



Poultry Feed

Sector Study



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Poultry Feed

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). Animal feed production market was recorded around USD~345bln in CY20 which is expected to grow at an annual growth rate of ~4.9%.
- Increasing population, urbanization and growing purchasing power 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 four distinct types of poultry feed provided to chicken at various life stages and in four distinct forms. These are starter, grower, layer and broiler poultry feed.
- The poultry feed conversion rate is recorded around ~0.5x in Pakistan – the lower the rate, the better it is.



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., around 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



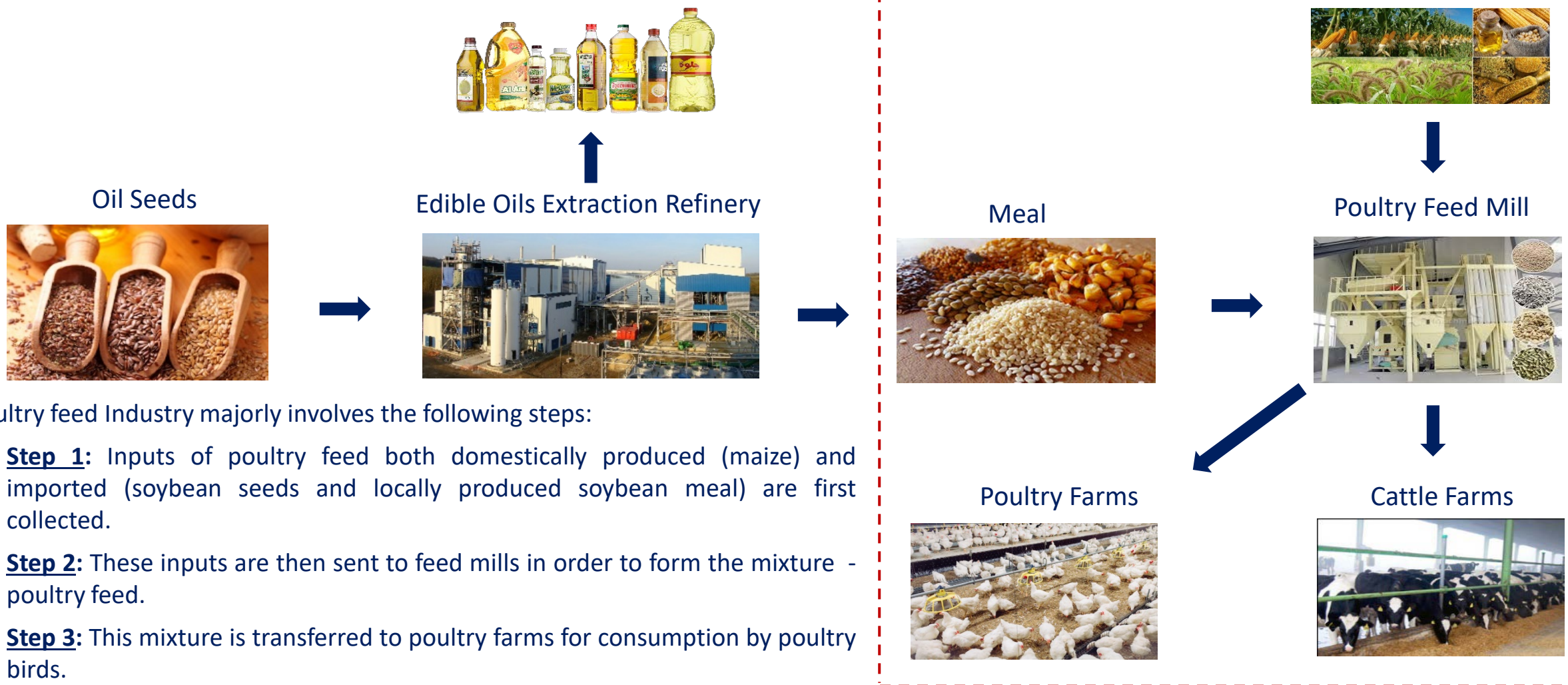
The layer poultry feed is fed after they have started their first egg laying cycle. This poultry feed mainly constitutes of wheat. It helps in development and rapid production of eggs and has a high level calcium, which is useful for egg laying poultry birds.



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



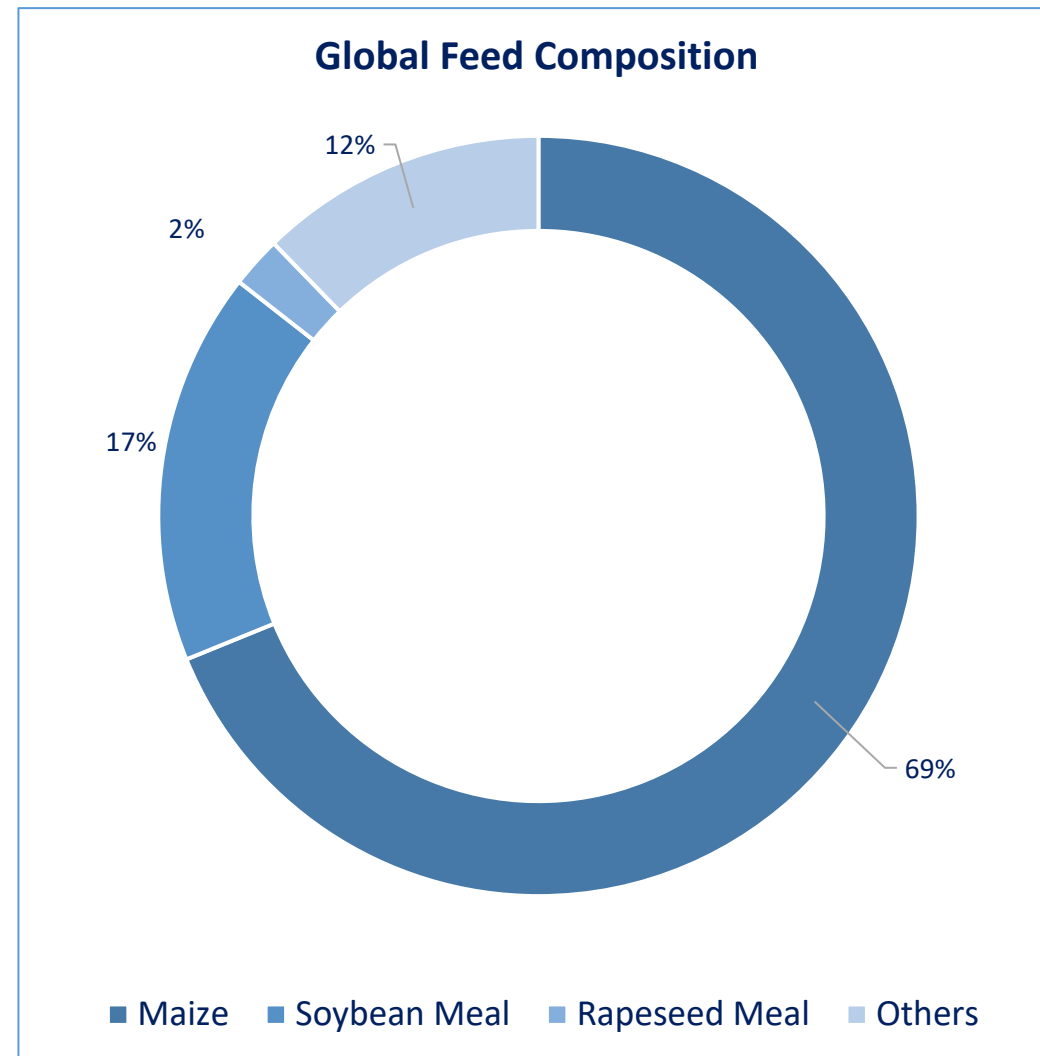
Poultry feed Industry majorly involves the following steps:

- **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.

