



# Poultry Feed

## Sector Study

# TABLE OF CONTENTS

<b>Contents</b>	<b>Page No.</b>	<b>Contents</b>	<b>Page No.</b>
Global Overview	1	Supply Dynamics   Maize	11
Product Portfolio	2	Supply Dynamics   Soyabean	12
Process Flow	3	Business Risk   Demand side	13
Feed Composition	4	Business Risk	14
Key Inputs   Global Production and Consumption	5	Financial Risk   Borrowing Mix	15
Overview	6	Financial Risk   Working Capital Management	16
Consumption as per Poultry Bird's Age	7	Rating Curve	17
Demand Dynamics	8	Duties & Taxes	18
Demand Dynamics   Poultry Local Production	9	SWOT Analysis	19
Supply Dynamics   Cost Breakdown	10	Outlook	20
		Bibliography	21

## Global Overview

- Poultry feed is used by farmers as the main source of nutrition for poultry birds, including broilers, layers and day-old chicks (DOCs). The global market value for global poultry feed grew at a CAGR of roughly ~3.5% over the last half-decade and is currently valued at USD~111.3bln for CY22. The market is expected to reach USD 218bln in CY31.
- The poultry feed market is segmented on the basis of nature, feed type, distribution channel and region. By feed type, the market is classified into complete feed, concentrates, and premix. The market is spread across North America, Europe, Asia-Pacific, and LAMEA.
- Increasing population, urbanization and growing demand for poultry products are few of the strong driving factors of poultry and ultimately poultry feed sector.
- Modern poultry feed is developed by specifically choosing and combining ingredients to provide a high quality diet that preserves both the health of poultry birds and increases the production of end products such as eggs and meat.
- The basic nutrients needed by poultry birds for the development, reproduction, maintenance and health include minerals, vitamins, carbohydrates, proteins and water. Poultry feed is made with a combination of various inputs such as soybean meal, maize, fish meal, sunflower meal and rice polish.
- There are primarily three forms of poultry feed provided to chicken at various life stages and distinct forms. These are starter, grower, layer and broiler poultry feed. Chicken and poultry feed comes in three forms: crumbles, pellets, and mash.



# Poultry Feed

## Product Portfolio



Starter poultry feed is a protein-dense variety of chicken feed intended to fulfill baby chicks' dietary requirements. The main ingredient in it is soybean meal. It offers a high concentration of proteins, i.e., ~40-48% proteins.



The grower poultry feed has lesser protein content than starter. It is used after 4-6 weeks of feeding with chick starter. The main ingredient in it is maize. That helps in preparing their body and reproductive organs for the egg-laying activities



The layer poultry feed is fed after they have started their first egg laying cycle. This poultry feed mainly constitutes of wheat. It helps in development and rapid production of eggs and has a high level calcium, which is useful for egg laying poultry birds.



Broiler poultry feed has a very high volume of protein for the rapid growth of the broiler. The feed helps the broiler develop very rapidly in 2 months. The main ingredient here is fish meal. It is enriched with proteins that helps in growth.

# Poultry Feed

## Process Flow

Poultry feed Industry majorly involves the following steps:

**Step 1:** Inputs of poultry feed both domestically produced (maize) and imported (soybean seeds and locally produced soybean meal) are first collected.

