

# VIS

Credit Rating Company Limited

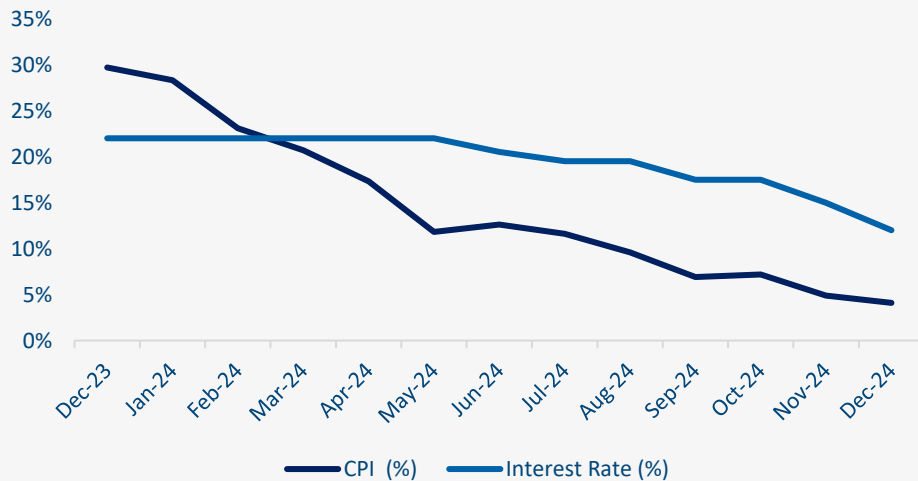
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## **PAPER & PACKAGING SECTOR REPORT**

# MACROECONOMIC OVERVIEW

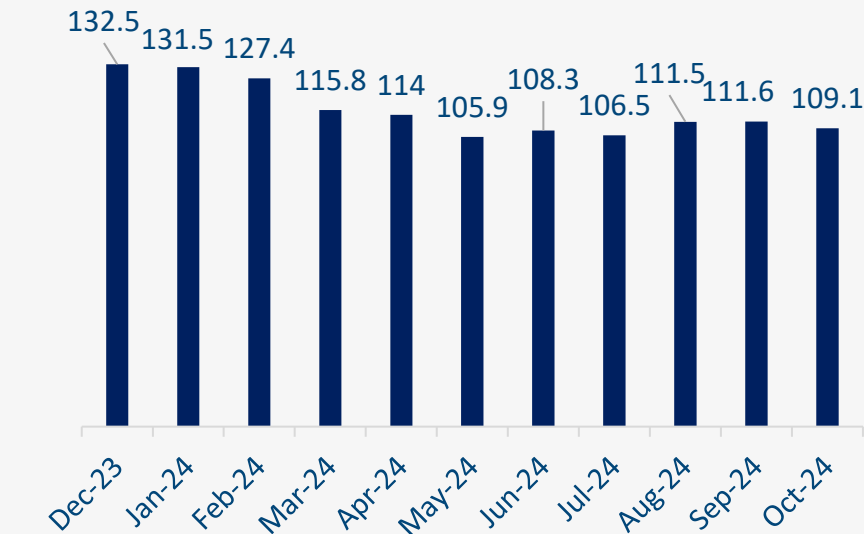
- Pakistan's economy is stabilizing, with moderate GDP growth of 2.50% in FY 24 and a projected 3.00% in FY25. Individual income levels have grown at a marginal rate as GDP per capita in USD increased from USD 1,377 in FY20 to USD 1,588 in FY24.
- The State Bank of Pakistan has reduced the interest rates by 1000 basis points to 12 and SBP is further expected to cut policy by the end of FY25.
- Due to the tight monetary policy impact in FY24, favorable global oil has receded inflationary pressures in recent months. Monthly CPI has decreased from 37% in May 2023 to 2.4% in January 2025.
- In October 2024, Large-Scale Manufacturing (LSM) recorded a marginal YoY growth of 0.02%, signaling a positive shift from the significant contraction of 5.79% observed in October 2023. This hints at a gradual recovery in economic activity amidst ongoing challenges.
- On an MoM basis, LSM declined by 2.24% in October 2024, primarily due to a seasonal decline in the beverages sector. As winter approached, demand for beverages typically decreased, leading to lower production levels in this sector.
- Overall, 12 out of 22 LSM sectors performed positively during the month, demonstrating resilience and continued growth in key industries.

CPI & Interest Rate



Source: SBP

LSM Performance Index



Source: MoF

# PAPER & PACKAGING INTRODUCTION

## PLASTIC PACKAGING

- Plastic packaging is composed of synthetic materials like polyethylene, PVC, and nylon which can be molded into specific shapes while in a pliable state and then solidified into either a rigid or slightly flexible form.
- Plastic packaging is highly valued for its excellent protective qualities, lightweight nature and versatility in adapting to various designs. It is commonly used in products such as PET bottles and plastic containers.
- The process involves sourcing hydrocarbons from crude oil or natural gas, polymerizing them into polymers like polyethylene and PVC, and converting these into resins.
- The resins are shaped using techniques such as injection molding and blow molding, followed by customization with prints or labels. Quality control ensures durability and functionality before distribution to industries like food, beverages, and consumer goods.
- Types of plastic packaging include films, wraps, bottles, containers, bags, pouches, trays, clamshells, tubes, and sachets.

