



# Paper & Packaging

## Sector Study



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## Introduction

- Packaging refers to the enclosing or protecting of goods for the purpose of distribution, storage, sale and use.
- The packaging industry is mostly segmented according to the type of material used -
  1. Paper & Cardboard  
Includes cartons, corrugated boxes, bags and paper sacks.
  2. Plastic  
Includes PET bottles, plastic boxes, plastic films such as BOPP film, CPP film & BOPET film, and flexible packaging such as plastic bags, pouches etc. Plastic packaging can also be segmented as flexible or rigid depending on the materials characteristics.
  3. Metal  
Includes cans, foils and drums made from materials such as tinplate and aluminum.

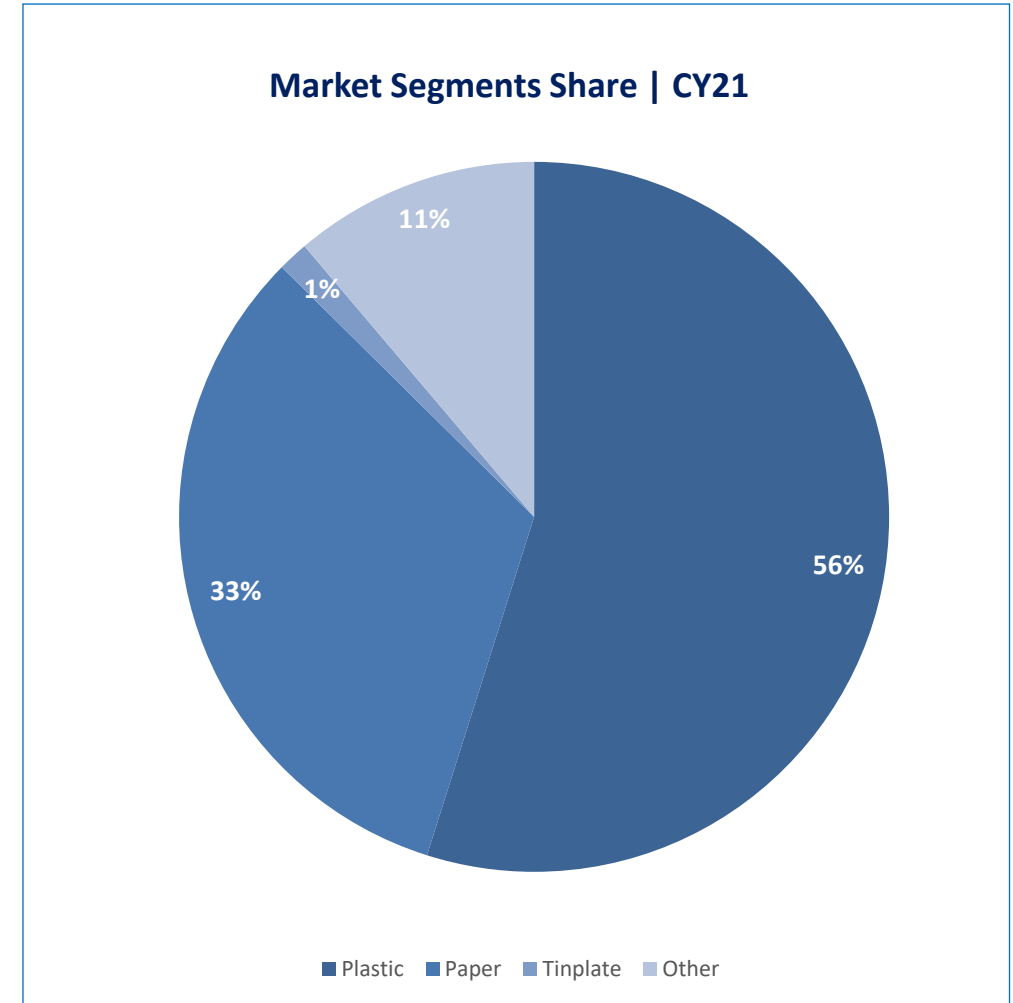




# Paper & Packaging | Global Industry

## Overview

- The estimated market size of the global packaging industry is expected to be USD~1,119bln by the end of CY22.
- The demand for global packaging industry is forecast to reach USD~1,234bln by CY24. Asia Pacific's share of ~43.92% is the highest in the packaging market. China, Japan, and India are the top leading exporters of a variety of commercial goods to numerous regions.
- There had already been a growing market for food packaging, including delivery and takeout, due to the increase in global urbanization, fast-paced consumer lifestyles, and adoption of e-commerce. The increase in demand for personal care and pharmaceuticals is also contributing to this exponential growth.
- Greater consumer awareness regarding the harmful environmental impact of plastic packaging may create challenges for the industry. Various regulations have already been implemented, such as the ban on single-use plastics in various countries. As a result, the industry is moving towards more innovative and environmentally friendly packaging solutions.
- The largest segment within the global industry is plastics, which occupy 56% of the packaging market. Paper and tinplate have market shares of about 33% and 1%, respectively.



# Paper & Packaging | Local Industry

## Overview

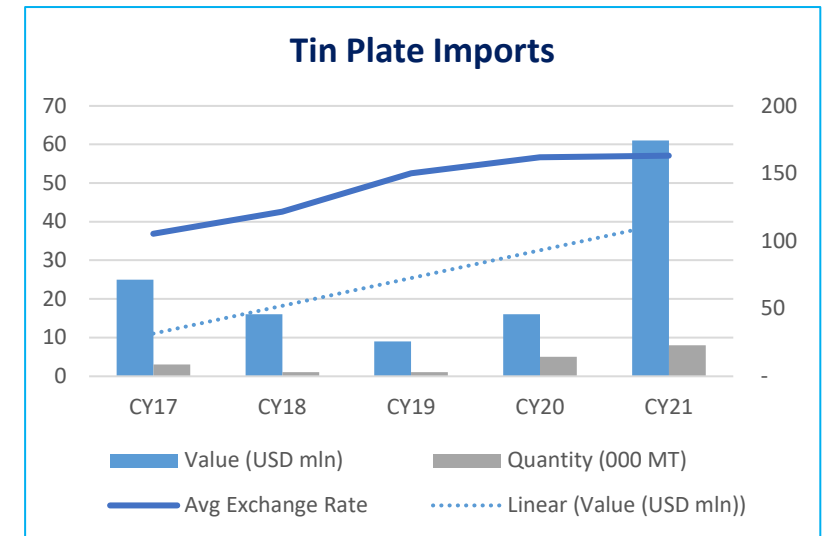
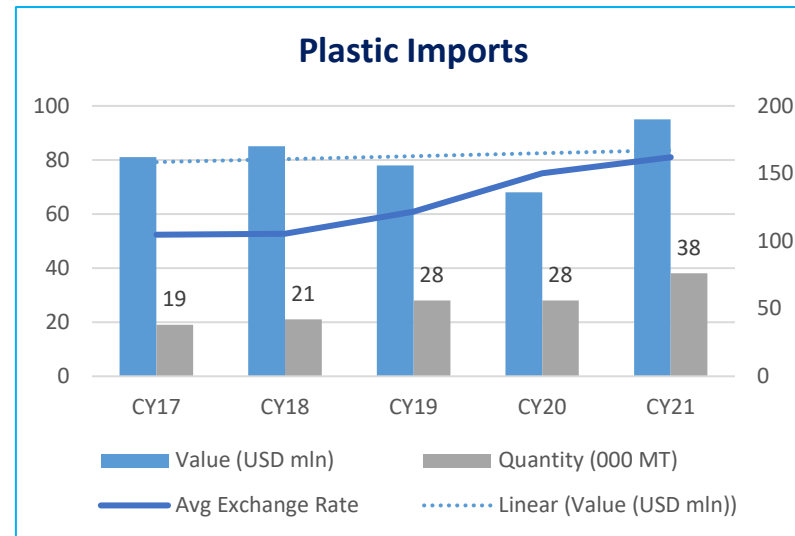
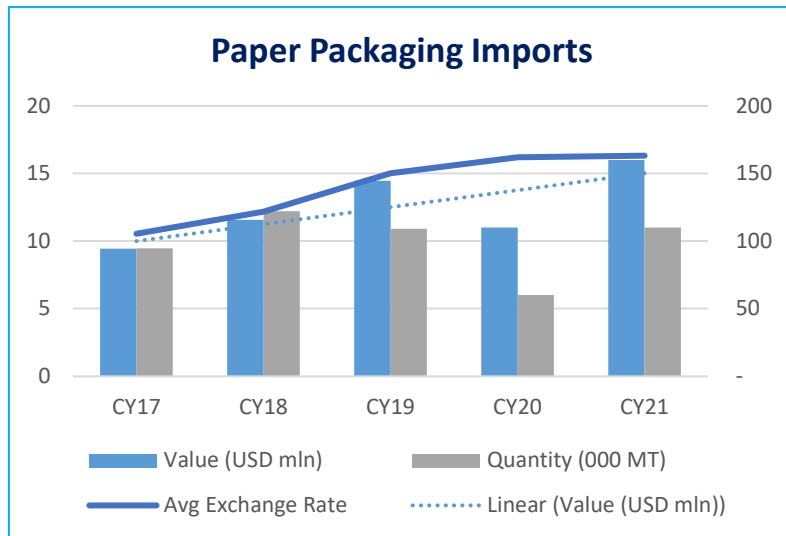
- Pakistan’s packaging industry consists of three major segments: paper, plastic, and tinfoil.
- Paper and plastic segments occupy the major chunk of the total market at PKR 64 billion, while other materials such as tinfoil and glass have a relatively smaller size.
- In the tinfoil packaging sector, as there is only one local manufacturer. Most of the demand is met through imports, which stood at USD 61 million (PKR9,943 mln) during CY21.

