

Navigating the choppy Cs

Climate, Conflict and (agri) Commodities

CRISIL Research webinar

July 7, 2022

Speakers

Pushan Sharma
Director

Niharika Gudadur
Senior Agri Consultant

Poorti Nagre
Senior Agri Consultant



© 2018 CRISIL Ltd. All rights reserved.

Agenda

1 Structural factors impacting agri commodity prices

Climate change

Increased geopolitical risk

2 Here and now factors and price outlook for commodities

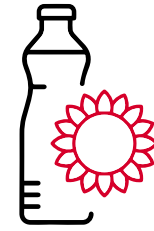
Weather, demand-supply dynamics, and crop balance sheet

Government and trade policies affecting commodity prices

3 How commodity price trend would affect food processors

Impact on raw material cost

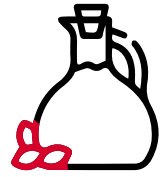
Commodity wise sensitivity analysis on profit margins



Sunflower oil



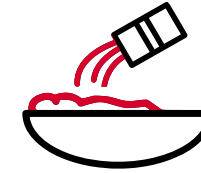
Palm oil



Soybean oil



Wheat and related products



Gram and related products



Milk



Sugar

Key Conclusions

Climate	Trend	Instances of rainfall stress, cyclone and heat waves have increased over the last 70 years
	Context	Temperatures to rise by 2 degree Celsius by 2050, having a negative bearing on yields
	Impact	Every 1 degree rise in temperature brings yield for wheat down by 3-5%
Conflict	Trend	Structural increase observed in geo-political risk, RUS-UKR tensions have added to it
	Context	Black sea region accounts for 30-35% of trade- crude oil, edible oil, cereals and fertilisers
	Impact	Expect higher volatility in prices of edible oil, wheat, maize and barley
Commodity	Trend	Wheat, gram, milk and sugar prices to rise while edible oil prices to fall in fiscal 2023
	Context	Raw materials account for about 70% of total revenue for FMCG food companies
	Impact	EBITDA margins of companies with higher exposure to wheat and gram to be under pressure
Government policies	Trend	Inflation targeting to take precedence
	Context	Price escalation seen in most commodities traded internationally due to the RUS-UKR crisis
	Impact	Government policy to ensure domestic availability is secured and prices for staples remain in check

Agenda

1 Structural factors impacting agri commodity prices

Climate change

Increased geopolitical risks

2 Here and now factors and price outlook for commodities

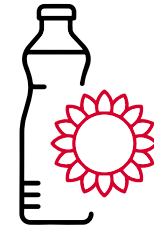
Weather, Demand-Supply dynamics, and crop balance sheet

Government and trade policies affecting commodity prices

3 How commodity price trend would affect food processors

Impact on raw material cost

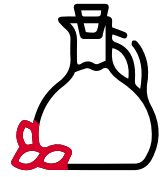
Commodity wise sensitivity analysis on profit margins



Sunflower oil



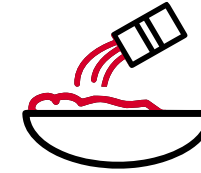
Palm oil



Soybean oil



Wheat and related products



Gram and related products



Milk



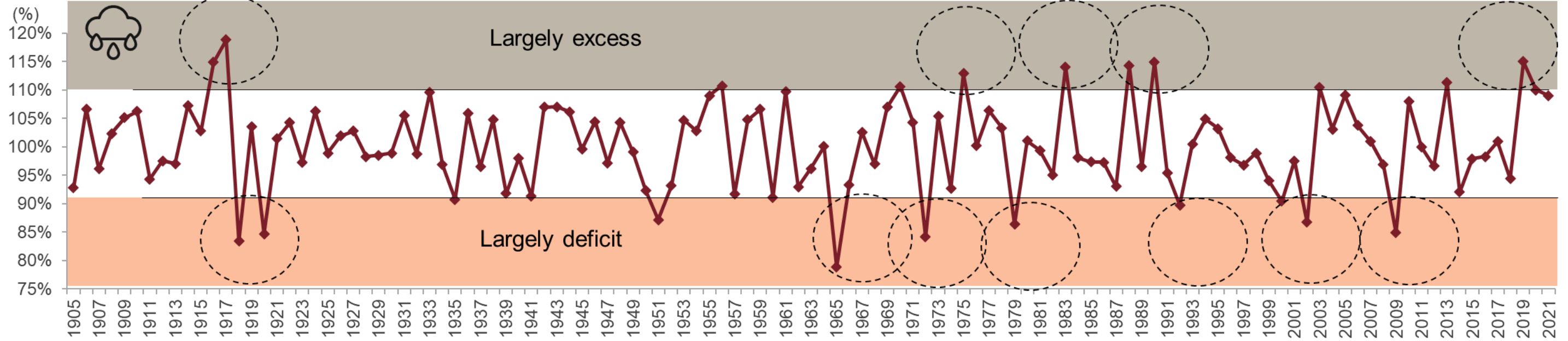
Sugar

Climate risk



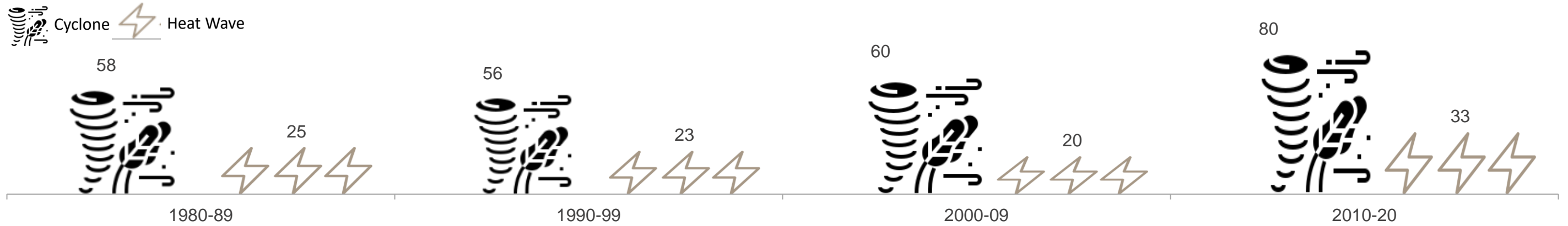
Increased fluctuations seen in the rainfall pattern; there has been rising instances of cyclones and heat waves, too

Rainfall hitting the 'largely excess' and largely deficit territories more often now than ever in India



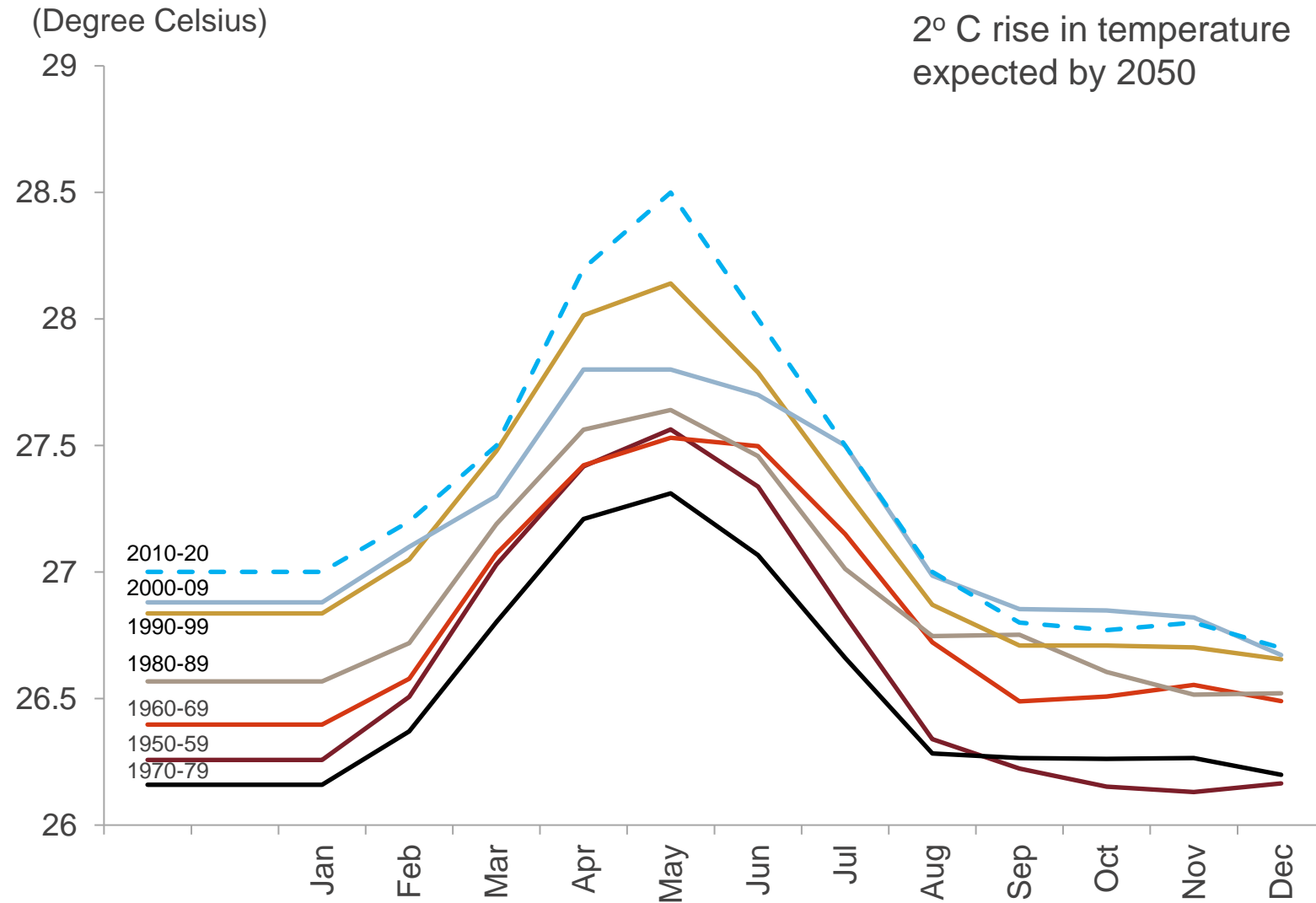
© 2018 CRISIL Ltd. All rights reserved.

Increasing cyclones and heat waves in India



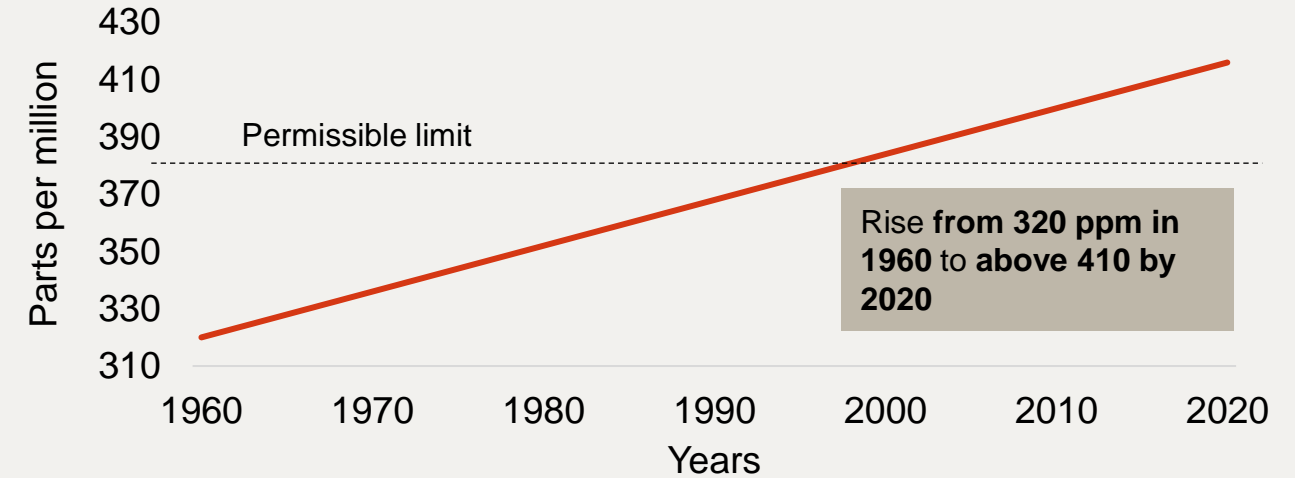
Rising temperatures and CO2 levels leading to increased pest attacks

Sea surface temperatures rising alarmingly



Co2 levels have surpassed the permissible limit

Amount of CO2 in parts per million



Increased temperature

Metabolic rate of pests increases by 20% with every degree rise in temperature

With each degree Celsius increase in temperature- Indian wheat yield by 3%

What's the outcome of increased CO2?

