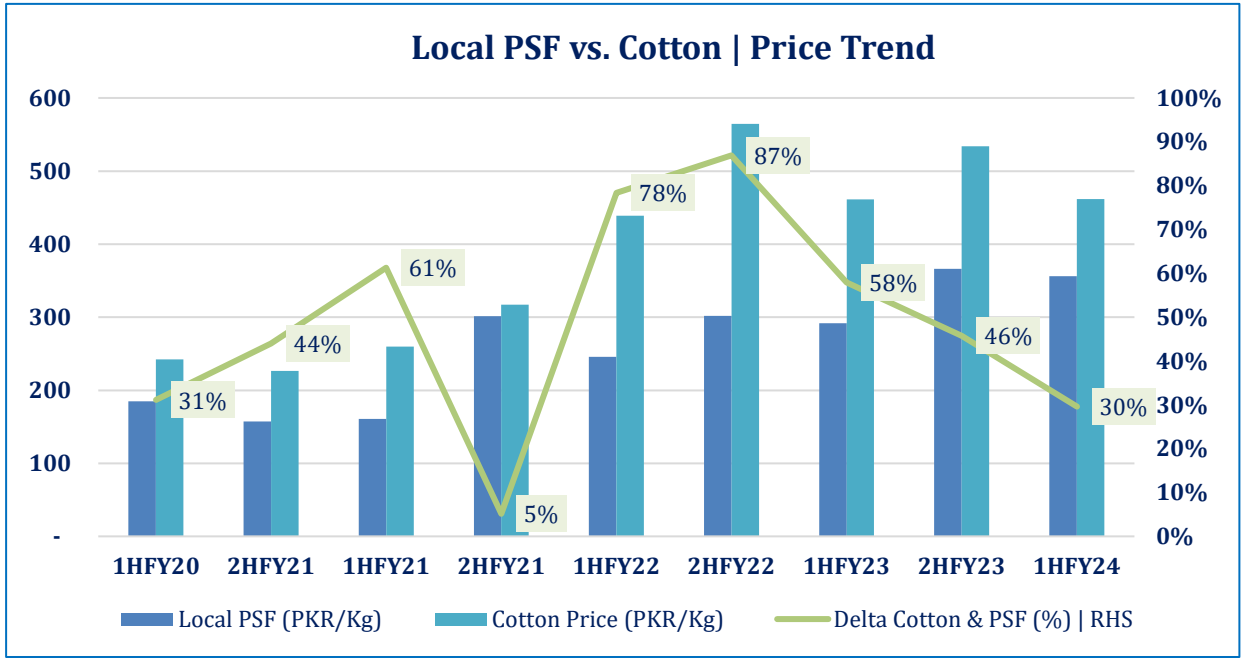

***Note**: PTA - Purified Terephthalic Acid; MEG -Monoethylene Glycol*

Source: PACRA Database

# Polyester

## Local | Output Prices



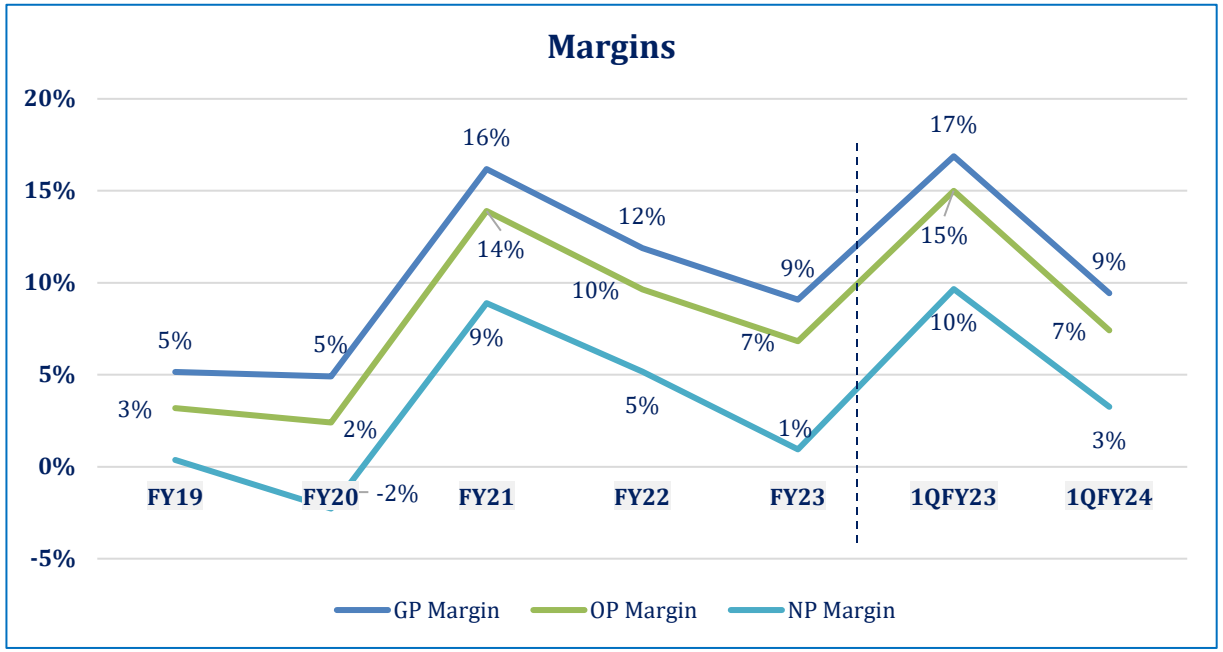

- Imported CFR price of PSF remains, on average, lower than the local prices due to PKR depreciation. The rupee lost ~39.2% value (YoY) against the greenback during FY23. Cotton prices, on the other hand, are exhibiting a declining trend in the most recent periods (1HFY24), on account of slowing demand.
- Furthermore, with the anti-dumping duties (ADD) in place on dumped imports from China, the delta between local and import prices was recorded at ~27.0% in 1HFY24 (SPLY: ~30.0%).

