

Trends, Situations and Perspectives for Global Major Product Markets

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Motivation of this Presentation

- Japan's High Dependency on Global Agricultural Commodity Markets
- Importance of Monitoring the Situation and Outlook of the World Markets
- Try to Overview the Situation and Outlook of the World Markets
- Your Comments Welcomed after My Presentation

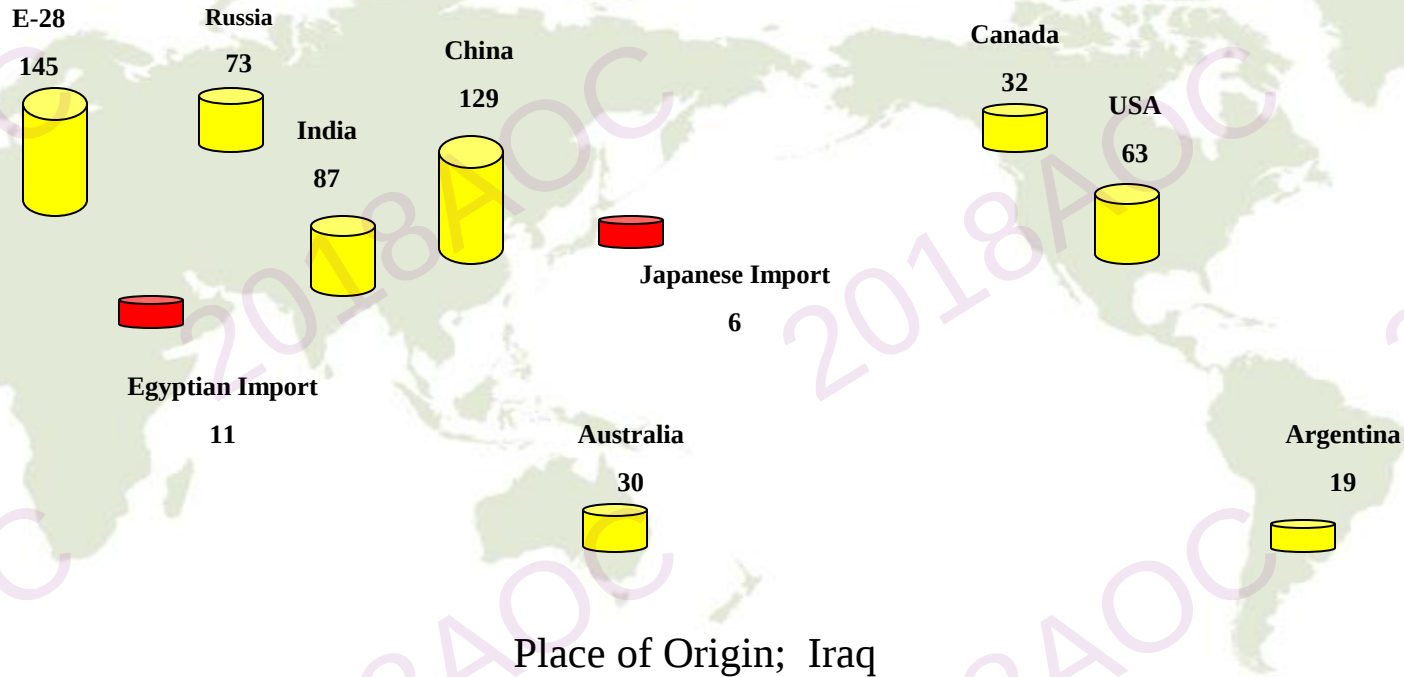
Outline of this Presentation

- 1.Introduction
- 2.Trends: We will evaluate the trends of global cereals and soybean markets.
- 3.Situation: We will assess what is going on in the global cereals and soybean markets.
- 4.Outlook: We will overview the the Medium-Term(about 10 years ahead) Outlook for Global Cereals and Soybean Markets.
- 5.Concluding Remarks