Poultry Feed

Feed Composition

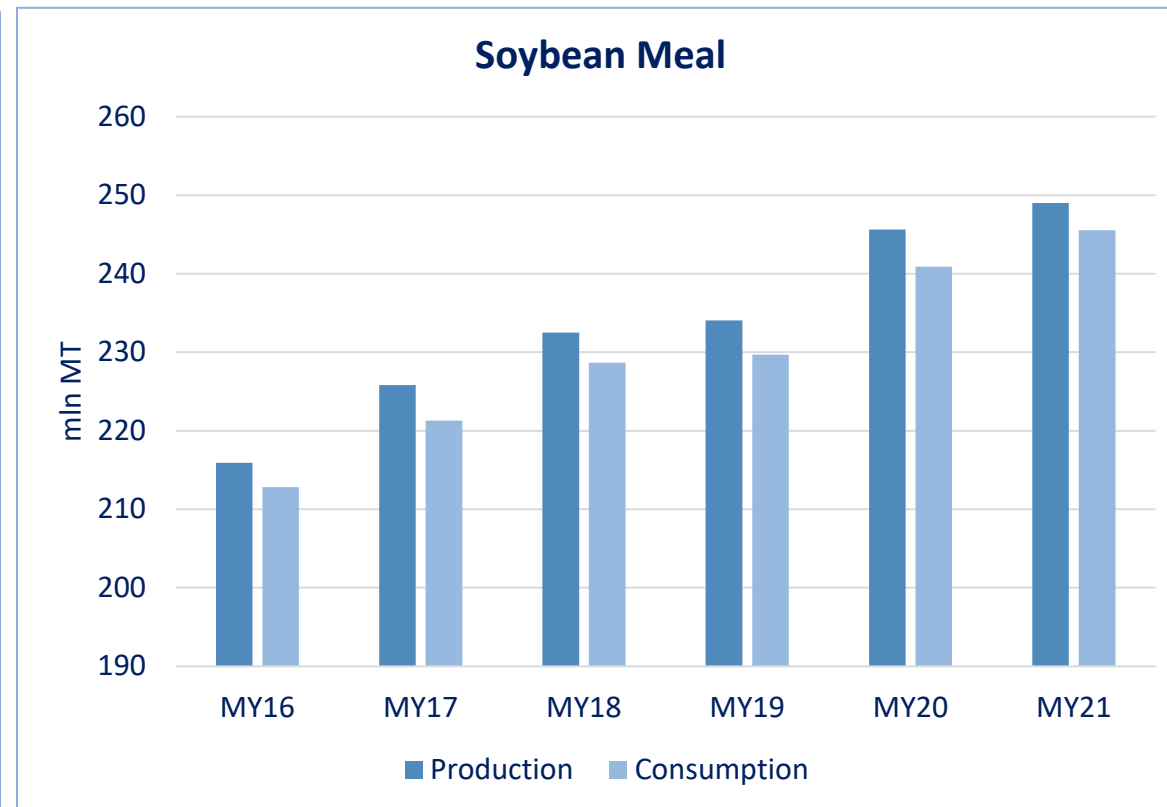
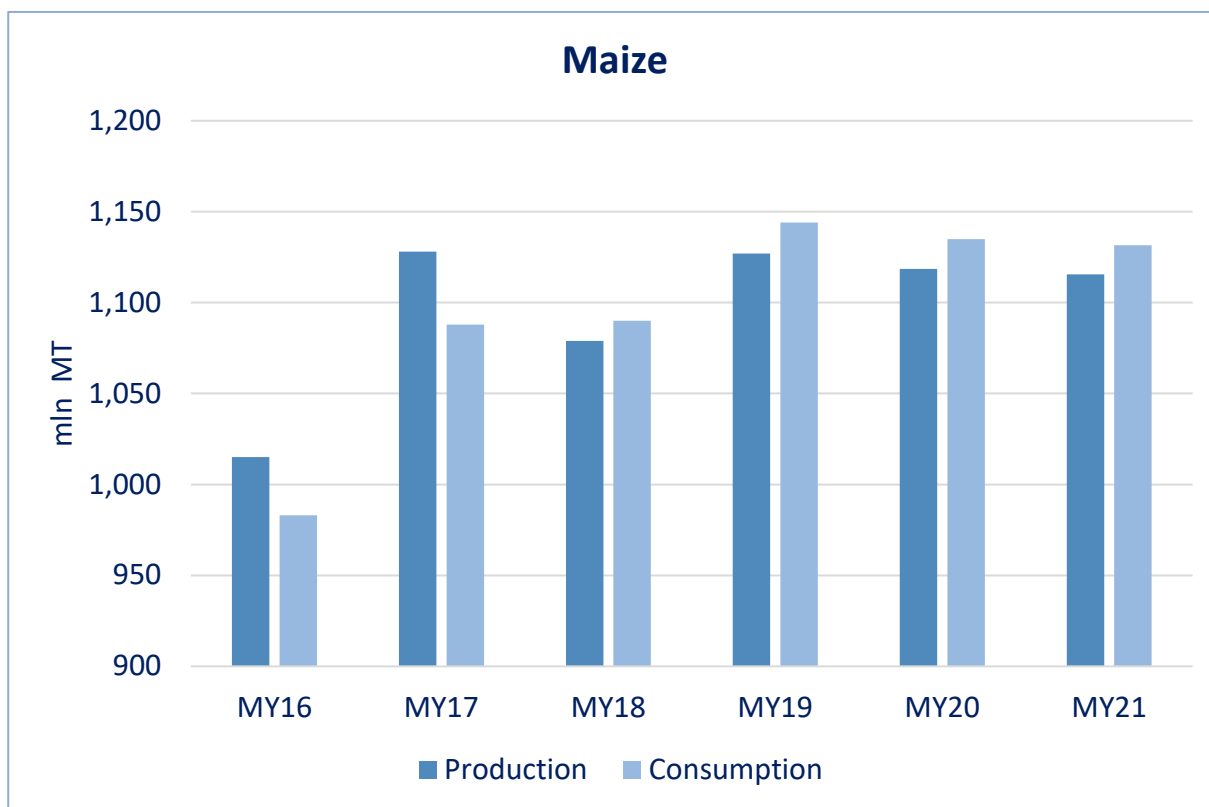
- Maize:** has been globally recognized as a major energy poultry feed component. In a broiler starter diet, maize contributes approximately 65% of the metabolizable energy and 20% of the protein. It is by far the most widely used cereal grain in the diets of intensively reared poultry.
- Soybean Meal:** 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:** It 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 pricing of both components have direct implications for final price of feed products.