**Step 2:** These inputs are then sent to feed mills in order to form the mixture - poultry feed.

**Step 3:** This mixture is transferred to poultry farms for consumption by poultry birds.



Oil Seeds



Edible Oils Extraction Refinery



Meal



Poultry Feed Mill



Cattle Farms



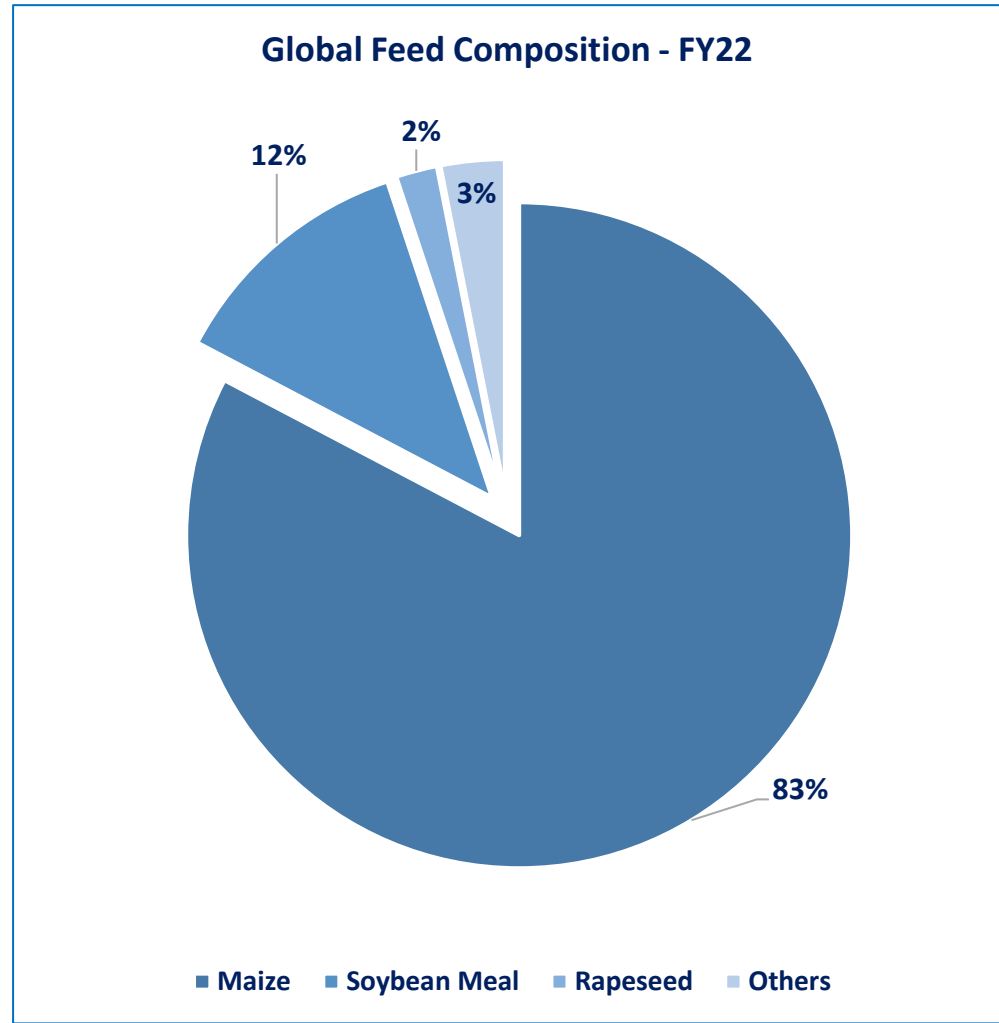
Poultry Farms



# Poultry Feed

## Feed Composition

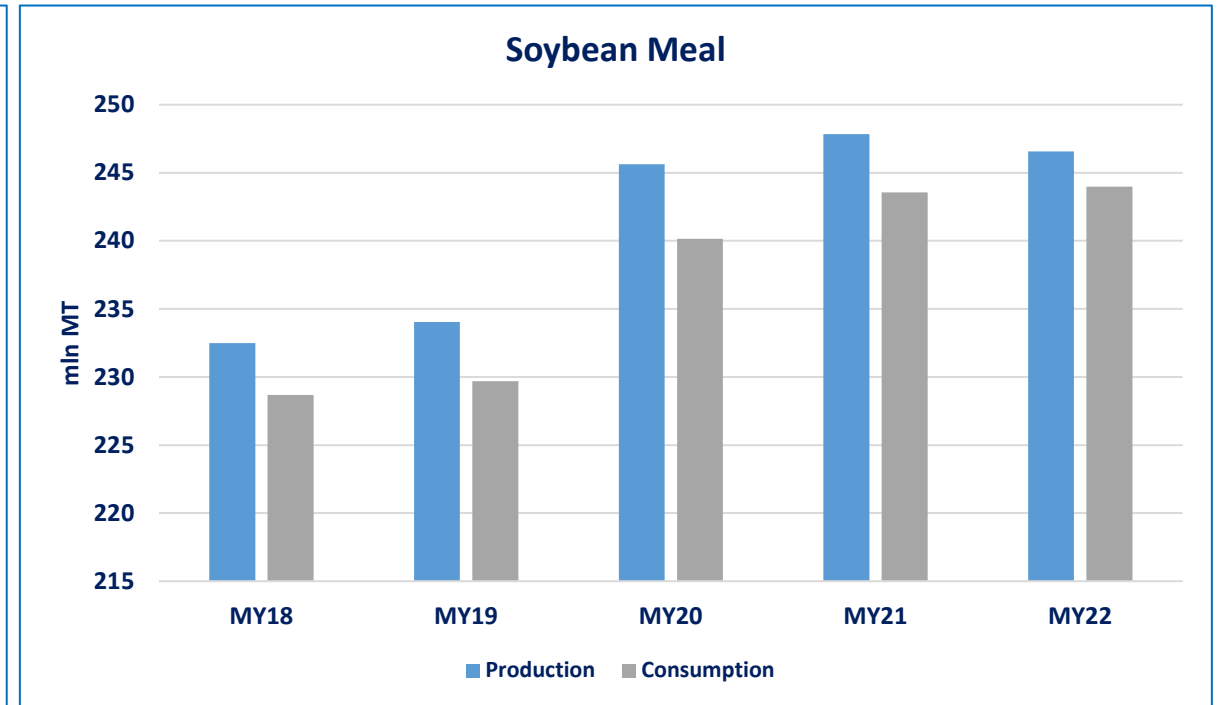
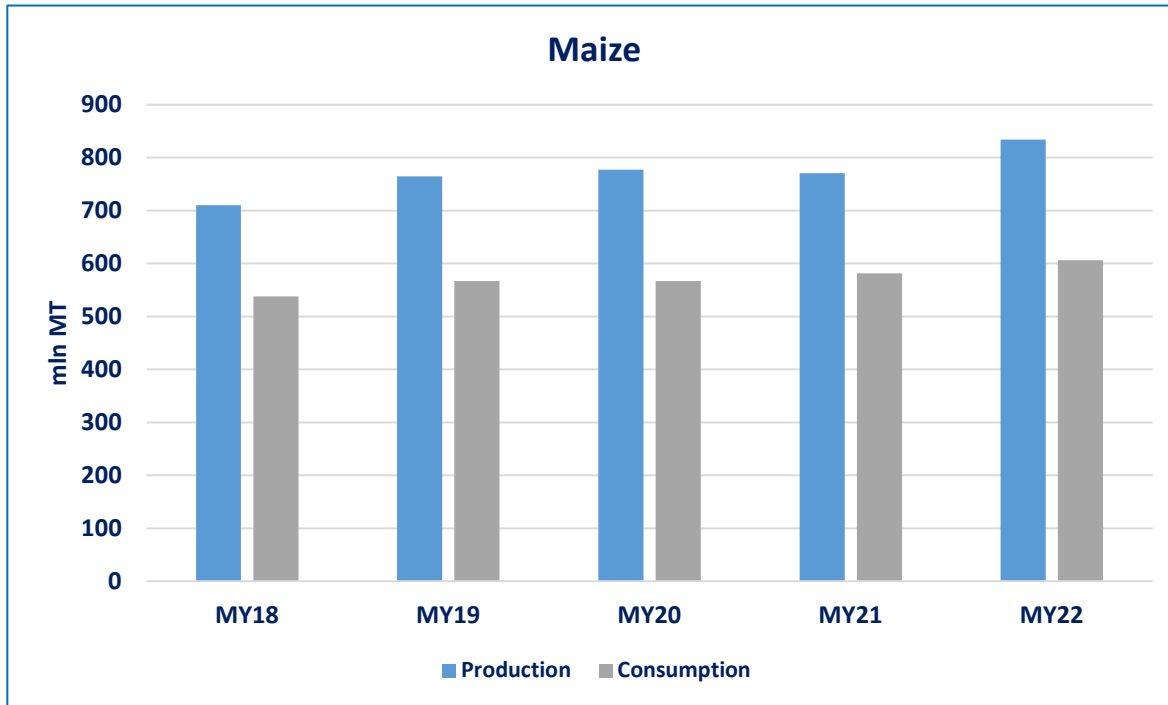
- **Maize** has been globally recognized as a major energy poultry feed component. In a broiler starter diet, maize contributes ~65% of the metabolizable energy and ~20% of the protein. It is by far the most widely used cereal grain in the diets of intensively reared poultry.
- **Soybean Meal** primarily used as a protein supplement, but also as a source of metabolizable energy, is in food and poultry feed. Usually, ~1 bushel of soybeans (i.e. ~60lbs. or ~27.2kg) yields ~48lbs. (~21.8kg) of meal with soybeans. After oil extraction, some, but not all, soybean meal is produced from the residue remaining.
- **Rapeseed Meal** is used as an alternative source of protein in feed. As with the case with soybean, rapeseed is being produced as by-products in the production of rapeseed edible oil. Rapeseed has a considerable share in global oil production.
- **Others:** Major other components are cotton seed and animal protein feed.
- Maize and soybean are two major components of the feed. Thus, changes in the dynamics of both components have direct implications on feed products.



# Poultry Feed

## Key Inputs | Global Production and Consumption

- On a country level, USA is the single largest producer of Maize in the world, with a production of ~354mln tons in MY22 (MY21: ~358mln tons). The country's share on global maize production is expected to reach ~42% during the period.
- Global production of soybean meal was ~247mln MT in MY22 ( MY21: ~248mln MT). China (~28%) and USA ( ~19%) were the largest producers followed by Brazil and Argentina.