Part 1: Introduction

Wheat Production

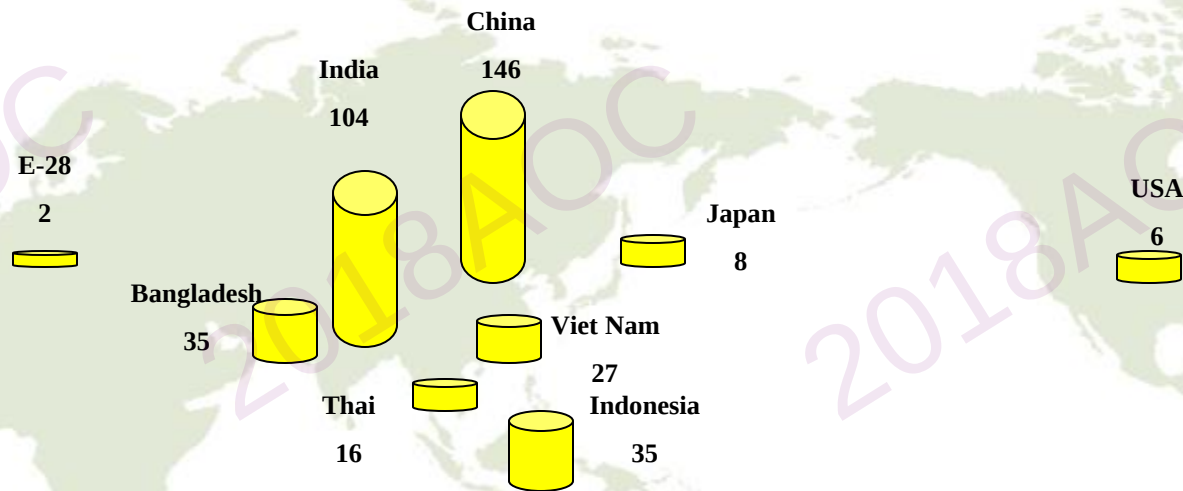
(Unit: Million MT)



The Level of World Production in 2016/17; **751** million MT

Rice Production

(Unit: Million MT on Milled Rice Basis)