Poultry Feed

Key Inputs | Global Production and Consumption

- On a country level, USA is the single largest producer of corn in the world, with an expected production of ~380mln tons in MY22 (MY21: ~358mln tons). The country's share on global maize production is expected to reach ~32% during the period.
- USA and Brazil are the largest producers of soybean globally.



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

Poultry Feed

An Overview

- Pakistan’s poultry feed turnover increased to PKR~448bln in FY21 (PKR~396bln in FY20) at a growth rate of ~13%.
- The sector is fragmented; there are a total of ~150 registered feed mills, and ~200 unregistered feed mills catering Pakistan’s feed sector.
- Over PKR~190bln worth of agricultural products and agricultural by-products are currently being used in poultry feeds (becoming part of the larger agriculture value chain).
- The country’s installed production capacity was estimated around 13.3mln tons in FY21 (~5.9mln tons – FY20). Average utilized capacity for FY21 is estimated around ~45% (~50% in FY20). On the other side, the annual feed consumption is expected to decrease by ~10% in FY21, creating a supply surplus situation for the sector.
- 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 is made on credit, thus all sector players are subject to credit risk from their customers.

SNAPSHOT	FY20	FY21
Revenue (PKR bln)	396	448
Contribution to Nominal GDP	1.0%	1.0%
Maize Production (mln tons)	7.9	8.5
Soybean seed Import (mln tons)	2.3	2.5
Structure	Fragmented	
Soya Bean Meal Prod. (mln tons)	1.8	2.0
Association	PPA	
Feed Conversion Ratio	0.5	0.5
Installed Annual Capacity - mln tons	13.30	13.30
Production – mln tons	6.6	6.4

Poultry Feed

Consumption as per Poultry Bird's Age

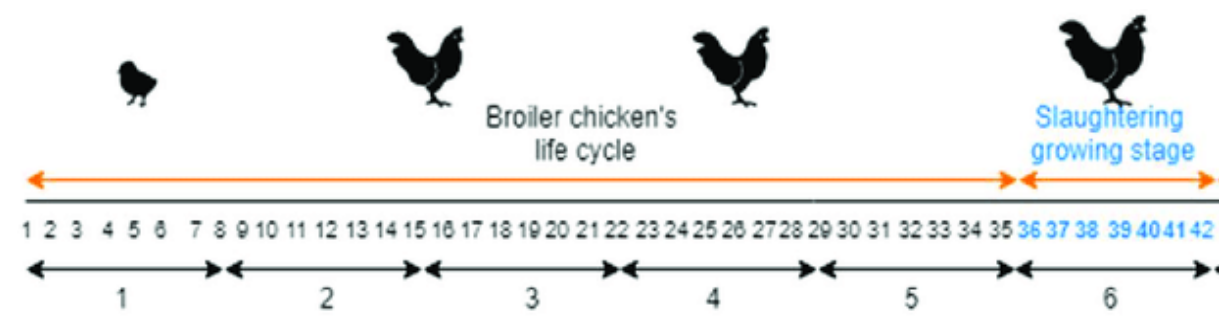
LAYER	
Age	Feed Consumption (g/day)
1-17 Weeks Old	13-80
18+ Weeks Old	100-500

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	After 32 Weeks



BROILER	
Age	Feed Consumption (g/day)
1-5 Weeks Old	10-100
5-9 Weeks Old	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 is reduced to ~6.4mln tons (~6.6mln tons in FY20), down by ~3% YoY.
- 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						Annual Average Feed Consumption (KGs) FY21	
Broiler Farming	FY17	FY18	FY19	FY20	FY21	Broiler Farming	
Grand Parent Stock – 000 tons	36	35	33	38	25	Per Grand Parent Stock	100
Parent Stock – 000 tons	780	787	800	820	768	Per Parent Stock	64
Broiler – 000 tons	5,600	5,177	4,331	4,032	3,780	Per Broiler	3.5
Layer Farming						Layer Farming	
Parent Stock – 000 tons	37.9	38.7	32	34	36	Per Parent Stock	40
Commercial Layer – 000 tons	3,313	3,037	2,800	1,680	1,800	Per Commercial Layer	40
Total Feed	9,767	9,075	7,996	6,604	6,409		