Segment	Paper	Plastic	Tinfoil
<b>Types</b>	Paper & Board	PET bottles and CPP, BOPP & BOPET film	Tinfoil
<b>Demand</b>	Used in a large variety of retail and consumer products	PET bottles: Beverages & Pharmaceuticals Film: Consumer goods such as snacks and confectionary items	Edible Oil, Ghee, Canned Food & Paints
<b>Market Structure</b>	Oligopoly	Oligopoly	Monopoly
	5 listed players	6 listed players	1 listed player

# Paper & Packaging | Local Industry

## Imports

- Paper:** The imports increased by ~45% in CY21 and stood at USD~16m (PKR~2,608m) as compared to USD~11m (PKR1,781 million) in CY20. Paper imports have increased by ~163% in PKR terms over a period of 5 years due to the continuous dwindling of the exchange rate and rising demand for paper packaging due to environmental concerns regarding the use of plastic as a packaging material.
- PLASTIC:** The amount of plastic packaging imported during CY21 increased, rising from USD~68m to USD~95m (PKR 10,214 million). Although it is anticipated that the growth of imports will be supported by the removal of anti-dumping duties on imports of BOPP film,
- TINPLATE:** Imports of tinplate showed an exponential increase during CY21, clocking at USD~61m (PKR~9,943m) from USD~16m (PKR~2591m) in CY20. This is due to an excessive increase in CRC prices of ~293% and supply chain disruptions globally.



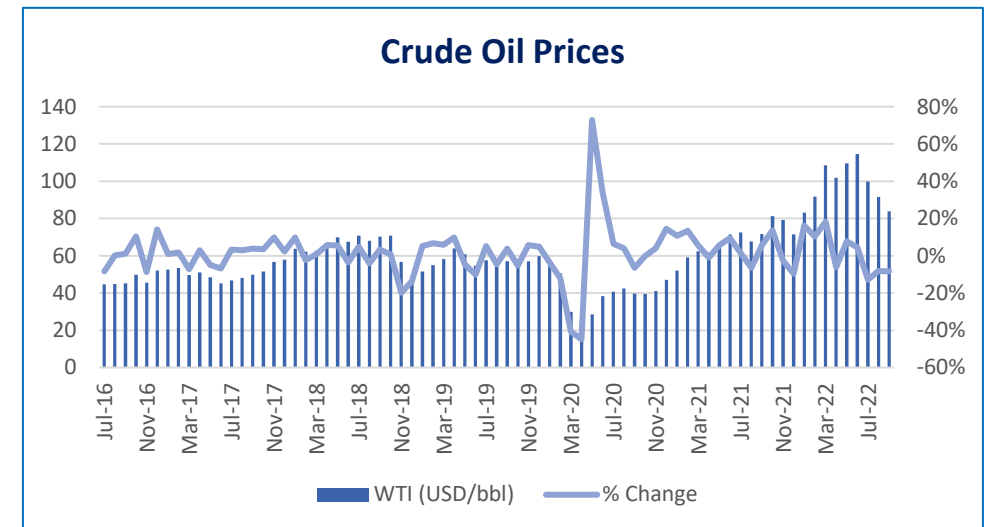
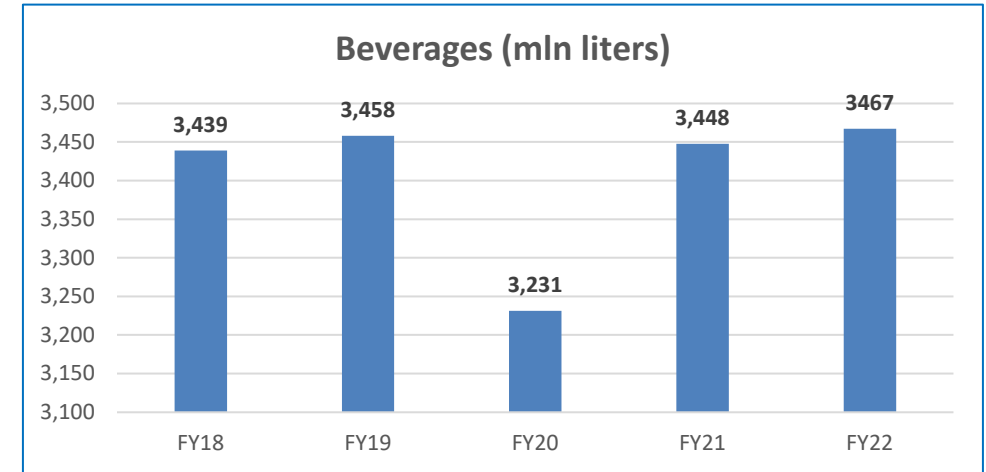
## Revenue Estimates | PET Preform & Bottles

Description	FY18	FY19	FY20	FY21	FY22
Anticipated Demand for Bottle Beverage Industry (mln units)	3,872	4,825	4,302	3,822	4,014
Growth Rate	9%	25%	-11%	-11%	5%
<b>PREFORMS</b>					
Outsourced Preform Market (mln units)	3,195	4,107	3,657	3,250	3,413
Weighted Average PET Resin Rate per KG	149	180	156	180	180
Average Preform Size (grams)	35	35	35	33	33
PET Resin cost per Preform (PKR)	5.25	6.3	5.46	6	6
Average Fabrication Price per Preform (PKR)	1.51	2.1	1.82	2	2
Total Price per Preform (PKR)	6.76	8.4	7.28	8	8
<b>Total Revenue of Preform Market (PKR mln)</b>	<b>21,598</b>	<b>34,499</b>	<b>26,622</b>	<b>25,155</b>	<b>26,413</b>
<b>BOTTLES</b>					
Outsourced Bottle Market (mln units)	677	718	645	572	601
Weighted Average PET Resin Rate per KG	149	180	156	180	180
Average Bottle Size (ms)	35	35	35	33	33
PET Resin Cost per Bottle (PKR)	5.25	6.3	5.46	6	6
Average Fabrication Price per Bottle (PKR)	5.83	5.15	4.47	6	6
Total Price per Bottle (PKR)	11.08	11.45	9.93	11.94	11.94
<b>Total Revenue of Bottle Market (PKR mln)</b>	<b>7,501</b>	<b>8,224</b>	<b>6,406</b>	<b>6,830</b>	<b>7,171</b>

# Paper & Packaging | Local Industry

## Business Risk | Plastic

- The packaging industry derives its demand from various industries. One of the major sources of demand for plastic packaging is the food and beverage industries. The adjacent graph shows production levels of beverages over the past five years. Beverage production increased by ~1% in FY22 after exhibiting relative volatility in the preceding two years. In FY21, the production levels were restored close to pre-pandemic levels.
- The price of major raw materials in plastic segment is correlated to international oil prices and therefore, volatility in oil prices and exchange rates is a significant source of risk. The variability in oil prices were mainly due to ongoing tension in Europe between Russia and Ukraine which led to supply chain disruptions, increasing the raw material prices. Crude oil prices soared by ~58% from USD~72.46 in FY21 to USD~114.59 in FY22.
- Moreover, numerous beverage players have set up their own bottling plants and only purchase PET Preform from the market. Therefore, margins are likely to be under pressure as Preform is a comparatively low-margin product (refer to PET section).
- In recent years there has been greater concern regarding usage of plastic due to environmental factors. The government has also introduced a ban on single use plastic, however, this is not strictly enforced. Moreover, a suitable alternative does not exist as the local industry has limited innovation and is slow to adopt environmentally friendly practices.

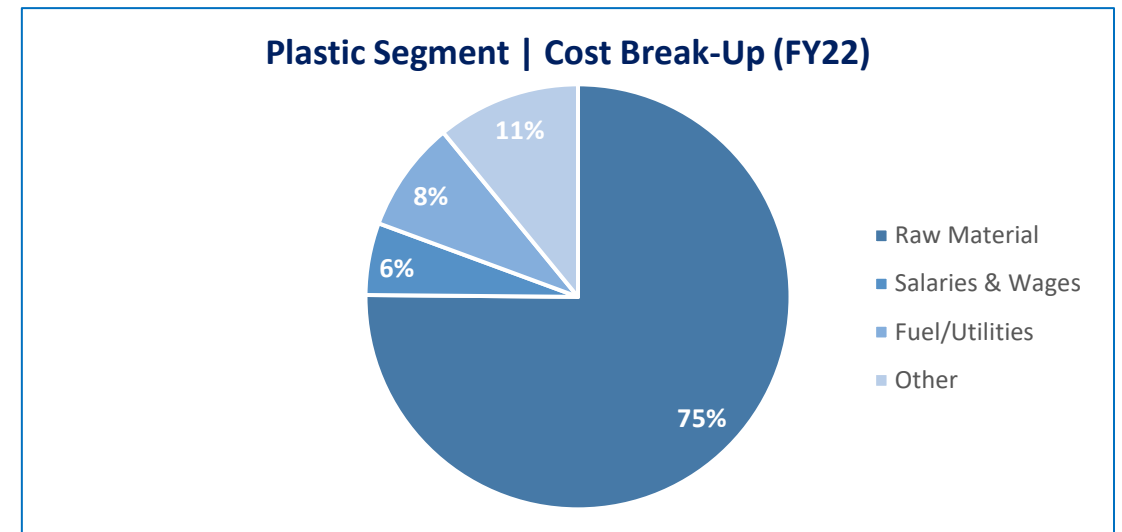
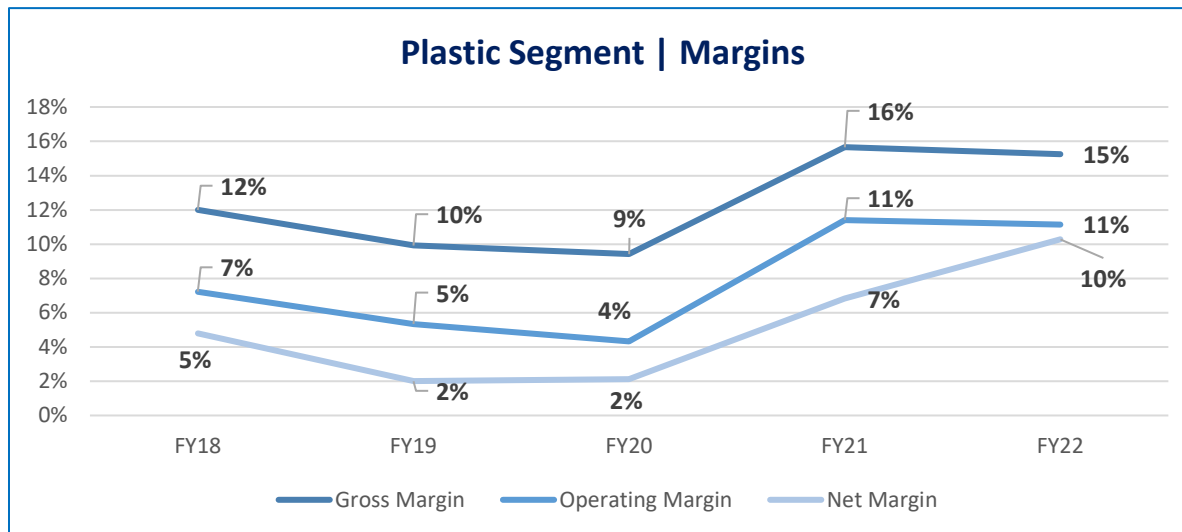




# Paper & Packaging | Local Industry

## Margins & Cost Structure | Plastic

- The segment’s direct costs consist largely of imported raw cellulose, coal, natural gas and crude oil which is ~75% of cost of sales. Therefore, volatility in exchange rates and international price trends hold an impact on costs and ultimately on the profitability of the sector.
- The average margins of the plastic packaging segment have observed an increasing trend from FY20 to FY22, with average gross margins increasing from ~9% in FY20 to ~15% in FY22. This is mainly due to an increase in sales volumes that enables the absorption of operational costs. The lack of containers in FY22 caused substantial supply chain delays and a shortage of raw materials resulting in a marginal decline in margins.
- Net margins also increased from ~7% in FY21 to ~10% in FY22. The implementation of super tax has a significant impact on the bottom line and is causing net margin to move in lockstep.