\*MY: Marketing year is the period from November to September.

## Domestic Overview

- Pakistan’s poultry feed turnover increased to PKR~111bln in FY22 (PKR~104bln in FY21) at a growth rate of ~6.7%.
- At present, the animal feeds mill sub-segment in Pakistan is relatively unorganized with sales being dependent solely on the poultry and livestock sector and primarily generated via shops/premises
- The sector is competitive; there are a total of ~150 registered feed mills, and ~200 unregistered feed mills catering Pakistan’s feed sector.
- The country’s installed production capacity was estimated around ~1.9mln MT in FY22 (FY21: ~2.2mln MT). Average utilized capacity for FY22 is estimated around ~56% (~50% in FY21).
- Poultry feed’s key ingredient, maize, is grown only in the province of Punjab, which is highly dependent on the nature of climate whereas other key inputs like soybean meal are mostly imported from other countries.
- Poultry Feed is mostly used in controlled sheds where ~90% of the sales are made on credit, thus all sector players are subject to credit risk from their customers.

Industry Snapshot	FY21	FY22
Revenue (PKR bln)	104	111
Contribution to GDP	0.6%	0.7%
Maize Production (mln MT)	8.5	10.6
Soybean seed Import (mln MT)	2.7	2.8
Structure	Competitive	
Soyabean Meal Production (mln MT)	1.9	1.5
Regulatory Body	Pakistan Poultry Association	
Feed Conversion Ratio	0.5	1.5
Installed Annual Capacity (mln MT)	2.2	1.9



## Consumption as per Poultry Bird's Age

### LAYER

Age	Feed Consumption (g/day)
1-17 weeks	13-80
18+ weeks	100-500

Type of Feed	Bird's Age
Starter	0-8 weeks
Grower	8-16 weeks
Pre-layer	16-18 weeks
Eggs Laying Starts	18 weeks
Layer Till Peak	19-32 weeks
Layer Post Peak	>32 weeks

### BROILER

Age	Feed Consumption (g/day)
1-5 weeks	10-100
5-9 weeks	100-200

Type of Feed	Bird's Age
Starter	0-2 weeks
Grower	2-4 weeks
Finisher	Last 10 days
Total Cycle	35-45 days

# Poultry Feed

## Demand Dynamics

- Total poultry feed consumption for FY21 reduced to ~6.4mln MT (~6.6mln MT in FY20), down by ~3% YoY.
- The decrease in consumption is attributable to continuous improvement in feed conversion ratio with increase of soybean meal proportion in the feed mix.
- Among poultry birds, commercial layers have the highest per bird consumption of feed. While poultry feed consumption per broiler is quoted around ~3.5Kgs, poultry feed consumption per commercial layer is around ~40Kgs.

Feed Usage (000'MT)					
Broiler Farming	FY17	FY18	FY19	FY20	FY21
Grand Parent Stock	36	35	33	38	25
Parent Stock	780	787	800	820	768
Broiler	5,600	5,177	4,331	4,032	3,780
Layer Farming					
Parent Stock	37.9	38.7	32	34	36
Commercial Layer	3,313	3,037	2,800	1,680	1,800
<b>Total Feed</b>	<b>9,767</b>	<b>9,075</b>	<b>7,996</b>	<b>6,604</b>	<b>6,409</b>

Annual Average Feed Consumption (Kg)   FY21	
Broiler Farming	
Per Grand Parent Stock	100
Per Parent Stock	64
Per Broiler	3.5
Layer Farming	
Per Parent Stock	40
Per Commercial Layer	40

\*Figures are estimated using average data of PACRA-rated clients.

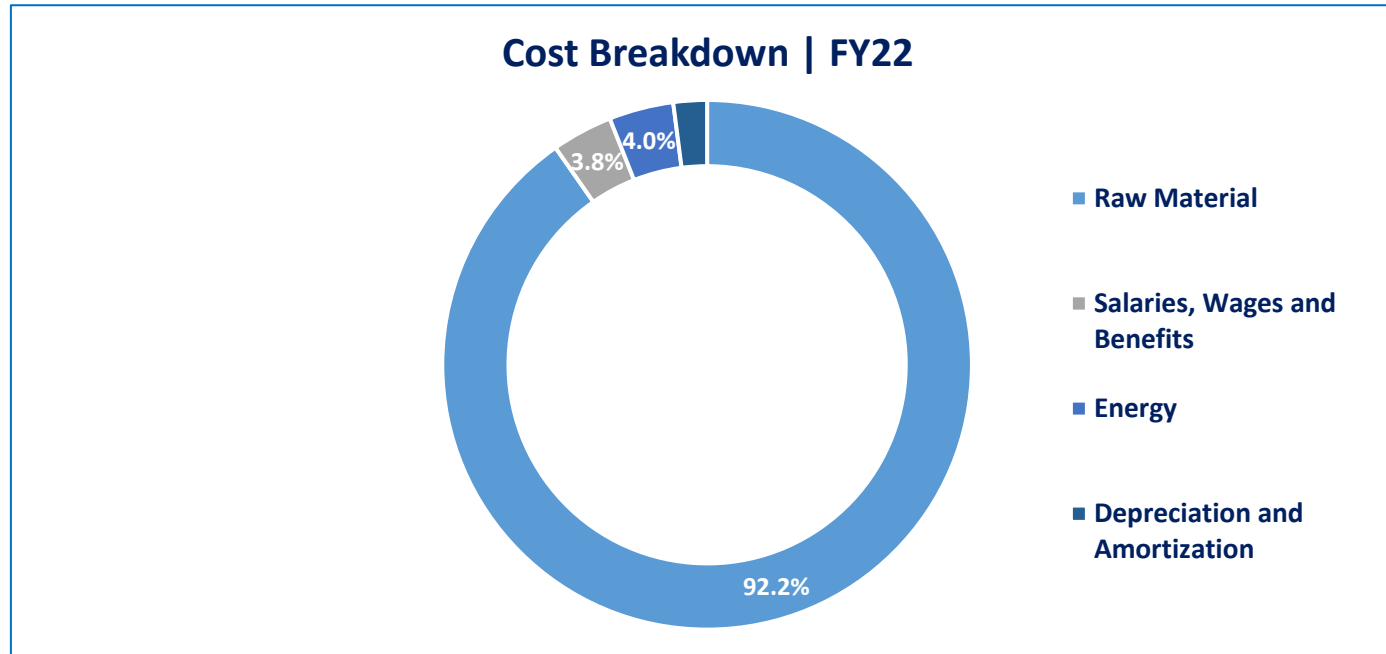
## Demand Dynamics | Poultry Local Production

Poultry production has traced an upward trajectory over the past years. Local poultry output, including domestic and commercial, reached ~3,249mln during FY22 (FY21: 2,956mln) with YoY increase of ~10%.