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

Demand Dynamics | Poultry Local Production

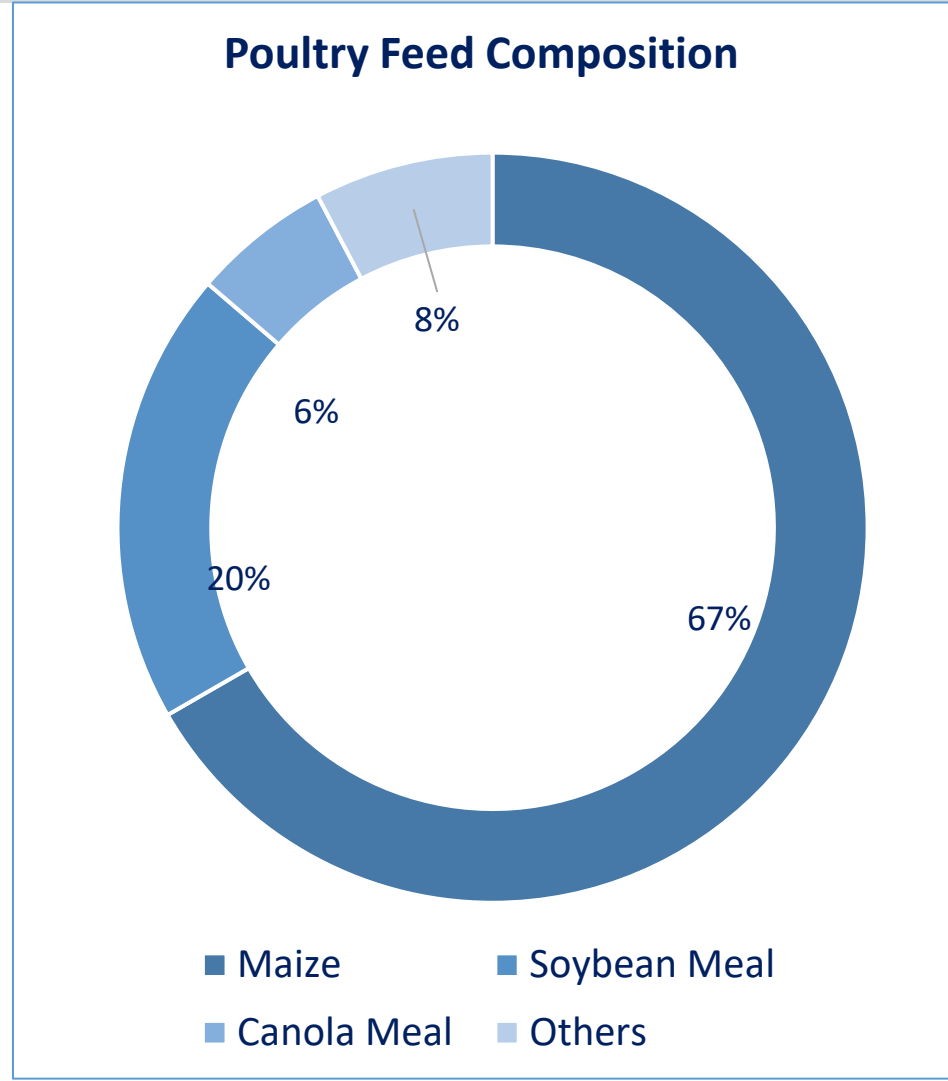
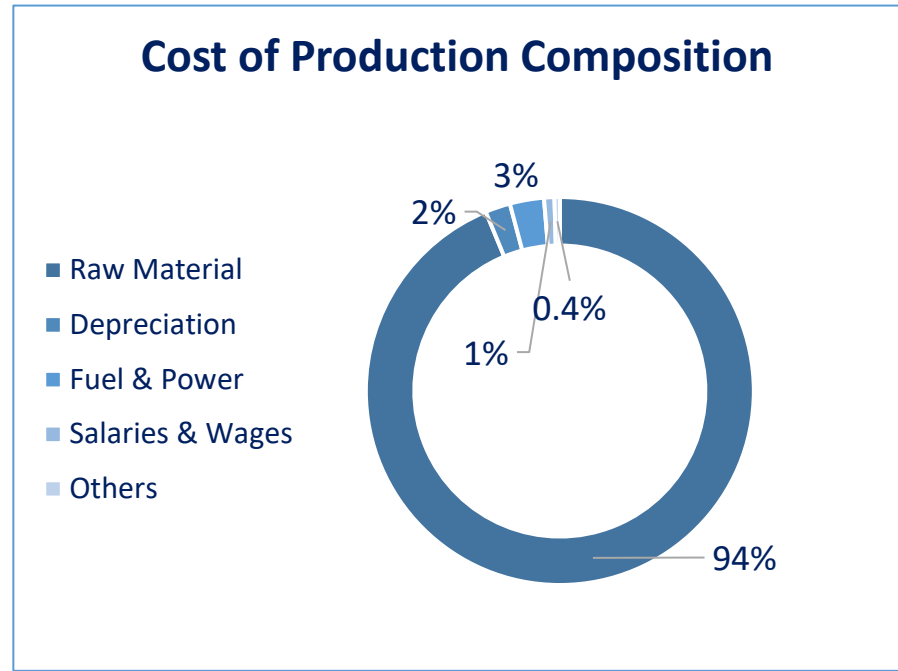
- Local poultry output is expected to reach ~3,058mln during FY21 (FY20: 2,781mln) with YoY increase of ~10%.

Domestic and Commercial Poultry (mln)							
	FY16	FY17	FY18	FY19	FY20	FY21	
Domestic Poultry							
Cocks	11	12	12	12	13	13	
Hens	41	42	42	43	44	45	
Broiler	32	33	33	33	33	34	
Total	84	87	87	88	90	92	
Commercial Poultry							
Layers	46	49	52	56	60	64	
Broilers	874	962	1,058	1,163	1,280	1,408	
Breeding Stock	11	12	12	13	14	14	
Day Old Chicks	913	1,004	1,105	1,215	1,337	1,470	
Total Commercial output	1,844	2,027	2,207	2,447	2,691	2,966	
Total Poultry Input	1,928	2,114	2,294	2,535	2,781	3,058	

Poultry Feed

Supply Dynamics | Cost Break-Up

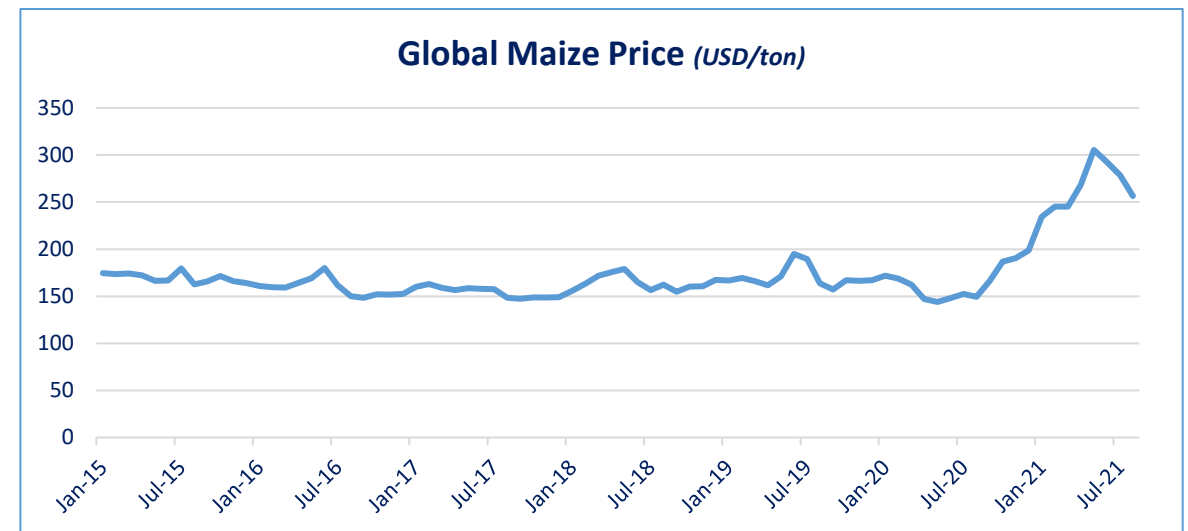
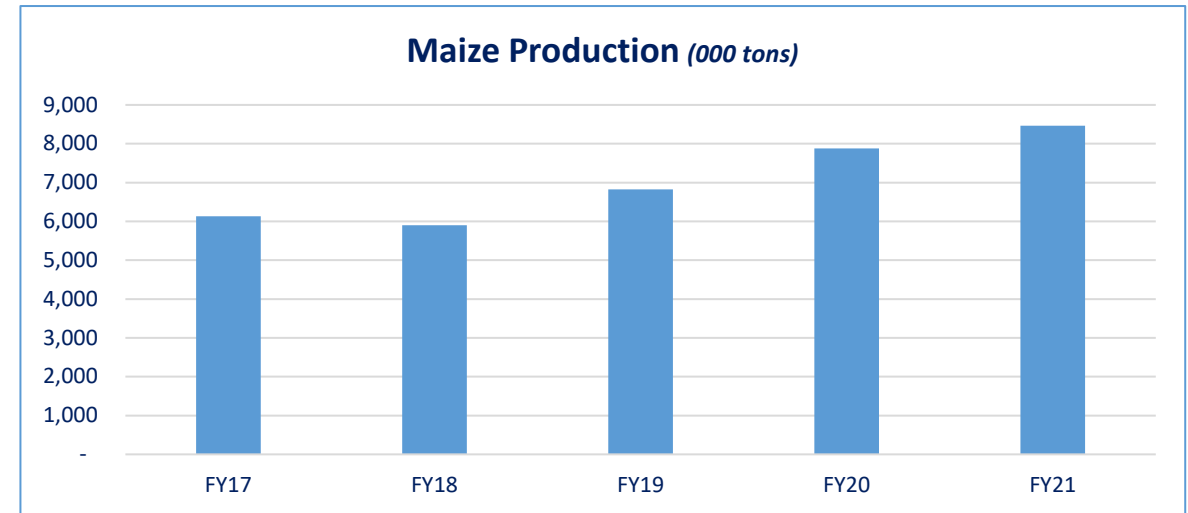
- Poultry feed mix comprises various ingredients. These are maize and soybean meal having shares of 67% and 20% respectively.
- The composition can vary between different companies depending upon their requirements and prices of raw material.
- It is observed that raw materials constitute a significant portion of the poultry feed production cost. Raw materials account for ~94% of the total production cost followed by overheads such as depreciation, fuel & power, salaries & wages and other.
- As maize and soybean meal are the major raw materials, the cost of production is directly underpinned to the prices of these raw materials. Hence, inventory management strategies are critical to yield positive results for the companies operating in the sector.