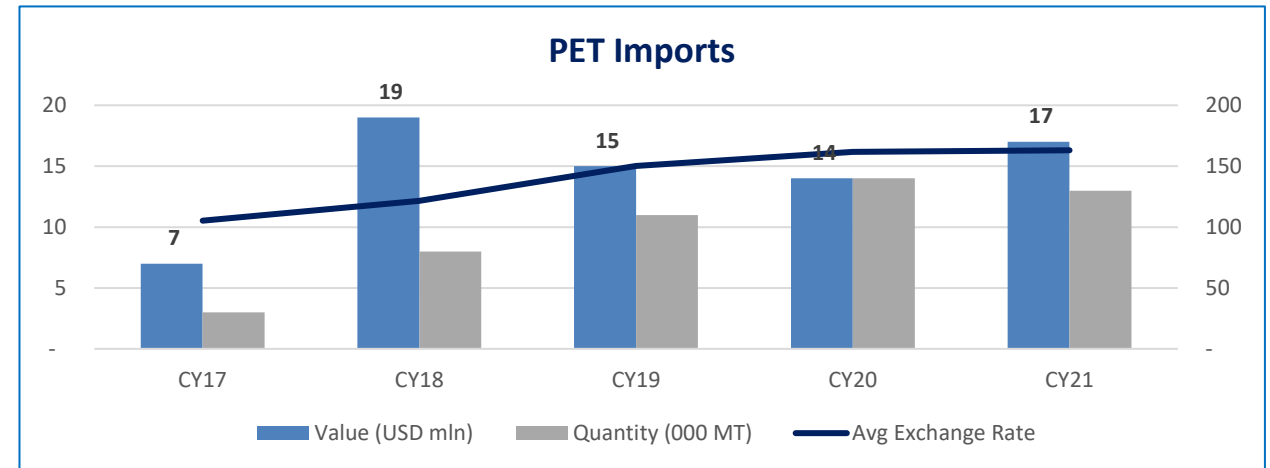
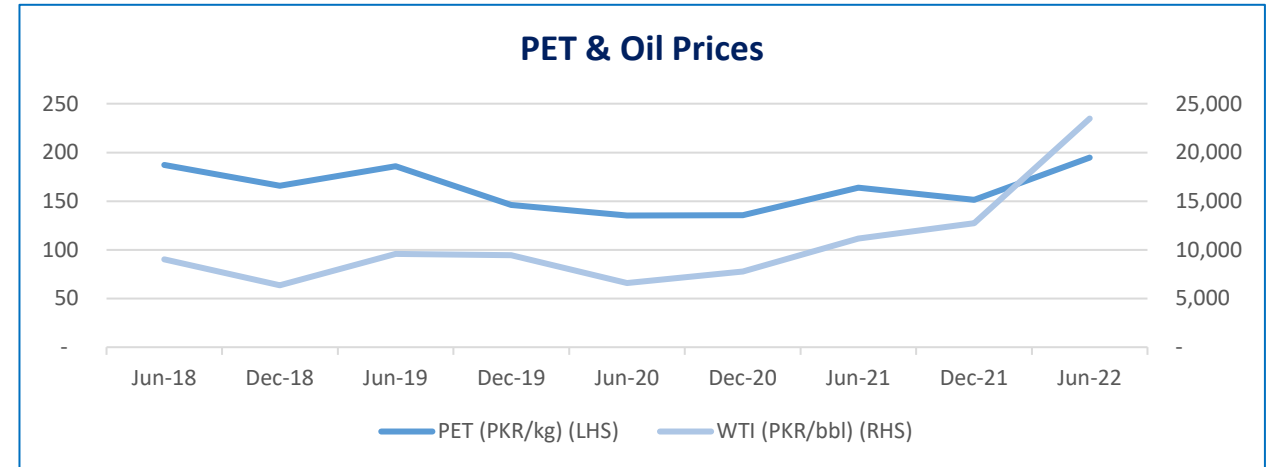


\*Cost break-up and margins are representative of 15 listed companies.

# Paper & Packaging | Local Industry

## Raw Materials | Plastic

- PET Resin is one of the primary raw materials used in the manufacture of plastic bottles, films, and other plastic packaging. It is made from derivatives of crude oil, and as can be seen in the price graph next to it, their prices have a similar trajectory. Due to growing feedstock costs and a large increase in freight costs in FY22, PET resin prices have increased on a global scale.
- Oil prices increased from USD~72.46/ bbl in FY21 to USD~114.59 / bbl in FY22, demonstrating a hike of 58%. This was majorly due to the strengthened demand and supply cuts by OPEC as the lockdown-related travel restrictions began to ease.
- The import of PET Resin increased from USD~14mIn (PKR~2,268mIn) in CY20 to USD~17mIn (PKR~2,771mIn) in CY21.
- Pakistan is almost entirely reliant on imports of PET Resin as there is only one major local supplier (Pakistan Synthetics Limited).