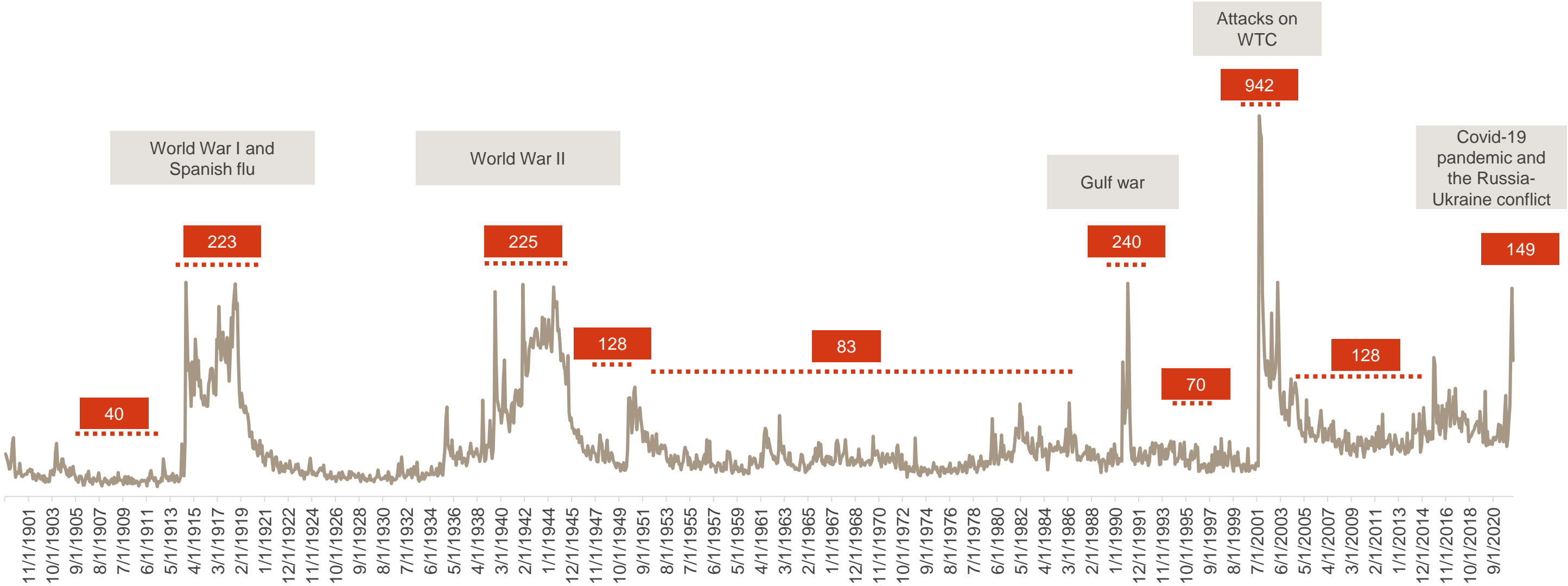
- Increase in sugar levels in plants
- Increase in level of pest infestation
- 57% more insect damage in soybean

Geopolitical risks



Geopolitical risk: Heightened risks is the new normal

High geopolitical risk index impacting international commodity trade on a regular basis

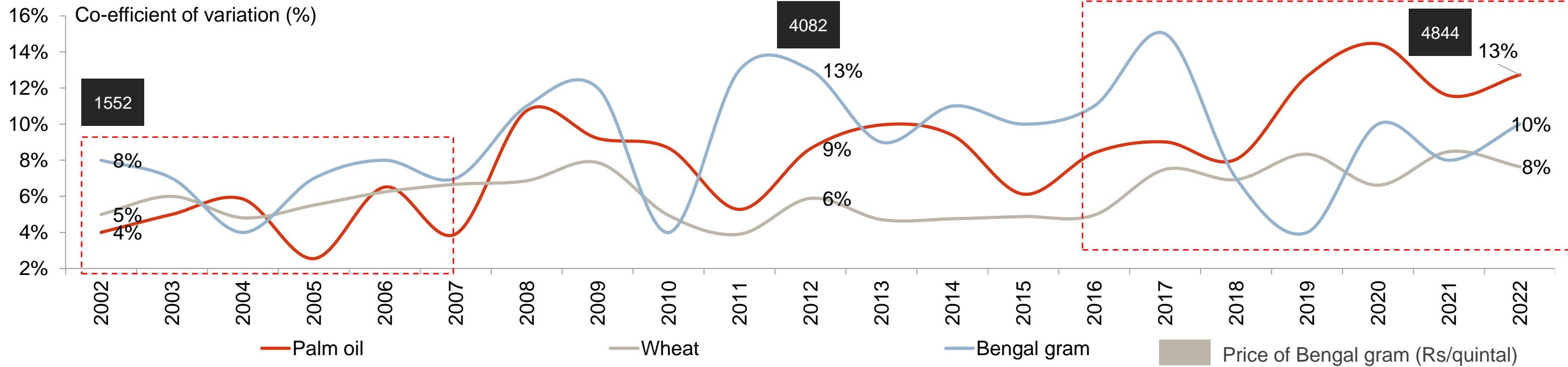


Source: Measuring Geo Political Risk-Federal Reserve Board, West Virginia University

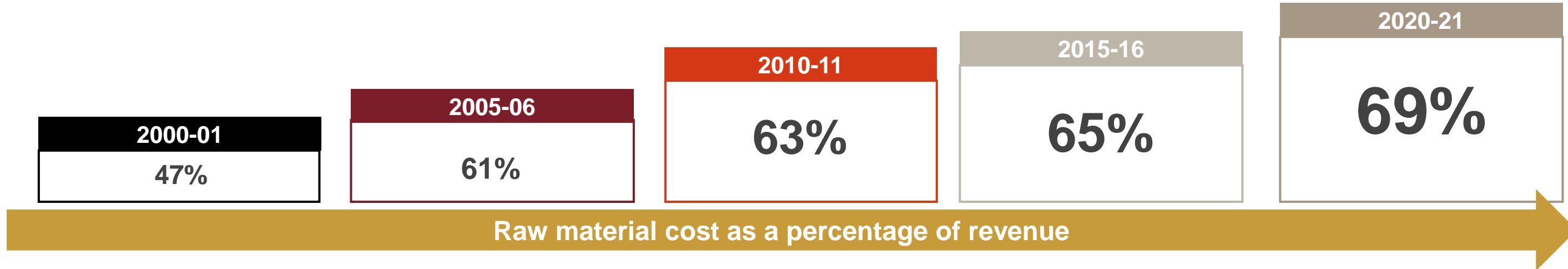
© 2018 CRISIL Ltd. All rights reserved.

Volatility on the rise

Increased co-efficient of variation for key commodities shows rise in volatility over the past 5 years



Share of raw material price in total revenue seeing an upward trend due to increased commodity prices



© 2018 CRISIL Ltd. All rights reserved.

Agenda

1 Structural factors impacting agri commodity prices

Climate Change

Increased Geo-political risk

2 Here and now factors and price outlook for commodities

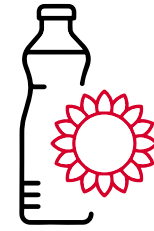
Weather, demand-supply dynamics, and crop balance sheet

Government and trade policies affecting commodity prices

3 How commodity price trend would affect food processors

Impact on raw material cost

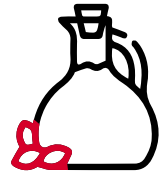
Commodity wise sensitivity analysis on profit margins



Sunflower oil



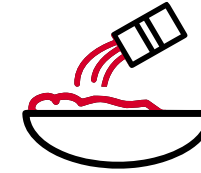
Palm oil



Soybean oil



Wheat and related products



Gram and related products



Milk

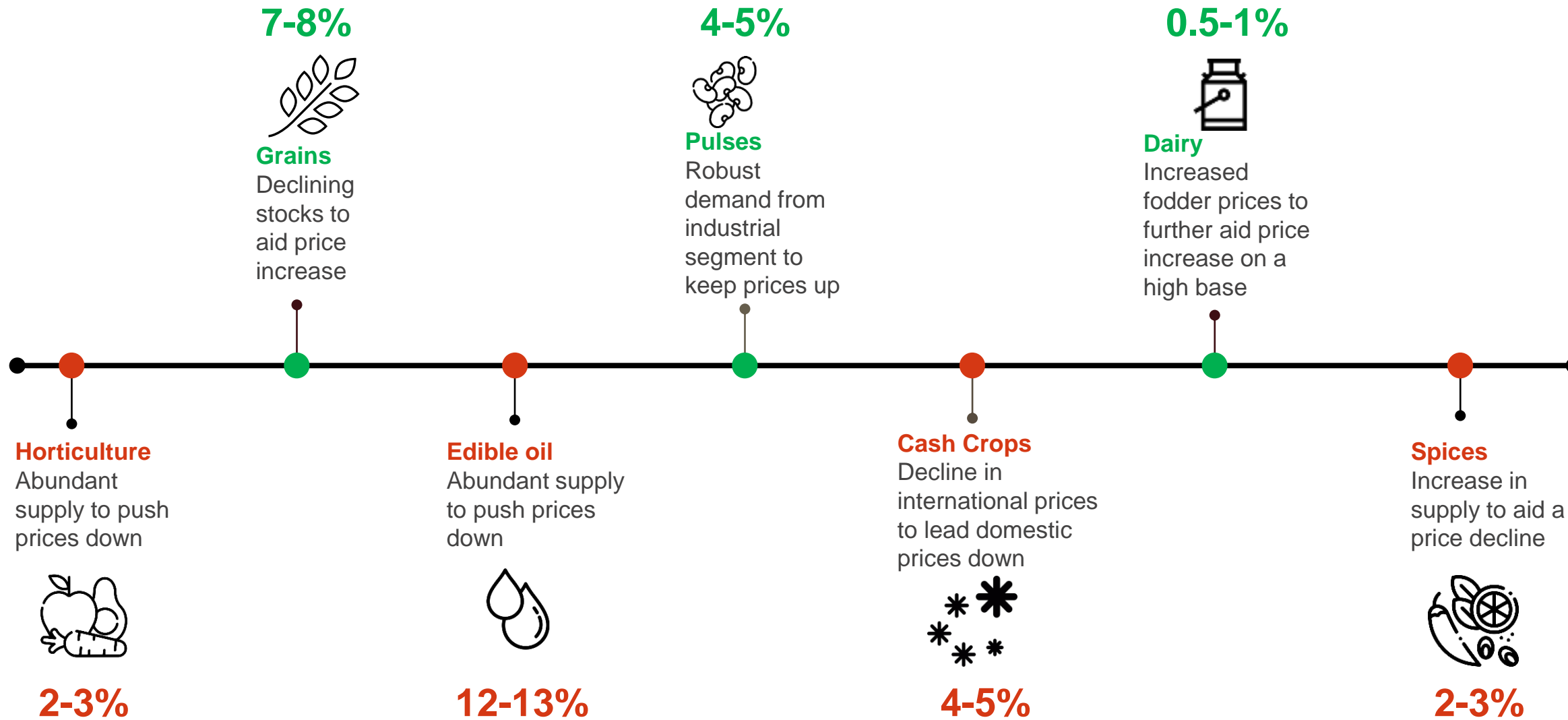


Sugar

Commodity prices



Mixed price trend to be seen in agri-commodities this fiscal



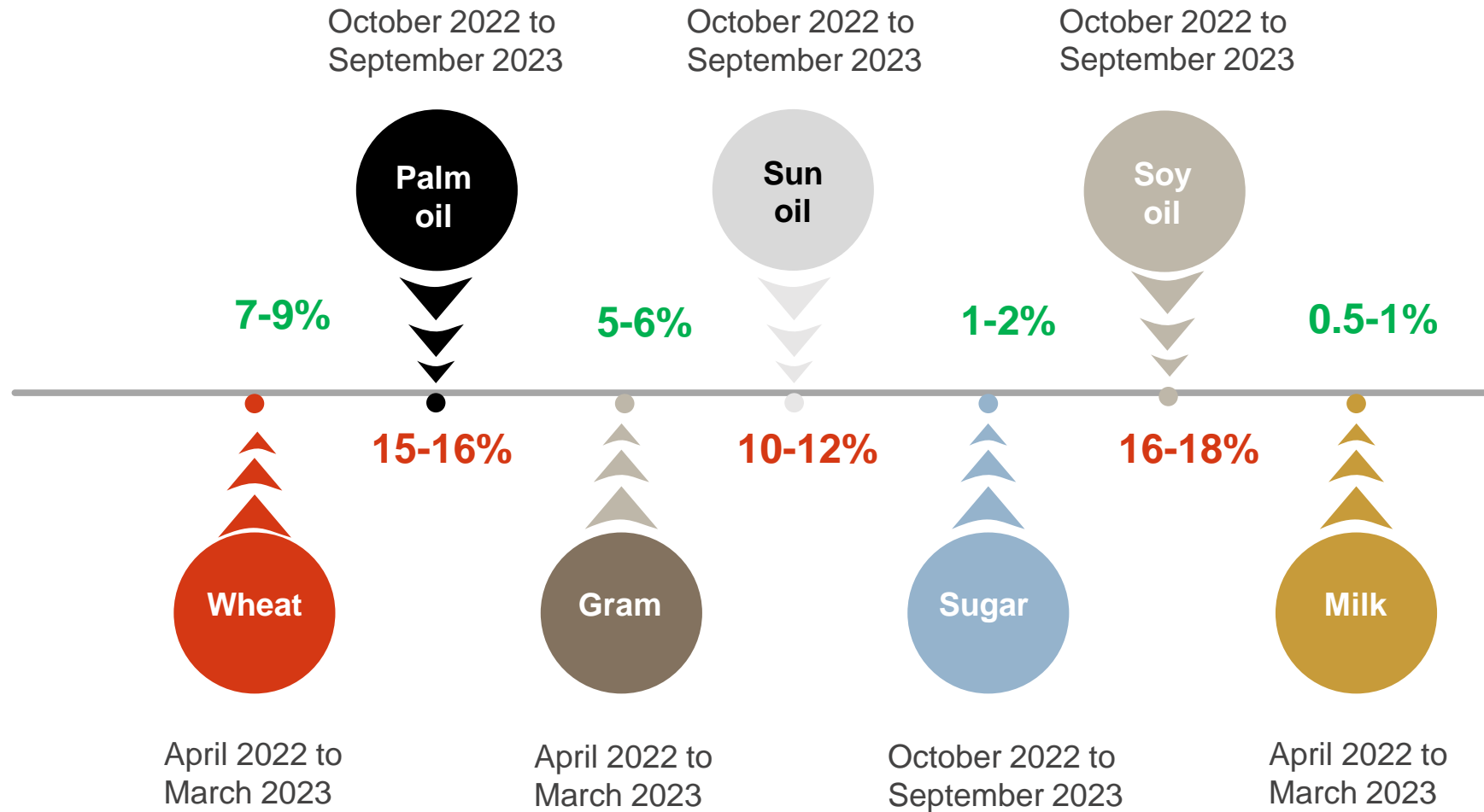
32 commodities covered by CRISIL account for **~80%** of Indian agriculture production

Marketing Year
 Horticulture, Cash Crops, Spices, Grains, Pulses – April'22-Mar'23
 Edible oil, Sugar – Oct'22-Sep'23

© 2018 CRISIL Ltd. All rights reserved.