Poultry Feed

Supply Dynamics | Maize

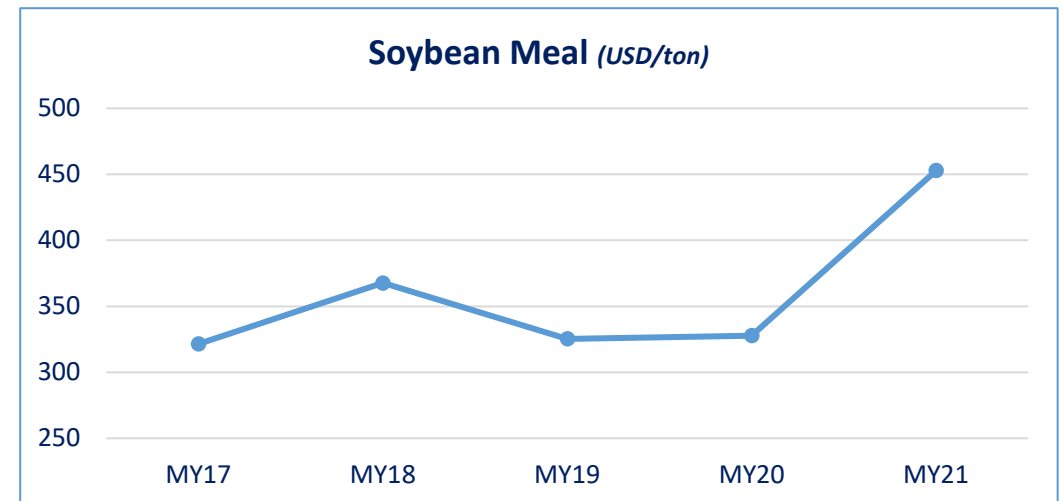
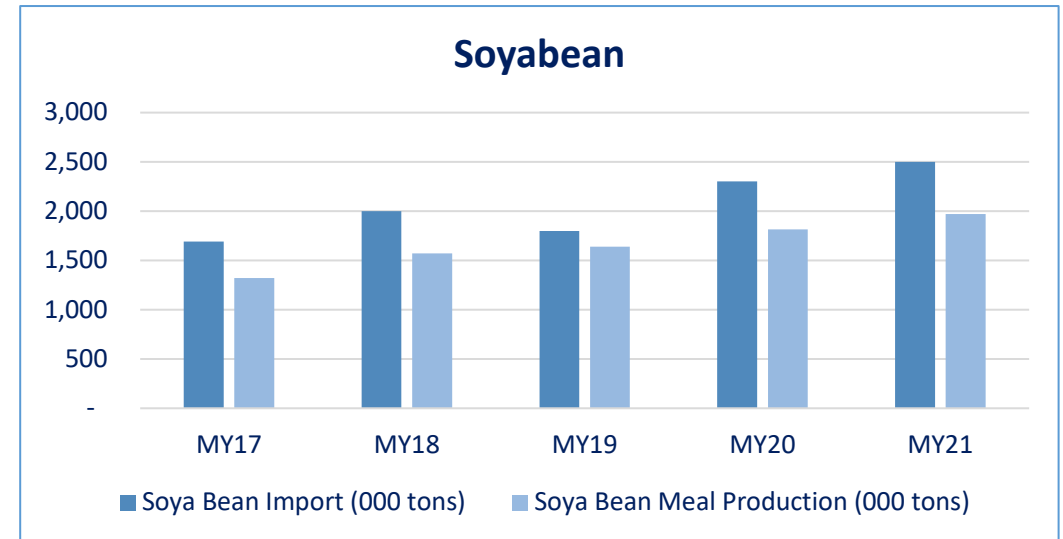
- Maize is the third important cereal crop of Pakistan after wheat and rice. It contributes 3.4 percent to the value added in agriculture and 0.6 percent to GDP.
- The commodity is a multipurpose crop as it is used for food, feed and fodder. However, its human consumption is on a declining trend whereas, its utilization in feed and wet milling industry is growing at a fast pace.
- During FY21, maize was cultivated on an area of ~1.42mln hectares as compared to ~1.40mln hectares with a YOY growth of ~1%. Subsequently, the production of maize rose to ~8.47mln tons during FY21 (FY20: ~7.88mln tons) registering a YOY growth of ~7.5%. The production increase was largely attributed to increase in cultivated area, coupled with some improved varieties of seed, and better economic returns.
- Pakistan is entirely self sufficient in meeting its maize demand. Prices of maize in the local market are usually fluctuating at a discount to the International price. An increased delta between local and international prices creates lucrative opportunity for the local producers to export the commodity.



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.
- Soybean seeds, used in Soybean meal production, are imported in the country. This exposes the sector to changes in international prices and exchange rate volatility.
- Soybean meal is produced locally. As with the increase in import and crushing of soybean seeds to meet robust demand of edible oil the production of soybean meal is increasing as well. With the increase in production, its share in local poultry feed mix has also been increased in previous years.
- The prices of soybean meal has increased significantly during MY21 due to multiple reasons, including supply chain disruption caused by COVID-19 and global supply concerns of soya bean seeds.
- However, with improved supply and reduction in COVID-19 restriction globally the prices are expected to remain bound which will reduce the cost of production of local players as well.