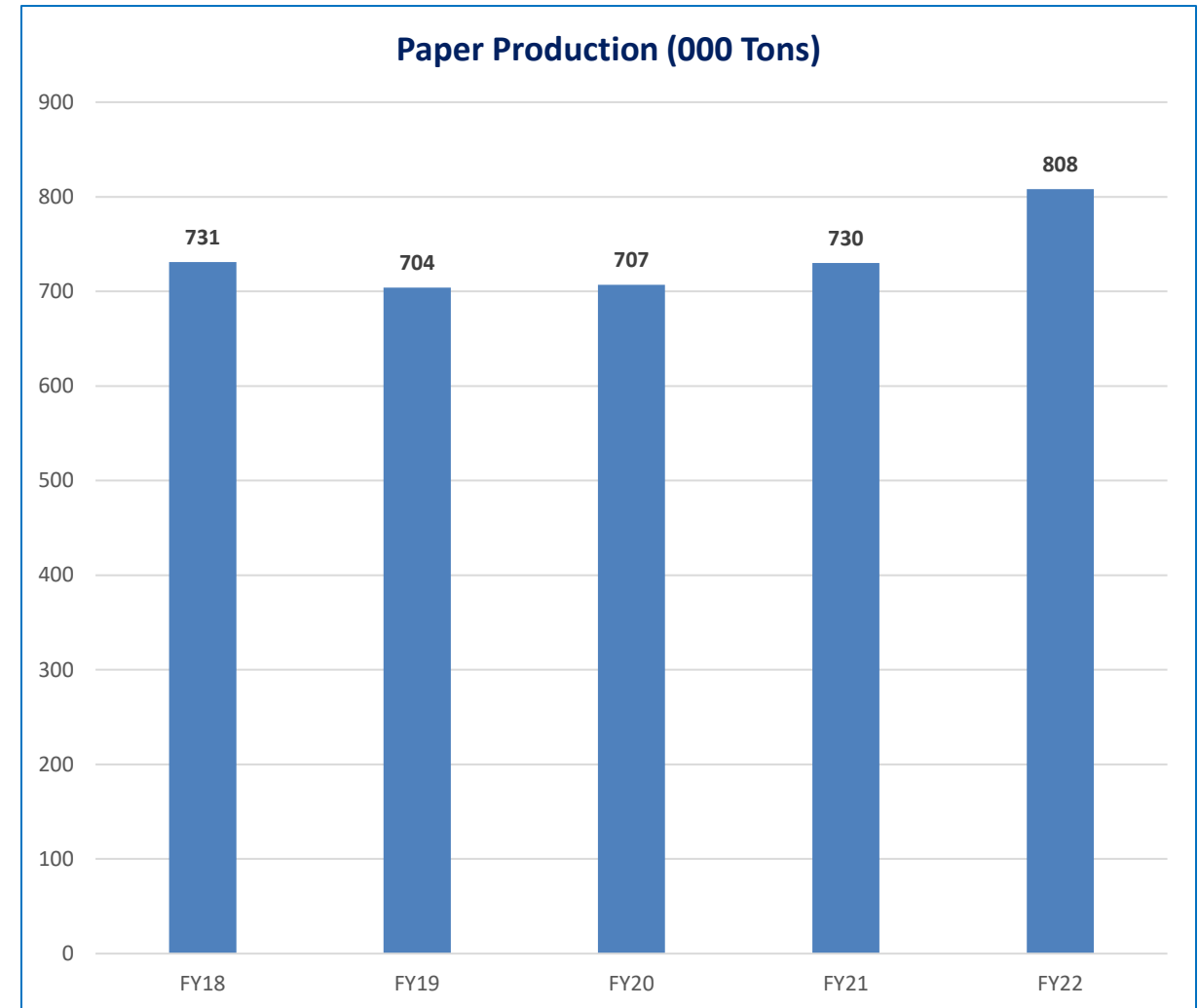




# Paper & Packaging | Local Industry

## Business Risk | Paper

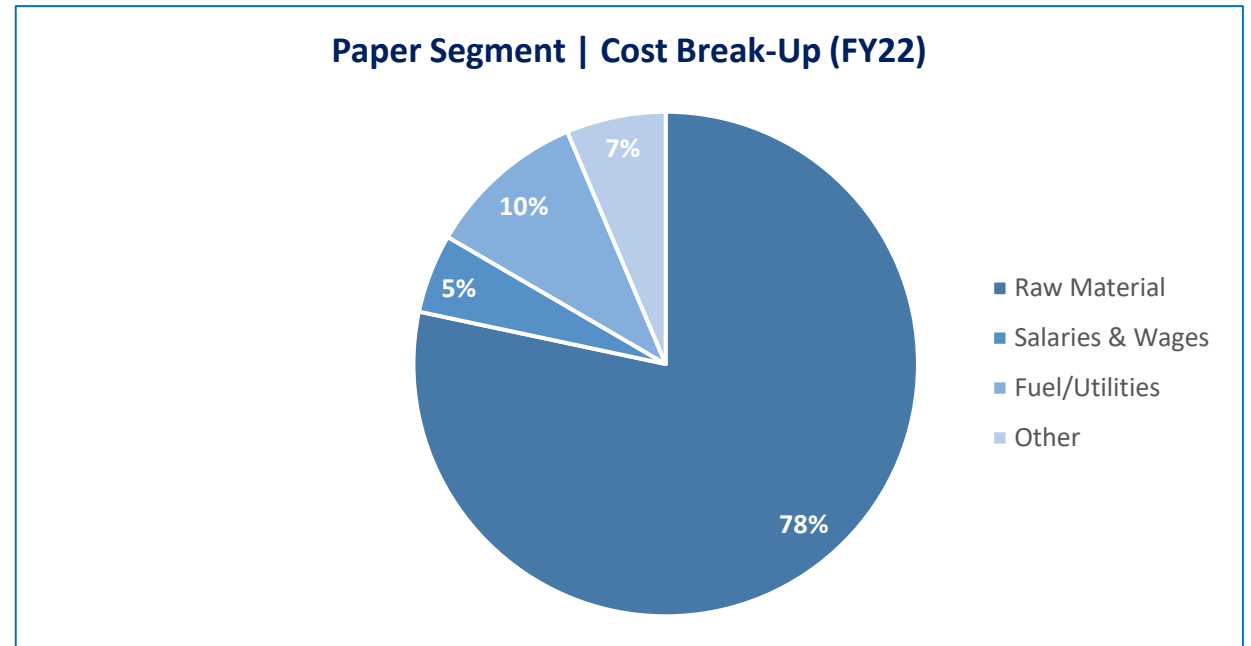
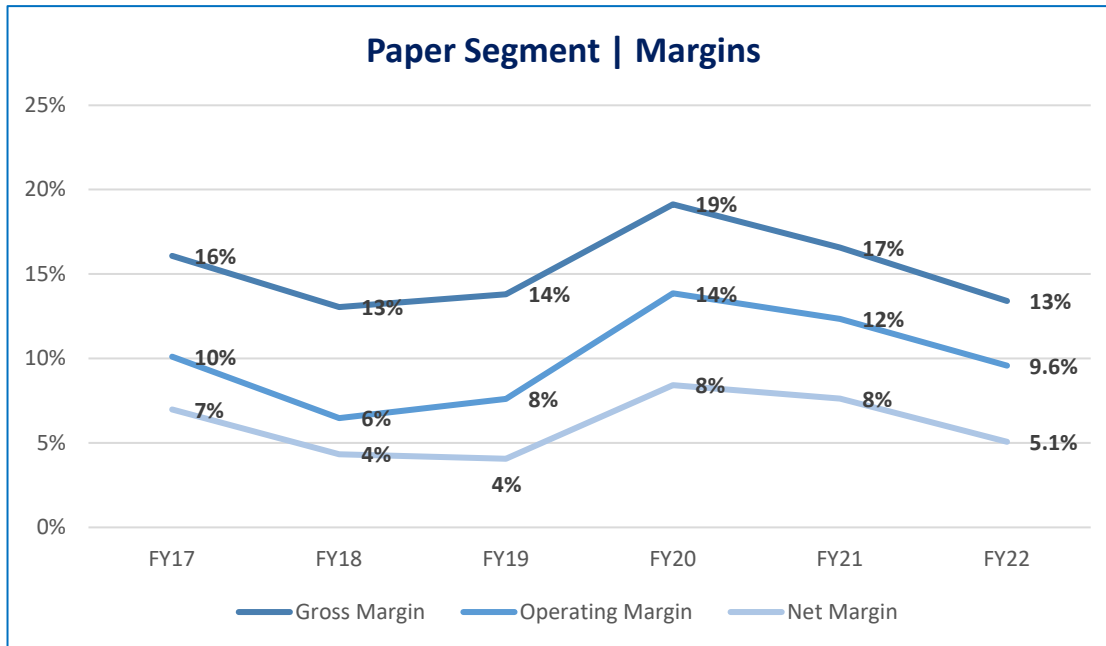
- In recent years, the paper packaging market has remained largely constant. The market for paper packaging is being driven by the growing consumer awareness of sustainable packaging and the tight rules enforced by various environmental protection organizations (regarding the usage of environmentally-friendly packaging items). The market for paper packaging is anticipated to expand at a CAGR of 3.87% from FY21 to FY26.
- The adjacent graph shows production levels of paper over the last five years which have experienced a CAGR of ~3% in the period. Moreover, consistent levels of production can be observed since FY18. This reflects on the stability of paper packaging segment as it makes up a significant portion of overall paper and board production.



# Paper & Packaging | Local Industry

## Margins & Cost Structure | Paper

- The segment’s direct costs consist largely of imported raw materials mainly wood pulp, fibres, including cellulose and cotton, are used. (~78%). Therefore, volatility in exchange rates and international price trends has an impact on costs.
- The average margins of the paper packaging industry have shown a negative trend since FY20, with average gross margins falling from 19% in FY20 to 13% in FY22. Similar to this, an increase in the price of imported paper can be linked to an increase in the cost of wood pulp by more than ~30% during FY22, which was followed by a further devaluation of the Pakistani rupee (PKR). Additional import taxes were imposed, increasing the price of imported paper.

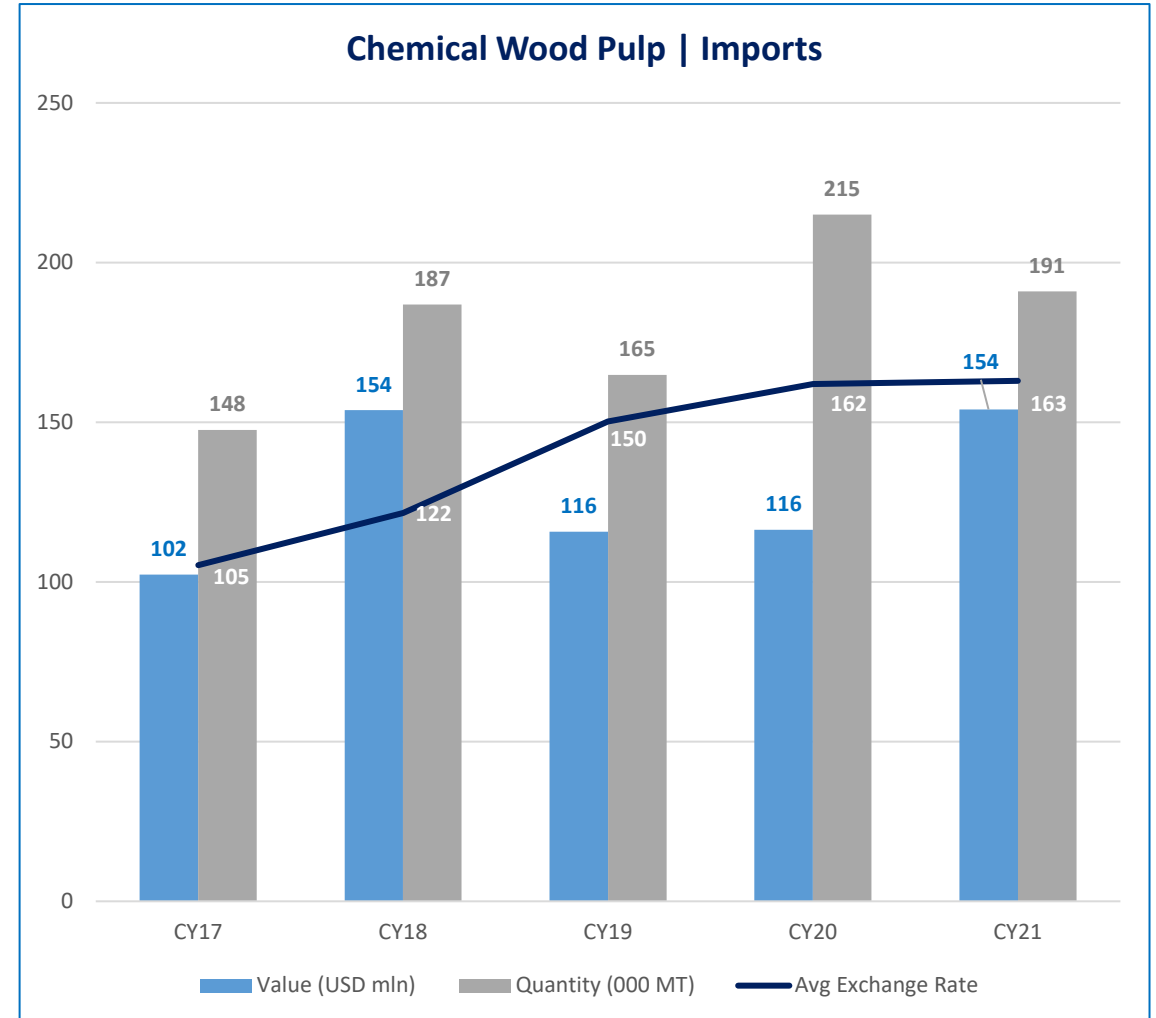


\*Cost break-up and margins are representative of 5 listed companies.