Domestic and Commercial Poultry Supply (mln Nos)					
	FY18	FY19	FY20	FY21	FY22
<b>Domestic Poultry</b>					
Cocks	12	12	13	13	13
Hens	42	43	44	45	46
Broiler	33	33	33	34	34
<b>Total Domestic Poultry</b>	<b>87</b>	<b>88</b>	<b>90</b>	<b>91</b>	<b>93</b>
<b>Commercial Poultry</b>					
Layers	52	56	60	64	68
Broilers	1,058	1,163	1,280	1,408	1,549
Breeding Stock	12	13	14	14	15
Day Old Chicks	1,105	1,215	1,337	1,470	1,617
<b>Total Commercial Poultry</b>	<b>2,227</b>	<b>2,447</b>	<b>2,691</b>	<b>2,956</b>	<b>3,249</b>

## Supply Dynamics | Cost Breakdown

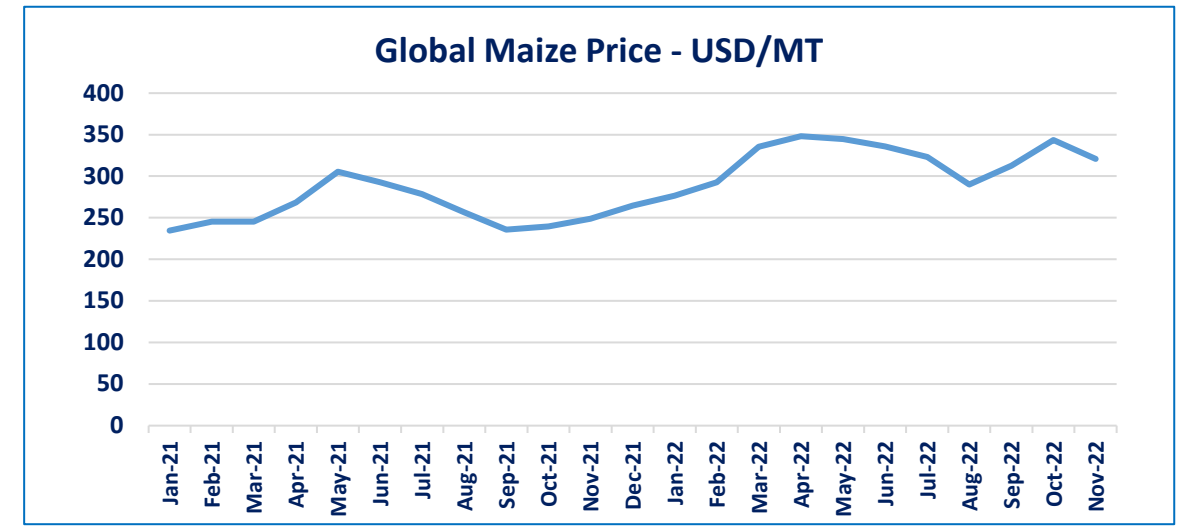
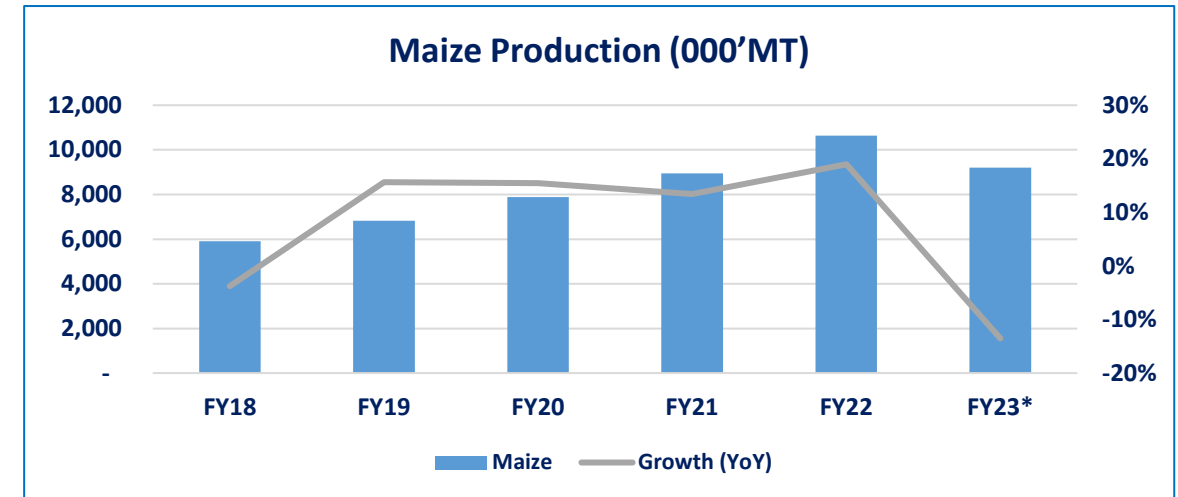
- The composition of costs can vary between different companies depending upon their requirements and prices of raw material.
- It is observed that raw materials constitute a significant portion of the poultry feed production cost. Raw materials account for ~90% of the total production costs followed by salaries & wages (~3.8%), energy (~4%) and depreciation (~2%).
- Maize and Soybean are the major raw materials. The availability of both is essential for the sector’s business cycle. Price linkages to international market also has an impact on the costs borne by the feed millers.



# Poultry Feed

## Supply Dynamics | Maize

- Maize is the third important cereal crop of Pakistan after wheat and rice. It contributes ~3.2% to the value added in agriculture and ~0.7% to GDP.
- The commodity is a multi-purpose crop as it is used for food, feed and fodder. As the first graph depicts, its utilization in feed and wet milling industry is growing at a fast pace.
- During FY22, maize was cultivated on an area of ~1.7mln Ha as compared to ~1.42mln Ha (YOY growth of ~17%). Subsequently, production rose to ~10.6mln MT during FY22 (FY21: ~8.9mln MT), registering a YOY growth of ~19%. The production increase was largely attributed to increase in cultivated area, coupled with improved varieties of seed, and better economic returns.
- Pakistan is entirely self-sufficient in meeting its maize demand. Local maize prices are a function of international maize prices, since any delta between local and international prices increases exports of the commodity as well. The sector is thus exposed to changes in international maize prices despite being procured locally.