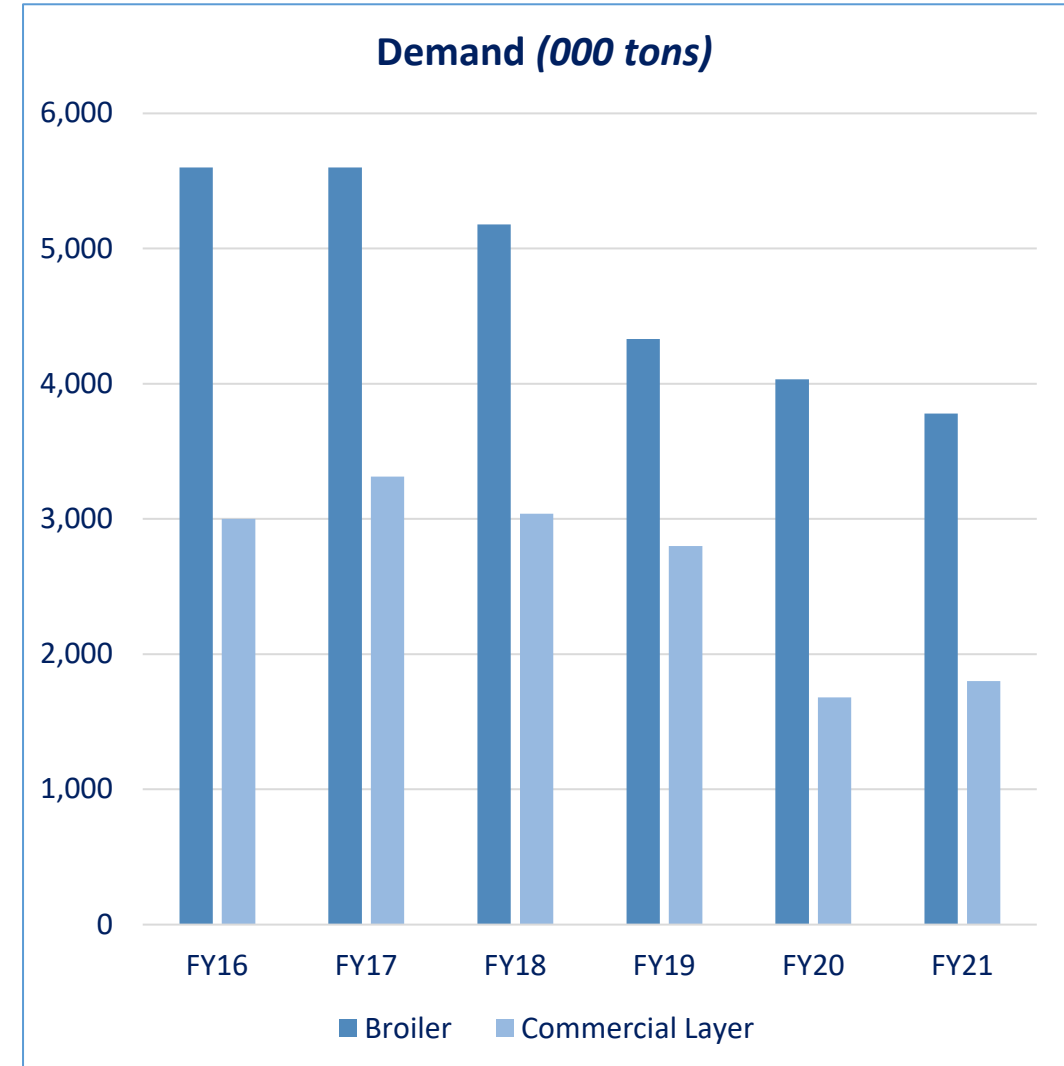


Poultry Feed

Business Risk | Demand Side

The business risk of poultry feed sector can be divided into operating risk and sales risk.

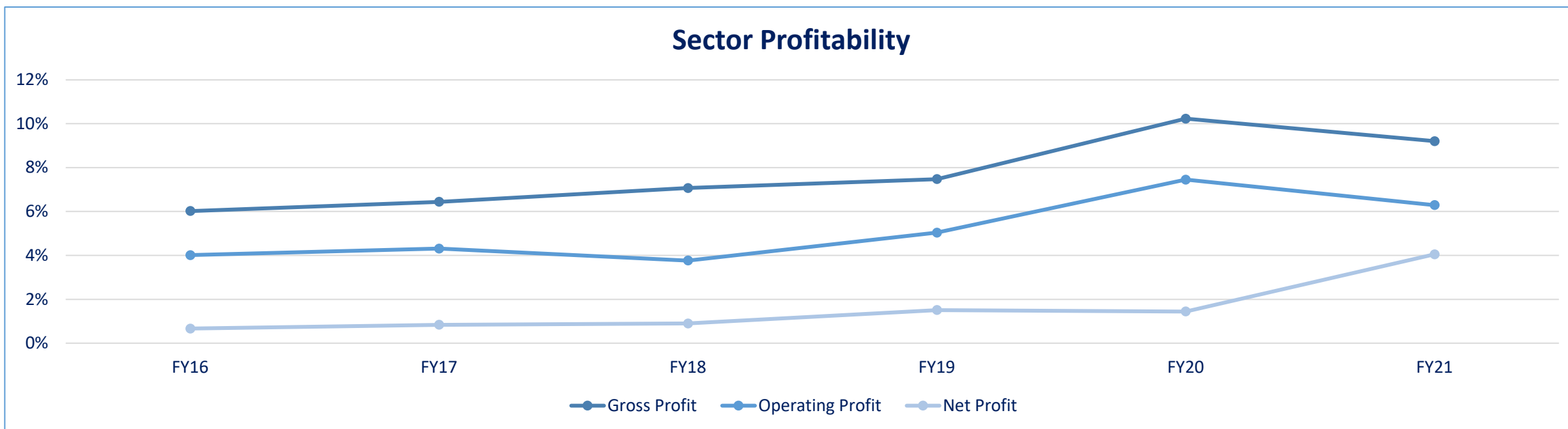
- Operating Risk:** This risk particularly refers to the difficulties relating to the operations of the poultry feed players which can hamper the profitability and performance of the sector. Poultry feed sector inputs include both local inputs and imported inputs. The Sector's costs are therefore subject 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. Closure of restaurants, hotels and marriage halls amid Covid-19 induced lockdown, had an indirect effect on the sale of poultry products leading to an impact on poultry feed sales.



Poultry Feed

Business Risk

- Gross profit margin of the sector was recorded at ~9.2% during FY21 (FY20:~10.2%). The decrease is explained by significant increase in prices of raw material and the sector 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 FY21. Going forward, the prices of major raw material is expected to remain rangebound, which will eventually support the gross profit margins of the sector.
- Historically low interest rate continue to provide necessary support to the sector. Net profit margin of the sector was recorded at ~4% during FY21 (FY20:~1%).