# Paper & Packaging | Local Industry

## Raw Materials | Paper

- Chemical wood pulp is one of the main raw materials in production of paper packaging. The imports of wood pulp increased by ~33% YoY in CY21, compared to CY20.. However, they showed a growth of 51% during a 5-year period from CY17 to CY21.
- Although imports of wood pulp has increased in value terms due to PKR depreciation against USD, and increase in wood pulp prices by 20% over the last year, the quantity of wood pulp imported has fallen by ~ 11% in CY21.
- USA, Chile and Brazil are the countries which have the largest share in wood pulp imports in CY21.
- In CY21, the average import price for wood pulp amounted to USD~760 per ton. Overall, the most notable rise in import prices during the last five years was seen from USA.

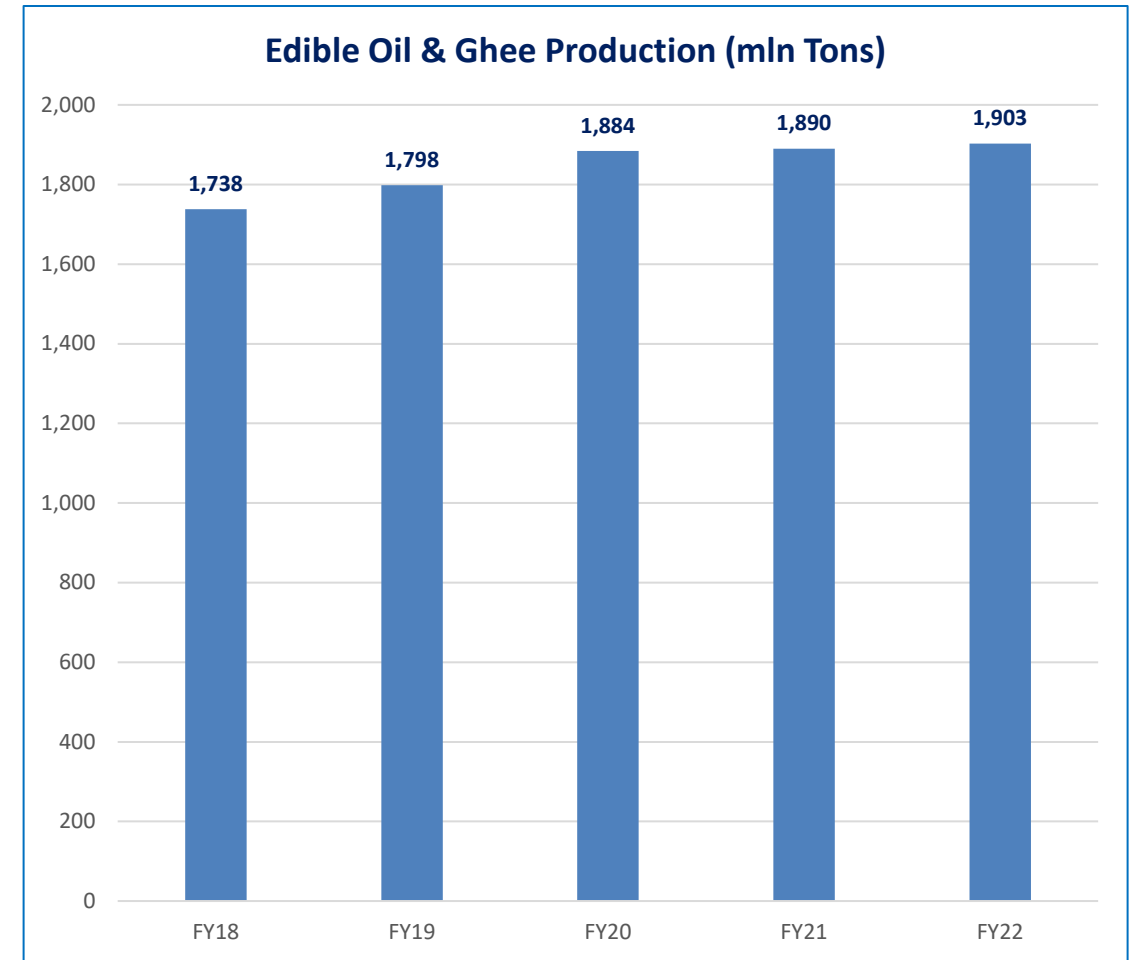




# Paper & Packaging | Local Industry

## Business Risk | Tinplate

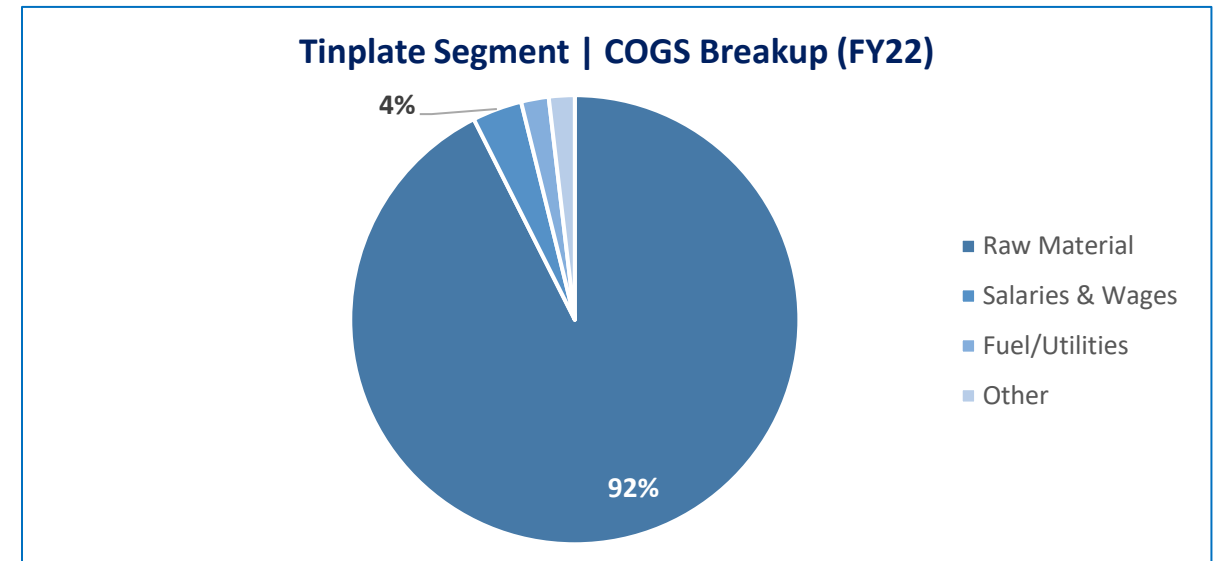
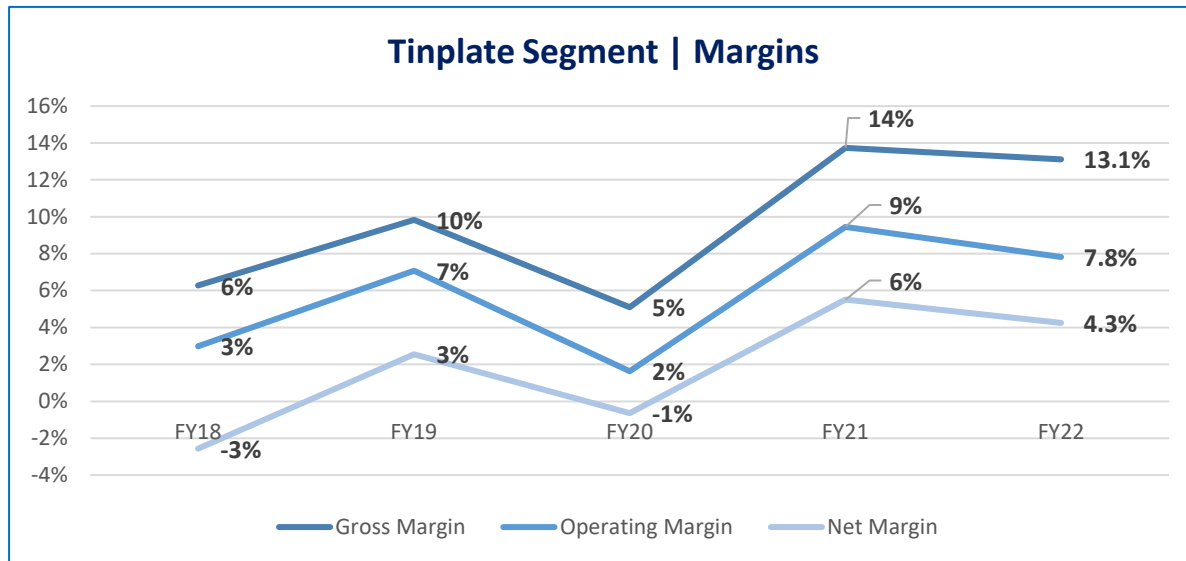
- The edible oil and ghee industries are one of the main consumers of tinplate packaging. The production levels of ghee and edible oil for the previous five fiscal years are displayed in the following graph. With a CAGR of 2.3% over the time period of past five years, the output of ghee and edible oil has been rising consistently.
- In Pakistan, there is just one locally owned tinplate producer, Siddiqsons Tin Plate Limited, which deals with fierce import market competition. The government has put an anti-dumping charge on tinplate imports from China, South Africa, the EU, and the USA, which has given local manufacturers some protection.
- However, application of anti-dumping duty on the raw material, CRC, has further damaged competitiveness by increasing costs. Moreover, alternate sources of raw material are not reliable in terms of quality.



# Paper & Packaging | Local Industry

## Margins & Cost Structure | Tinplate

- Most of the tinplate segment's direct costs consist largely of imported raw materials (largely, CRC : see next page). Therefore, volatility in exchange rates and international price trends of CRC has a significant impact on costs.
- The average margins of the segment have exhibited a volatile trend in the last five years, with average gross margins falling from ~14% in FY21 to ~13.1% in FY22. In addition, net margins fell from ~6% in FY21 to ~4.3% in FY22. Due to a lack of vessels and problems with quality from local CRC producers, the main cause for this decline was the delayed shipments of raw materials. Another factor is the fluctuation of steel prices on the global market, as well as the central bank's requirement for 100% cash margins on HRC imports and the depreciation of the PKR versus the USD.
- Another significant issue that slowed down activity in vegetable oil and ghee mills' output was price instability of palm oil in the world market.