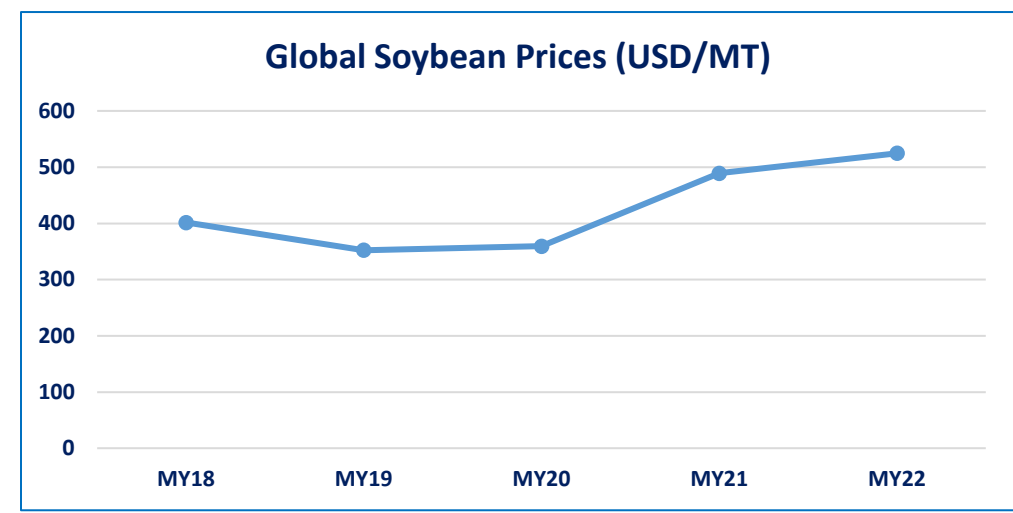
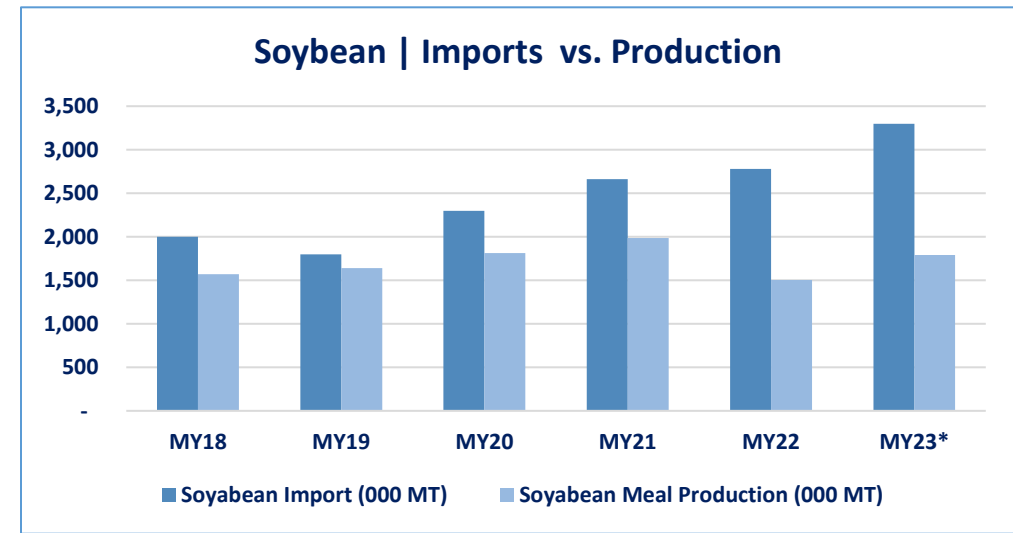


\* Forecast is used for FY23

# Poultry Feed

## Supply Dynamics | Soybean Meal

- Soybean meal is the by-product of soybean oil production. It is one of the most important sources of protein feed for animals.
- With minimal local production of soyabean seed, Pakistan meets the local demand of soyabean through imports. This exposes the sector to change in international prices and exchange rate as well.
- The top graph on the right depicts the market dynamics in meeting local demand. Where production levels have seen a steady decline during MY22, they registered an upward trend during MY18-21 with a CAGR of ~8%. During MY23, production levels seem to have regained momentum. On the other hand, imports have increased steadily during MY18-23, growing at an average rate of ~12%. During MY22, these increased from ~2.6mln MT (MY21) to ~2.7mln MT. Imports make up for over ~50% of local demand.
- Prices of soybean meal have increased over the period under assessment (MY18-MY22) due to multiple reasons, owing to supply chain disruptions, followed by the Russia-Ukraine war and global supply concerns of soyabean seeds. Prices are expected to remain on the higher side due to exposure to exchange rate.