## PAPER AND PAPERBOARD PACKAGING

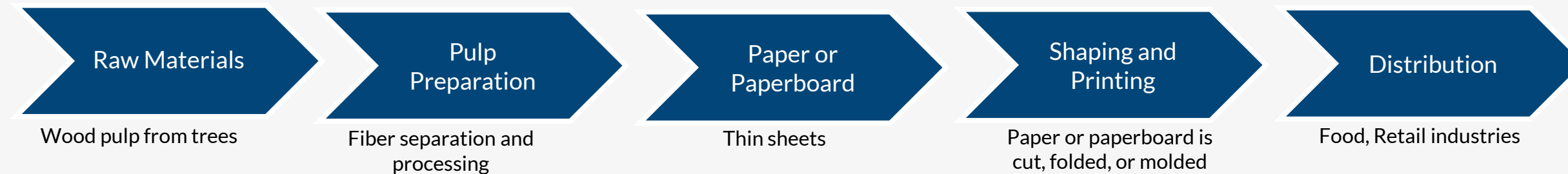
- Paper and paperboard packaging is primarily made from wood fibers sourced from sustainable forests, recycled paper or alternative plant-based materials.
- It serves a wide range of functions, from permeable tissues in tea or coffee sachets to smaller items like food or gifts, as well as strong cardboard for shipping and distribution. Due to its strength and durability, paperboard packaging accounts for one-third of the global packaging market.
- The paper packaging production process begins with sourcing raw materials, primarily wood fibers from sustainable forests, recycled paper, or alternative plant-based materials. These raw materials undergo pulp preparation, where they are processed through mechanical or chemical treatments to produce a slurry of cellulose fibers.
- This pulp is then transformed into paper or paperboard through pressing and drying processes to achieve the desired thickness and strength. The next stage involves shaping and printing, where the paper is cut, molded, and printed with graphics or information as required for the final packaging design. Lastly, the finished products are distributed to manufacturers, retailers, or end-users .
- Types of paper and paperboard packaging include cartons, corrugated boxes, paper bags, wrapping paper, molded pulp packaging, and paper-based pouches.

# MANUFACTURING PROCESS

## PLASTIC PACKAGING PRODUCTION PROCESS



## PAPER PACKAGING PRODUCTION PROCESS

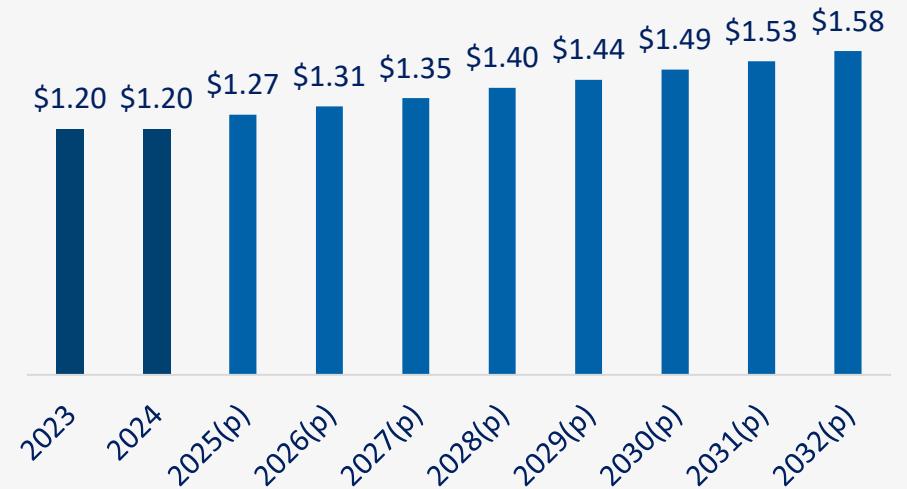


# GLOBAL – PACKAGING INDUSTRY

## MARKET SIZE

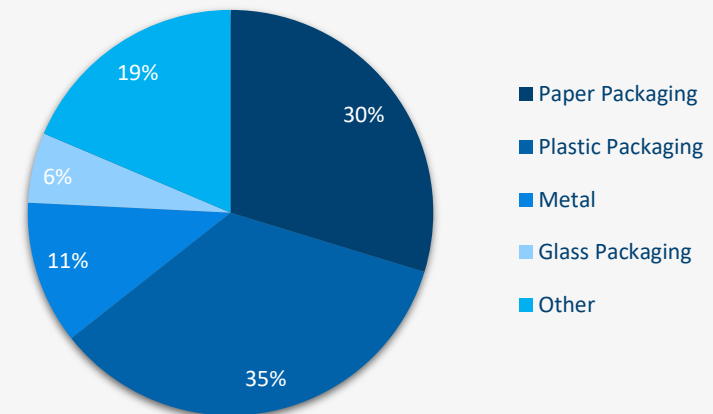
- The estimated size of the global paper and packaging industry reached USD 1.20 trillion CY24. The global paper and packaging market size is expected to grow to USD 1.58 at a CAGR of 3.16%.
- The growth of the industry is roughly consistent with the global economy trajectory, with growth typically surpassing GDP in emerging nations due to rising standards of living.
- In mature markets, paper and packaging growth mirror GDP growth because in mature markets rising living standards encourage service based offers above physical goods.
- Asia Pacific is the largest contributor to this growing demand. China and India are the primary leaders that are leading this growth.
- North America ranks as the second-largest paper and packaging market, with the United States seeing significant growth.
- The global growth of the industry is led by major players like Amcor Ltd. and Mondi PLC, whose investments in innovation, sustainable packaging solutions, and advanced technologies are driving advancements in regions.
- The primary consumer of paper and packaging is the food and beverage industry, promptly followed by the personal care and cosmetics sector.

Global Paper and Packaging Market Size (USD Trillion)



Source: Towards Packaging

MARKET SEGMENTS CY24



Source: Towards Packaging

# GLOBAL – TECHNOLOGICAL ADVANCEMENTS

With increasing awareness about climate change, sustainable practices and environmental issues, consumers especially in developed countries are demanding eco-friendly alternatives to traditional packaging materials like plastic. Additionally, corporate sustainability goals are driving companies to adopt greener practices throughout their supply chains.

## Biodegradable & Edible Packaging

One of the most promising advancements in sustainable packaging is the development of biodegradable and edible materials. Bioplastics derived from renewable sources such as corn starch, sugarcane, or algae are gaining traction as alternatives to conventional plastics. These materials decompose naturally, reducing the burden on landfills and oceans. The global biodegradable packaging materials market reached USD 225 billion in 2024 and is projected to hit around USD 364.76 billion by 2034, expanding at a CAGR of 4.95% during the forecast period from 2024 to 2034.

## Smart Packaging With RFID & NFC Technology

The integration of Radio-Frequency Identification (RFID) and Near-Field Communication (NFC) technology is revolutionizing packaging in terms of traceability, security, and consumer engagement. RFID tags and NFC chips embedded in packaging enable real-time tracking throughout the supply chain, enhancing transparency and reducing the risk of counterfeiting. Additionally, smart packaging allows consumers to access product information, authenticity verification, and interactive experiences through their smartphones. The global smart packaging market is expected to grow from USD 38.23 billion in 2023 to USD 68.99 billion by 2033, at a CAGR of 6.08% during the forecast period 2024-2033.