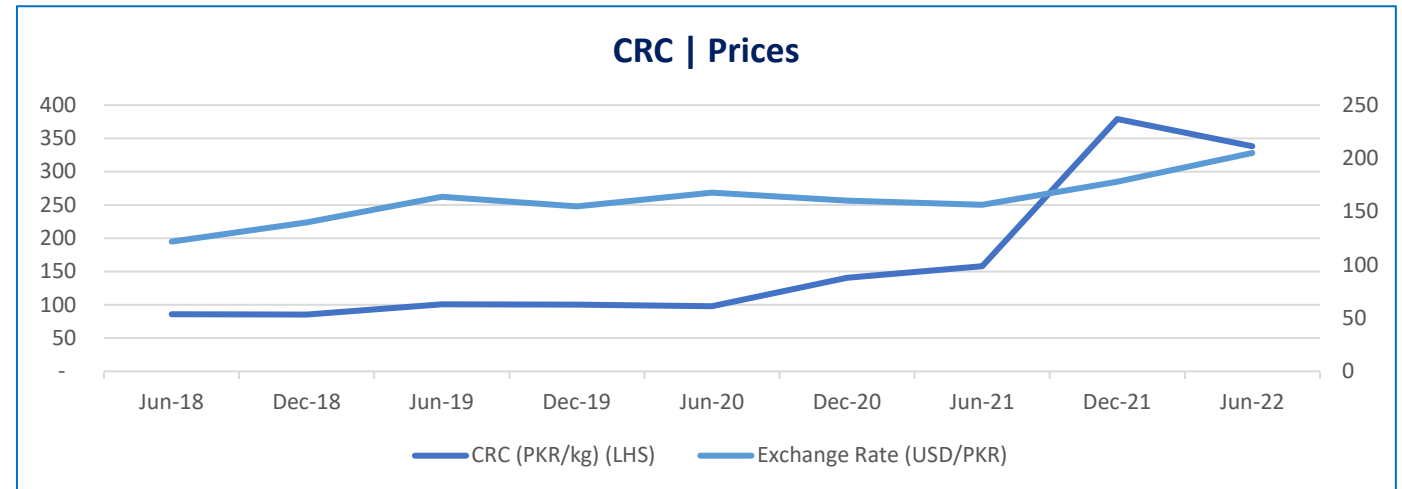
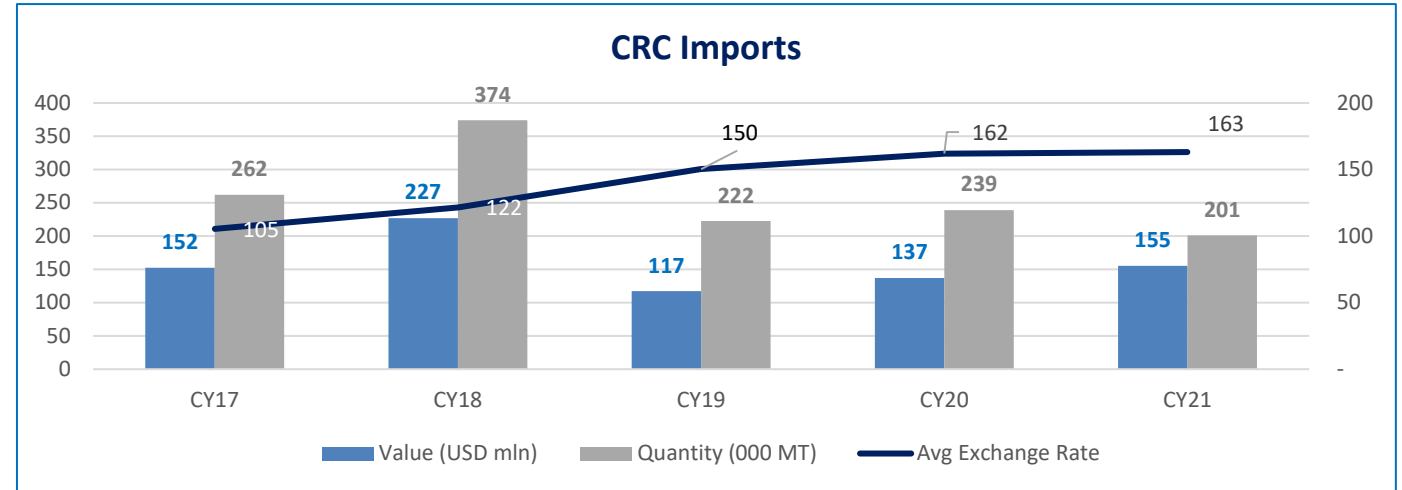


\*Cost break-up and margins are representative of a single listed company.

# Paper & Packaging | Local Industry

## Raw Materials | Tinplate

- A significant raw material for tinplate packaging, cold-rolled coil (CRC), is imported from nations including South Korea, China, and Japan. In the preceding five years, the cost of CRC has climbed by ~293%. However, the majority of this increase in import of CRC imports in value terms is attributable to increase in exchange rate by ~68%. CRC Imports increased by ~13% in value terms, but at the same time quantity imported declined due to astronomical increase in CRC price in the international market and SBP's requirement of a 100% cash margin for imports.
- The imports of CRC have been volatile in previous periods. During CY21, the imports grew by ~13% to USD~155mIn (PKR~25,265mIn) from USD~137mIn (PKR~22,186mIn) in CY20.
- The National Tariff Commission has imposed anti-dumping duty on CRC imports from Canada and Russia of 14%. Anti-dumping duty was already applicable on imports from China.





# Paper & Packaging | Local Industry

## Duty & Sales Tax Structure

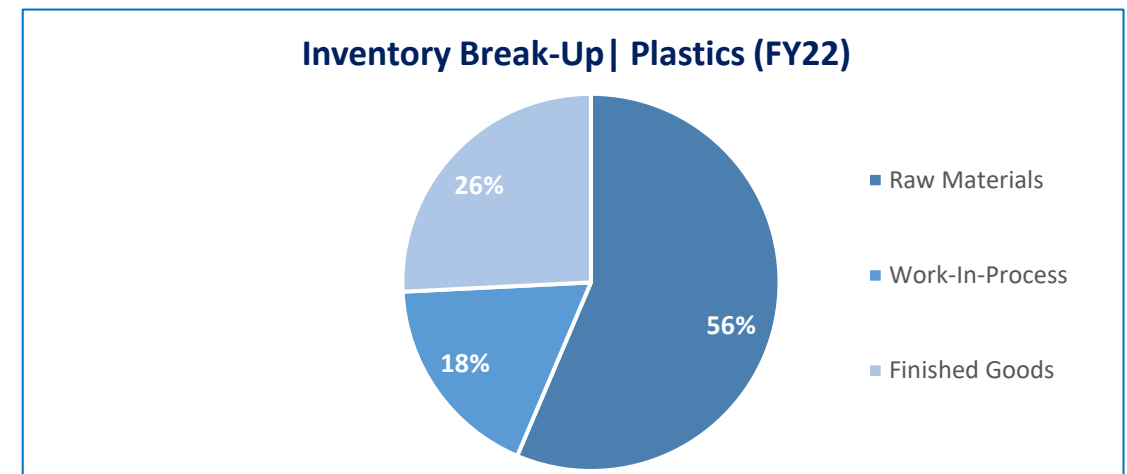
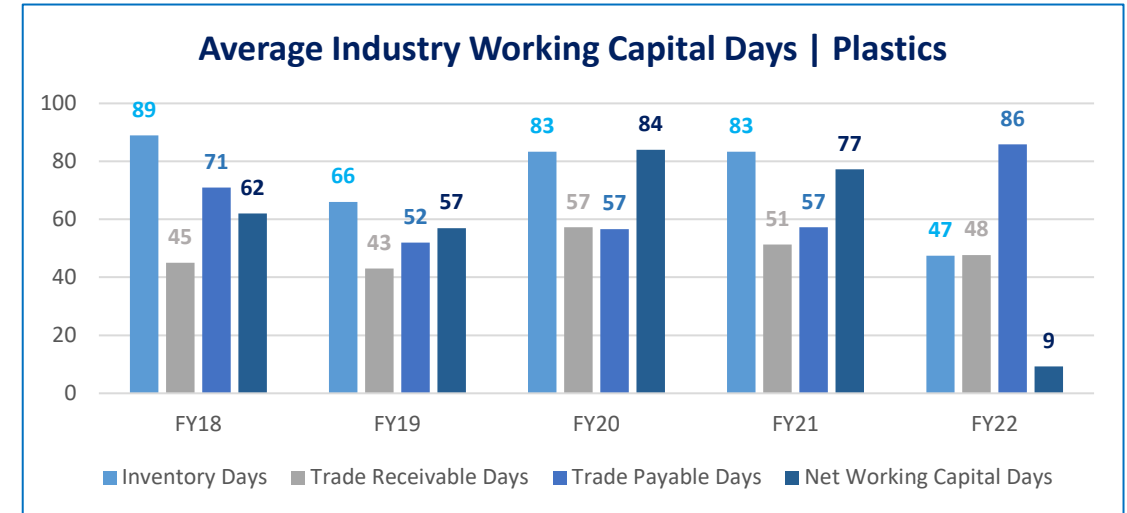
- Despite the existence of a large number of players, the packaging industry does not have an industry association to represent and lobby in favor of its interests. However, some segments have their own associations such as the Flexible Packaging Association of Converters of Pakistan and Pakistan Plastic Manufacturers Association.
- The government is providing protection to local manufacturers through imposition of significant customs and regulatory duties on the import of finished packaging goods. With respect to income tax, the industry is under Normal Tax Regime (NTR). Further, minimum tax @1.5% of turnover is 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 next 5 years. In addition, sales tax of 17% is also applicable.