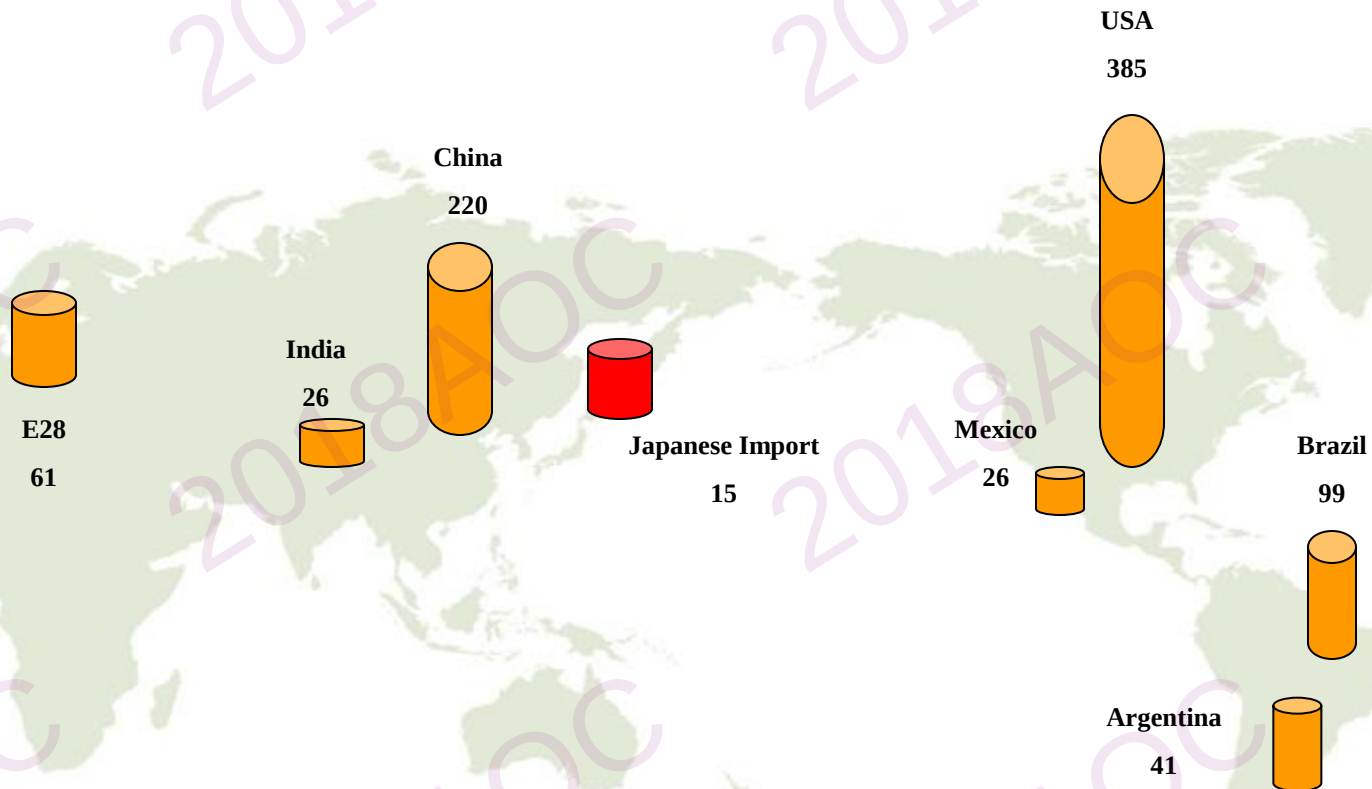


Origin; Hubei Province of China

The Level of World Production in 2016/17; **486** Million MT

Corn(Maize) Production

(Unit: Million MT)



Place of Origin: Mexico, or Bolivia



The Level of World Production in 2016/17; **966** Million MT



Soybean Production

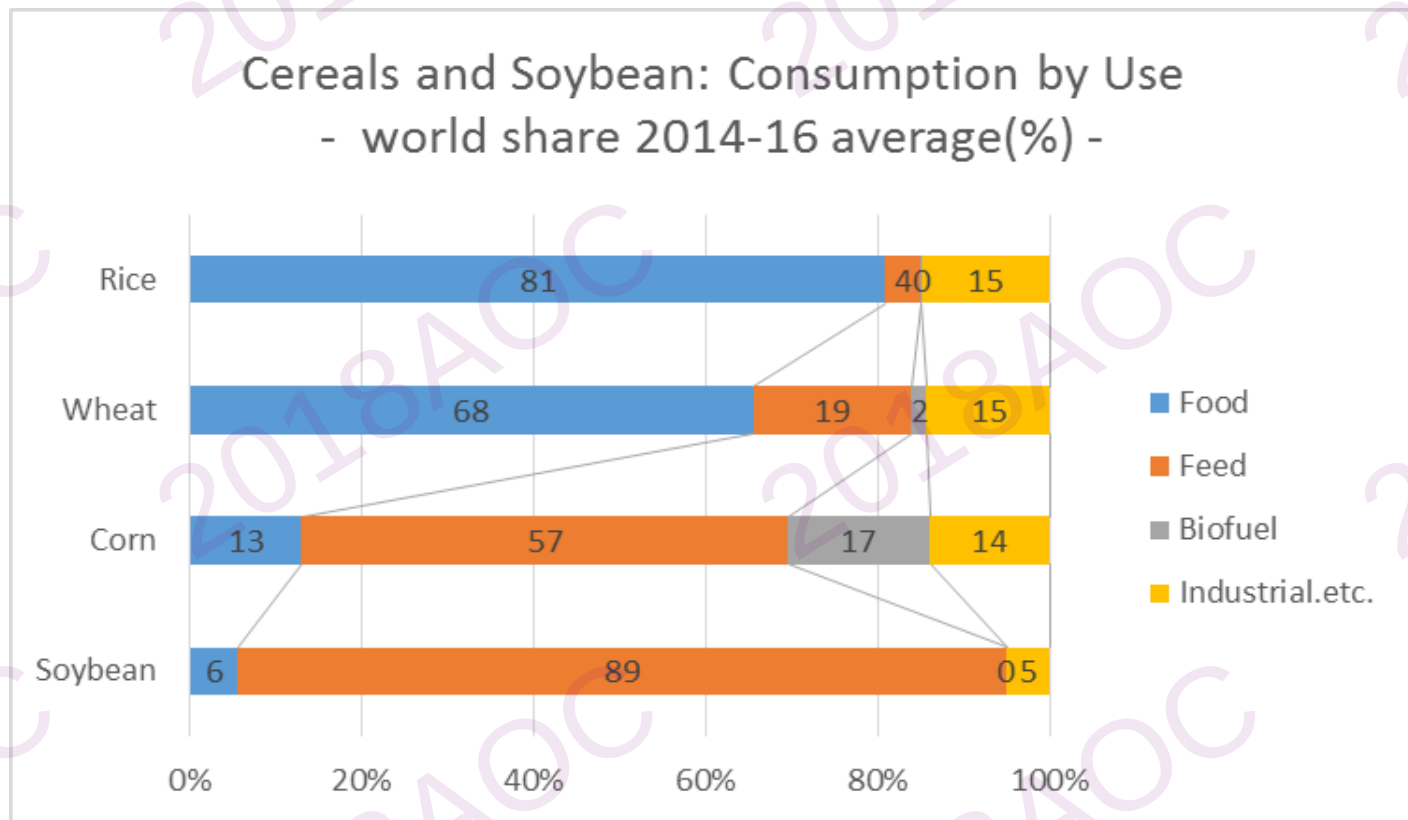
(Unit: Million MT)