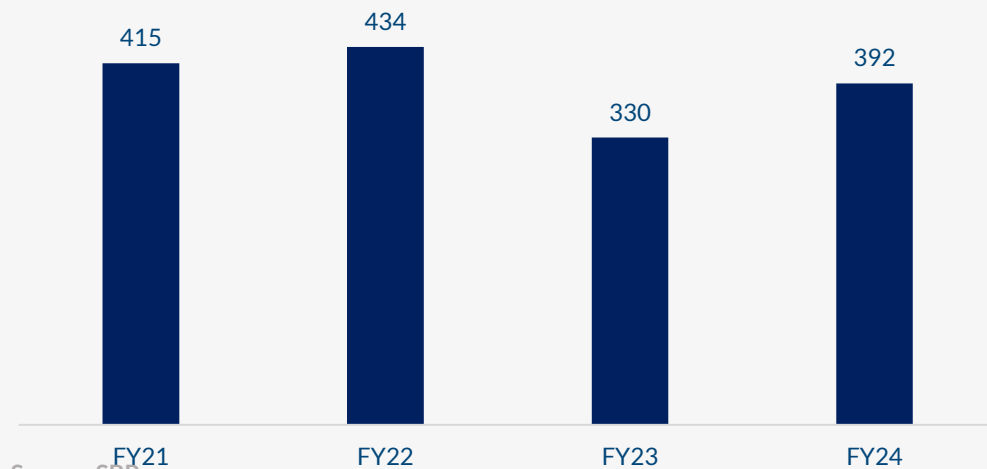
## 3D Printed Packaging

3D printing, also known as additive manufacturing, is disrupting traditional packaging production methods by offering customization, flexibility, and waste reduction. With 3D printing, packaging designers can create intricate shapes and structures that were previously impossible with conventional manufacturing techniques. This level of customization enables companies to tailor packaging solutions to specific products, reducing material usage and transportation costs. The global 3D printed packaging market size was estimated at USD 1.25 billion in 2023 and is expected to grow at a CAGR of 5.5% from 2024 to 2030.

# LOCAL – PACKAGING INDUSTRY

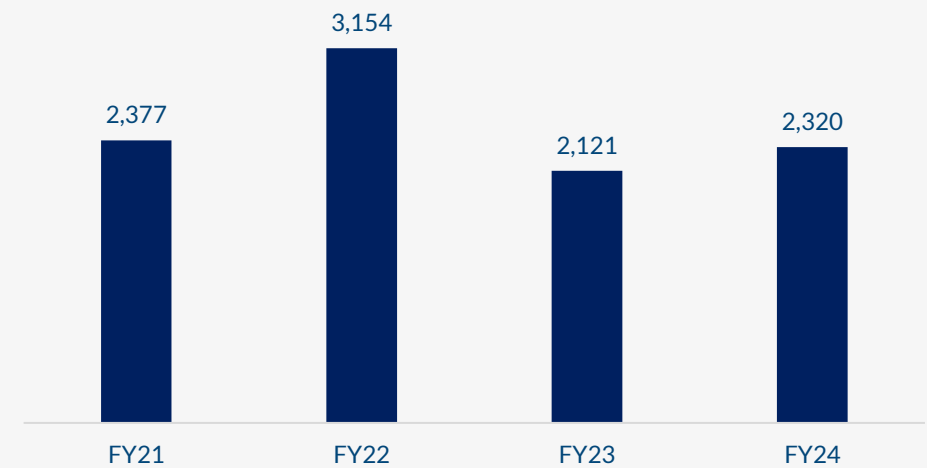
- The local packaging market in Pakistan is divided into three primary segments: paper & cardboard, plastics, and metal/tinplate. Among these, the paper and plastic segments hold a dominant position, accounting for a significant share of the market. The total size of the domestic packaging sector is approximately USD 5.4 billion in FY24.
- Pakistan's packaging industry is supported by an optimal domestic production base. However, the country's reliance on imports for key raw materials, advanced machinery, and equipment is substantial.
- The United States, China, Thailand, Germany, and the UAE are among the key trade partners, supplying essential inputs to sustain the sector's operations.
- The industry's growth is driven by rising consumer demand for packaged goods, evolving food safety regulations, and the expanding e-commerce sector, which requires innovative and sustainable packaging solutions.
- As the industry advances, there is a growing focus on eco-friendly alternatives and investments in advanced technologies to reduce environmental impact and improve production efficiency.

**Paper Imports (USD Million)**



Source: SBP

**Plastic Imports (USD Million)**



Source: SBP

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# PLASTIC PACKAGING OVERVIEW



# PLASTIC PACKAGING – BUSINESS RISK

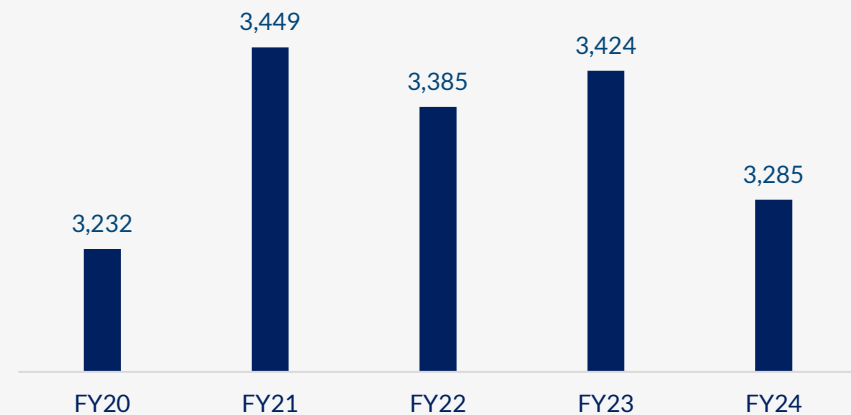
## DEMAND RISK

- The Plastic Packaging segment is a key contributor to demand to food and beverages. Over the past five years (2020-2024), beverage production in Pakistan has fluctuated over the years with a CAGR of only 0.41%. In FY24, beverage production experienced a slight decrease of about 3.9% YoY.
- Consumer spending on food and beverages in Pakistan stands at USD 610 per capita in FY24, a lower figure compared to countries like China (USD 1,300), Vietnam (USD 1,030), and Iran ( USD 700).
- These higher per capita spending indicates stronger demand for packaged goods in those regions, supporting packaging industry growth.