PCT Code	Description	Additional Custom Duty		Custom Duty		Regulatory Duty		Total	
		FY22	FY21	FY22	FY21	FY22	FY21	FY22	FY21
<b>Raw Materials</b>									
72.09	Flat- rolled products of iron or non- alloy steel, of a width of 600 mm or more, cold- rolled (cold- reduced), not clad, plated or coated.	2-7%	2-7%	11-20%	11-20%	5%	5%	18-32%	18-32%
39.01	Polymers of ethylene, in primary forms	2%	2%	11%	11%	0%	0%	13%	13%
47.01-47.05	Wood Pulp (Mechanical, Chemical & Other)	2%	2%	0%	0%	0%	0%	2%	2%
<b>Finished Goods</b>									
48.19	Cartons, boxes, cases, bags and other packing containers, of paper, paperboard	7%	7%	20%	20%	0%	0%	27%	27%
39.23	Articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics.	7%	7%	20%	20%	15%	15%	42%	42%
3923.901	Preforms made from polyethylene terephthalate	4%	4%	16%	16%	15%	15%	35%	35%
8007.001	TinPlates, Sheets or Strips	2%	2%	3%	11%	0%	0%	5%	13%

# Paper & Packaging | Local Industry

## Financial Risk | Working Capital | Plastic

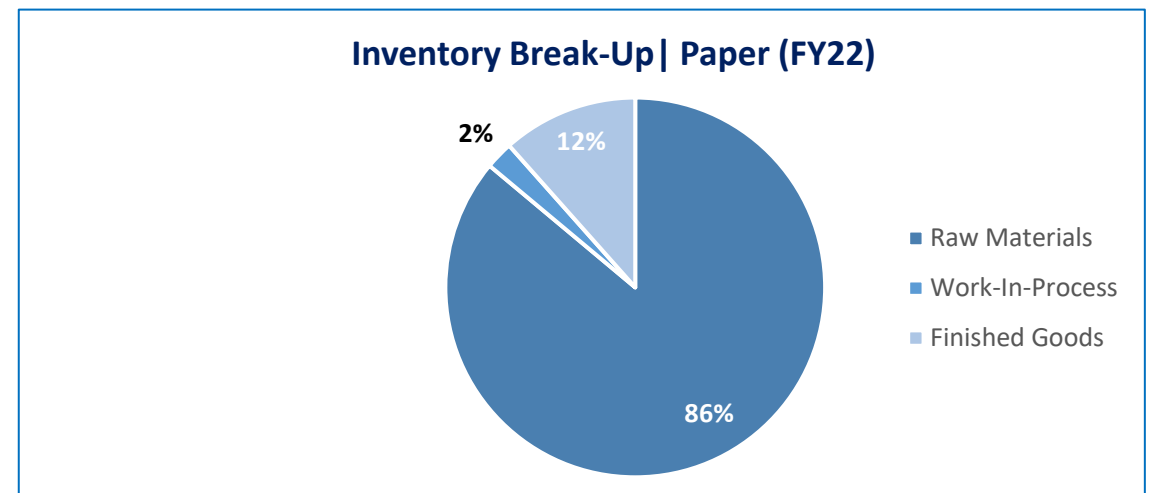
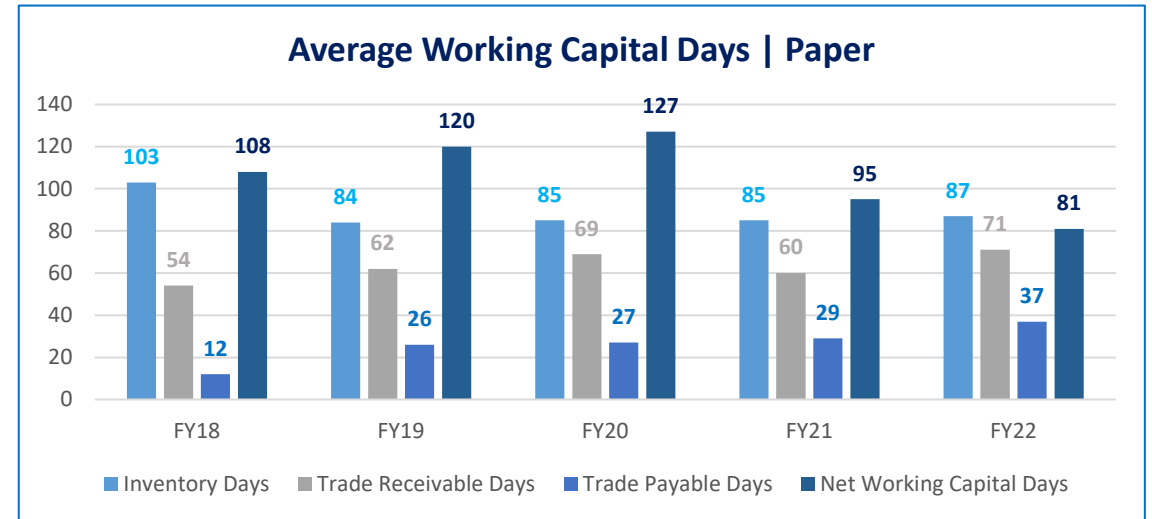
- The plastic packaging segment’s overall working capital cycle has remained relatively stable in previous three years. However, there has been a dramatic decrease in its net working capital days which clocked in at ~9 days at the end of FY22 as compared to ~77 days at the end of FY21.
- This was observed as a result of sharp increase in Trade Payable days of ~29 days in FY22 , compared to FY21. The ability to pay creditors seems to be compromised on the back of rupee depreciation against the dollar of ~35% in FY21-22.
- Moreover, there was also a decline in Inventory Days (~36 days’ decrease). This may have emanated from the fact that there was a shortage of trucks available for use for this industry due to supply chain disruptions, hence low inventory levels were assured.
- The segment’s average inventory break-up shows that ~56% of total inventory is attributable to raw materials, while ~29% consists of work-in-process inventory and ~15% is finished goods inventory.
- Working capital in the paper and packaging industry is partially financed through short-term borrowings which constitute 49% of the industry’s borrowing mix.



# Paper & Packaging | Local Industry

## Financial Risk | Working Capital | Paper

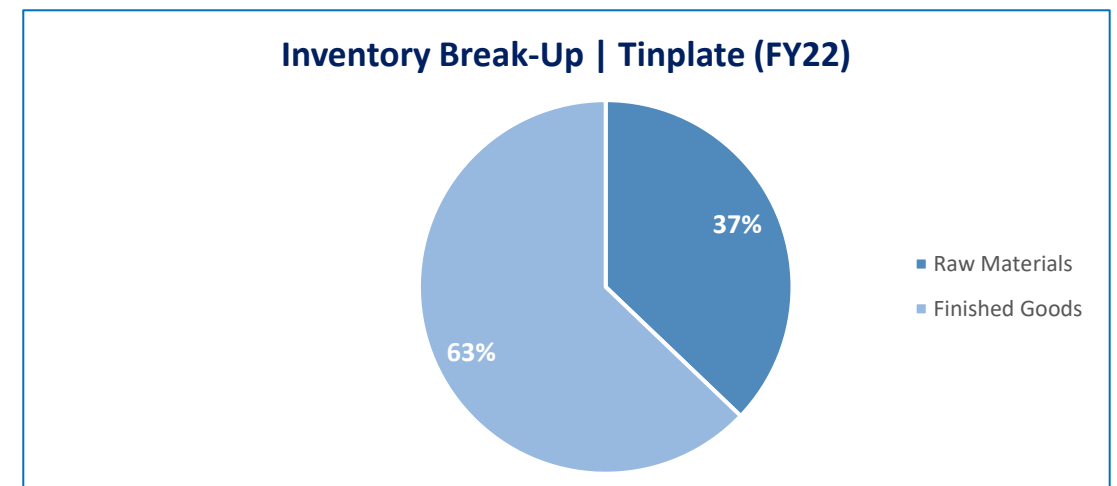
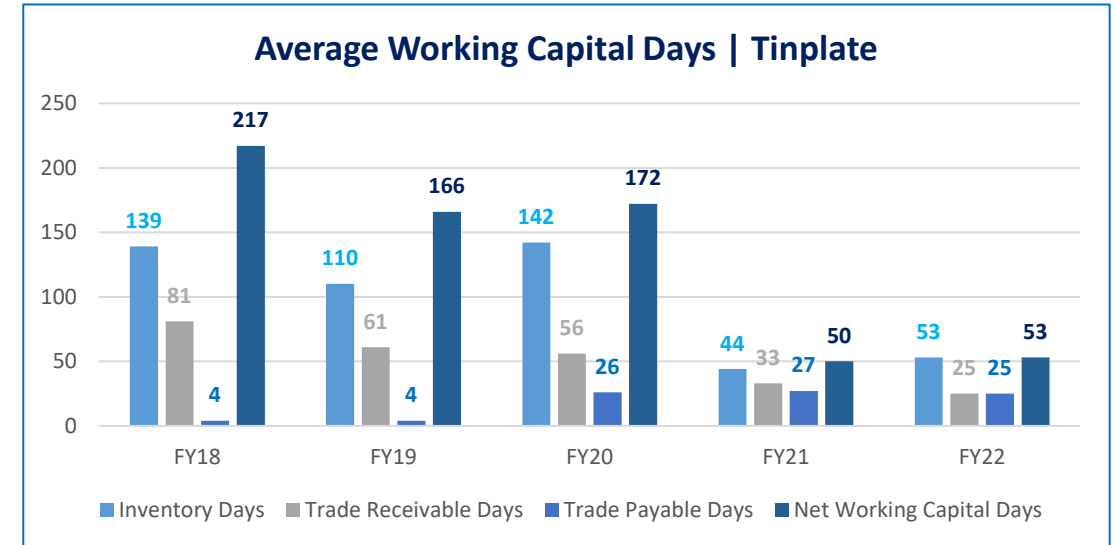
- The paper packaging segment has remained relatively stable over the last five years with respect to its working capital cycle. Average net working capital days clocking in at ~81 days at the end of FY22 as compared to ~95 days at the end of FY21.
- The major driver of this slight decrease seems to have come from an increase of ~11 days for average Trade Receivables due to increased sales in the industry. This was also visible in gross sales revenue that increased by ~6% YoY in FY22.
- The industry's average inventory break-up shows that ~86% of total inventory is attributable to raw materials, while ~11% consists of finished goods and only ~3% is work-in-process inventory.



# Paper & Packaging | Local Industry

## Financial Risk | Working Capital | Tinplate

- The tinplate packaging segment has observed, in FY22, a slight increase in its working capital cycle, from FY21, with net working capital days clocking in at ~53 days at the end of FY22 as compared to ~50 days at the end of FY21, an increase of 3 days. Inventory days also exhibited an increase of ~9 days, which may be signaling revival in production levels, compared to the sharp dip in FY21 of 98 days.
- During FY20-21, high volatility in worldwide steel prices and COVID-19, operational performance of the sector significantly deteriorated w.r.t revenue, profitability & capacity utilization.
- There is a brief process through which raw material is converted into finished goods. As a result, there is no work-in-process inventory maintained. A majority of the inventory, ~37%, is stored as finished goods while the share of raw material is ~63%.
- Working capital is partially financed through short term borrowings which constitutes 49% of the industry's borrowing mix.