Upward pricing pressure seen in 70% of the commodities found in the Indian consumer's food basket

Key commodities covered

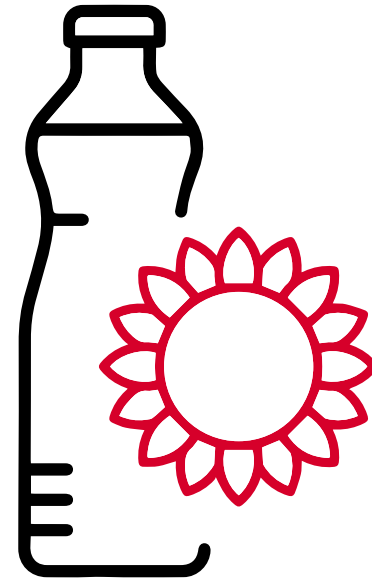


Key factors that affect commodity prices

- Weather conditions
- Demand-supply dynamics
- Government regulations
- Geopolitical issues
- Structural industry-specific parameters

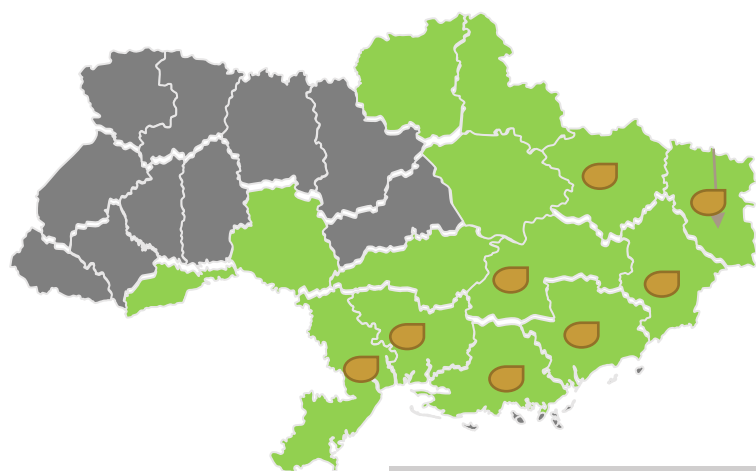
© 2018 CRISIL Ltd. All rights reserved.

Sunflower oil



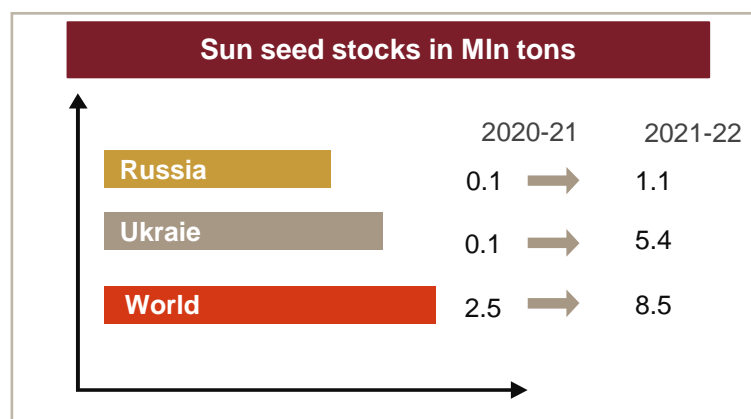
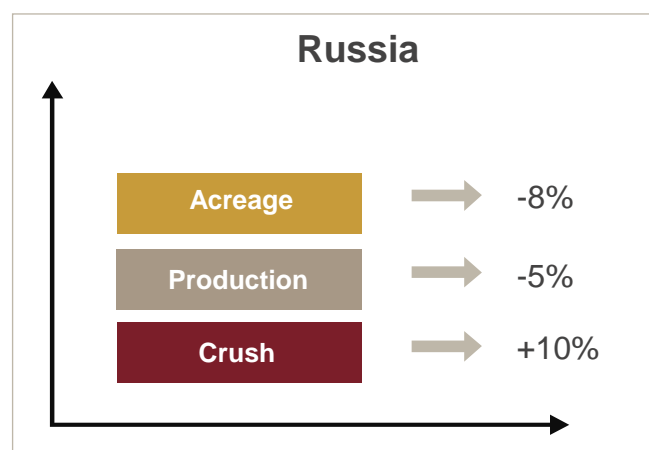
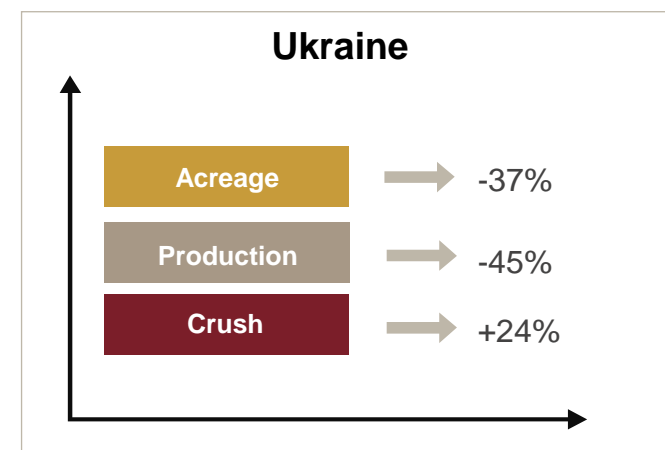
Sunflower seed production to decline

Ukraine

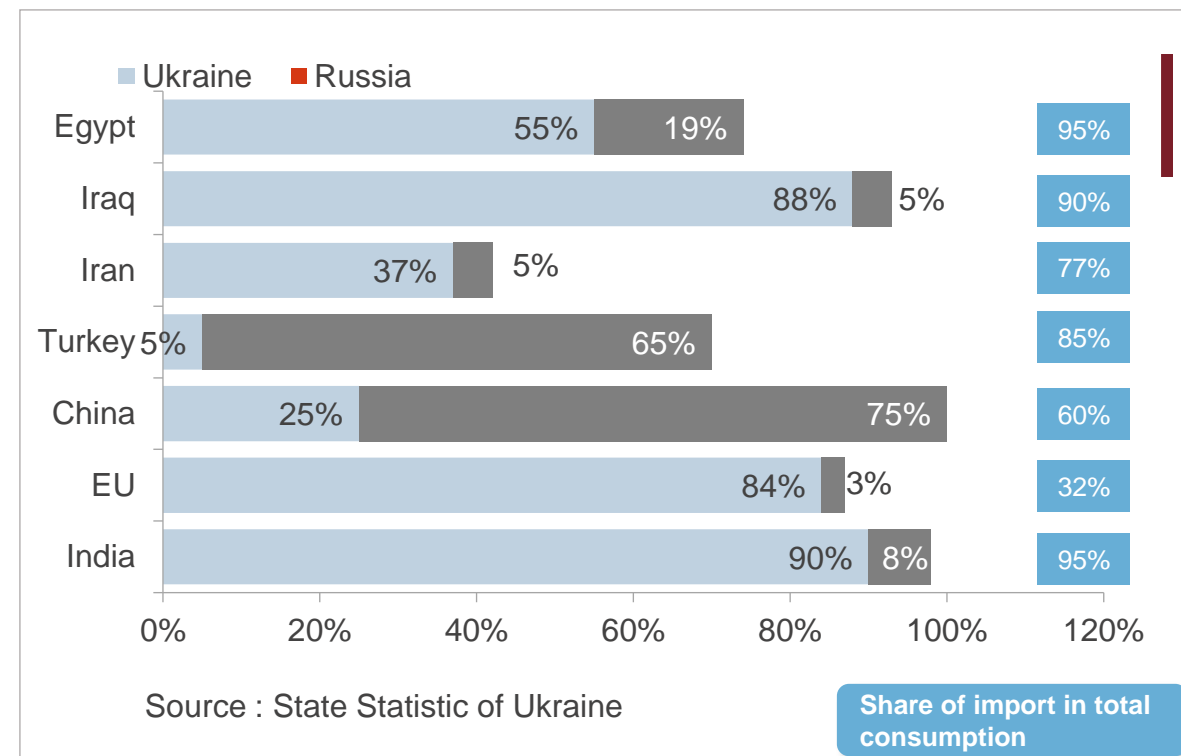


Russian invasion

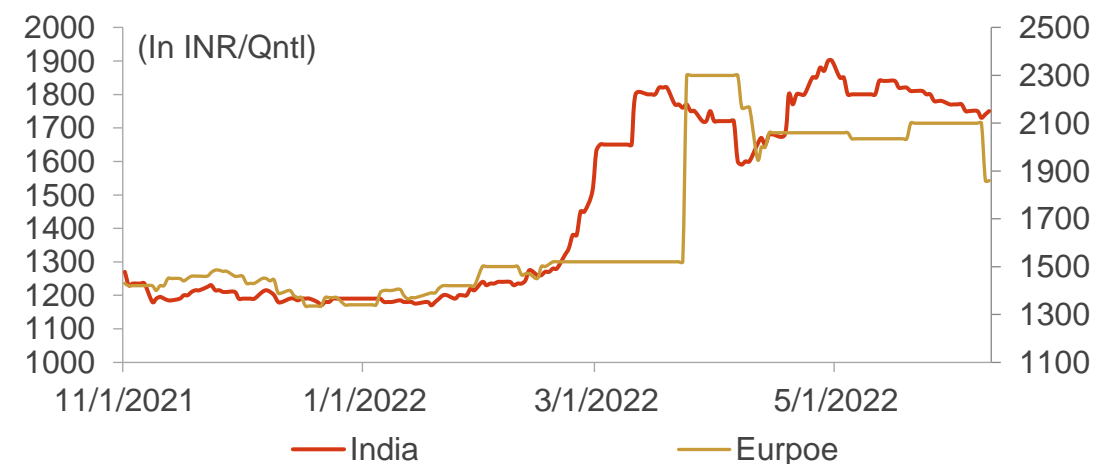
Russia



Around 70% of sunflower oil trade will be disrupted due to UKR-RUS tension



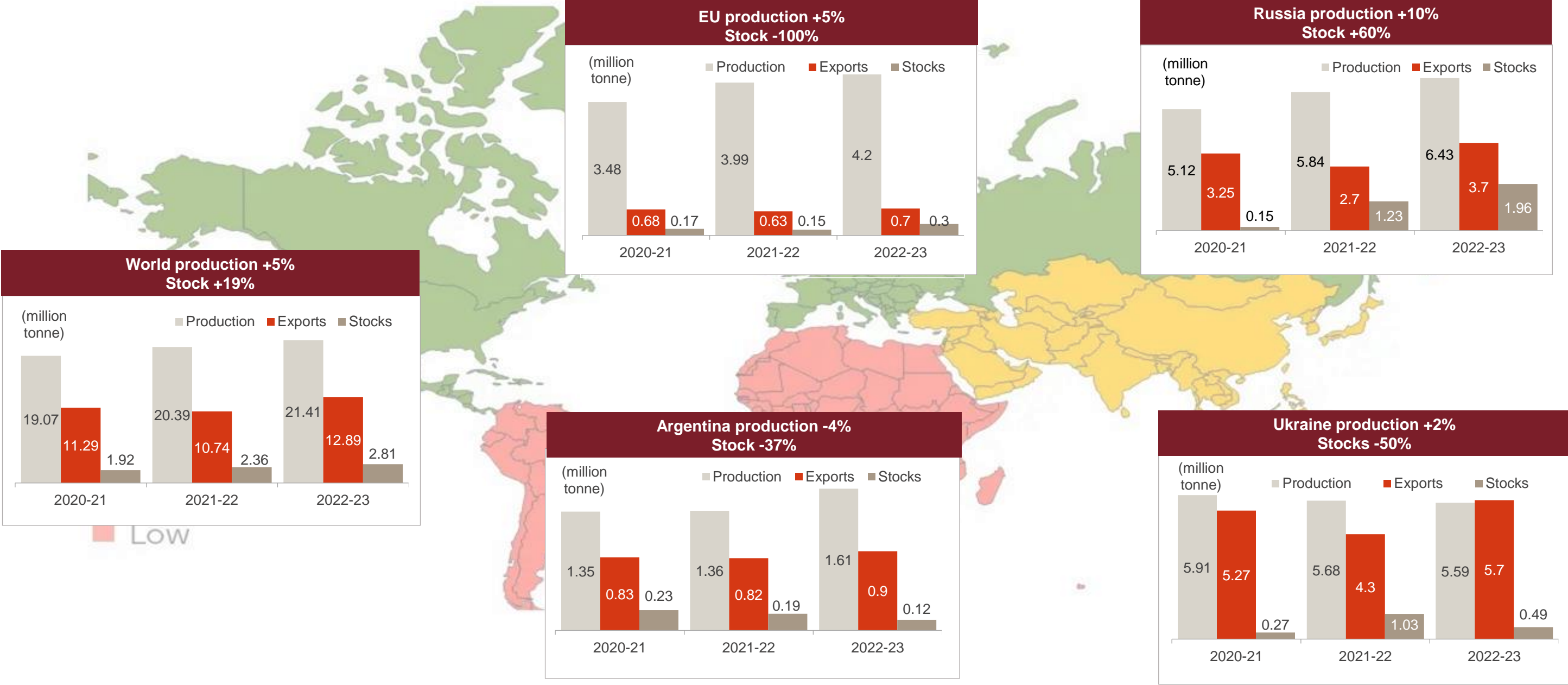
40% increase in Indian & Global prices post war



Source : State Statistic of Ukraine

© 2018 CRISIL Ltd. All rights reserved.

Higher sunflower seed carryforward stocks of last year in Ukraine and Russia to keep global sunflower oil output up 5% in OY 2023

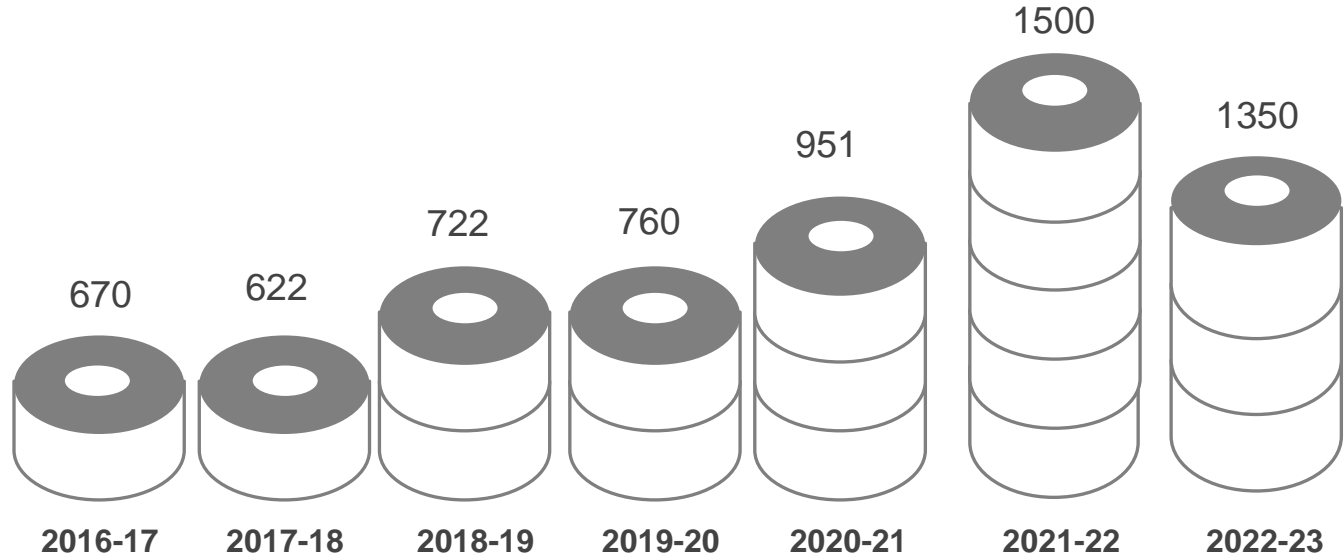


© 2018 CRISIL Ltd. All rights reserved.