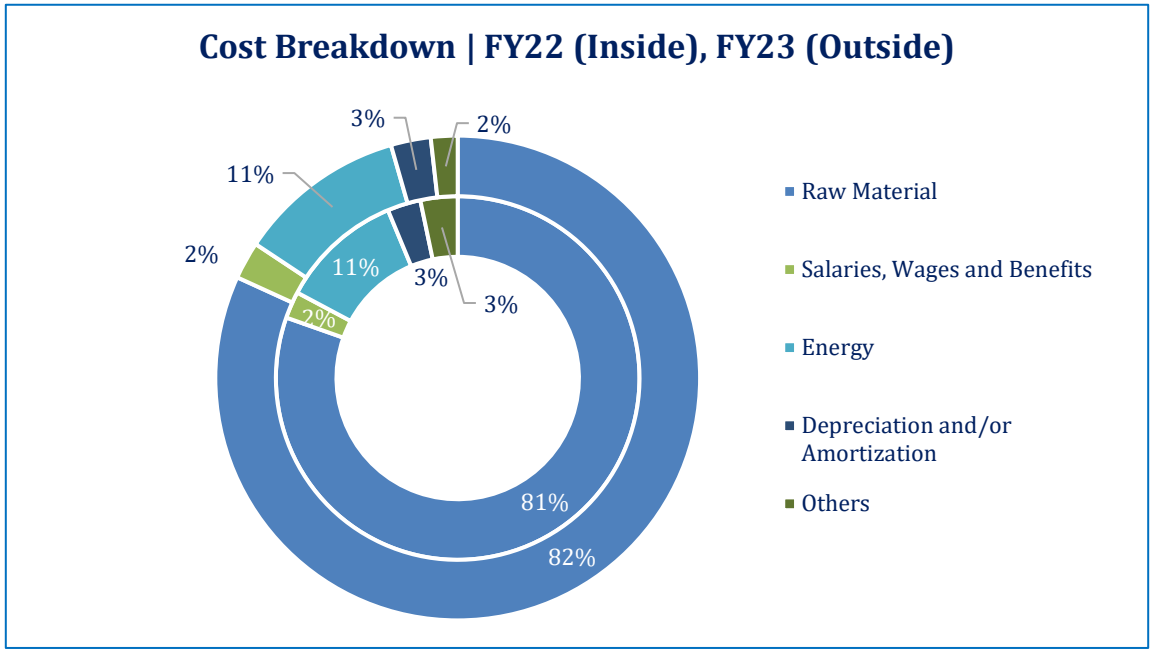
Source: PACRA Database, PBS, SBP, NTC

# Polyester

## Business Risk | Profit Margins

- The sector's turnover is majorly reflected by local sales with a low share of exports. Historically, the sector's turnover has reflected an impressive growth from FY18-22, registering a CAGR of ~11.8%. In FY23, net sales increased by ~6.1% while COGS on the other hand increased by ~9.6% YoY. This resulted in the average gross profit margin declining to ~9.0% during the year.
- The sector's direct costs are majorly dominated by raw material costs, i.e., PTA and MEG, which form ~82% of the total costs mix. Hence, margins are significantly impacted by exchange rate fluctuations (the PKR depreciated by ~39.2% YoY during FY23) (MEG is entirely imported while PTA is both imported and procured locally).
- Moreover, net margins also declined due to the sector's higher average finance costs, which rose ~167.3%, and taxation which registered ~17.0% YoY increase.