## ENERGY RISK

- The cost of plastic production, particularly for Polyethylene Terephthalate (PET), is directly impacted by international oil prices.
- The plastic industry is highly energy-intensive and the continuous rise in energy prices has resulted in reduced margins for the sector.
- Fluctuations in oil prices, driven by global supply-demand dynamics and exchange rate movements, have all contributed to a reduction in margins.
- The variability in oil prices during FY24 was influenced by geopolitical events, including the ongoing conflict in the Middle East, alongside global inflationary pressures and interest rate hikes, which led to increased raw material costs.
- The oil prices in FY24 decreased by around 3.0% YoY, primarily due to a decline in demand from major oil-importing countries like China, as its economic growth slowed down.

**Beverages Production (Mln Liters)**



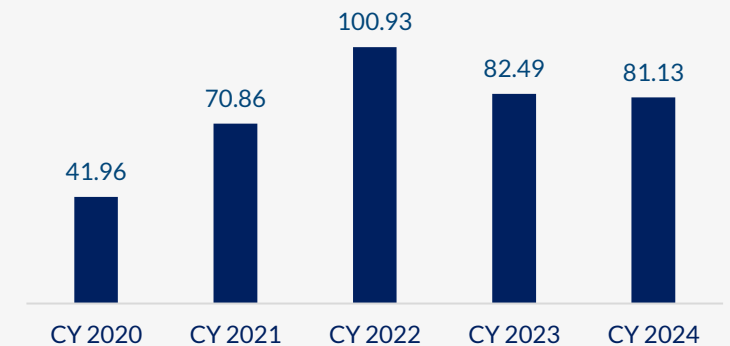
Source: SBP

**Consumer Spending Per Capita on Food and Beverages**



Source: Statista

**Average Oil Prices WTI (USD/bbl)**



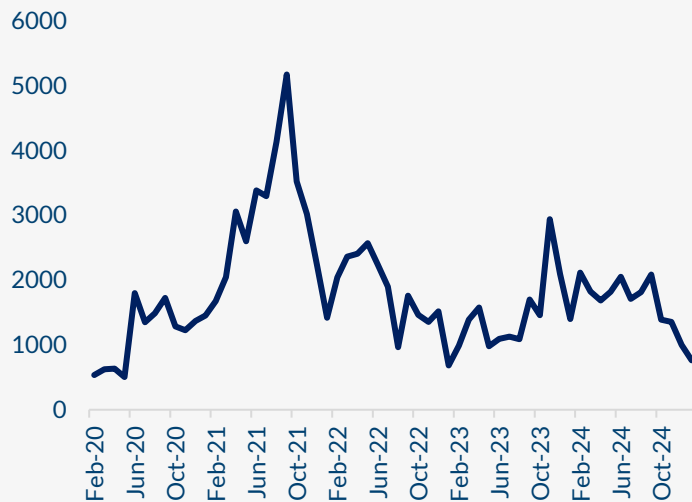
Source: Investing

# PLASTIC PACKAGING – BUSINESS RISK

## RAW MATERIAL & SUPPLY CHAIN RISK

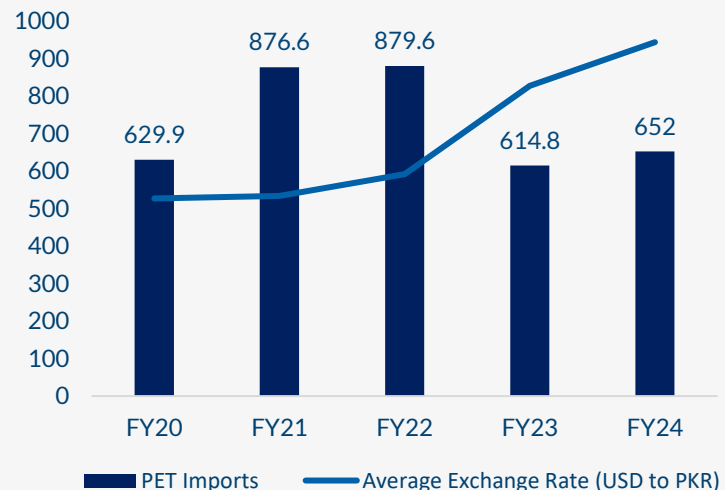
- Polyethylene Terephthalate (PET), is one of the primary raw materials used in the manufacture of Plastic bottles, films, and other Plastic Packaging. In FY24, imports of PET Resin in terms of value clocked in and edged up USD 652 million as compared to USD 614 million. The imports of PET resin have grown at a CAGR of 0.6% from FY20 to FY24. Since there are only two major local suppliers, namely, Pakistan Synthetics Ltd and Eco Pack Ltd, Pakistan is mostly reliant on imports.
- PET price is positively correlated with fuel prices since a significant portion of PET production cost comes from raw materials tied to crude oil. Even though globally, PET remained relatively stable, PET prices in Pakistan increased due to the depreciation of the Pak rupee.
- Geopolitical instability, especially affecting sea routes (e.g., the Suez Canal, Strait of Hormuz, presents a risk of delayed raw material shipments, and higher shipping costs can potentially disrupt the production schedule. Geopolitical instability reduces predictability in logistics making it hard to plan inventory or production schedules.

Baltic Dry Index



Source: Investing

PET Import (USD Million)



Source: SBP

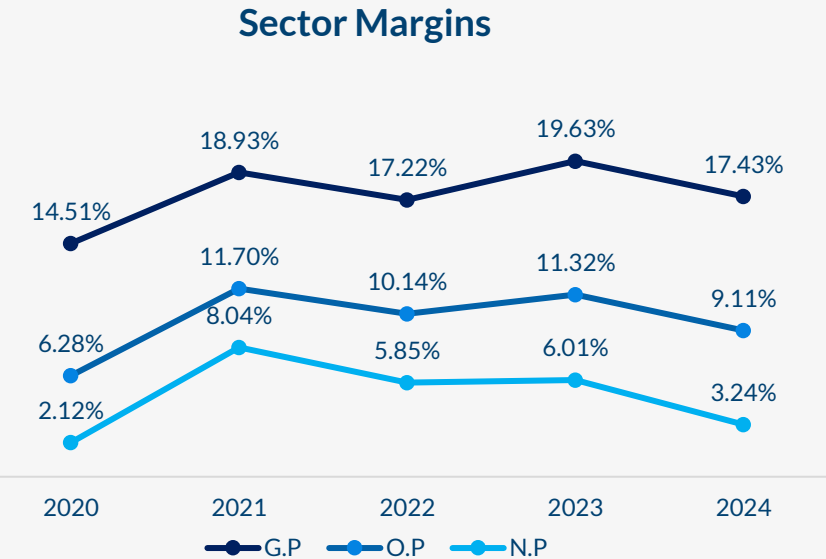
Year	Global Average PET Price (USD/MT)	PET (PKR/KG)	Average Oil Price
2020	725	161.8	41.96
2021	1705	212.2	70.86
2022	1200-1300	287	100.93
2023	1045 (USA), 1210 (EU)	279.8	82.49
2024	1037 (USA), 1255 (EU)	307.2	81.13