Sunflower oil prices to decline gradually with surplus supply arriving from top producing countries

Y-o-Y % growth	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Global production	18%	2%	6%	8%	-10%	3%	5%
Global stocks	27%	--	-11%	21%	-30%	15%	19%
Sun oil imports	44%	17%;	-7%	7%	24%	-12%	+15%
Import duty	7.5%	15%	44%	40%	37.5%	35%	nil

Prices in Rs/10kg



Price view

10-12%

▲

Supply disruption on the Ukraine front

Higher crude oil prices will support edible oil

▼

Rising share of Russian and Argentinian supplies to India

Rise in global stocks will keep global prices low

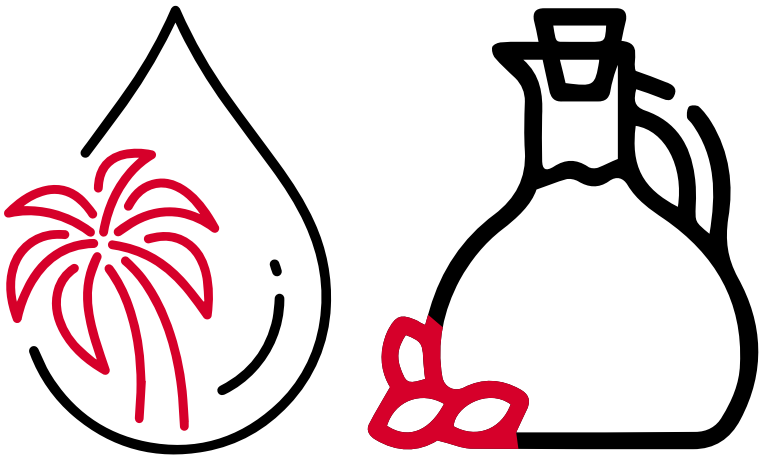
Duty cut in Indian sunflower oil will support imports

Likely fall in global and domestic edible oil prices

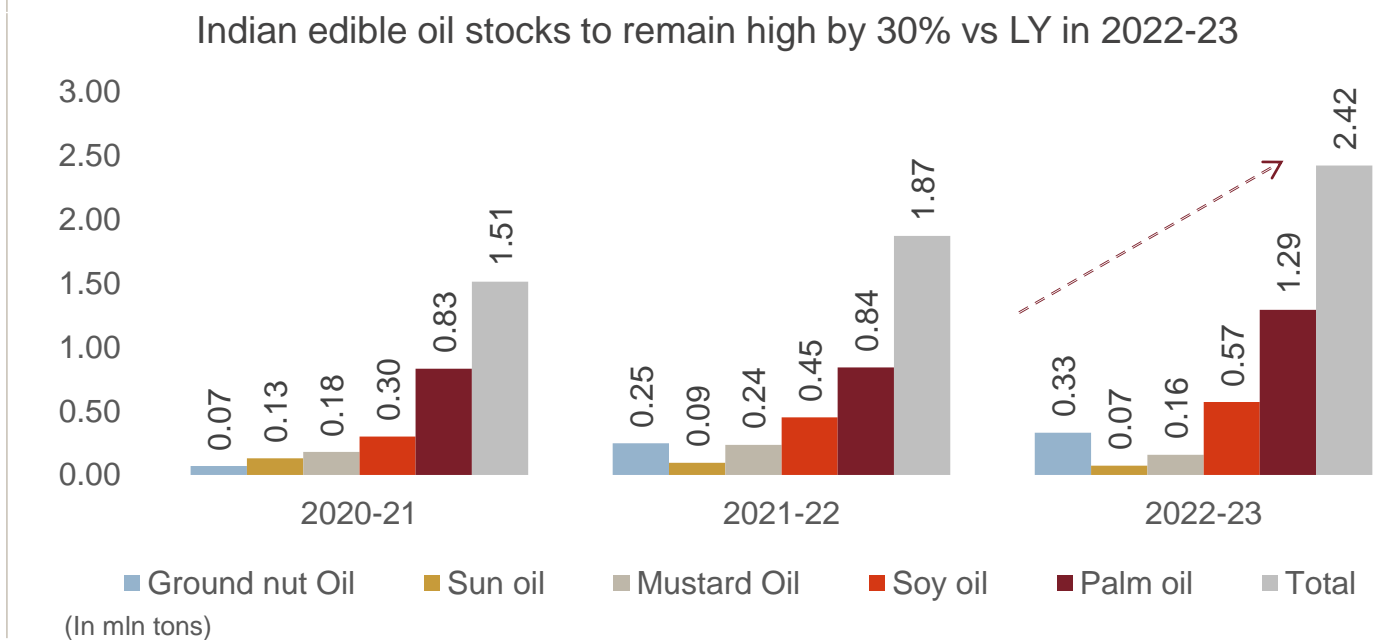
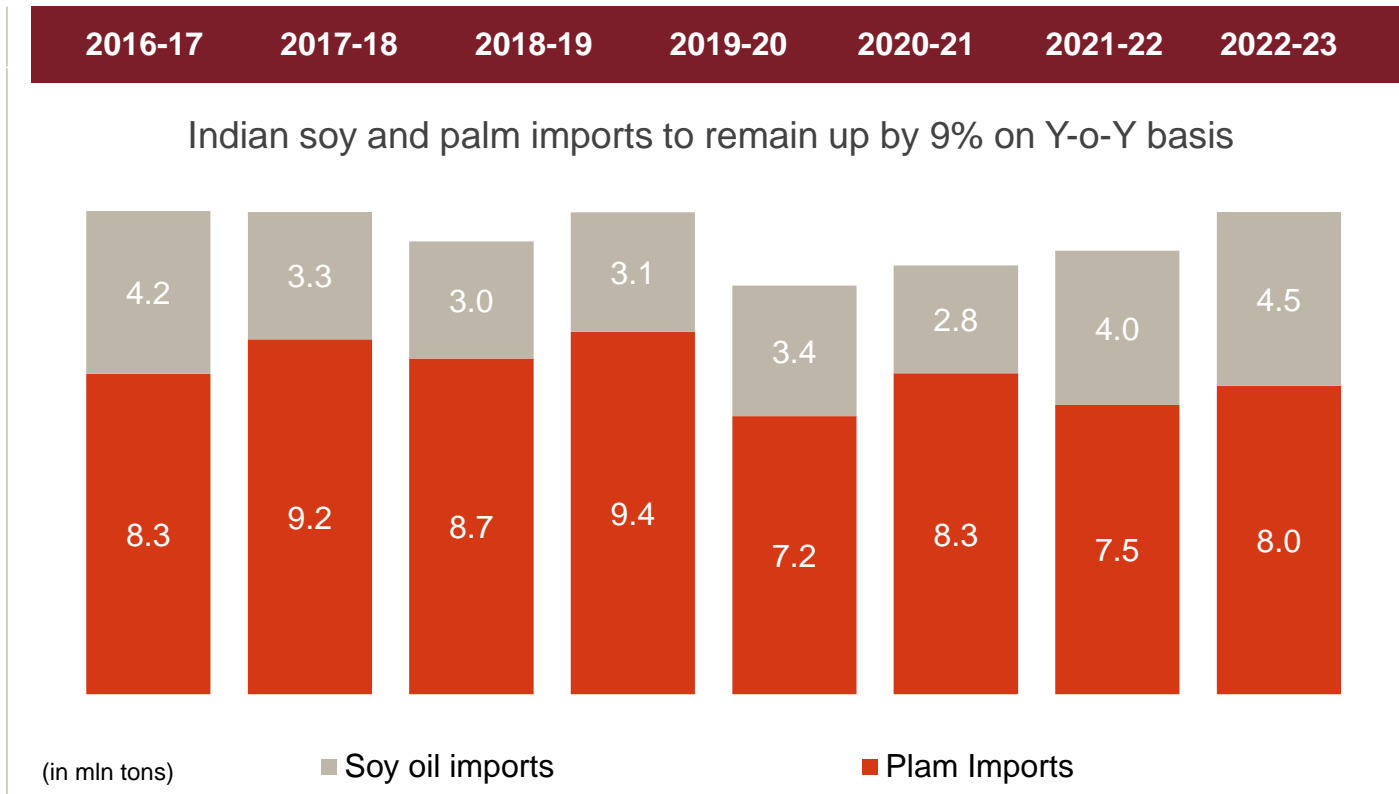
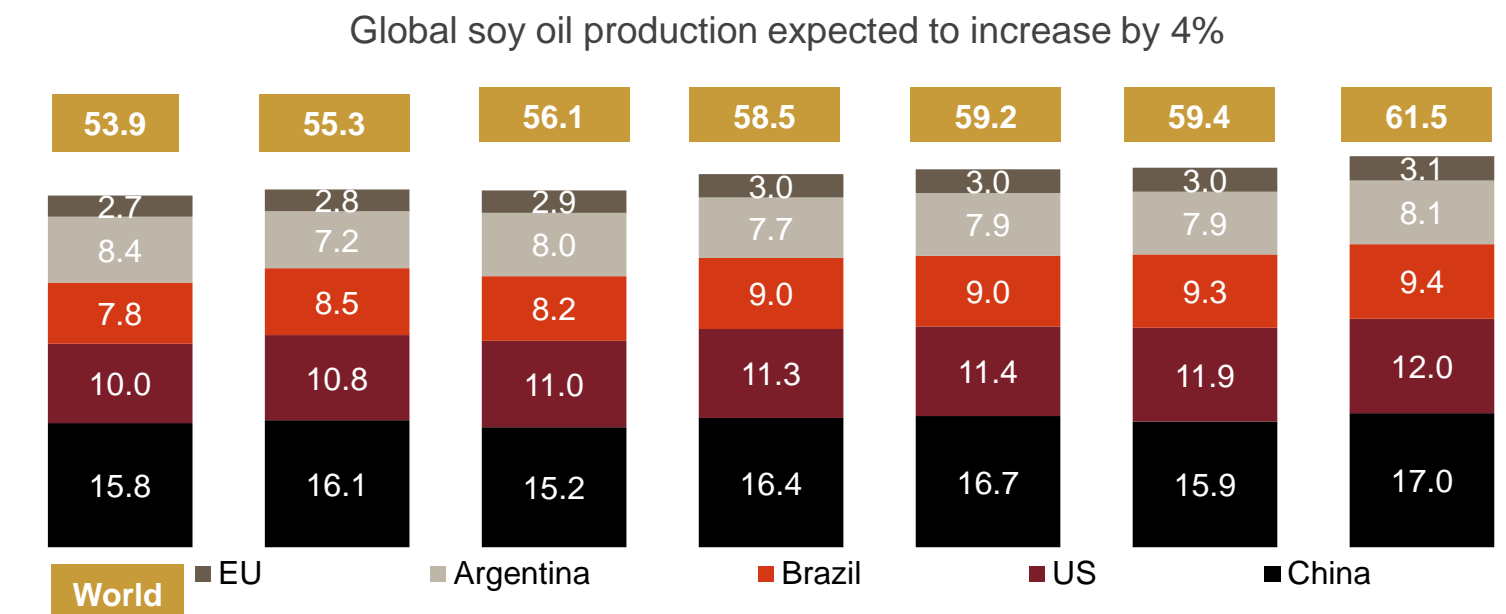
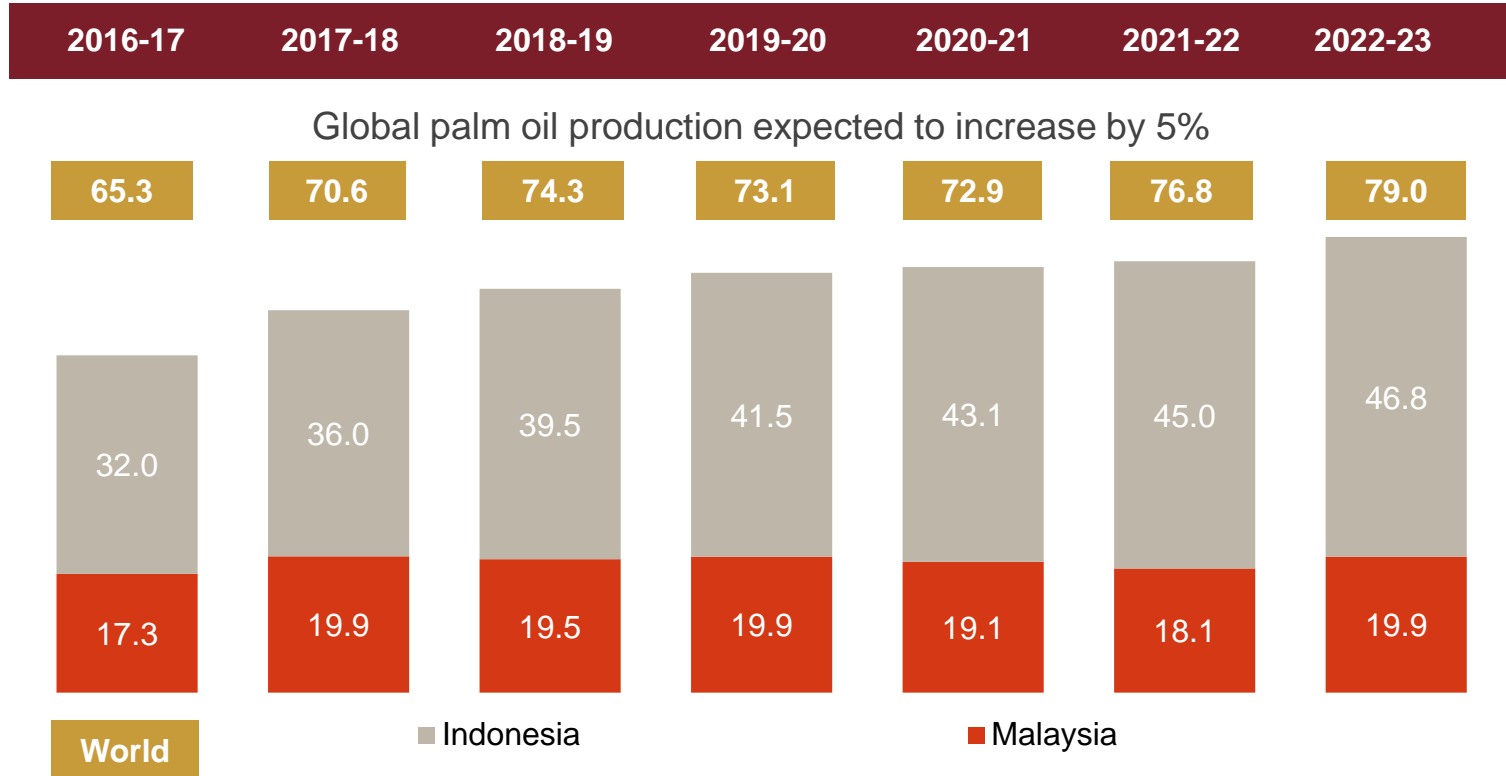
© 2018 CRISIL Ltd. All rights reserved.