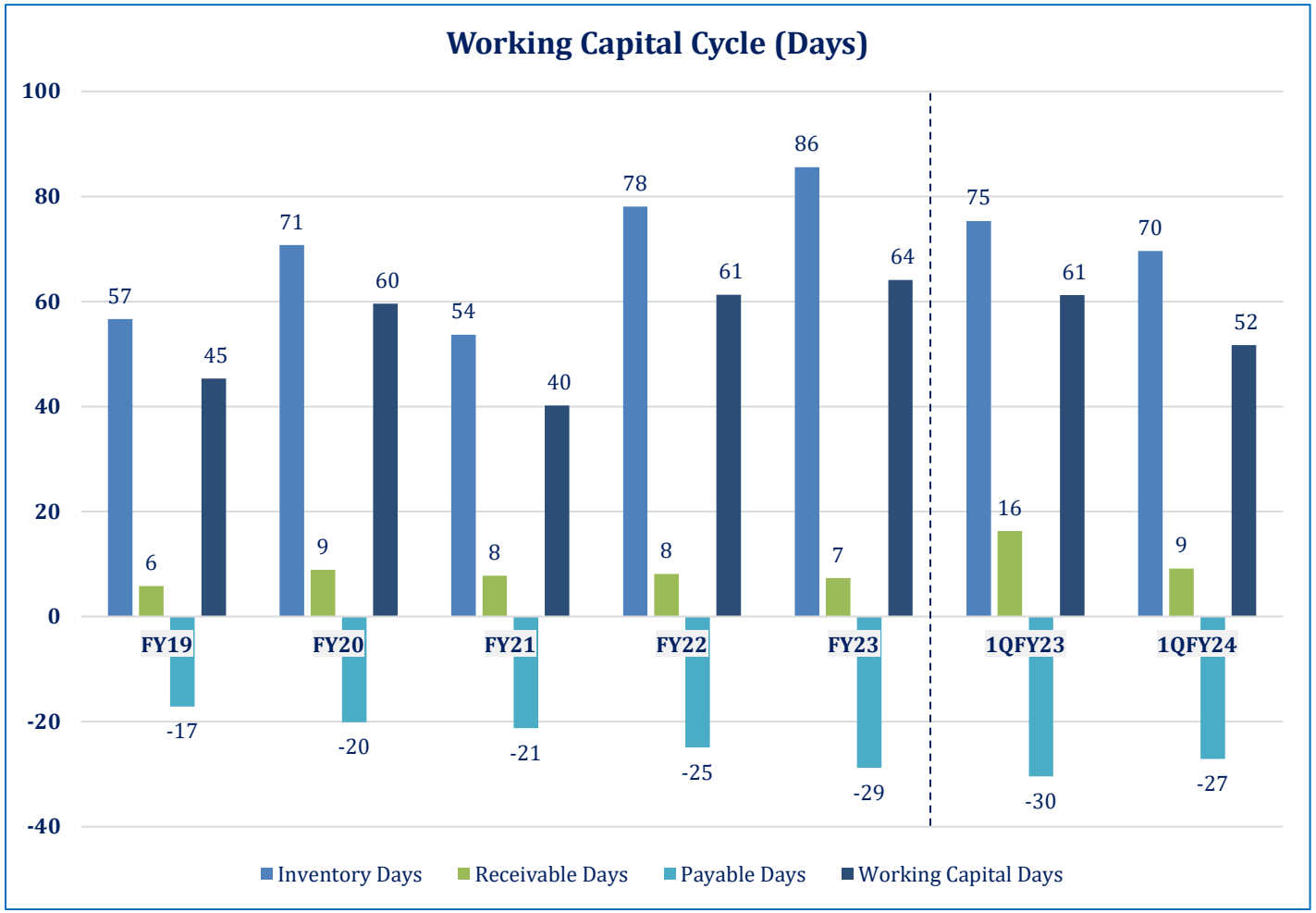

***Note**: Industry averages are based on 3 sector players making up ~100% of the market share in terms of sales.*

Source: PACRA Database, Company Financials

# Polyester

## Financial Risk | Working Capital Management

- The sector's average working capital cycle is predominated by its inventory days.
- The average inventory days of the sector stood at ~69 days from FY19-23 and it is ~86 days in FY23. This came despite improved sales volume by ~2.4% during FY23 and likely reflects piled-up raw material inventories. The driving factor behind it might be increasing raw material prices in the future and growing local demand.
- Average payable days increased to ~22 days, and ~29 days in FY23 due to an increase in finance cost by ~167.3%.
- The sector is moderately leveraged, with leverage ratio increasing to ~25.9% in FY23, compared with ~22.9% in FY22.