Source: Procurement Resource

# FINANCIAL RISK

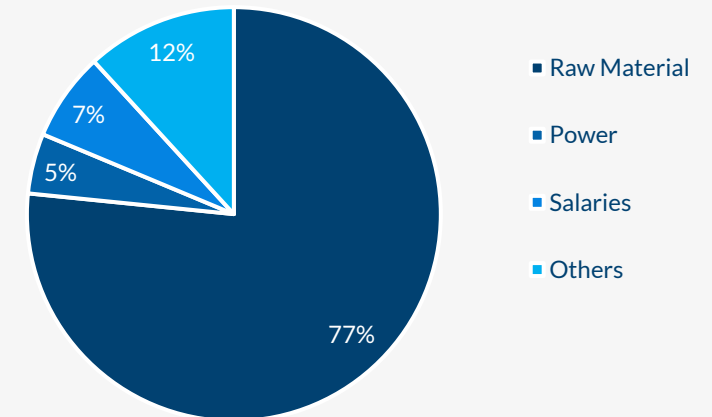
## INDUSTRY MARGINS & COST BREAK-UP

- The plastic packaging sector faced significant margin pressures in 2024 due to rising raw material and energy costs. Petroleum-based materials like polymers saw considerable price volatility, driven by global supply-demand imbalances and geopolitical disruptions.
- Additionally, the devaluation of the local currency inflated the cost of imported materials, further eroding profitability. These increases in production costs were compounded by a volatile economic environment.
- Economic and political instability played a major role in exacerbating these challenges. High inflation, elevated interest rates, and policy changes by the State Bank of Pakistan disrupted the timely availability of raw materials.
- Geopolitical tensions also affected major sea routes, delaying shipments and straining production schedules.
- The decline in profit margins from 2021 to 2024 is linked to increasing raw material costs (especially polymers) and currency devaluation, rising inflation and higher operational costs, including energy expenses, put significant pressure on margins.
- In FY24, profit margins decreased compared to FY23, with the Gross Profit Margin dropping from 19.63% to 17.43%, the Operating Profit Margin falling from 11.32% to 9.11%, and the Net Profit Margin declining from 6.01% to 3.24%.
- Raw materials constituted almost 77% of COGs, highlighting the importance of the timely availability of raw materials and it also shows that any devaluation in PKR deeply affects the cost and margins of the sector.



Source: Financial Statements, VIS Database

### COGS Breakdown (%)



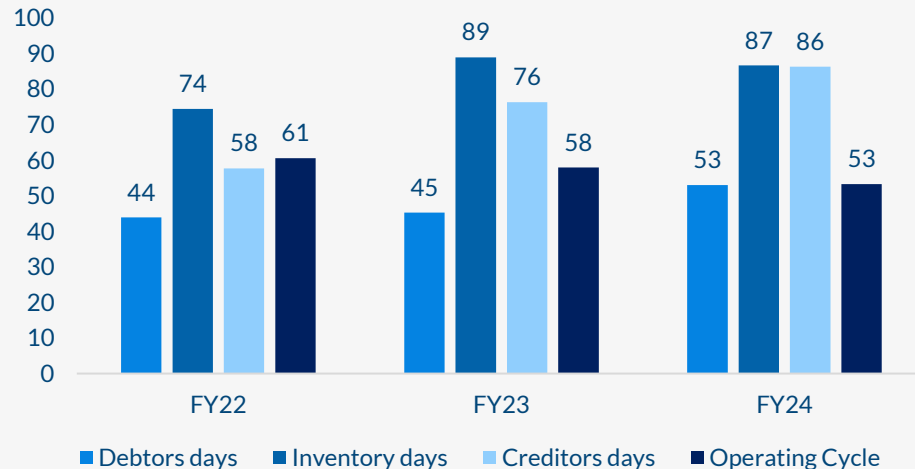
Source: Financial Statements, VIS Database

# FINANCIAL RISK

## WORKING CAPITAL MANAGEMENT & BORROWINGS

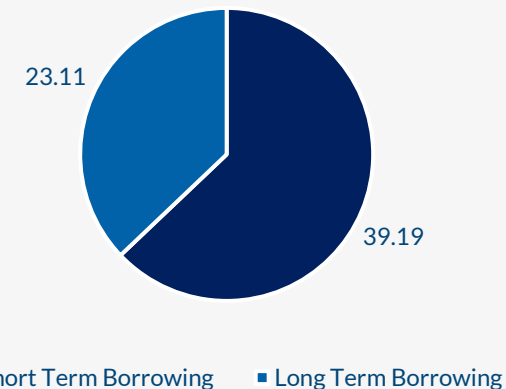
- Working capital in the sector is driven by inventory and trade receivables, financed through short-term borrowings and internal capital.
- The plastic packaging sector faces financial risk from working capital management and borrowings. The operating cycle remained modestly stable at 53 days in FY24, reflecting consistent efficiency in converting inventory into cash, primarily funded through short-term borrowings and internal capital.
- As of December 2024, total borrowings stood at PKR 62.43 billion, with 62.67% (PKR 39.13 billion) in short-term financing, including PKR 5.29 billion in import financing, and 37.33% (PKR 23.10 billion) in long-term financing.
- Additionally, LTFF and TERF financing totaled PKR 7.1 billion, indicating investment in capacity and operational improvements.