Note: All years are in Oil Years- October to September

Palm and soy oil



Higher supplies to keep prices down

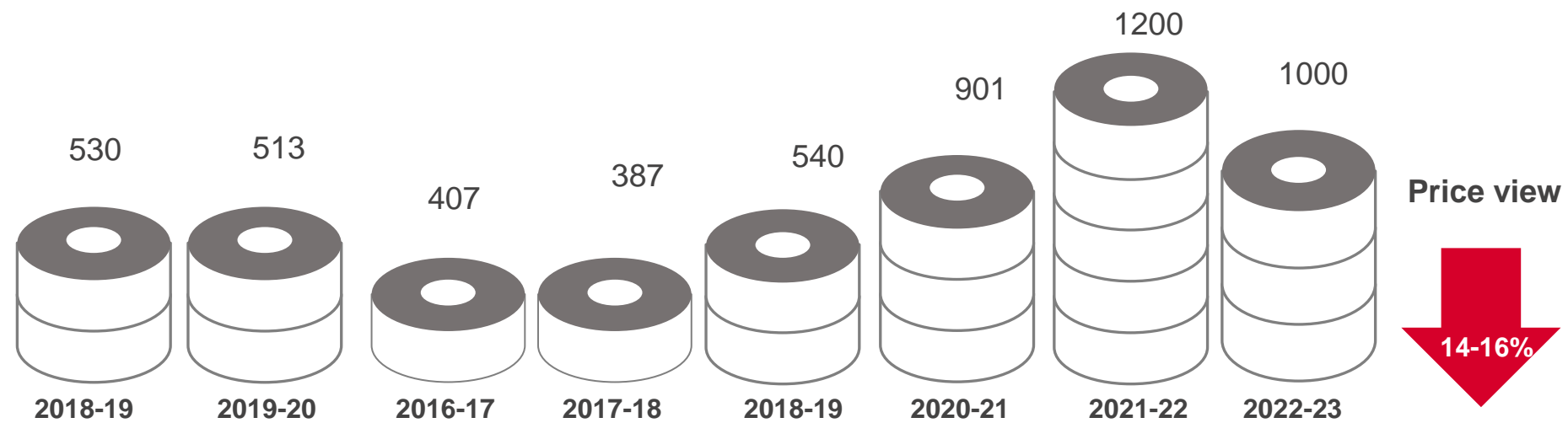


© 2018 CRISIL Ltd. All rights reserved.

Factors impacting palm prices

Y-o-Y % growth	2016	2017	2018	2019	2020	2021	2022	2023
Global stocks	16%	24%	14%	6%	-7%	7%	5%	5%
Global soy oil prices	9%	3%	-8%	-4%	13%	66%	27%	-10%
Crude oil prices	-11%	17%	28%	-13%	-30%	72%	47%	-5%
Palm imports	7%	11%	-5%	8%	-23%	15%	-8%	10%
Import duty	7.5%	15%	44%	40%	37.5%	33%	5.5%	5.5%
Industrial demand								

Prices in Rs/10kg



Note: All years are in Oil Years- October to September

▲

- Labour shortage still persisting in Malaysia and Indonesia
- Likely decline in Indonesian palm oil production with lumpsum FFB damaged during 3-week ban

▼

- Aggressive selling by Indonesian exporters after lifting of ban
- Duty reduction on crude soy and sunflower oil by India will affect palm oil demand and thus prices
- Increase in global edible oil supply to keep overall prices down

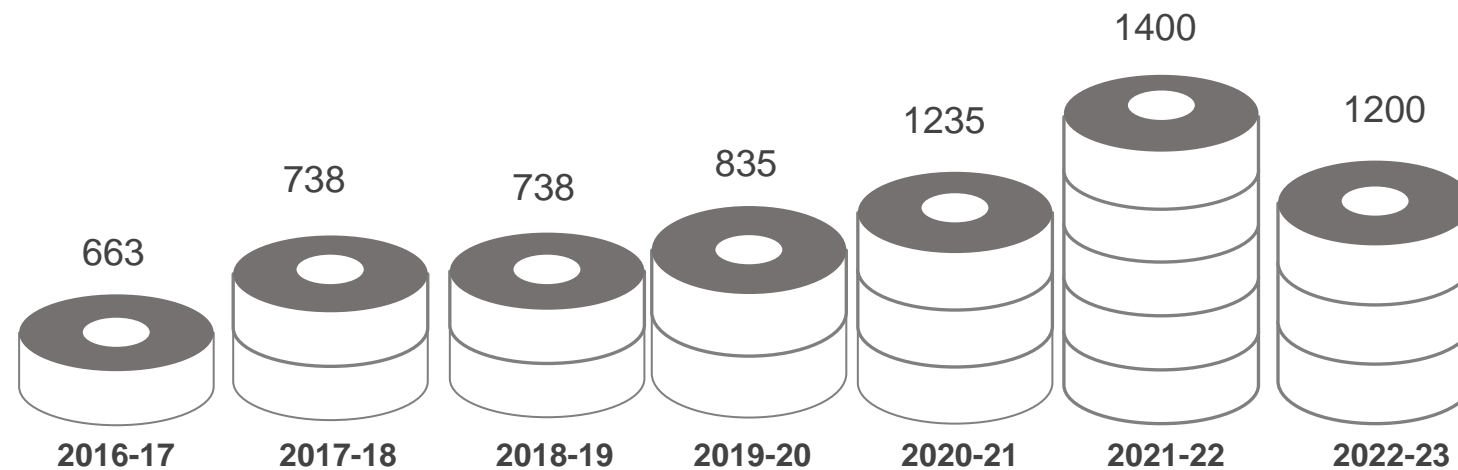
© 2018 CRISIL Ltd. All rights reserved.

Factors impacting soy oil prices

Y-o-Y % growth	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Global soy oil stocks	-4%	3%	9%	13%	-3%	-16%	--
Global soy oil prices	9%	3%	-10%	-1%	10%	66%	12%
Industrial consumption							
Crude oil prices	-20%	23%	-5%	-32%	-67%	42%	-5%
Soy oil imports (Ind)	-21%	-8%	1%	10%	-15%	40%	10%
Import duty	12.5%	30%	35%	35%	35%	5.5	5.5%

Note: All years are in Oil Years- October to September

Prices in Rs/10kg



Price view



Likely fall in Argentinian soy oil output for third consecutive year

Increase in bio-diesel mandates in the US

Huge supply of soy oil imports in India, mainly through Argentina and Brazil

Government initiatives to curb edible oil prices-zero import duty for 2 million tonne of soy oil

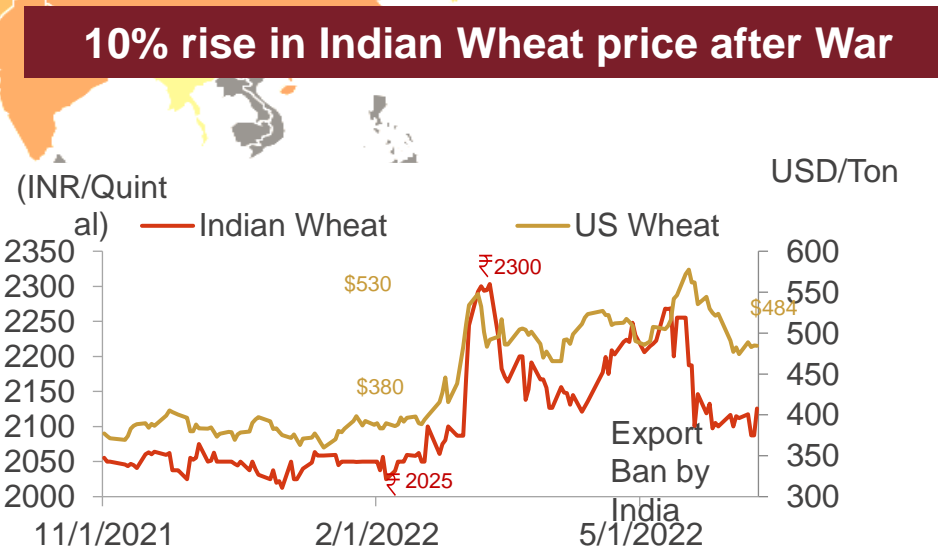
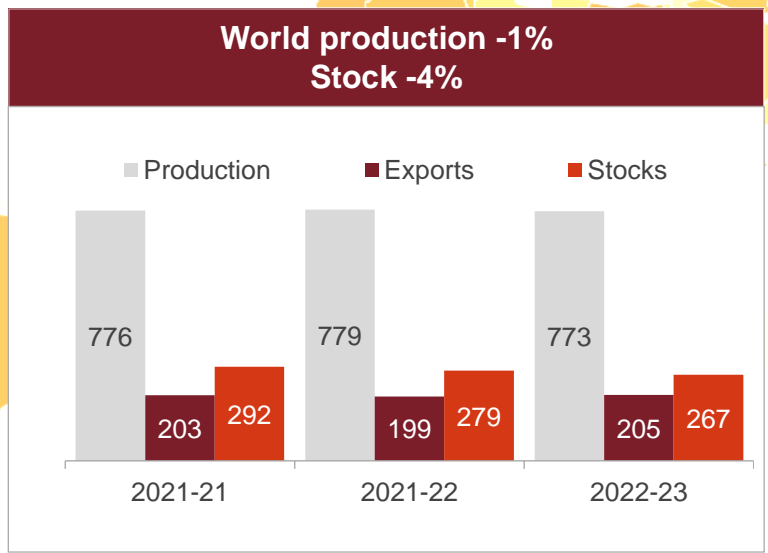
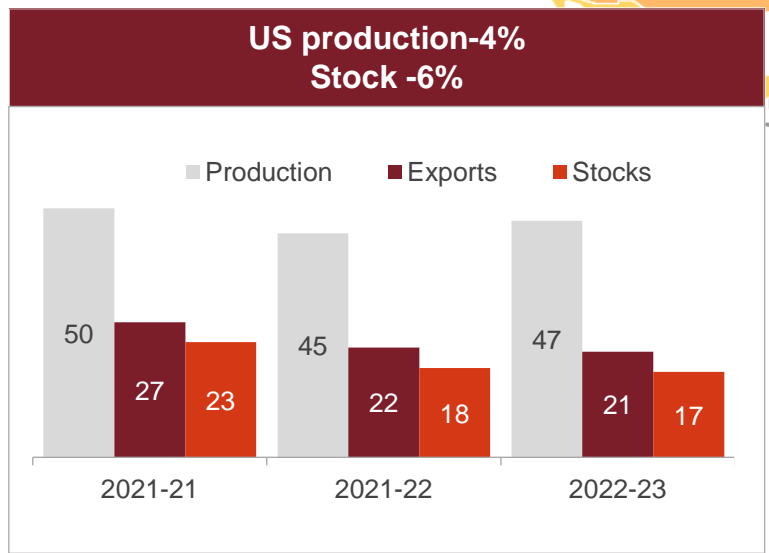
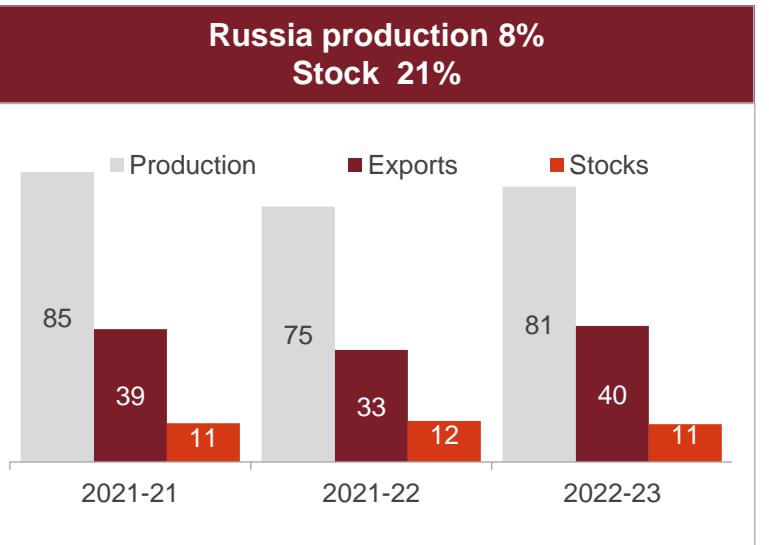
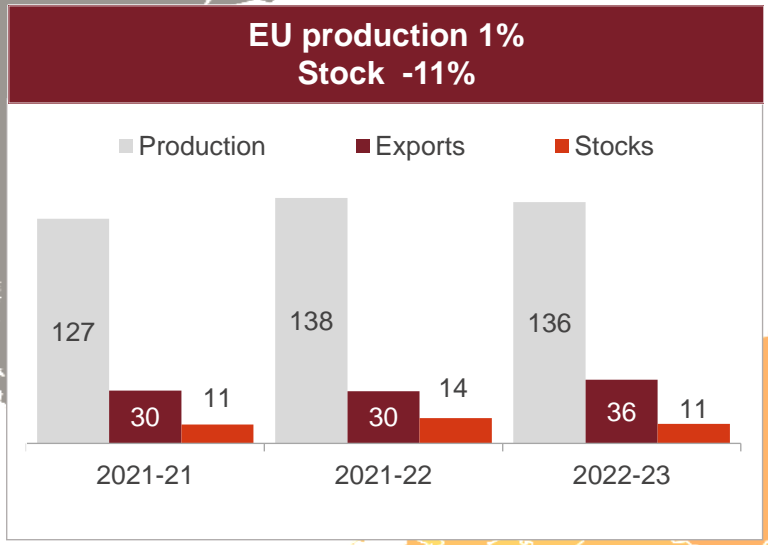
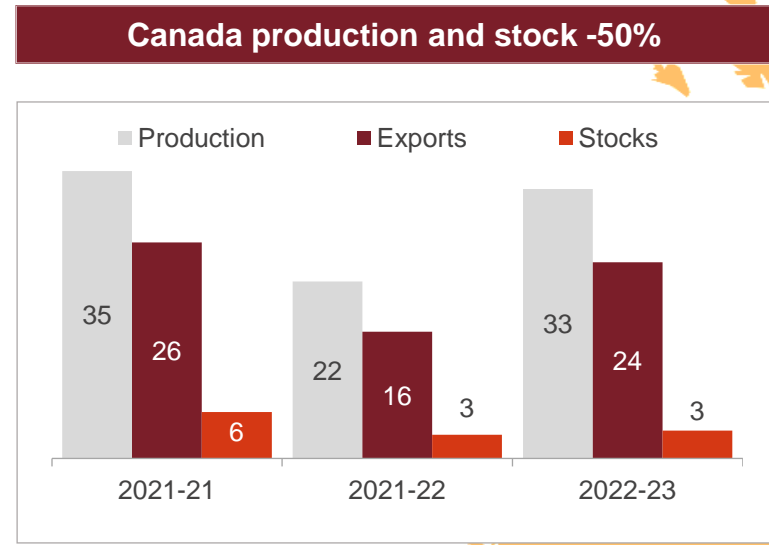
Poor Indian soybean meal export demand