Place of Origin: North East China(Liaoning(遼寧), Jiling(吉林), and Heilongjiang(黑龍江) towards Russia

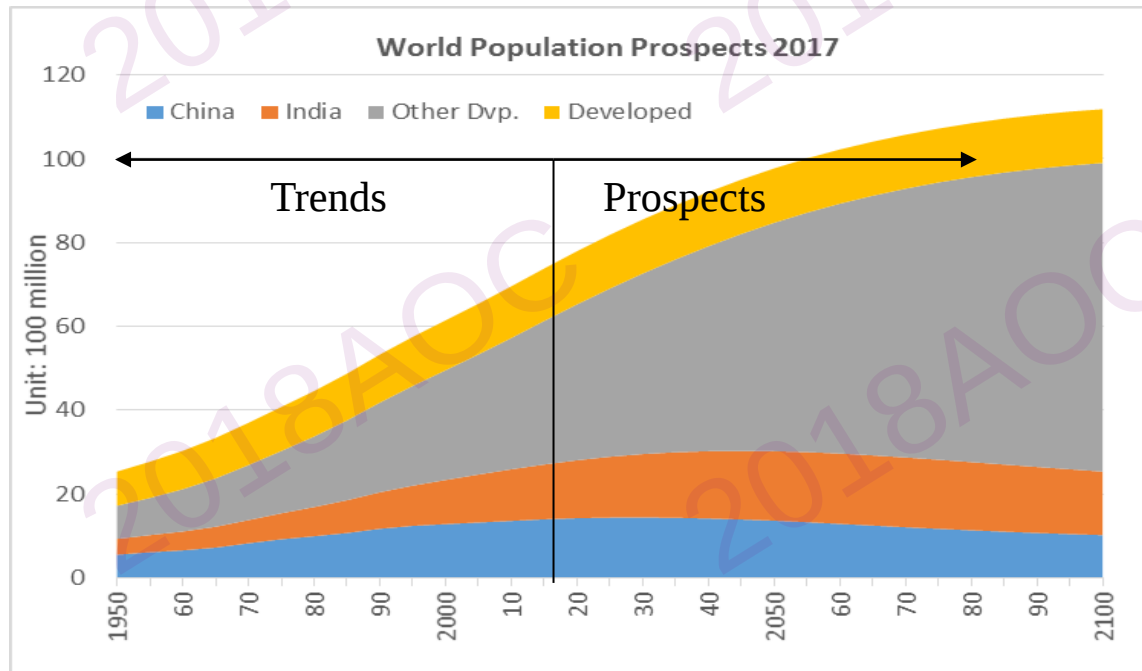
The Level of Production in 2016/17; **351** Million MT

How These Commodities Are Consumed?