Working Capital Management



Source: Financial Statements

Sector Borrowing (PKR Billion)



Source: SBP

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# PAPER PACKAGING OVERVIEW

# PAPER PACKAGING – BUSINESS RISK

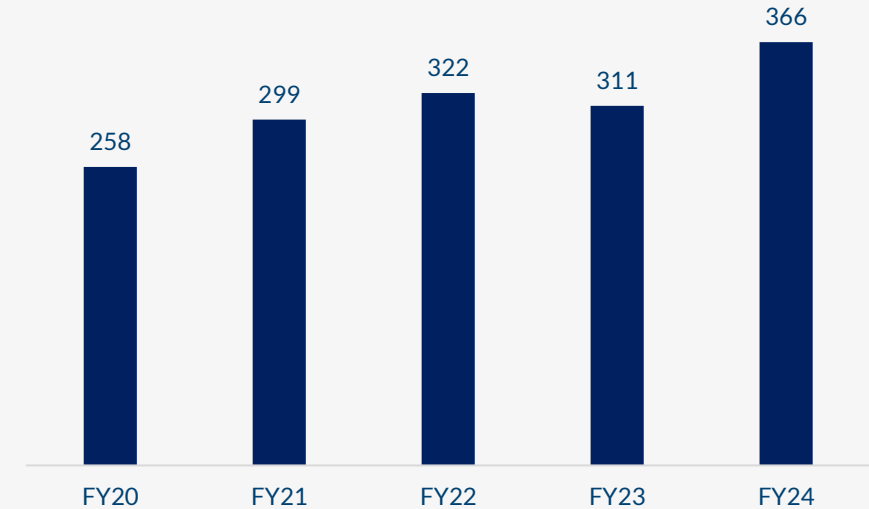
## DEMAND RISK

- The paper packaging segment has remained relatively stable throughout FY20-24.
- The paper packaging industry in terms of production has experienced a CAGR of 7.24% over the period from FY20 -24, reflecting consistent growth in production.
- From 258,000 MMT in FY20, production increased to 366,000 MMT in FY24.

## SUPPLY CHAIN AND RAW MATERIALS RISK

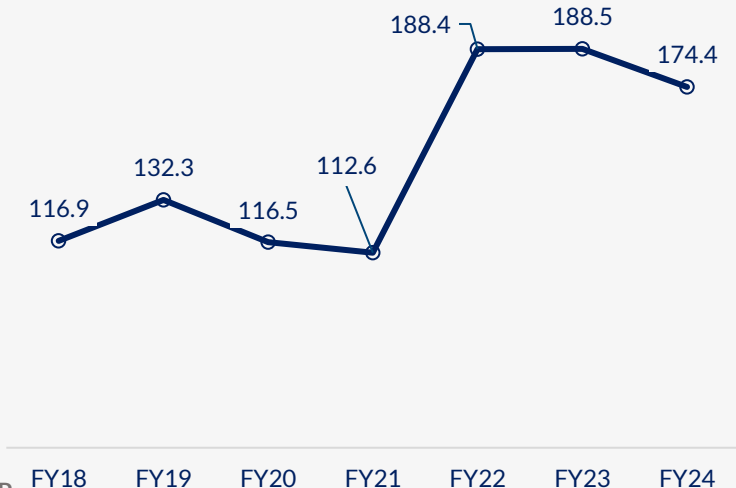
- Chemical wood is essential for the paper packaging industry, as it is used in producing pulp for paper products.
- The import data shows fluctuations in chemical wood imports over the years, with a rise from 116,945 MMT in FY18 to 132,288 MMT in FY19, followed by a decline in FY20 and FY21. Imports surged FY23, reaching 188,468 MMT, before dropping to 174,350 MMT in FY24.
- These fluctuations indicate the industry's vulnerability to supply chain disruptions and price volatility, with implications for production costs and stability, especially given the reliance on imports and exposure to foreign exchange risks.
- Additionally, water scarcity poses a significant risk, as any disruption in supply can halt production. Despite water being critical for manufacturing, Pakistan allocates only 6% of its freshwater resources to the industrial sector, with 93% going to agriculture.
- Globally, freshwater distribution is 70% for agriculture, 20% for industry, and 10% for municipal purposes. In contrast, Pakistan's allocation to industry is significantly lower, highlighting the limited availability of water for industrial use.

Paper Production (“000” MMT)



Source: SBP, Economic Survey

Chemical Wood Import (USD Million)



Source: SBP

# BUSINESS RISK

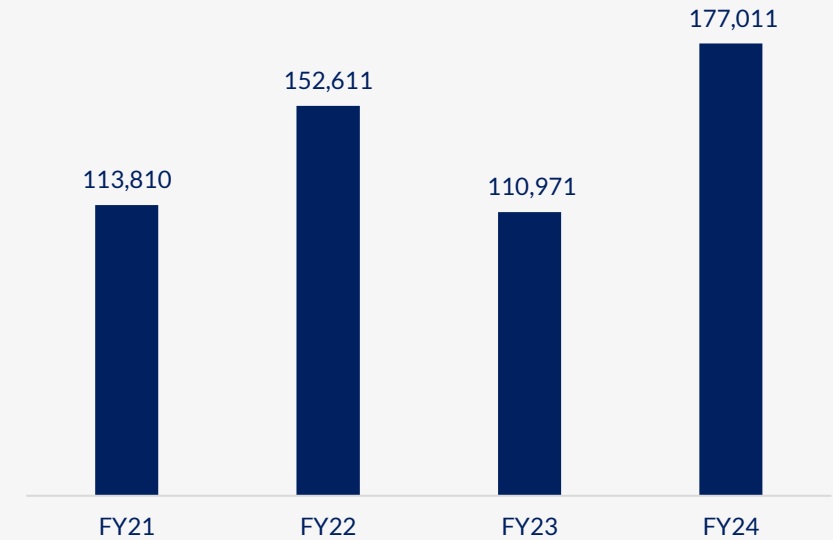
## ENERGY RISK

- The paper packaging industry in Pakistan faces significant cost pressures due to its relatively high industrial electricity tariffs compared to regional competitors.
- At 12.5 cents per kWh (as of June-2024), Pakistan’s electricity costs are notably higher than those of neighboring countries such as India (12.1 cents per kWh), Bangladesh (8.7 cents per kWh), China (8.9 cents per kWh), and Vietnam (7.5 cents per kWh).
- This disparity places local manufacturers at a competitive disadvantage, as higher energy costs increase production expenses and reduce profit margins. Moreover, the energy-intensive nature of paper packaging manufacturing especially in processes like pulping and drying further exacerbates this issue, making it more difficult for Pakistani companies to compete with regional players that benefit from lower electricity costs.