Resuming sunflower oil supply from Russia and Argentina

Wheat, refined flour (maida) and semolina (suji)



Global wheat stocks may fall to 267 MT, the lowest in the past 6 years



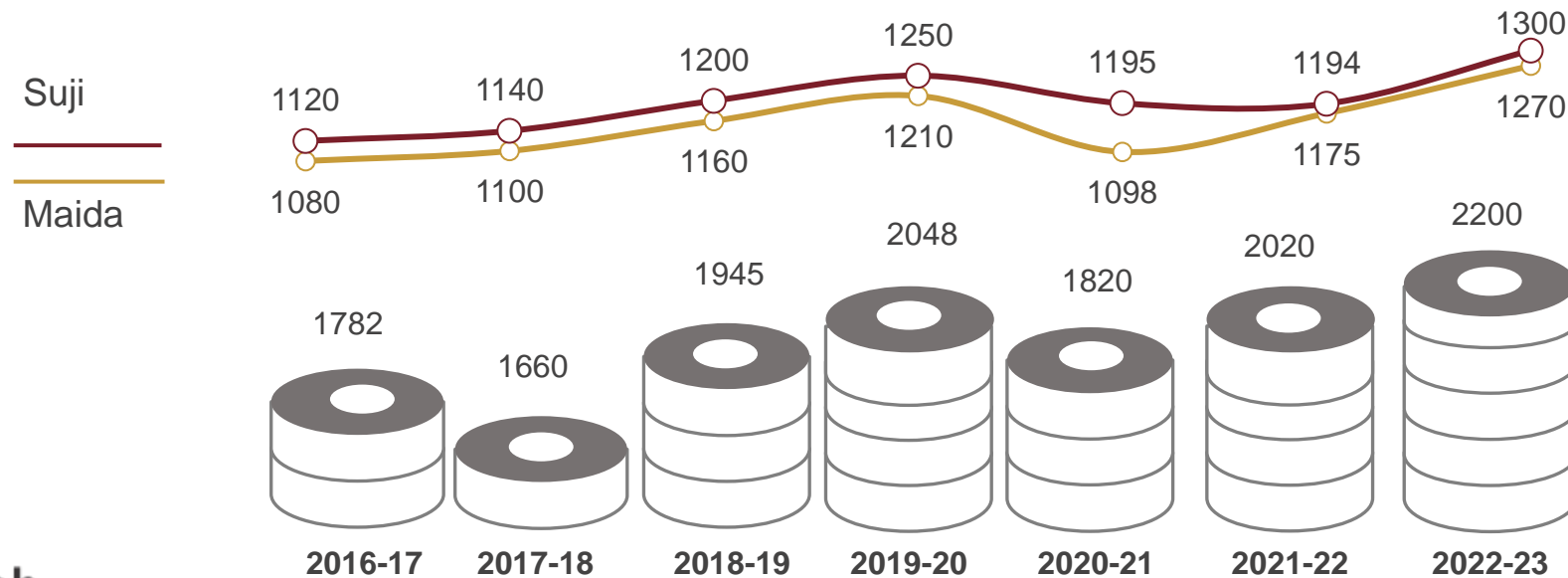
Figures in million tons

Lower domestic harvest to further push up wheat prices in India

Y-o-Y % growth	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Production	1%	13%	1%	4%	4%	2%	-8%
FCI procurement	-18%	34%	16%	-5%	14%	11%	-58%
Industrial demand							
Global prices	-14%	--	13%	-1%	11%	28%	29%
Indian ending stocks							

All years in Marketing Year- April- March

Prices in Rs/quintal



Price view



▲

Stock likely to decline by ~18-20% this fiscal

Surging global demand because of the Russia-Ukraine conflict

Increasing demand for maida and suji from HORECA and FMCG

▼

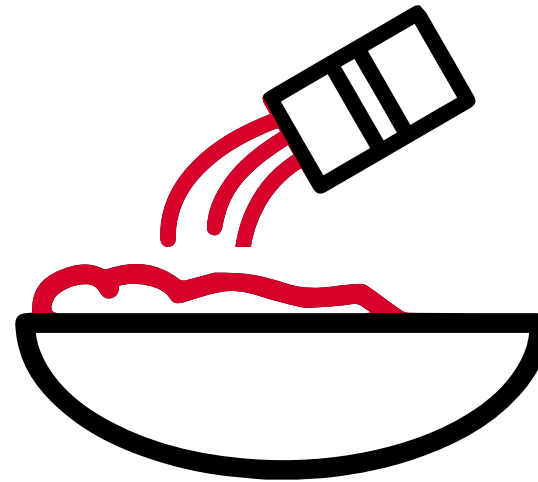
Indian ban wheat exports to control food inflation

Likely rise in wheat exports from Ukraine and Russia post war would bring overall prices down

Resuming sunflower oil supply from Russia and Argentina

© 2018 CRISIL Ltd. All rights reserved.

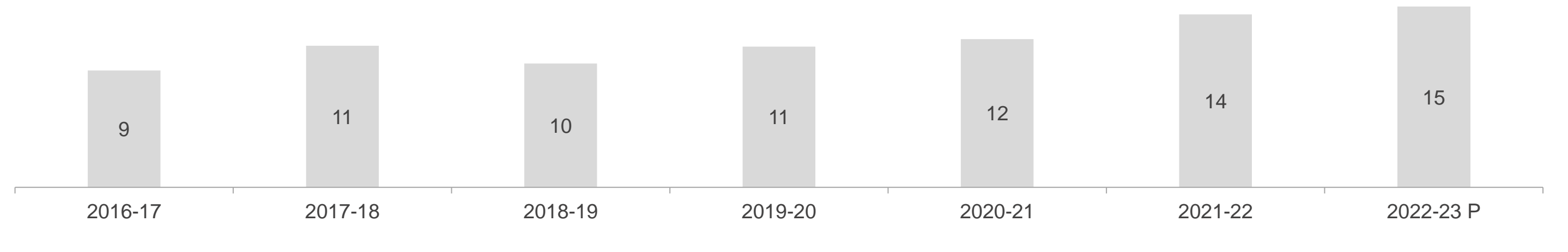
Gram and gram flour (besan)



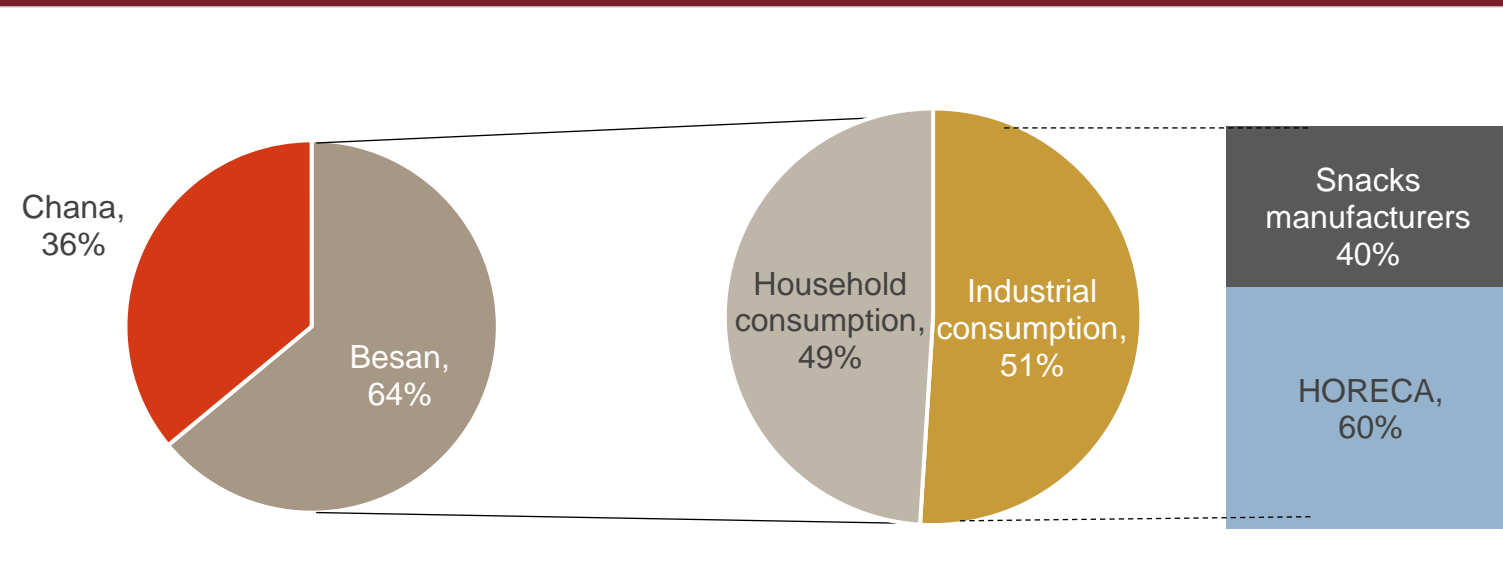
Key factors affecting prices

Increase in gram acreage by 3% and yields expected to be higher by 3-4% to lead to a hike in production by 7% in 2022-23

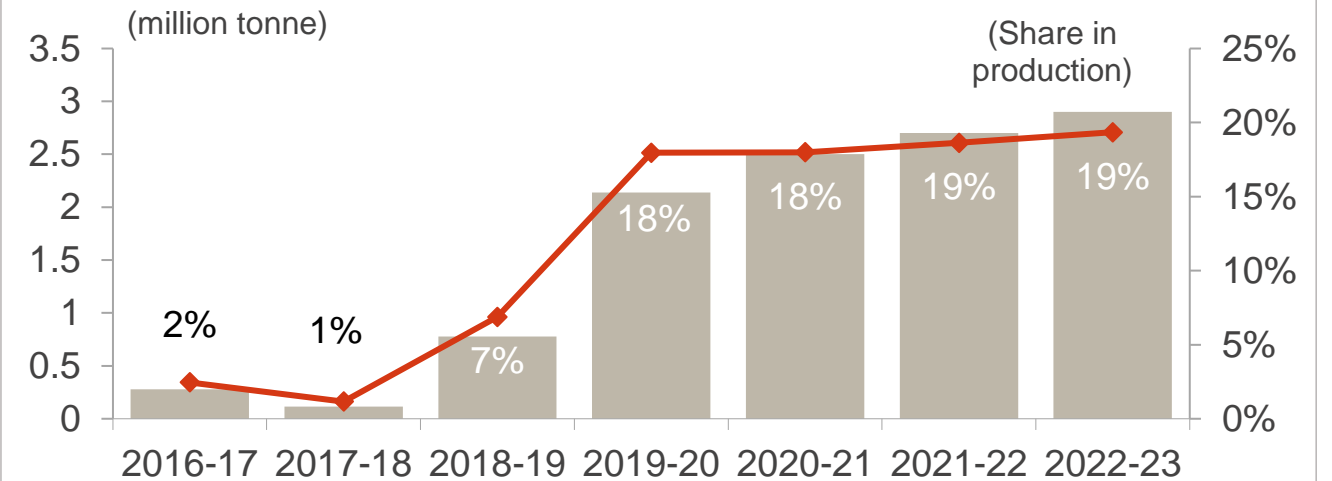
(million tonne)



Lion's share of chana produced is converted to flour



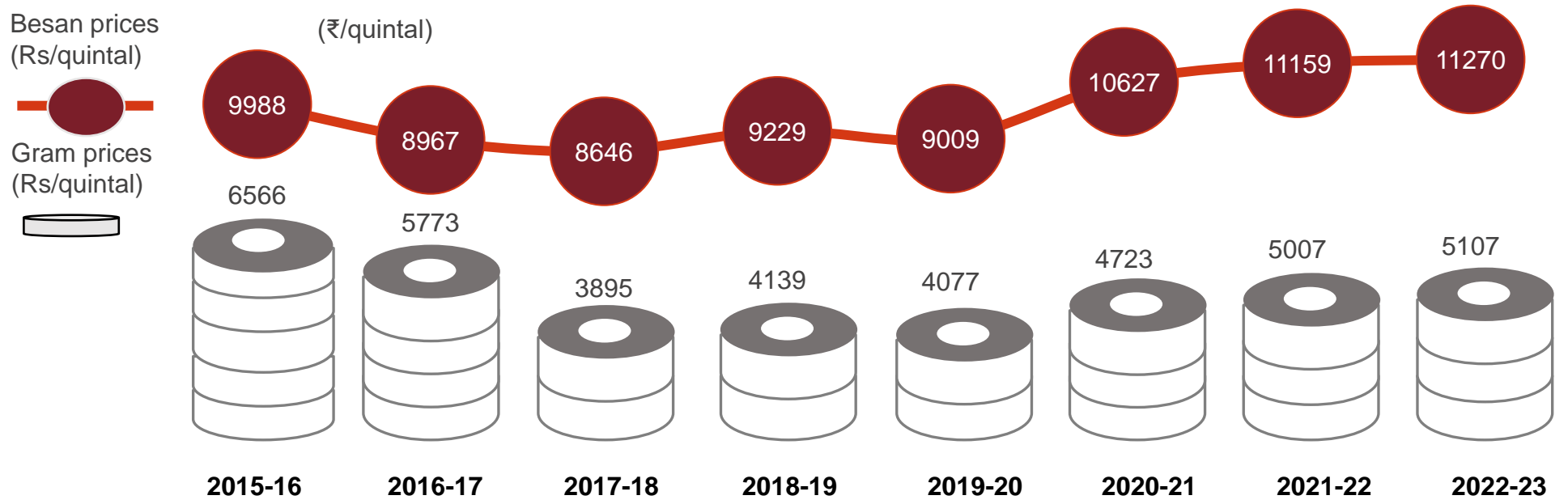
NAFED procurement to increase as govt initiates higher protein intake as part of the welfare schemes



© 2018 CRISIL Ltd. All rights reserved.