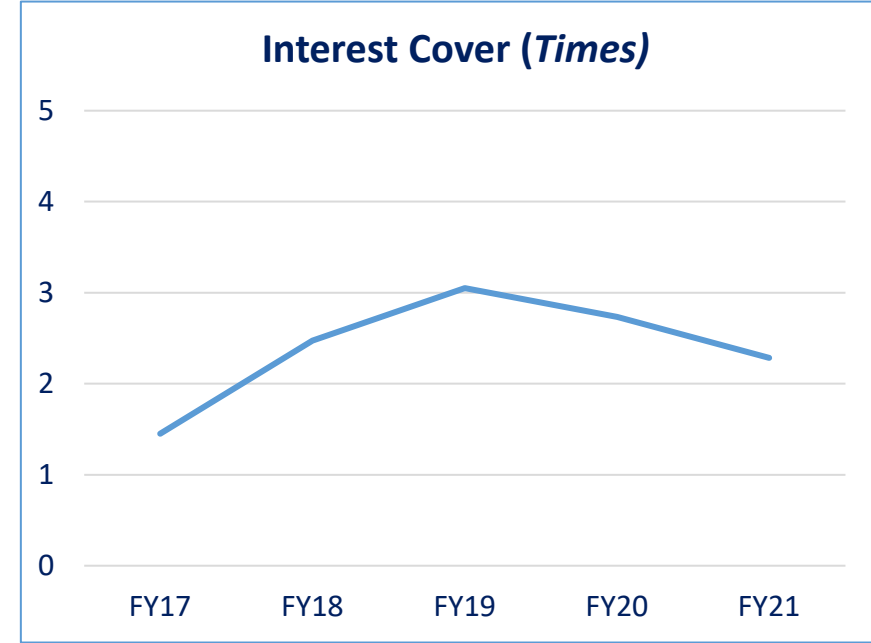
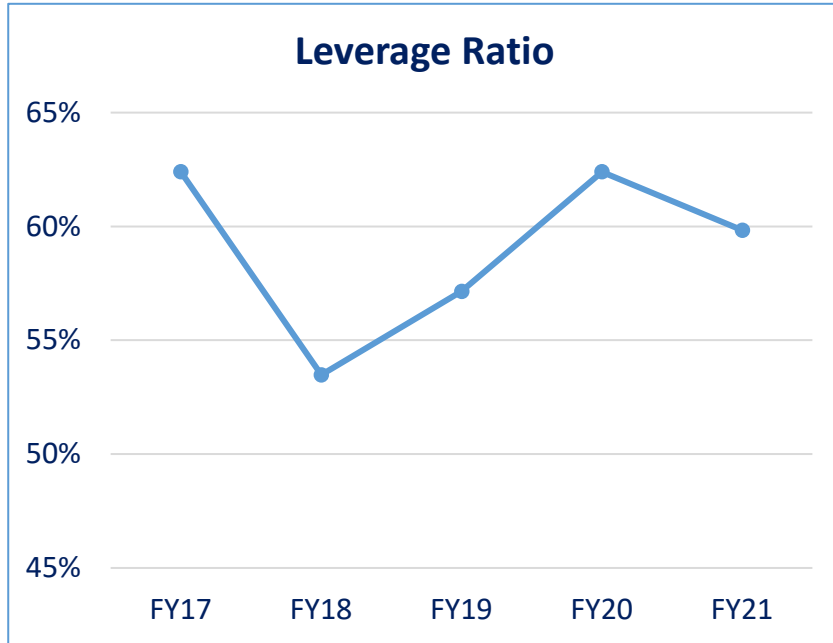
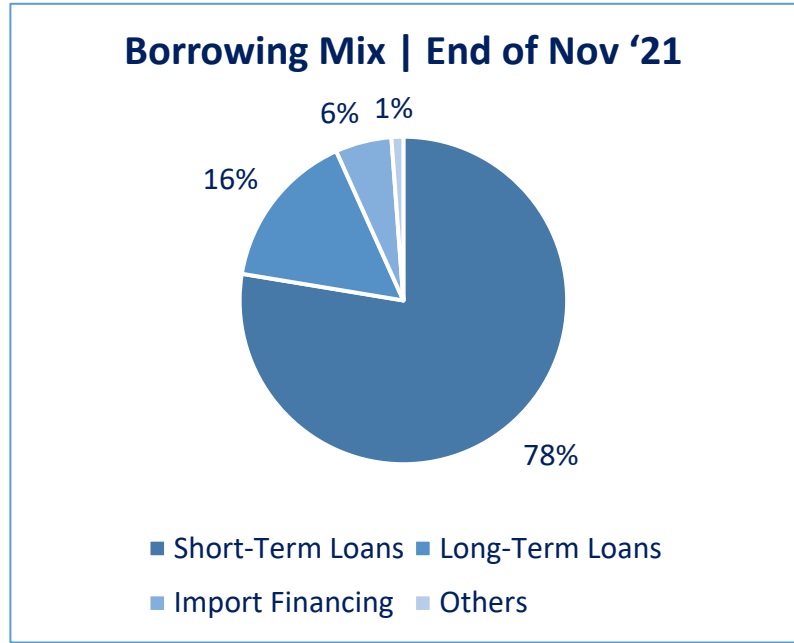


Note: Calculations are based on financials of PACRA rated clients.

Poultry Feed

Financial Risk | Borrowing Mix

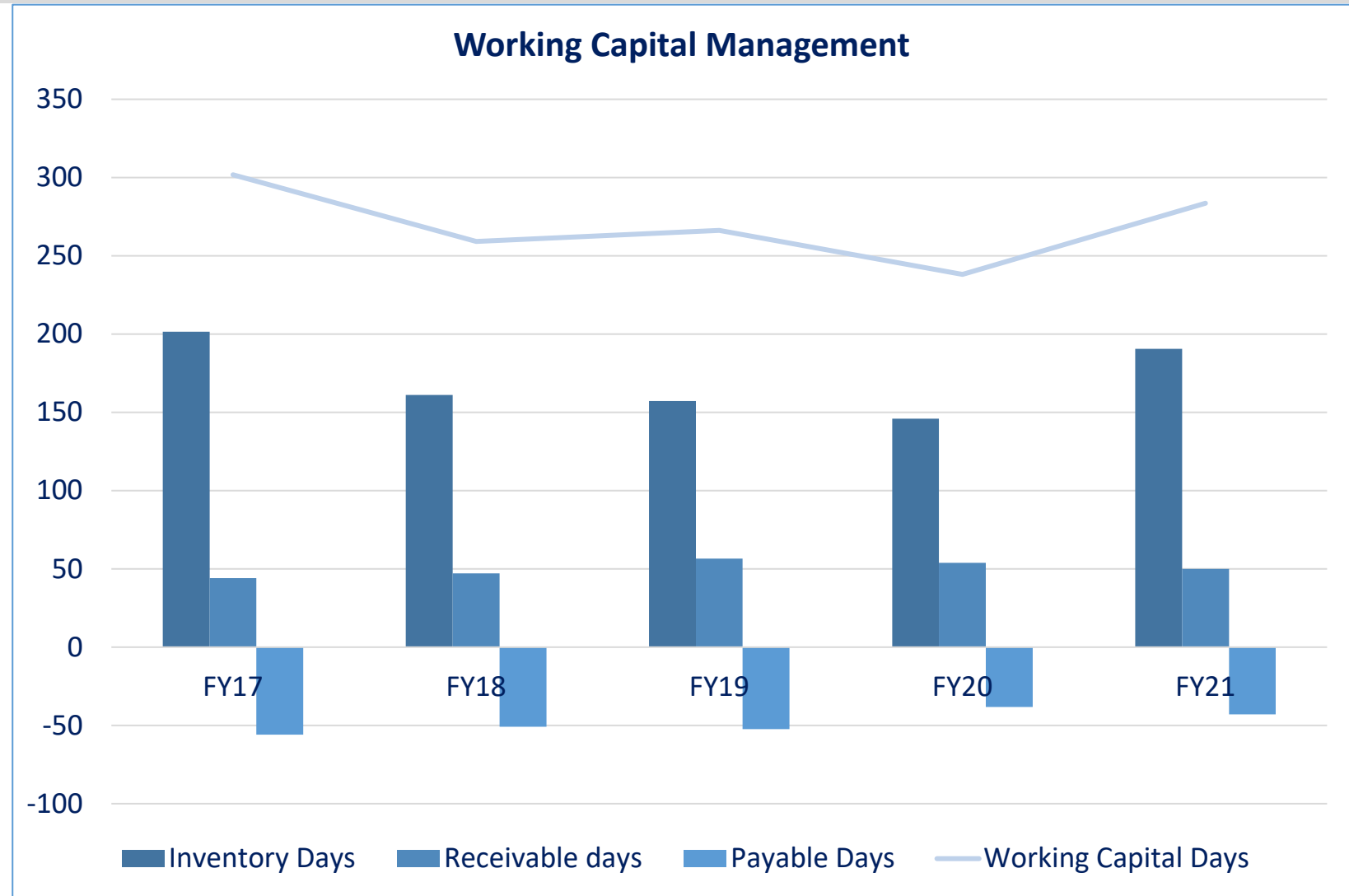
- Total borrowing of the sector was recorded at PKR~ 46,484mln as at end Nov-2021 with YoY increase of ~2.2% (End of Nov-2020: PKR~ 45,448mln). Short term borrowing constitute significant portion of the sector borrowing, being utilized to finance working capital need of the sector.
- The sector is moderately leveraged and with improved profitability.
- The average interest cover of the sector is ~2x. In FY19, the interest cover of the sector increased to 3x, which reduced to 2x in FY21.
- Significant portion of short term borrowing increases the financial risk of the sector. However, the comfort is being drawn from moderate leverage and improved interest cover.