## MARKET RISK

- The withdrawal of the 10% regulatory duty on paper and paperboard, effective after December 31, 2024, is expected to increase competition in the local market by making imported products cheaper and more accessible. This poses a significant risk to domestic producers, as they may face pricing pressure and reduced market share. Cheaper imports could erode profit margins and force local manufacturers to either lower prices or increase production efficiency to remain competitive.
- Even though Federal Board of Revenue’s (FBR) has a history of delaying policy implementations from the Tariff Policy Board (TPB).

**Cheaper Imported Products  
(USD Million)**



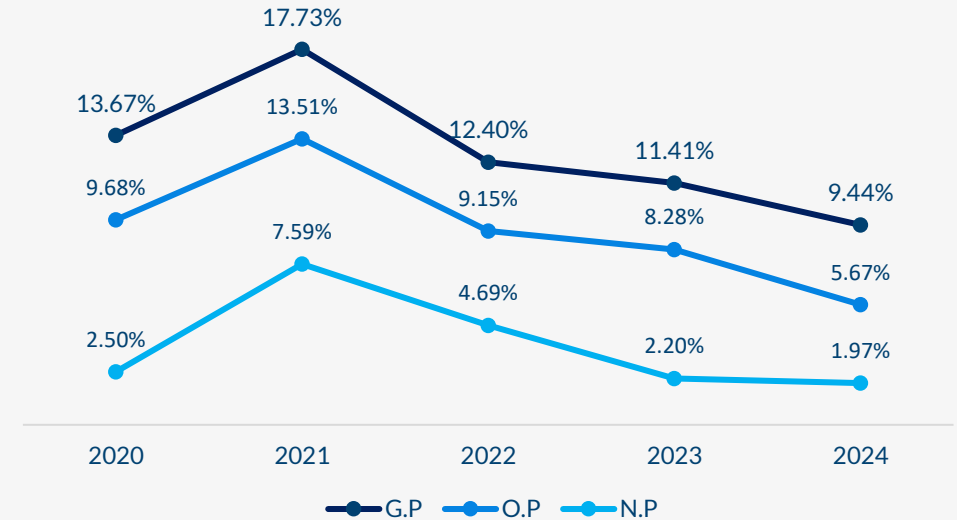
Source: SBP

# FINANCIAL RISK

## INDUSTRY MARGINS & COST BREAK-UP

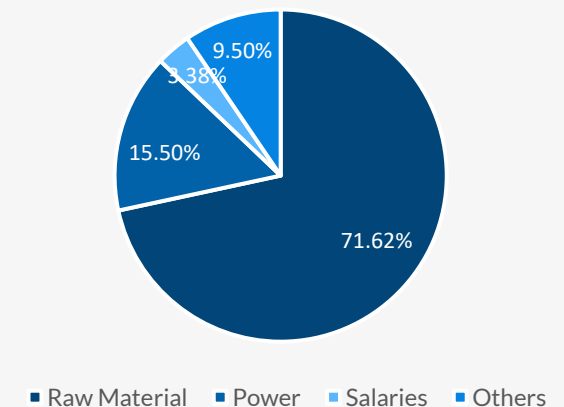
- The paper packaging industry in Pakistan plays a crucial role in supporting sectors like manufacturing, agriculture, and retail. However, it faces significant challenges, such as unhealthy competition from cheaper imports, which have reduced the viability of local production.
- Despite calls for government intervention, no concrete measures have been implemented yet. Inflationary pressures have also contracted demand for paper products while rising costs have further strained the industry. Additionally, the sector is heavily reliant on non-renewable energy, contributing to greenhouse gas emissions and environmental concerns.
- The average gross profit margins of the industry dropped to 9.44% in FY24 (FY23: 11.41%), due to higher increased energy, cost, exchange rate depreciation, and supply chain disruptions. The industry margins have consistently declined with the increase of electricity prices and PKR depreciation as the paper packaging industry is highly reliant on energy and import in in Pakistan.
- Operating profit margins correlated with gross margin, as expenditure increased due to inflation. Operating profit margins fell to 5.67% in FY24 (FY23: 8.28%). Net profit margins also contracted to 1.97% (FY23: 2.20%).
- The raw material on average constituted approximately 71.62% of COGS, highlighting the importance of the timely availability of raw materials as any disruption in the supply chain, significantly affects industry gross margins. Power or energy cost constituted 15.50% of COGS.

Sector Margins



Source: Financial Statements, VIS Database

COGS Breakdown (%)