Gram and besan prices to inch up in this and next fiscals

Y-o-Y % growth	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Demand from HORECA							
Demand from the snacks industry							
NAFED procurement	1%	2%	1%	7%	17%	16%	19%
Production	33%	21%	(13)%	14%	5%	17%	7%



Robust industrial and household demand

Increased procurement by NAFED to decrease availability in mandis

Production to increase by 17% led by increased yields

Acreage expected to increase in the next season as well

Price view
5-6%

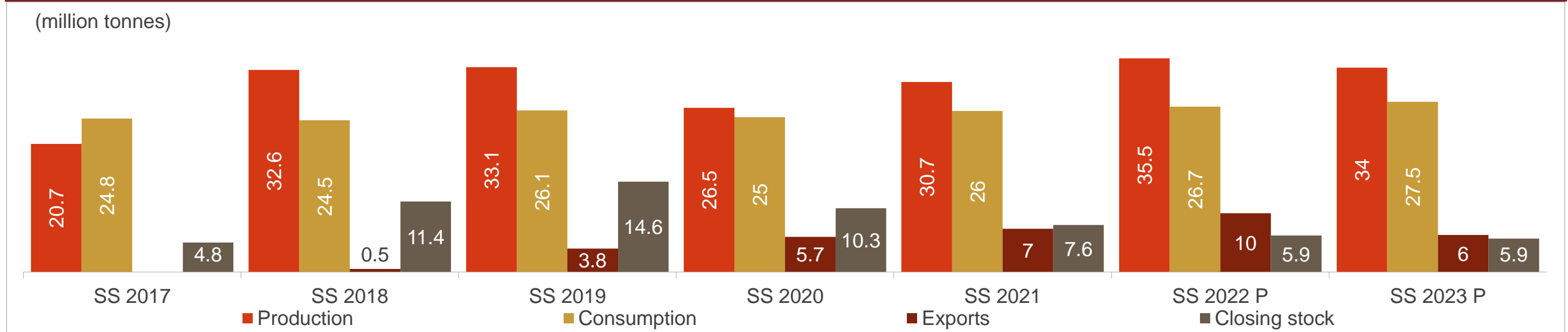
© 2018 CRISIL Ltd. All rights reserved.

Sugar

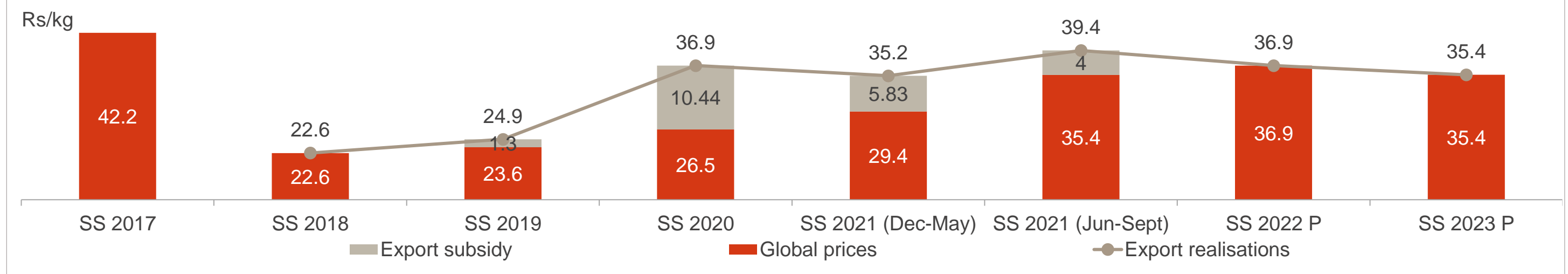


Closing inventories to deplete further with a climb in ethanol blending in SS 2023

Balance sheet: Over 35% of sugarcane to be diverted towards ethanol leading to lower sugar production



Export realisations to fall as global prices are expected to decline 4-5% as Brazil is expected to increase sugar production in the next season



© 2018 CRISIL Ltd. All rights reserved.

Sugar prices to moderate in SS 2023 with global crisis easing out

Y-o-Y % Growth	SS 2016-17	SS 2017-18	SS 2018-19	SS 2019-20	SS 2020-21	SS 2021-22	SS 2022-23
Production	(18)%	58%	1%	(20)%	14%	14%	(2-3)%
Domestic demand							
Exports	Nil		660%	50%	23%	36%	(30%)
Closing inventory	(41)%	140%	28%	(29)%	(26)%	(22)%	0%
International prices	3%	(26)%	(4)%	7%	23%	8%	(3-4)%

Factors influencing price movement

▲
Rising crude oil prices encourage ethanol production

12-20% excise concession on ethanol blended petrol

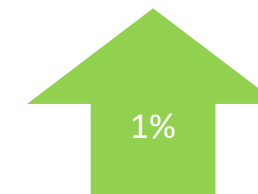
Robust industrial demand with no covid restrictions

▼
Easing of global crisis to lead to moderation of crude oil prices by 15-17%

Brazil is expected to increase its cane diversion towards sugar easing global sugar supply

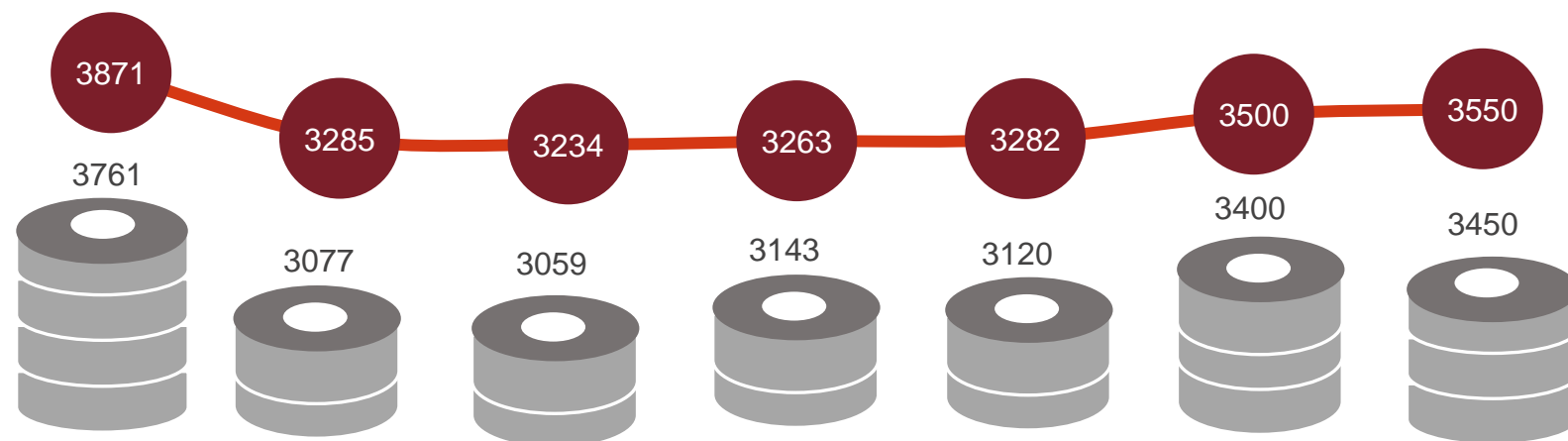
Domestic sugar production to remain high at 33-34 million tonnes

Price view



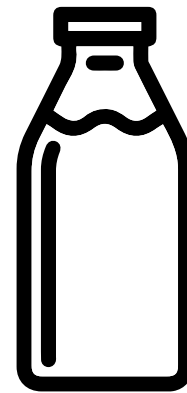
Del M 30 (Rs/quintal)

Mum S 30 (Rs/quintal)



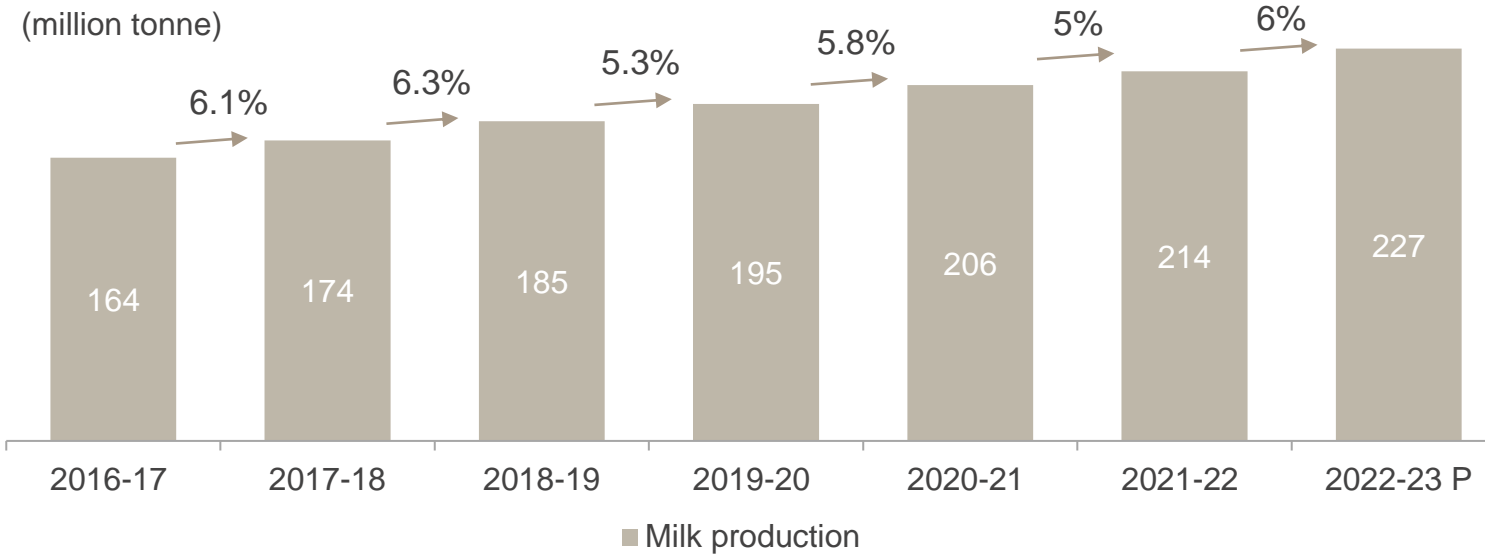
SS 2016-17 SS 2017-18 SS 2018-19 SS 2019-20 SS 2020-21 SS 2021-22 SS 2022-23 P

Dairy

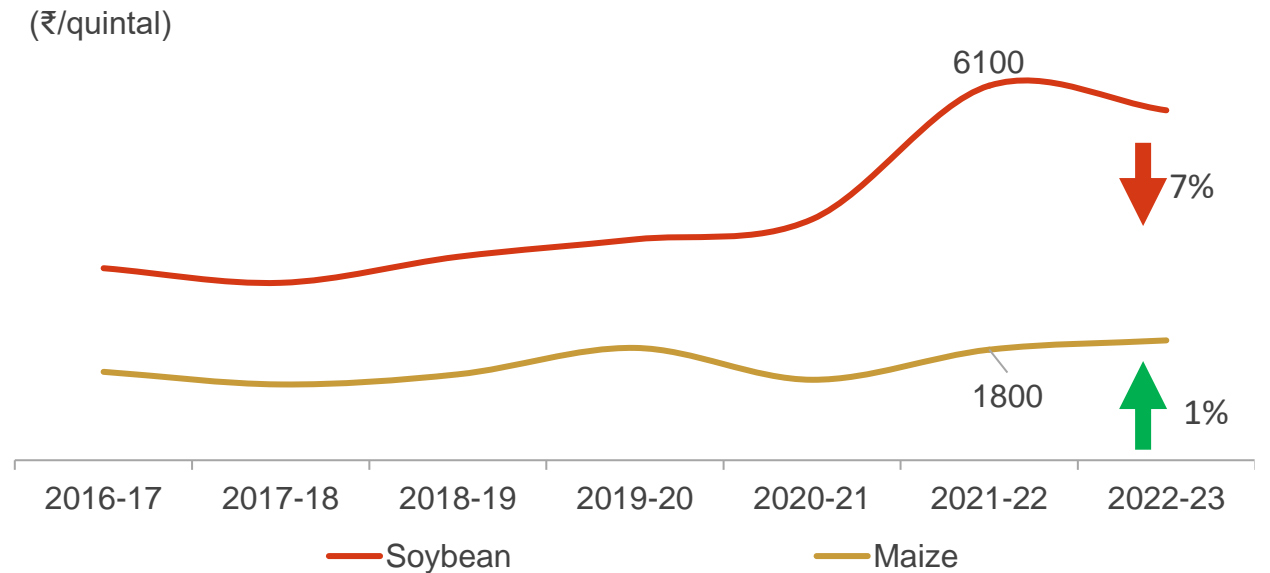


Milk production to pick up pace as artificial insemination revives

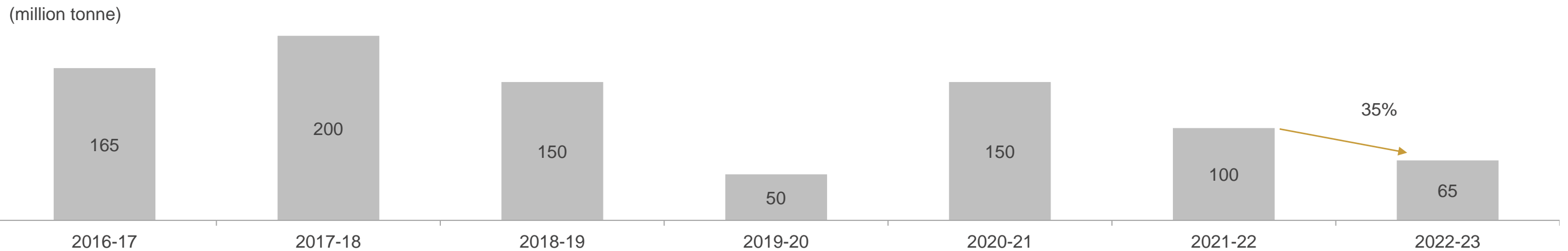
Milk production slowed its pace during the pandemic years / due to lesser artificial insemination services