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

Financial Risk | Working Capital Management

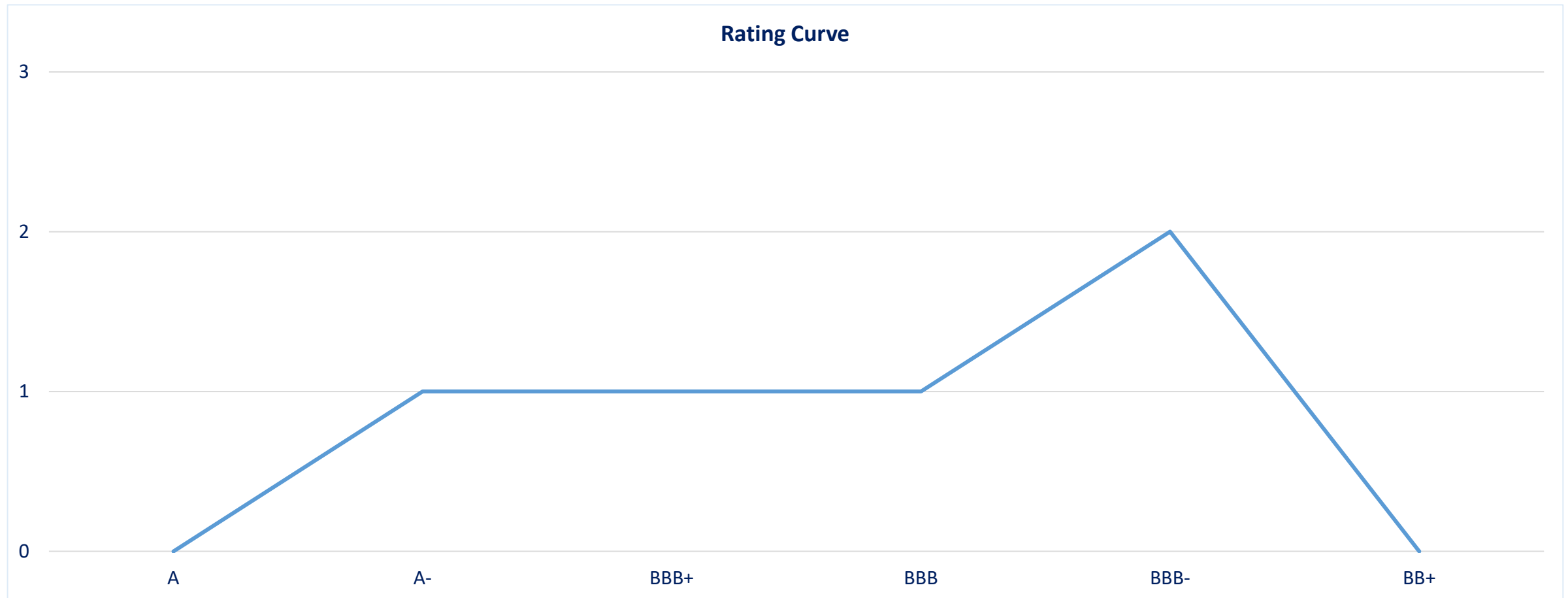
- Working capital cycle of the sector is characterized by high inventory and trade receivable days. Working capital of the sector is financed by both payable and short term borrowing. The sector significantly rely on short term borrowing to finance its working capital need as it constitute significant portion of the sector’s borrowing.
- The average working capital days (FY17 – FY21) of the sector hovers around ~270 days, which increased to ~284 days, in FY21 (FY20: ~238 days), with an YoY increase of ~46 days. The increase in attributed to increased inventory days, which increased to ~191 days in FY21 (FY20: ~146 days).



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

Rating Curve

- PACRA rates five companies in the poultry feed sector. Rating bandwidth ranges 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	Soya Bean 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%

SWOT Analysis



Outlook: Stable

- 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 FY21 owing to rise in prices of main ingredients but the improvement in feed conversion ration (FCR) kept the sector's revenue growth in balance.
- Maize, the main ingredient in poultry feed, witnessed a significant increase in prices during 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 (with support prices).
- In terms of the second main ingredient—soybean meal, Pakistan is dependent on imports to meet its demand thus it exposed the sector to change in international prices and exchange rate fluctuations. Soybean meal prices increased by ~38% during MY21. With improved demand local players pass on significant impact of increased cost to end consumers. The prices are forecasted to remain range bound in coming months as the COVID-19 induced supply concerns started to ease off.
- The sector is characterized by high working capital need and the companies significantly rely on short term borrowing to meet working capital requirements, which increases its financial risk as well. Moreover, the sector is highly leveraged, leverage ratio during FY21 was recorded at ~60% (FY20:~62%), wherein short term borrowing constitute more than 90% of total borrowing.
- The sector's financial risk is high considering its leverage ratio and proportion of short term borrowing in total mix. However, comfort can be drawn from the improved interest cover ratio, improving margins and robust demand of poultry products.

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