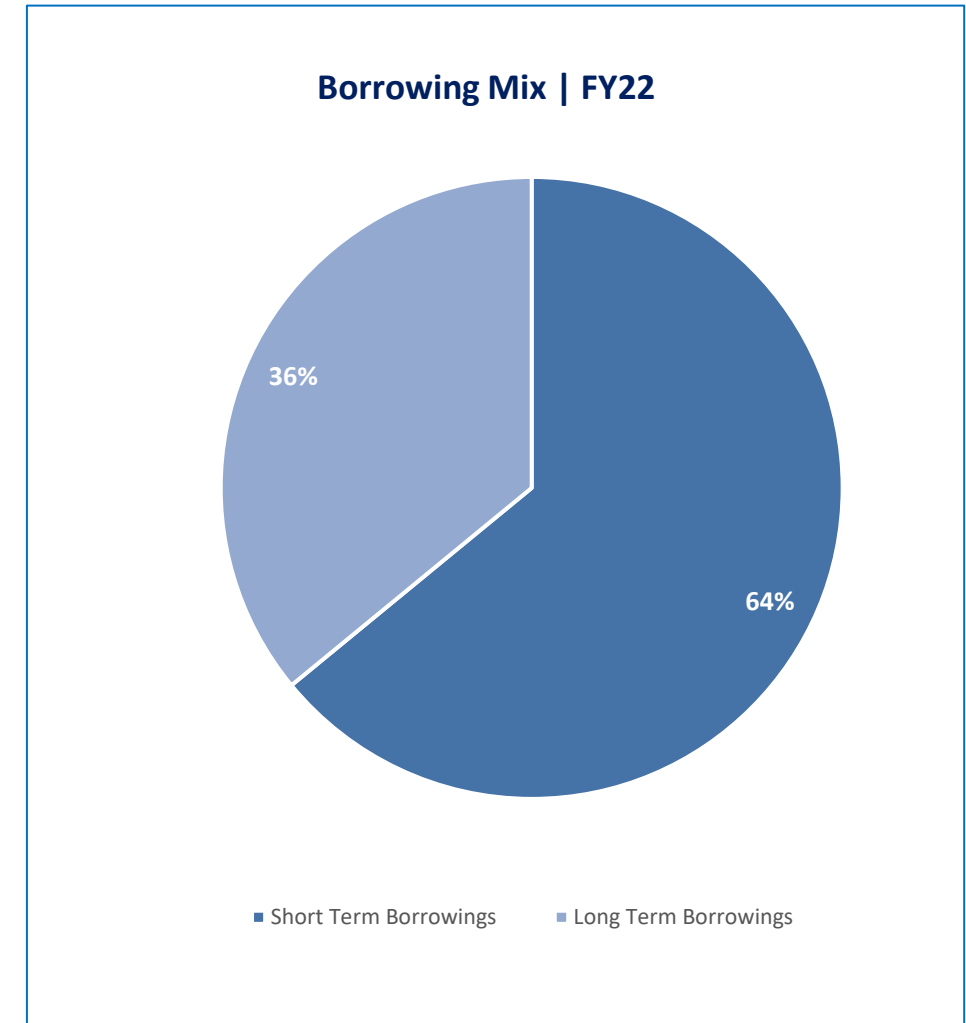
\*Working capital cycle and inventory break-up is representative of 1 listed company with a ~30% market share.



# Paper & Packaging | Local Industry

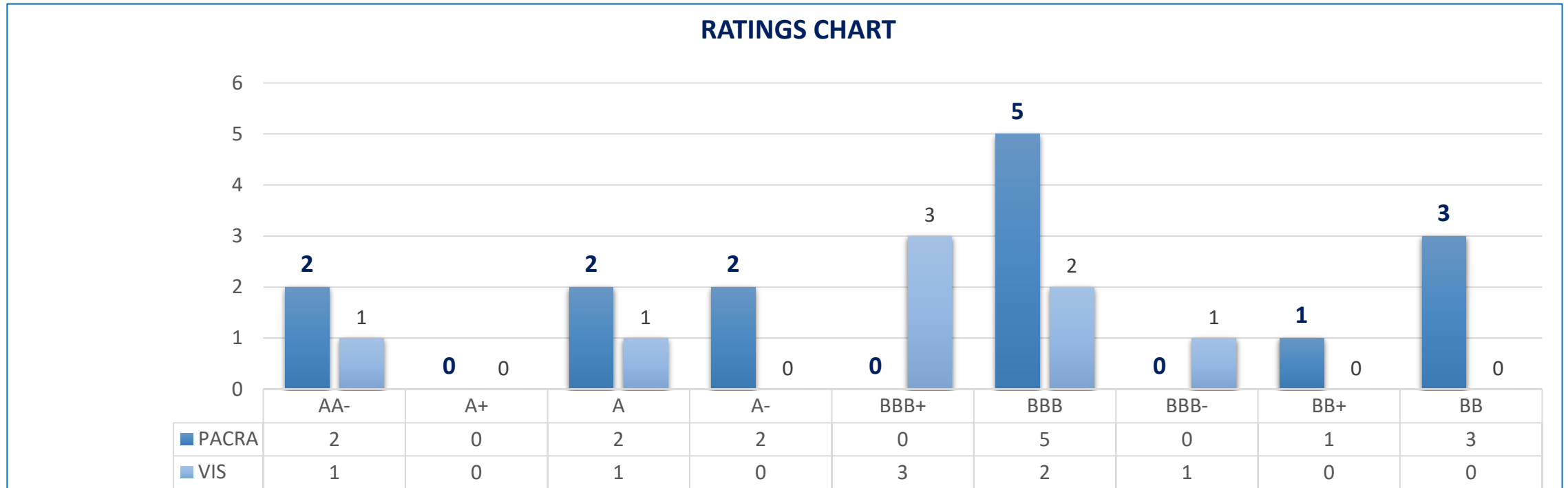
## Financial Risk | Borrowings

- Overall, the packaging industry has moderate leveraging, with total borrowings standing at ~39% of total capital (debt + equity).
- **Plastic:** The total borrowing of plastic industry stood at PKR~24,430mln as at FY22 as compared to PKR~14,794mln as at F21. This was a YoY increase of ~65%.
- **Paper:** Similarly, the total borrowing of paper industry stood at PKR~20,155mln as at FY22 as compared to PKR~12,040mln as at FY21, showing a YoY increase of ~67% .
- **Tinplate:** Total borrowings of tinplate at FY22 is PKR~1079mln as compared to PKR~616mln, showing an increase of ~75%.
- The industry's average borrowing mix consists largely of long-term borrowing which accounts for ~64% of total borrowing, while the remaining ~36% is short-term borrowing.



## Ratings Chart

PACRA rates 15 entities from Paper and Packaging sector, ranging from the BB category to the AA- category.





# Paper & Packaging | Local Industry

## SWOT Analysis

- Highly diversified product mix.
- Government support for local manufacturers in the form of import duties.
- Availability of low cost labor.
- Increasing trend of urbanization, consumerism and e-commerce

- Increase in exchange rate and volatility of imported raw material prices.
- Increasing awareness regarding harmful environmental impacts of plastic packaging.



- Absence of an industry association for the overall packaging industry.
- Decline in per capita income and high level of inflation, thus reduced purchasing power of end consumers.

- Conversion from glass to PET bottles in the beverage industry.
- Opportunity for innovation in order to move towards more environmentally-friendly packaging solutions.

## Outlook: STABLE

- In the aftermath of covid-19 and economic recovery, demand has revived, specifically from beverage industry and other non-essential products. However, supply-demand imbalances coupled with surge in shipping costs and availability of containers continued to cause supply chain disruptions. In the later part of FY 2022, the Russian-Ukraine conflict elevated global commodity prices, fueled inflation and domestic inflation rates further.
- The paper industry has been expanding over the last year, with production levels staying stable on average. Production numbers increased by ~642 million tons, which shows increasing demand for the commodity. Since raw materials contribute ~78% to the total cost structure, with major input being wood pulp, prices for paper will most likely increase in the medium-term. Government policies such as 20% duty on paper imports, 17% sales tax, 20% customs duty, 29% anti-dumping duty and 6% additional duty, might create windfalls in the medium-term for the overall industry, since these are expected to exacerbate in FY23, given the elevated tax revenue targets.
- Plastic segment shows promise as production levels are almost near pre-covid numbers. However, the main raw material for plastics is PET Resin, which is almost entirely imported (~75% of cost mix comprises raw materials). Exchange rate fluctuations and policy rate changes are the major drivers of increase in import bill, coupled with growing oil prices (~58% increase in the last year). Due to environmental impact, the industry may need to introduce innovation and use of single plastic bags has already been banned by the government.
- In so far as the tinsplate industry is concerned, demand in edible oil and ghee industry has remained relatively stable, despite record-high inflation levels, but has still slowed down due to instability in palm oil and steel prices. Production numbers seem to have grown mildly by 13 million tons, on the back of reduced capacity utilization (~13% in FY22, compared to ~25% in FY21). Finance costs also climbed by ~35%, according to industry standards.
- Despite these challenges, demand for paper and packaging products across all three segments seems to be overall stable. Major impediments include volatility in international prices for raw materials. Although short and medium-term outlook remains stable, a prolonged Russia-Ukraine war might yet bring unforeseen supply distortions in the long-run.



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- Pakistan Stock Exchange (PSX)
- State Bank of Pakistan (SBP)
- Federal Board of Revenue (FBR)
- National Tariff Commission
- Investing.com
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- Trade Map
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- PACRA database

<b>Research Team</b>	<b>Saniya Tauseef</b> <i>Manager - Research</i> <a href="mailto:saniya.tauseef@pacra.com">saniya.tauseef@pacra.com</a>	<b>Ayesha Wajih</b> <i>Supervising Senior – Research</i> <a href="mailto:ayesha.wajih@pacra.com">ayesha.wajih@pacra.com</a>	<b>Shahmir Saad</b> <i>Senior Research Analyst</i> <a href="mailto:Shahmir.saad@pacra.com">Shahmir.saad@pacra.com</a>
<b>Contact Number: +92 42 35869504</b>			

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