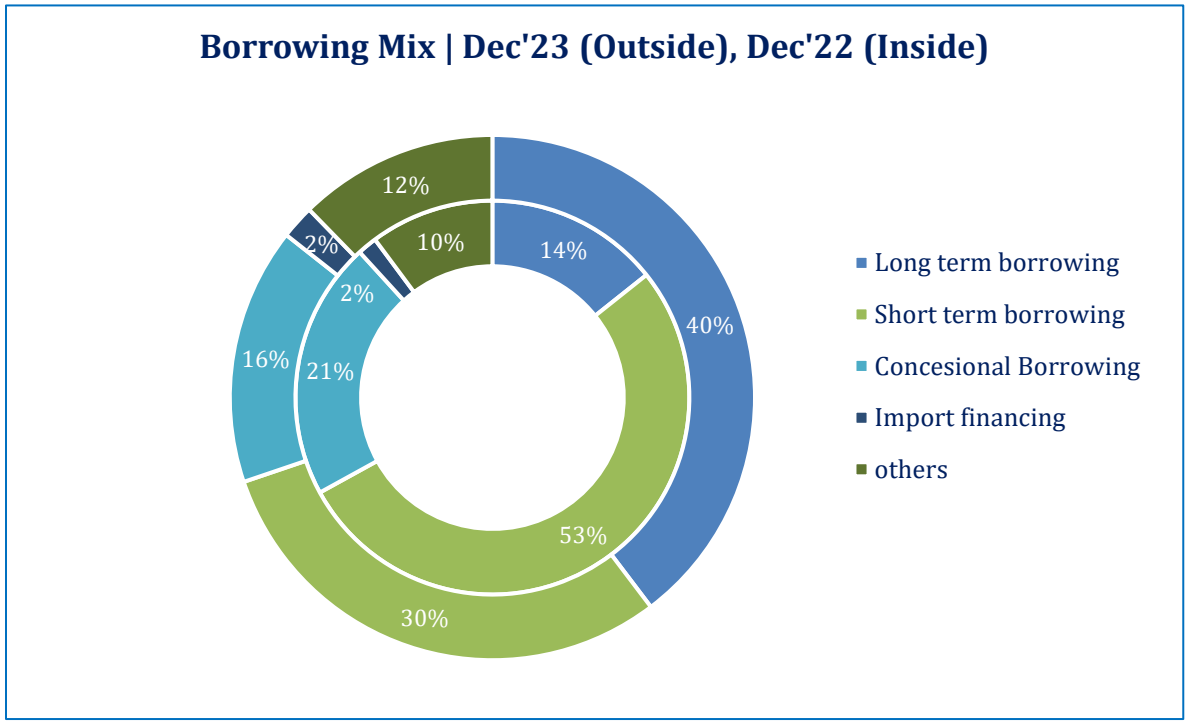

***Note**: Industry averages are based on 3 sector players making up ~100% of the market share in terms of sales.*

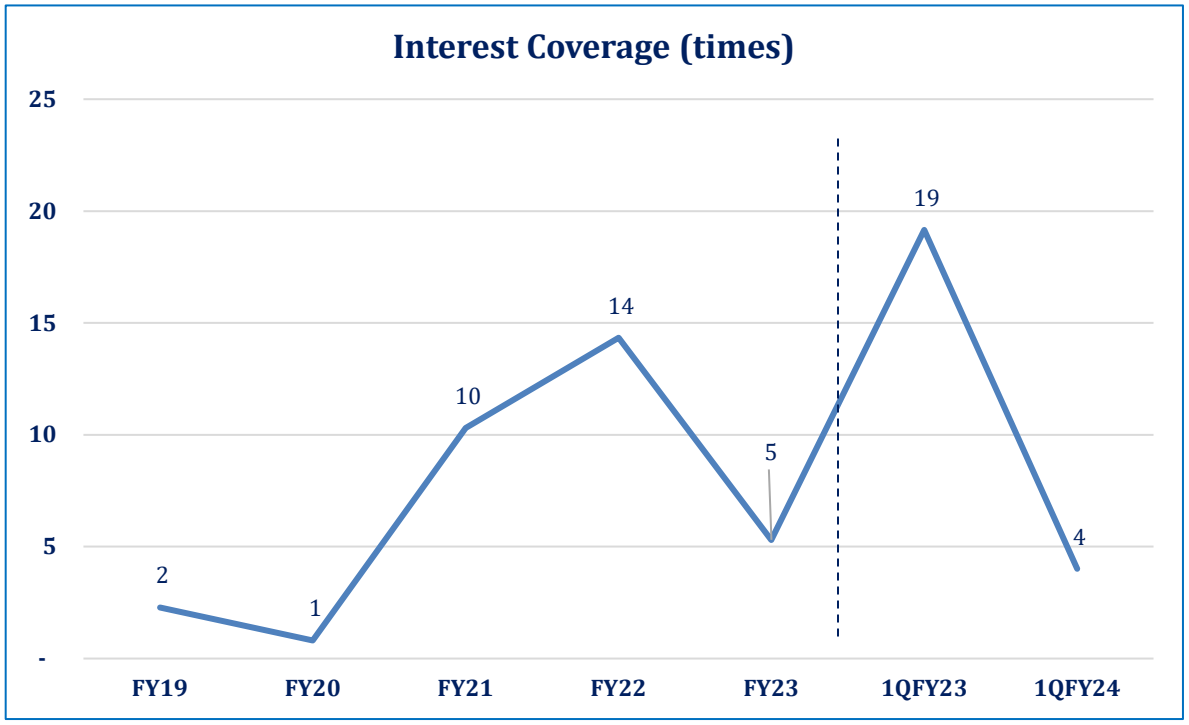
Source: PACRA Database, Company Financials

# Polyester

## Financial Risk | Borrowings

- The sector's total borrowings were recorded at PKR~48.8bln as of End-Dec'23, a YoY increase of ~29.8%. During this time, there was a significant decline in short-term borrowings owing to an overall slowdown in business activity, with these making up ~30% of the sector's total borrowing. (SPLY: STBs formed ~53.2% of the total borrowing).
- With MPR increasing to ~22% in End-Jun'23 (SPLY: ~13.75%), the sector's average finance cost also increased by ~167%. In this connection, the sector's average interest coverage dipped to ~5x in FY23, despite STBs declining ~25.8% YoY.