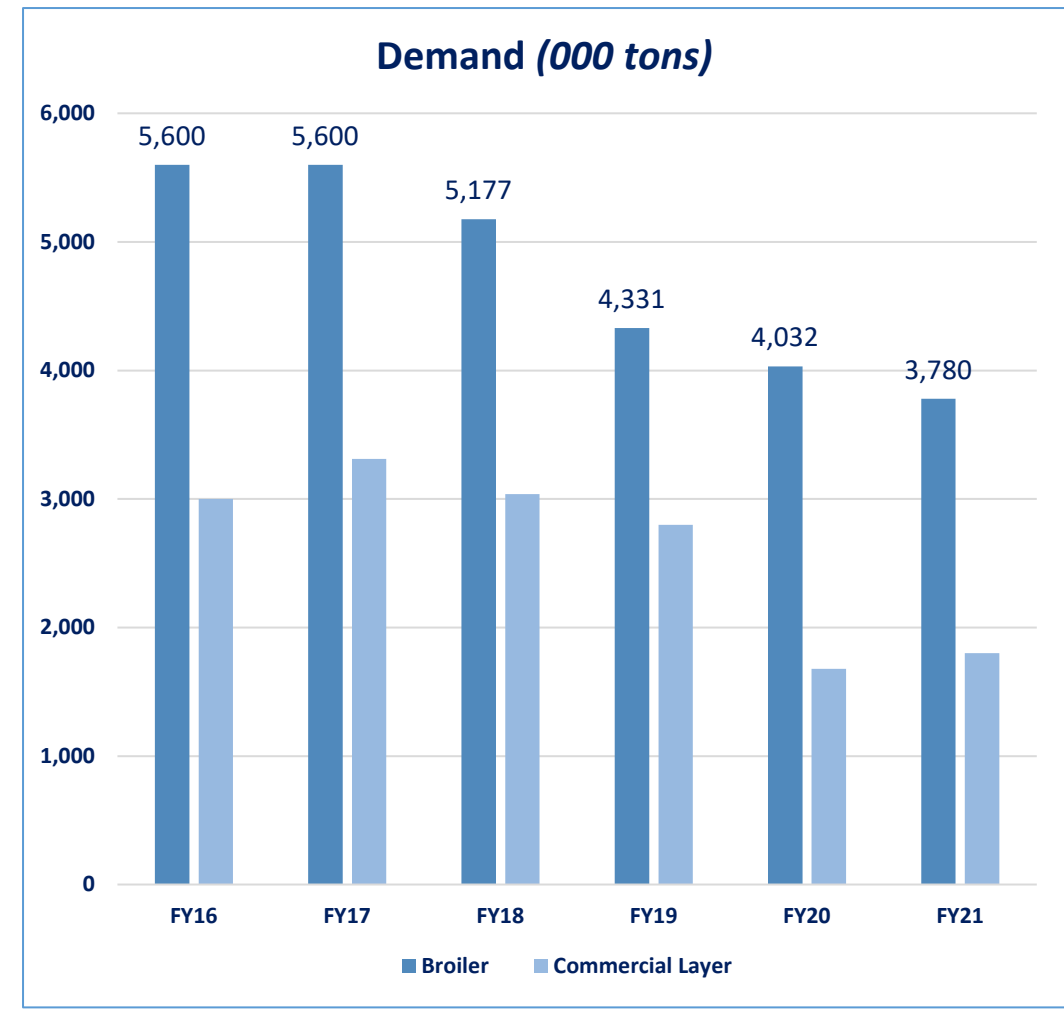


\* Estimates used for MY23

# Poultry Feed

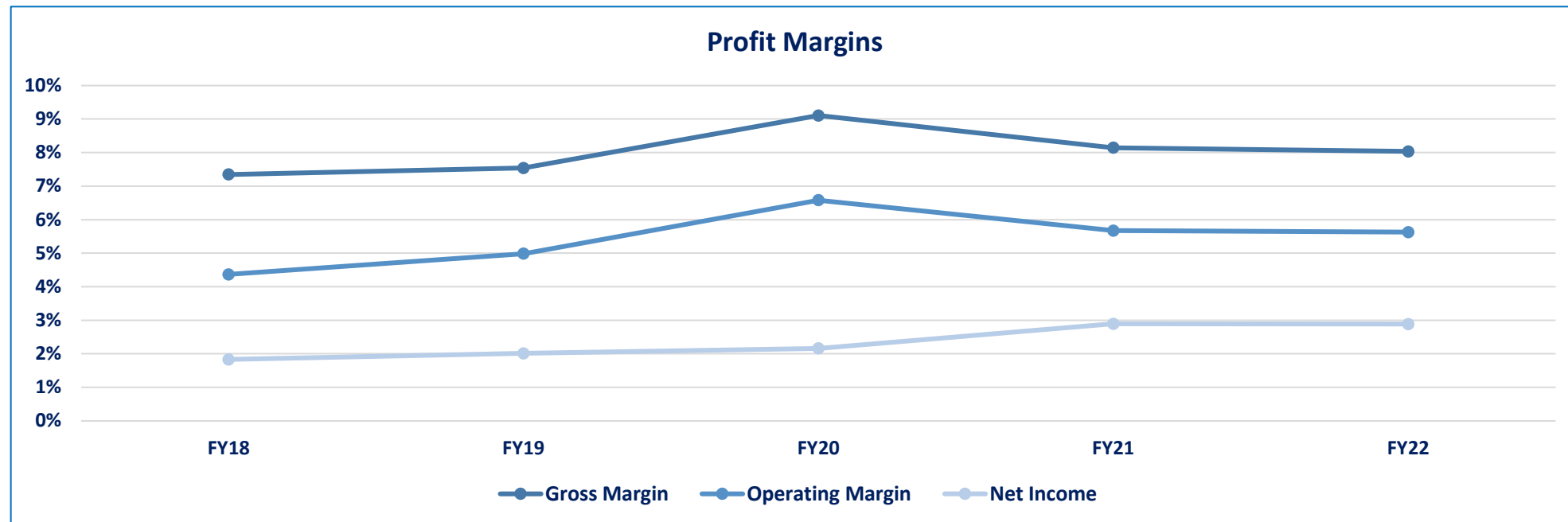
## Business Risk | Demand Side

- Operating Risk:** This refers to difficulties relating to operations of the poultry feed players which can hamper their profitability and performance of the sector. Poultry feed sector inputs include both local and imported inputs. The Sector's costs are therefore subject to exchange rate volatility and international poultry feed prices to the extent of the imported raw materials. Other unavoidable factors include rising inflation rates alongside import duties and sales tax structure of the sector which also indirectly impacts the profit making capacity of the sector players. This risk is further discussed in detail in the next sheet.
- Sales Risk:** This risk is focused on the demand side of the poultry feed chain. The poultry feed sector mainly receives its demand from the poultry sector. Any disruption in demand from poultry sector can hamper the demand of this sector significantly. Under the economic crisis, time restriction on retail shops and restaurants will have an impact though poultry being the relatively less expensive protein option available, the demand side is likely to sustain.



## Business Risk

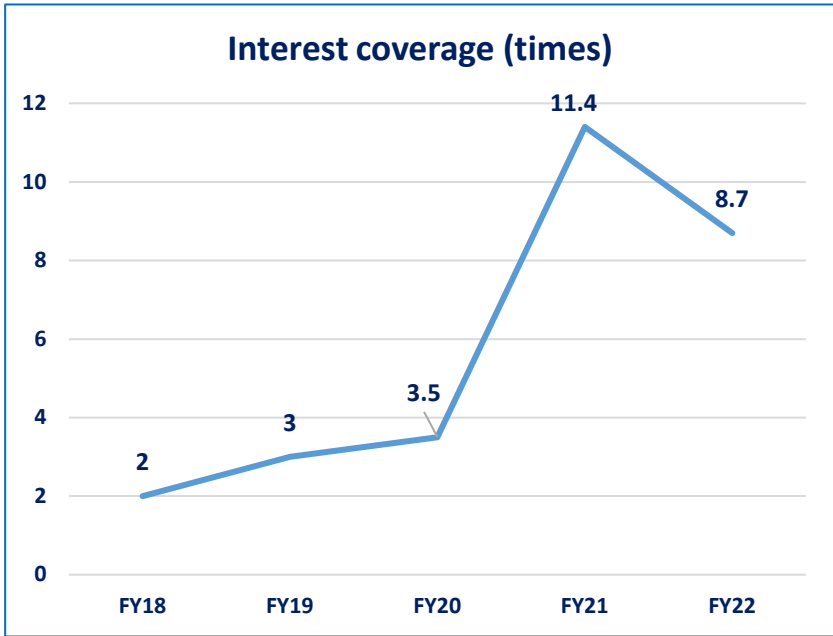
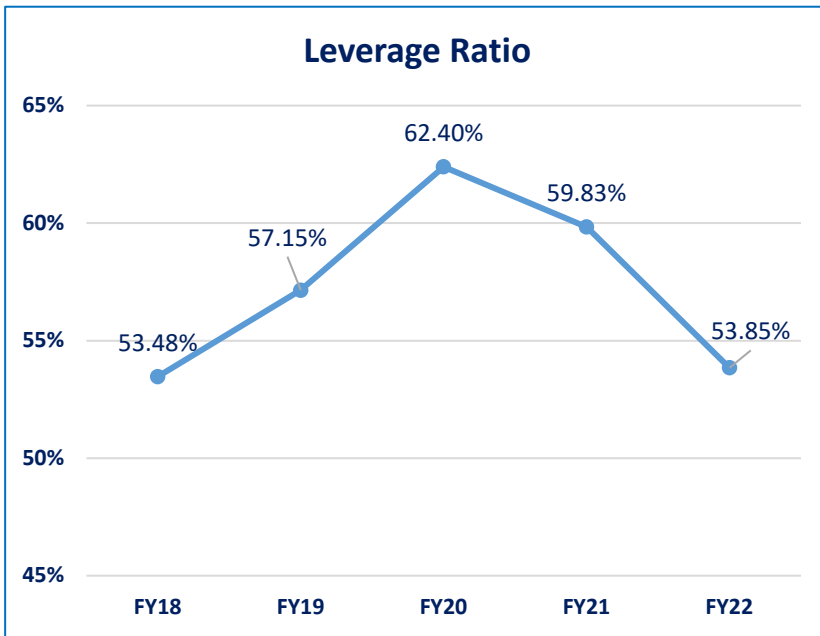
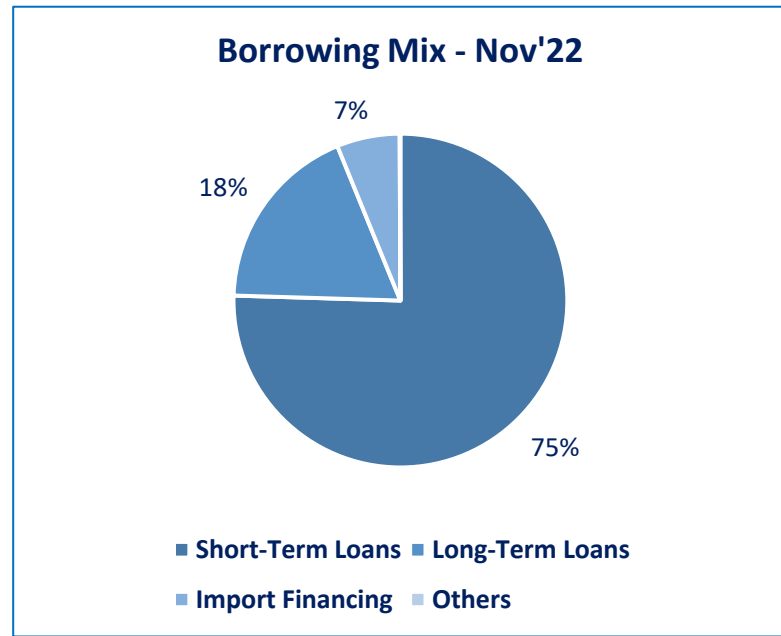
- Gross profit margin of the sector was recorded at ~8.0% during FY22 (FY21: ~8.1%). The decrease can be explained by significant increase in prices of raw material and the sector's inability to pass on whole impact of increase cost of raw material. Due to supply concerns and increased demand, prices of major food products increased significantly in FY22. Going forward, the prices of major raw material are expected to remain rangebound, which will eventually support the gross profit margins of the sector.
- The sector has managed to hold its net profit margin at ~2.9% during FY22 (FY21: ~3%). The net margins are expected to shrink due to impact of high inflation and interest rates.