Sharp rise in fodder prices to support milk procurement prices



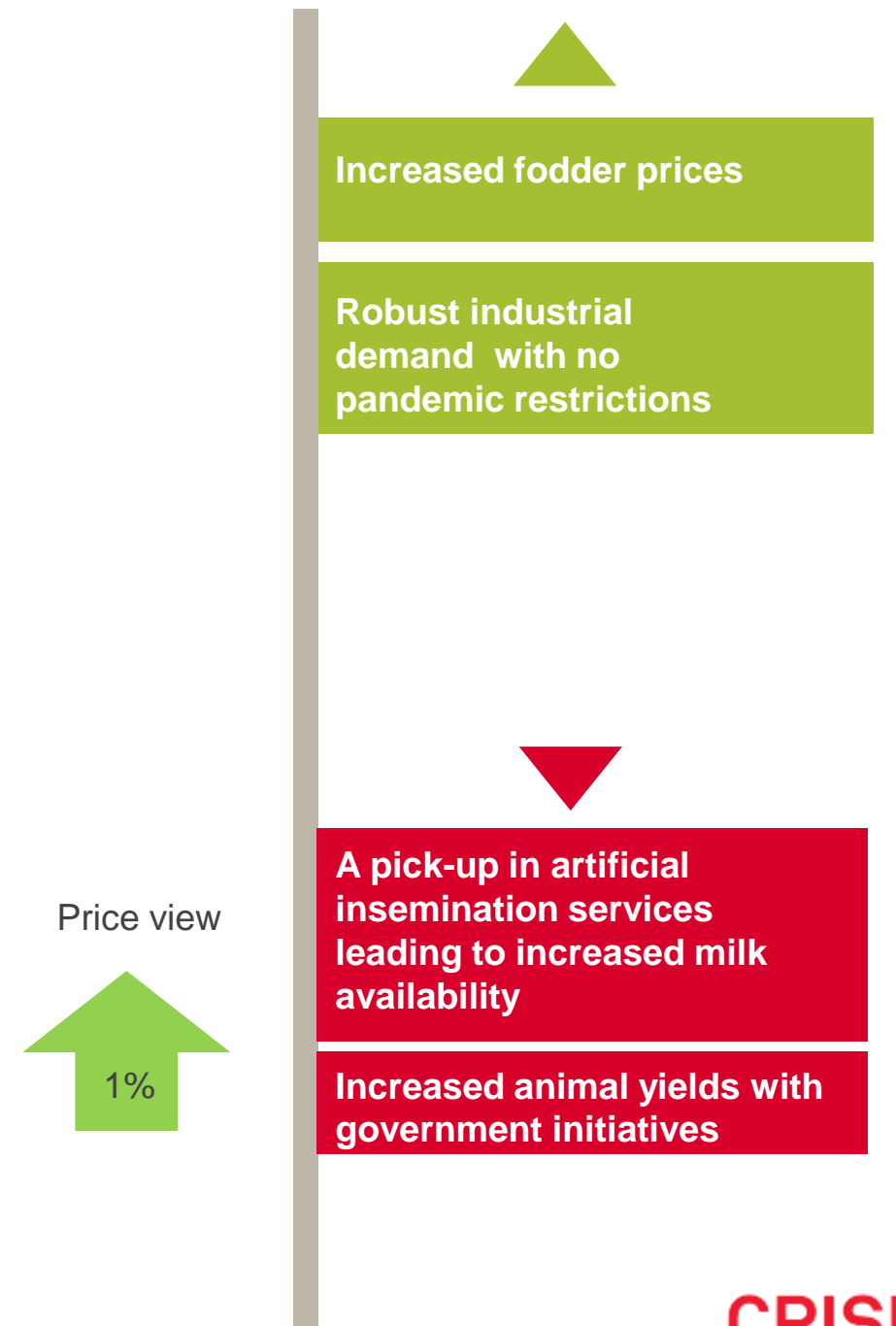
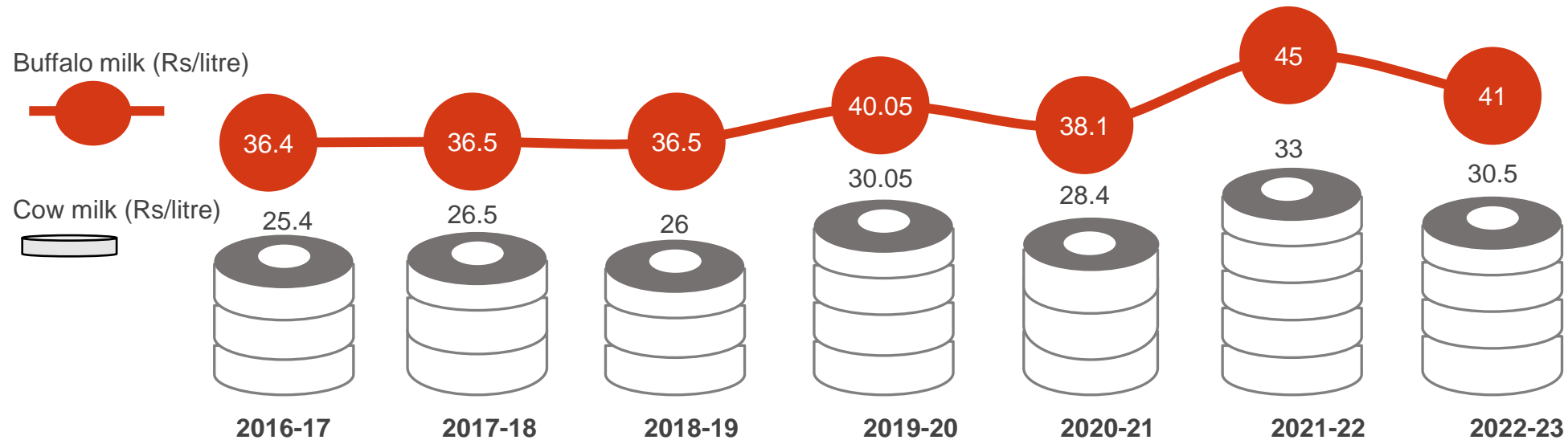
SMP: Increased exports to deplete inventory this fiscal



© 2018 CRISIL Ltd. All rights reserved.

Key factors affecting milk procurement prices

Y-o-Y % growth	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Milk production	5.8%	6.1%	6.3%	5.3%	5.8%	5%	6%
Demand sentiment							
Fodder prices	8%	(11)%	14%	20%	(10)%	45%	0-1%
SMP inventory	(8)%	21%	(25)%	(67)%	200%	(35)%	(38)%
Export subsidy Rs/kg	NA	50	NA	NA	50	NA	NA



© 2018 CRISIL Ltd. All rights reserved.

Agenda

1 Structural factors impacting agri commodity prices

Climate Change

Increased Geo-political risk

2 Here and now factors and price outlook for commodities

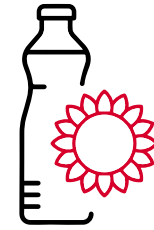
Weather, Demand-Supply dynamics, and crop balance sheet

Government and trade policies affecting commodity prices

3 How commodity price trend would affect food processors

Impact on raw material cost

Commodity wise sensitivity analysis on profit margins



Sunflower oil



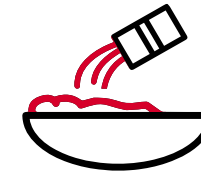
Palm oil



Soybean oil



Wheat and related products



Gram and related products



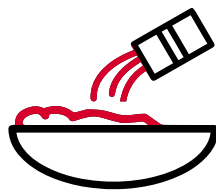


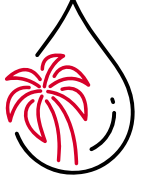




















Milk



Sugar

What it means for companies in the segment

	Wheat	Maida	Gram and besan	Milk	Sugar	Edible oil	Impact on RM cost	Ability to pass on
								
								
Biscuit manufacturers and bakeries							Moderate increase in RM cost	High
Dairy processors							Marginal increase in RM cost	Moderate
Snack manufacturers							Fall in RM cost	Moderate
Ready meal manufacturers							Marginal increase in RM cost	High
Oil extractors							Fall in RM cost	Low

 High exposure

 Moderate exposure

Sensitivity analysis between raw material prices and margins

For biscuit manufacturers



Raw material price increase

Price increase		4%	8%	10%	12%
	0%	-120 bps	-230 bps	-290 bps	-350 bps
	1%	-30 bps	-140 bps	-200 bps	-260 bps
	2%	60 bps	-60 bps	-120 bps	-170 bps
	4%	220 bps	110 bps	50 bps	0 bps



Raw material price increase

Price increase		4%	8%	10%	12%
	0%	-30 bps	-60 bps	-70 bps	-90 bps
	0.25%	-10 bps	-40 bps	-50 bps	-70 bps
	0.5%	10 bps	-10 bps	-30 bps	-40 bps
	1%	60 bps	30 bps	10 bps	0 bps

- EBITDA margins of biscuit manufacturers is more sensitive to maida than sugar prices
- Maida accounts for ~60% of their raw material cost, while sugar accounts for only ~15%

Summary

1

Increased severity in climate and rising geo-political risk to increase volatility in prices of key commodities that are internationally traded; like edible oil and maize

2

Overall agri commodity basket likely to see upward trend with grains and pulses (accounting for 55% of total agri produce) seeing a 4-8% rise while edible oils, horticulture and cash crops (accounting for 30% of total agri produce) seeing a decline of 4-6%. Others would see a mixed trend in FY23

3

Steady rise in key commodities prices leading to high RM cost for food companies, biting into their bottom line; Biscuit, snacks and ready meal manufacturers to see higher pressure on raw material costs as they have more exposure towards wheat, maida and besan.

4

Ability to pass on rise in input costs is better for biscuit and ready meal manufacturers as compared to others oil extractor and snack manufacturers.

5

Optimal time to procure edible oils would be Sep-Oct 2022 as palm production peaks in Malaysia and Indonesia coinciding with oilseed harvest period in India

Introducing CRISIL's agricultural commodity dashboard

A single dashboard for gauging price-impacting factors and outlook



To know more, please scan the QR code

Question & Answer Session

If you have a question, please click on the 'Q&A feature' at the bottom of your screen and type in your question.

Participants are requested to mention their organization along with their question

Thank You

For further assistance and queries, write to us at events@crisil.com

Know more on CRISIL's agricultural commodity dashboard



***Disclaimer:**

This webinar is being recorded

This event and its content are intellectual property and confidential information of CRISIL. Any use of the same without written permission of CRISIL is illegal and hence punishable. Recording the webinar in any form in full or part or copying, altering, distributing or streaming the webinar is strictly prohibited and violation will attract legal action.

About CRISIL Limited

CRISIL is a leading, agile and innovative global analytics company driven by its mission of making markets function better.

It is India's foremost provider of ratings, data, research, analytics and solutions with a strong track record of growth, culture of innovation, and global footprint.

It has delivered independent opinions, actionable insights, and efficient solutions to over 100,000 customers through businesses that operate from India, the US, the UK, Argentina, Poland, China, Hong Kong and Singapore.

It is majority owned by S&P Global Inc, a leading provider of transparent and independent ratings, benchmarks, analytics and data to the capital and commodity markets worldwide.

About CRISIL Research

CRISIL Research is India's largest independent integrated research house. We provide insights, opinion and analysis on the Indian economy, industry, capital markets and companies.

We also conduct training programs to financial sector professionals on a wide array of technical issues. We are India's most credible provider of economy and industry research. Our industry research covers 86 sectors and is known for its rich insights and perspectives. Our analysis is supported by inputs from our large network sources, including industry experts, industry associations and trade channels. We play a key role in India's fixed income markets. We are the largest provider of valuation of fixed income securities to the mutual fund, insurance and banking industries in the country. We are also the sole provider of debt and hybrid indices to India's mutual fund and life insurance industries. We pioneered independent equity research in India, and are today the country's largest independent equity research house. Our defining trait is the ability to convert information and data into expert judgments and forecasts with complete objectivity. We leverage our deep understanding of the macro-economy and our extensive sector coverage to provide unique insights on micro-macro and cross-sectoral linkages. Our talent pool comprises economists, sector experts, company analysts and information management specialists.

CRISIL Privacy

CRISIL respects your privacy. We may use your contact information, such as your name, address, and email id to fulfil your request and service your account and to provide you with additional information from CRISIL. For further information on CRISIL's privacy policy please visit www.crisil.com/privacy.

Disclaimer

CRISIL Research, a division of CRISIL Limited (CRISIL) has taken due care and caution in preparing this Report based on the information obtained by CRISIL from sources which it considers reliable (Data). However, CRISIL does not guarantee the accuracy, adequacy or completeness of the Data / Report and is not responsible for any errors or omissions or for the results obtained from the use of Data / Report. This Report is not a recommendation to invest / disinvest in any company covered in the Report. CRISIL especially states that it has no financial liability whatsoever to the subscribers/ users/ transmitters/ distributors of this Report. CRISIL Research operates independently of, and does not have access to information obtained by CRISIL's Ratings Division / CRISIL Risk and Infrastructure Solutions Limited (CRIS), which may, in their regular operations, obtain information of a confidential nature. The views expressed in this Report are that of CRISIL Research and not of CRISIL's Ratings Division / CRIS. No part of this Report may be published / reproduced in any form without CRISIL's prior written approval