***Note**: Leverage and interest coverage is based on 3 sector players making up ~100% of the market share in terms of sales.*
*Borrowing is reflective of SBP classification "Preparation & Spinning of Synthetic Fibre"*

Source: PACRA Database, SBP

# Polyester

## SWOT Analysis

**Strengths**

- Organized & listed sector.
- Sound Equity and Sponsor Backing.
- Diversified Product portfolio.
- Strong sector association.

**Weaknesses**

- Consumer preference of natural fiber over synthetic/ man-made fiber.
- Raw material pricing is subject to exchange rate & and international price volatility.
- Thin gross and net margins due to little room to increase price against imported PSF.

**Threats**

- Dumped imports from China, Thailand and Indonesia.
- Exposure to exchange rate volatility.
- Fluctuations in raw material prices.,

**Opportunities**

Growing recycled PSF market opening new avenues for the industry through cost minimization and competitive market prices.

- Reduced cotton production encouraging room for expansion in the synthetic fiber market.
- Increase efficiency and improve quality through technological upgrades.
- Growing textile exports of the country.

# Polyester

## Duty Structure

- The volume of dumped PSF imports had increased ~11.8x YoY during 2005-06, while domestic production was down ~9.2% during the same time period.
- The National Tariff Commission (NTC) therefore imposed anti-dumping duties on imports of PSF from Indonesia, Korea, and Thailand at the rate ranging from 0% to 8.33% with effect from February, 2006, for a period of 5 years.
- These have been extended in CY22 for the aforementioned timeframe, ranging from 2.5% to 10.4% effective from Feb'22.

| PCT Code | Description Raw Material | Custom Duty | | Additional Custom Duty | |
|---|---|---|---|---|---|
| | | FY21 | FY22 | FY21 | FY22 |
| 2917.3610 | PTA | 16% | | 4% | |
| 2905.3100 | MEG | 0% | | 2% | |
| | Finished Goods | FY21 | FY22 | FY21 | FY22 |
| 5503.2010 | PSF | 11% | | 2% | |

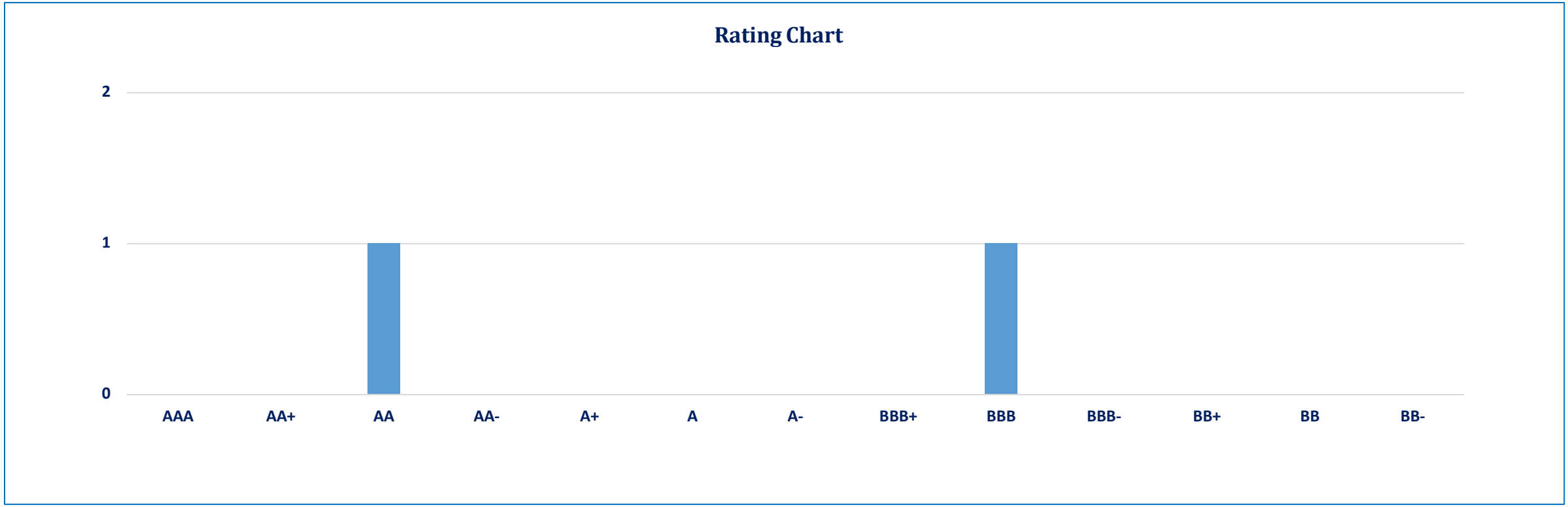
| PCT Code | Description | Anti-dumping Duty | Exporting Country | Date | Period |
|---|---|---|---|---|---|
| 5503.2010 | PSF | 10.44% | China | 4-Feb-22 | 5 years |
| 5503.2010 | PSF | 2.4% - 3.6% | Indonesia | 4-Feb-22 | 5 years |
| 5503.2010 | PSF | 2.5% - 10.7% | Thailand | 4-Feb-22 | 5 years |