## Financial Risk | Borrowing Mix

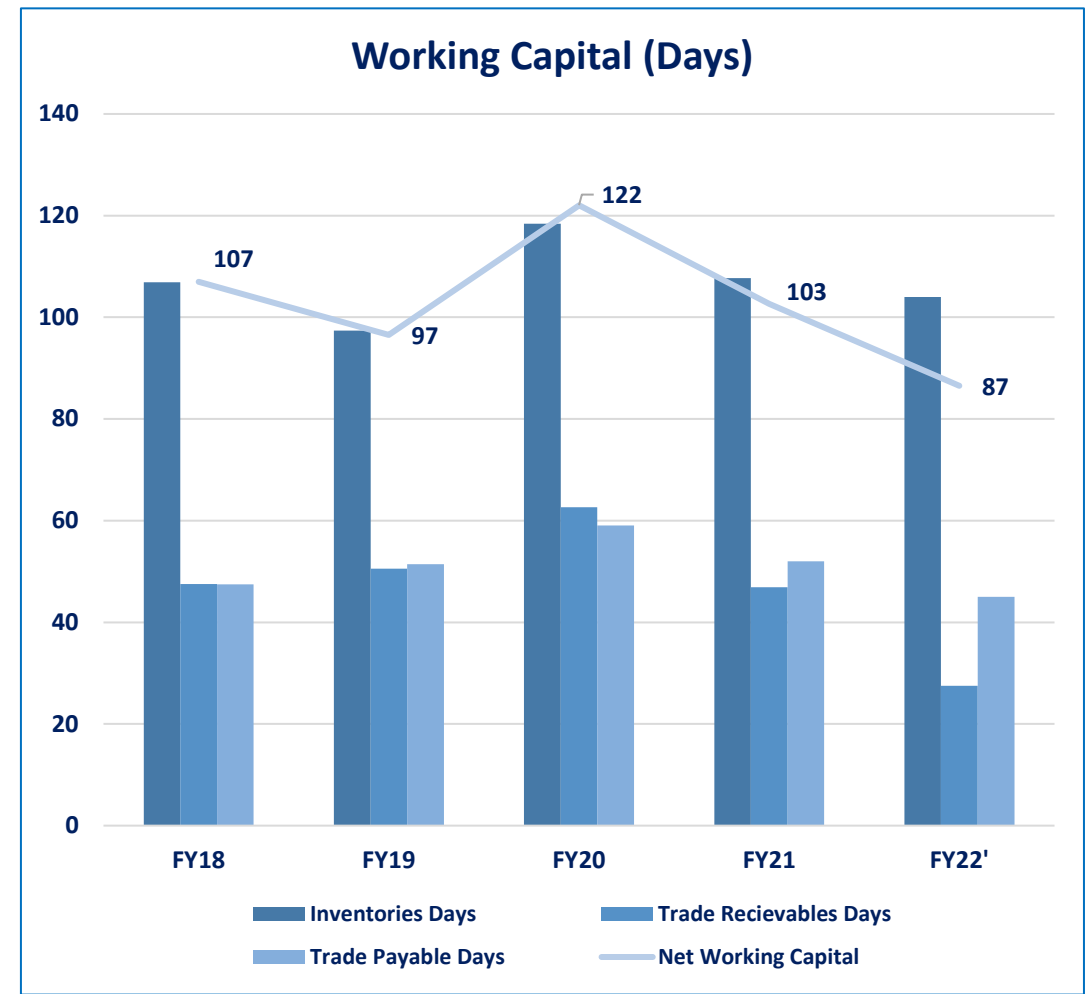
- Total borrowings of the sector were recorded at PKR~ 48,497mIn as at End-Nov'22 with a YoY increase of ~6.4% (Nov'21: PKR~ 45,570mIn). Short-term borrowings constitute a significant portion of Sector's total borrowings and are utilized to finance working capital needs of the sector.
- The sector is moderately leveraged with the leverage ratio showing significant improvement since FY20 along with improved profitability.
- The average interest cover of the sector is ~5.7x. The interest cover witnessed fluctuations over the years, due to policy rate movements, and recorded at ~8.7x in FY22. This figure was ~11.7x in FY21.
- A significant portion of short-term borrowings in the total borrowings mix increases the financial risk of the sector. However, moderate leverage partly mitigates this risk.