Source: Financial Statements, VIS Database

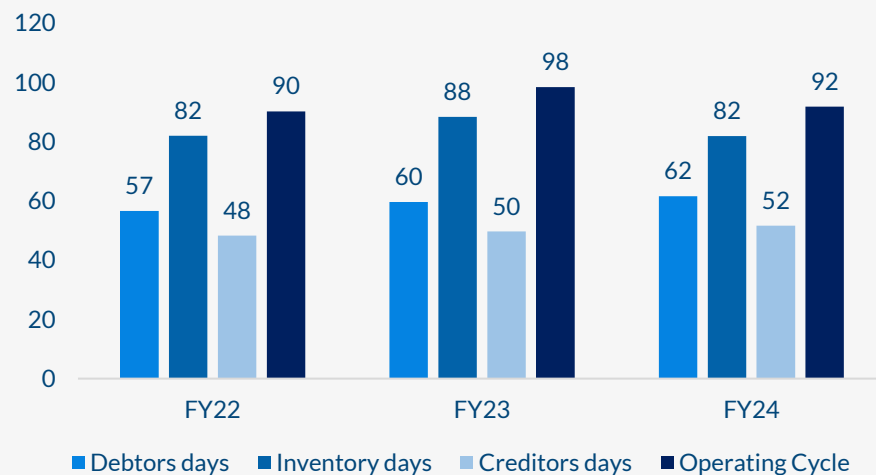


# FINANCIAL RISK

## WORKING CAPITAL MANAGEMENT & BORROWINGS

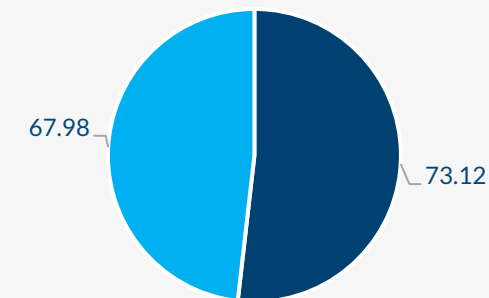
- Working capital in the sector is driven by inventory and trade receivables, financed through short-term borrowings and internal capital.
- The operating cycle has remained modestly stable over the past three years, standing at 92 days in FY24, indicating the time to convert inventory into cash, with shortfalls often covered by short-term financing.
- As of December 2024, total borrowings stood at PKR 141.40 billion, with 51.71% (PKR 73.12 billion) in short-term financing and 48.29% (PKR 67.98 billion) in long-term financing.
- The sector’s reliance on short-term debt increases exposure to refinancing risks and interest rate fluctuations especially in a high-rate environment.
- Long-term borrowings, including LTFF and TERF financing (PKR 10.41 billion), indicate investments in operational improvements.

**Working Capital Management**



Source: Financial Statements

**Sector Borrowing (PKR Billion)**



■ Short Term Borrowing ■ Long Term Borrowing

Source: SBP

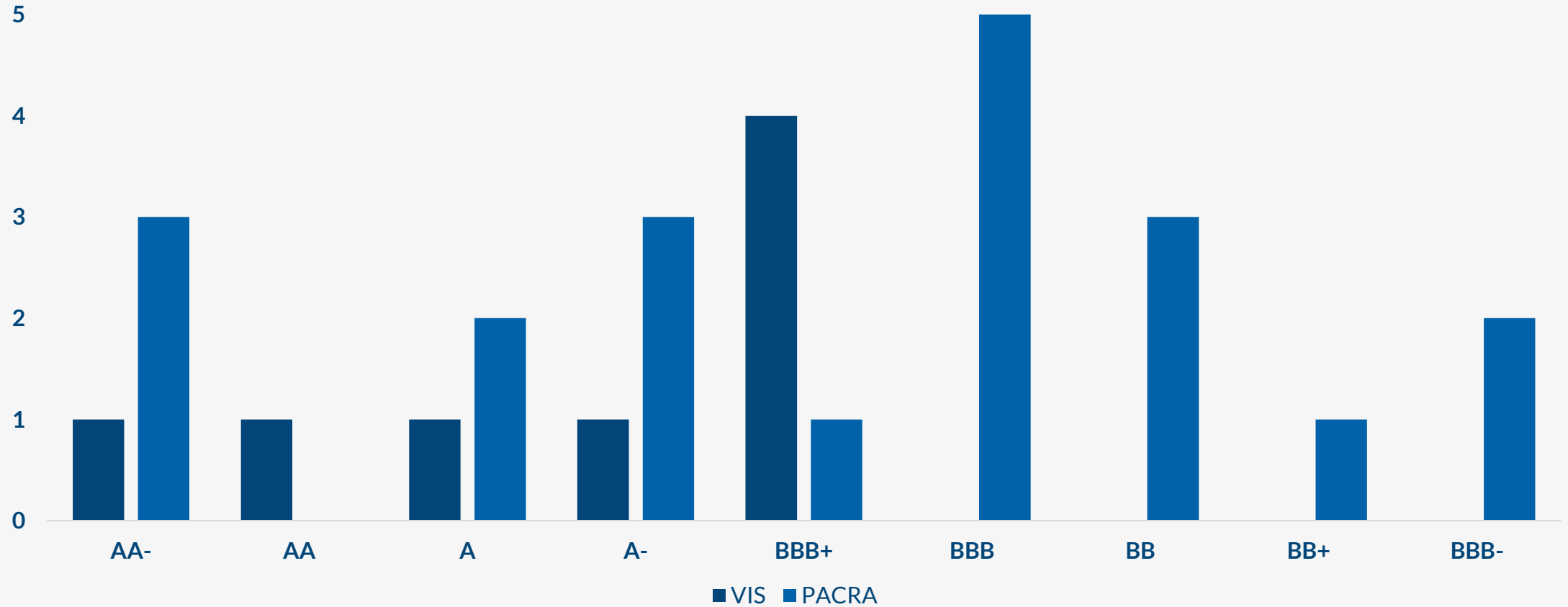
# CONSOLIDATED INDUSTRY RISK

## Paper & Packaging Sector

Cyclicality	Competition				Capital Intensity	Technological Risk	Regulatory Framework	Energy Sensitivity	Overall Industry Risk
	Risk of barrier to entry	Risk of substitutes	Risk of growth trends	Overall					
Low	Low	Low	Low	Low	Medium to Low	Medium	Low	High to Medium	Medium to Low

# RATING CURVE

## Ratings Chart



# SECTOR OUTLOOK: STABLE

The outlook of the paper & plastic packaging industry remains stable as most of the risks that were identified have diminished in intensity.

## Plastic Segment

The outlook for the plastic packaging segment may look skeptical as more and more consumers start to choose sustainable alternatives like paper and cloth, However, the proper enforcement of regulations banning or limiting the use of plastic remains ineffective, with small or big shopkeepers continuing to rely on plastic packaging.

The segment is highly reliant on raw materials and crude oil which makes it vulnerable to fluctuations in the exchange rate which can impact the margins of the segment along with a reduction in demand. The Pak rupee is expected to remain stable in the range of 270-280 in FY 25. As the Pakistani economy stabilizes, consumer spending is expected to increase which in turn would increase the demand for plastic packaging.

## Paper Segment

The outlook for the paper packaging segment is far more stable, as overall paper production has consistently increased in the country. Many large retailers have shifted to using paper packaging, which has contributed to demand.

The paper packaging segment like Plastic Packaging is reliant on imported raw material and any fluctuation in the exchange rate and any supply chain disruption will impact the overall gross margin of the industry.

The availability of cheap alternatives is also a challenge for the industry and if the decision to withdraw the RD after December 31, 2024, is made it is expected to benefit foreign exporters of paper and paperboard by making their products cheaper and more competitive in Pakistan.

Despite these challenges, the segment is poised for growth because consumers shift from plastic to paper due to sustainability concerns and the increasing popularity of online shopping and packaged goods.

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- Trading Economics
- Statista
- Financial Statements
- Towards Packaging
- Investing
- Index Mundi

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## RESEARCH & PUBLICATIONS

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