Source: FBR, NTC

# Polyester

## Ratings Chart

- PACRA rates 2 entities in the polyester sector, namely Ibrahim Fibres Limited and E-Vision Manufacturing Limited (rPSF).
- All three major players involved in the manufacturing of PSF are listed on the PSX (i.e., Ibrahim Fibres, LCI Pakistan and Rupali Polyester).




Source: PACRA Database

# Polyester

## Outlook: Stable

- Pakistan's economy posted a real GDP contraction of ~0.2% in FY23 (FY22: ~6.1% growth), while the LSM declined by ~10.3% (FY22: ~11.8%), owing majorly to supply-chain disruptions which resulted from SBP-imposed import restrictions, along with the flash floods of Jul-Aug'22, and consequent sluggish demand across major industrial sectors of the country. In FY23, the sector's share in GDP was recorded at ~0.2% (SPLY: ~6.1%). The LSM activity also slowed down by ~10.3% YoY in FY23.
- The polyester sector experienced a slowdown in production by volumetric terms by ~5.0% during FY23, due to a lower in demand and overall slowdown in economic activities. Meanwhile, imports registered ~53.0% YoY decline due to SBP-imposed import restrictions during May'22-Jun'23. However, these have since been lifted.
- Cotton production registered a significant decline by ~41.0% primarily due to the devastating flood that struck the country in Aug'22. Additionally, there was a decline in demand for both cotton and PSF during FY23, which was down ~31.4% and ~6.1% YoY, respectively. This can be attributed to an overall slowdown in textile-related activities and inflationary pressures during the year.
- Greater reliance on imported raw material (particularly, MEG) increases currency risk exposure due to exchange rate volatility. The imported CFR price of PSF remains, on average, lower than the local prices due to PKR depreciation. The rupee lost ~39.2% value (YoY) against the greenback during FY23. Cotton prices, on the other hand, are exhibiting a declining trend in the most recent periods (1HFY24), on account of slowing global demand. Furthermore, with anti-dumping duties (ADD) in place on dumped imports from China, the delta between local and import prices recorded at ~27.0% in 1HFY24 (SPLY: ~30.0%).
- In FY23, net sales rose by ~6.1%, while COGS increased substantially by ~9.6% YoY. Consequently, the average gross profit margin decreased to ~9.0% during the year. Raw material costs, mainly PTA and MEG, makeup ~82% of total costs, making margins susceptible to exchange rate fluctuations (the PKR depreciated by ~39.2% YoY during FY23). Additionally, net margins declined to ~3.0% due to significantly higher average finance costs, up by ~167.3%, and a YoY increase in taxation of ~17.0%.
- Going forward, the stabilized rupee, reduced inflation, and lifted trade restrictions by the State Bank of Pakistan are likely to strengthen the economic outlook. A stable currency fosters investment, lowers inflation lowers costs, and removes trade barriers encouraging economic activity, potentially boosting imports and exports. Overall, these factors support economic growth and recovery.

# Polyester

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- Textile Today
- Sewport



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