Note: Calculations are based on financials of PACRA rated clients.

## Financial Risk | Working Capital Management

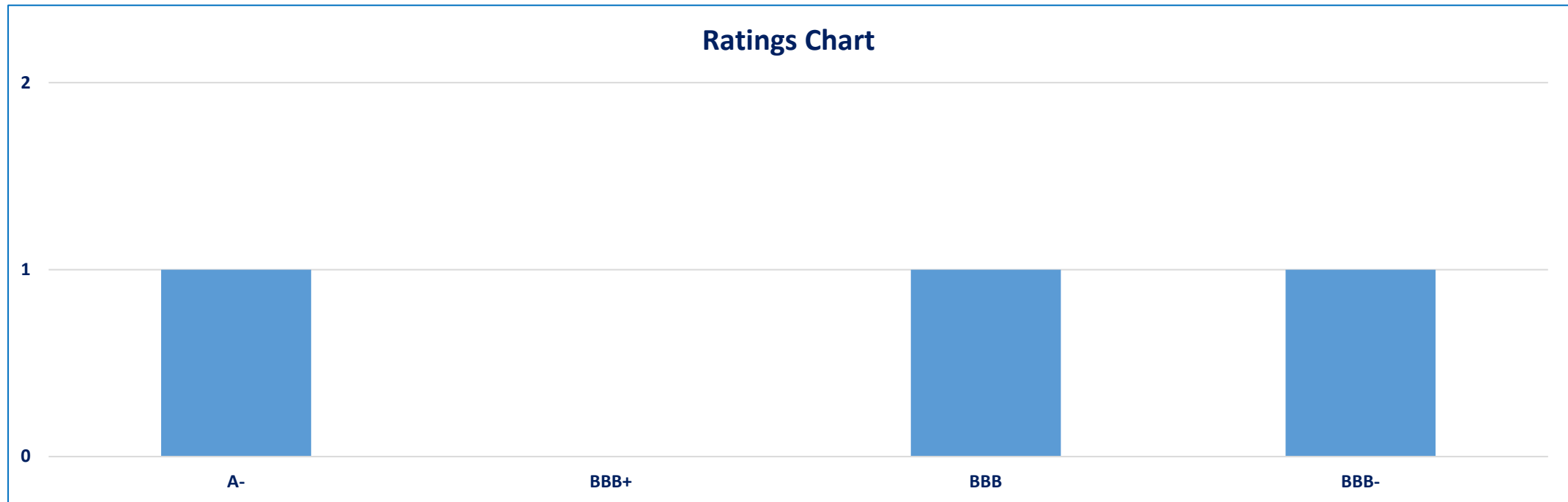
- Working capital cycle of the sector is characterized by high inventory and trade receivable days. Working capital of the sector is financed by both payable and short-term borrowings. The sector significantly relies on short-term borrowings to finance its working capital need and these constitute a significant portion of the sector’s borrowing.
- The average working capital days (FY18 – FY21) of the sector have hovered around ~107 days, and decreased to ~87 days in FY22 (FY21: ~103 days), a YoY decrease of ~16 days. The decrease is attributed to decreased inventory days (FY22: ~104 days, FY21: ~108 days) and decreased payable days (FY22: ~45 days; FY21: ~52 days).
- Average receivable days (FY18 – FY21) of the sector have stayed at ~52 days, which slightly decreased to ~47 days in FY21 and further reduced to ~28 days in FY22. Average payable days for the past four years are ~52 days. In FY22 the payable days are recorded as ~45 days (FY21: ~52 days), with an YoY decrease of ~7 days.



Note: Calculations are based on financials of PACRA rated clients.

## Ratings Chart

PACRA rates three companies in the poultry feed sector. The rating bandwidth stretches from A- to BBB-.



## Duties & Taxes

PCT Code	Description	Custom Duty		Additional Custom Duty		Regulatory Duty		Sales Tax		Income Tax	
		FY21	FY22	FY21	FY22	FY21	FY22	FY21	FY22	FY21	FY22
1201.1000	Soyabean Seed	3%	3%	2%	2%	-	-	17%	17%	11%	11%
1005.9000	Maize	11%	11%	2%	2%	30%	30%	17%	17%	11%	11%
1103.1300	Meal of Maize	16%	16%	4%	4%	-	-	17%	17%	11%	11%
1208.1000	Meal of Soya Bean	11%	11%	2%	2%	-	-	17%	17%	11%	11%

# Poultry Feed

## SWOT Analysis



## Outlook: Negative

- Poultry feed sector is important for the country's food security considering its significance in overall supply chain of poultry meat—relatively cheap source of protein. Although, the local prices of poultry feed increased significantly during FY22 owing to rise in prices of main ingredients, the improvement in feed conversion ratio, from 0.5 in FY21 to 1.5 in FY22, kept the sector's revenue growth in check.
- Maize, the main ingredient in poultry feed, is witnessing a persistent increase in prices since FY21. Maize crop is grown twice a year. Local availability of main raw material reduces the risk of supply chain disruption. However, any uncertainty in demand from poultry segment can force most growers to stay on the sidelines and move to more profitable crops.
- In terms of the other major input, soybean meal, Pakistan is dependent on imports to meet its demand thus it exposes the sector to change in international prices and exchange rate fluctuations. Soybean meal prices increased by ~7% during MY22.
- The sector is characterized by the players' high working capital needs. Their significant reliance on short-term borrowings to meet working capital needs increases the Sector's financial risk as well. Moreover, the sector is considerably leveraged, where the leverage ratio during FY22 was recorded at ~54% (FY21: ~60%).
- The sector's financial risk is high, considering its leverage ratio and proportion of short-term borrowing in total mix. In FY22, interest coverage declined to ~8%, compared to ~11% the previous year. This was likely in line with increases in policy rate through the year. Recently, there has been a further hike of 100bps to 17%. This will likely dampen the players' profitability further, seeing as ~75% of the Sector's total borrowings comprise short-term borrowings.
- Going forward, global production estimates for soybean for MY23 are on a lower end, which may push up prices. This will further cause procurement concerns for the Sector's players, especially in the presence of an already stringent duty structure in place. Both these factors will add further to the cost of doing business for the players.

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- World Bank
- State Bank of Pakistan
- Companies Financial Statements

<b>Research Team</b>	<b>Saniya Tauseef</b> Manager Research <a href="mailto:saniya.tauseef@pacra.com">saniya.tauseef@pacra.com</a>	<b>Ayesha Wajih</b> Supervising Senior Research <a href="mailto:ayesha.wajih@pacra.com">ayesha.wajih@pacra.com</a>	<b>Raniya Tanawar</b> Supervising Senior Research <a href="mailto:raniya.tanawar@pacra.com">raniya.tanawar@pacra.com</a>
<b>Contact Number: +92 42 35869504</b>			

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