Part 2:Trends

Global Population; Trends and Outlook

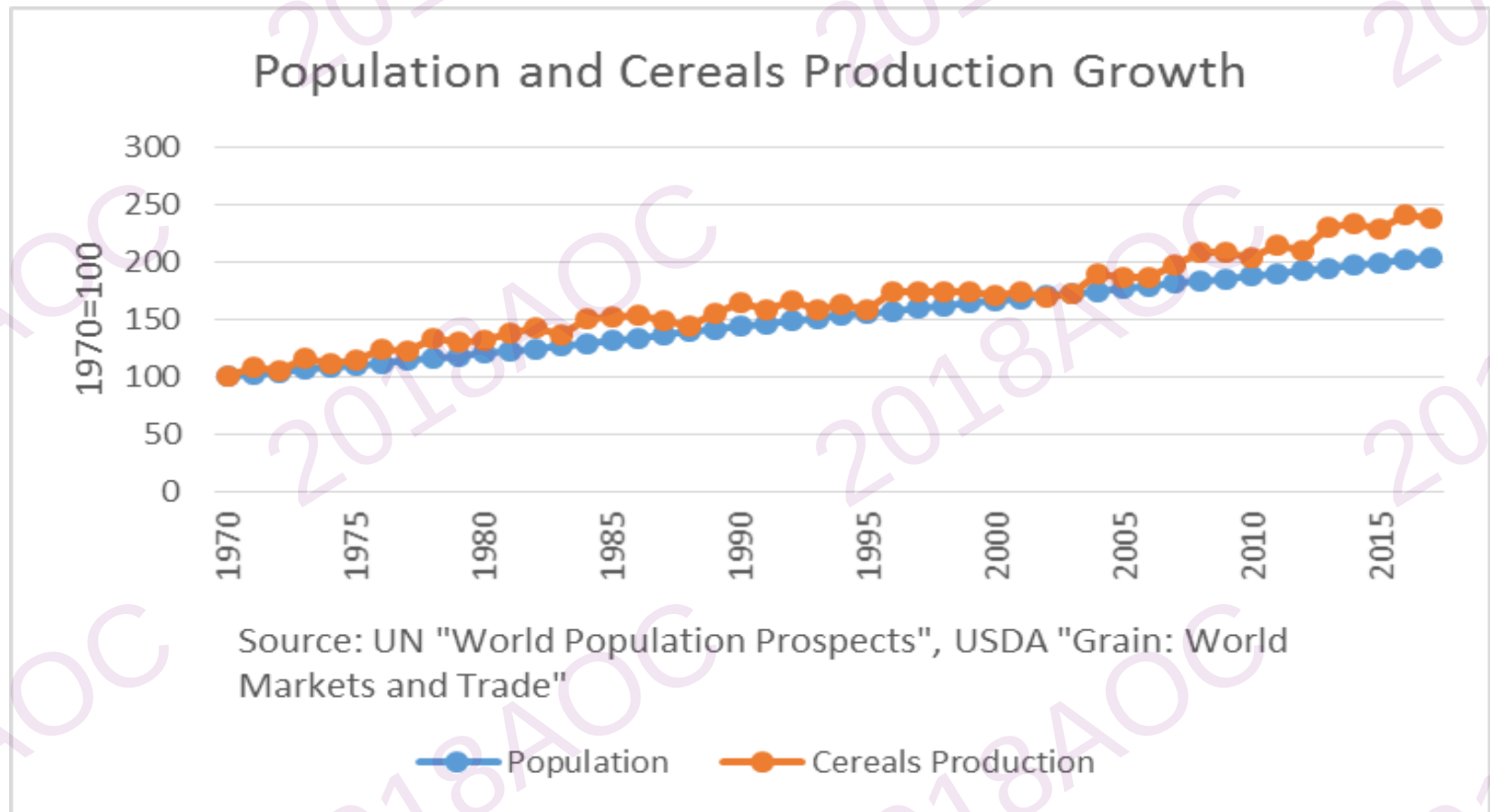


Annual Percentage Change

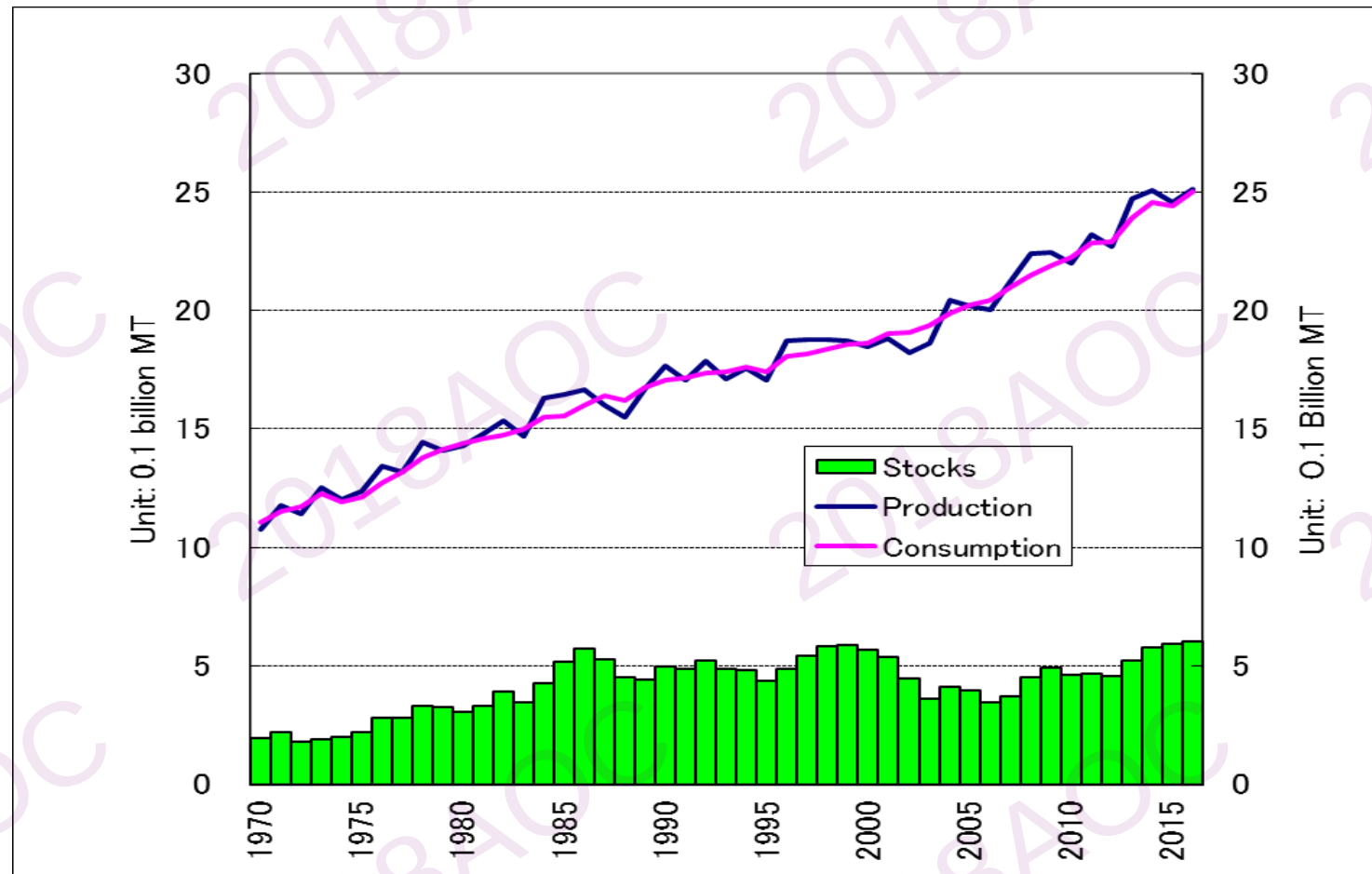
	1990	2000	2010	2020	2030	2040	2050
China	1.7	1.0	0.5	0.5	0.1	▲ 0.1	▲ 0.3
India	2.3	1.9	1.6	1.2	1.0	0.7	0.4
Other Developping	2.4	2.0	1.8	1.7	1.5	1.3	1.1
Developed	0.6	0.4	0.4	0.3	0.1	0.0	▲ 0.0
World Total	1.8	1.4	1.2	1.1	0.9	0.7	1.0.6

資料: UN “World Population Prospects 2017 Revision”

Has Cereals Production Caught Up the Population Growth?



World Cereals: Production, Consumption and Stocks

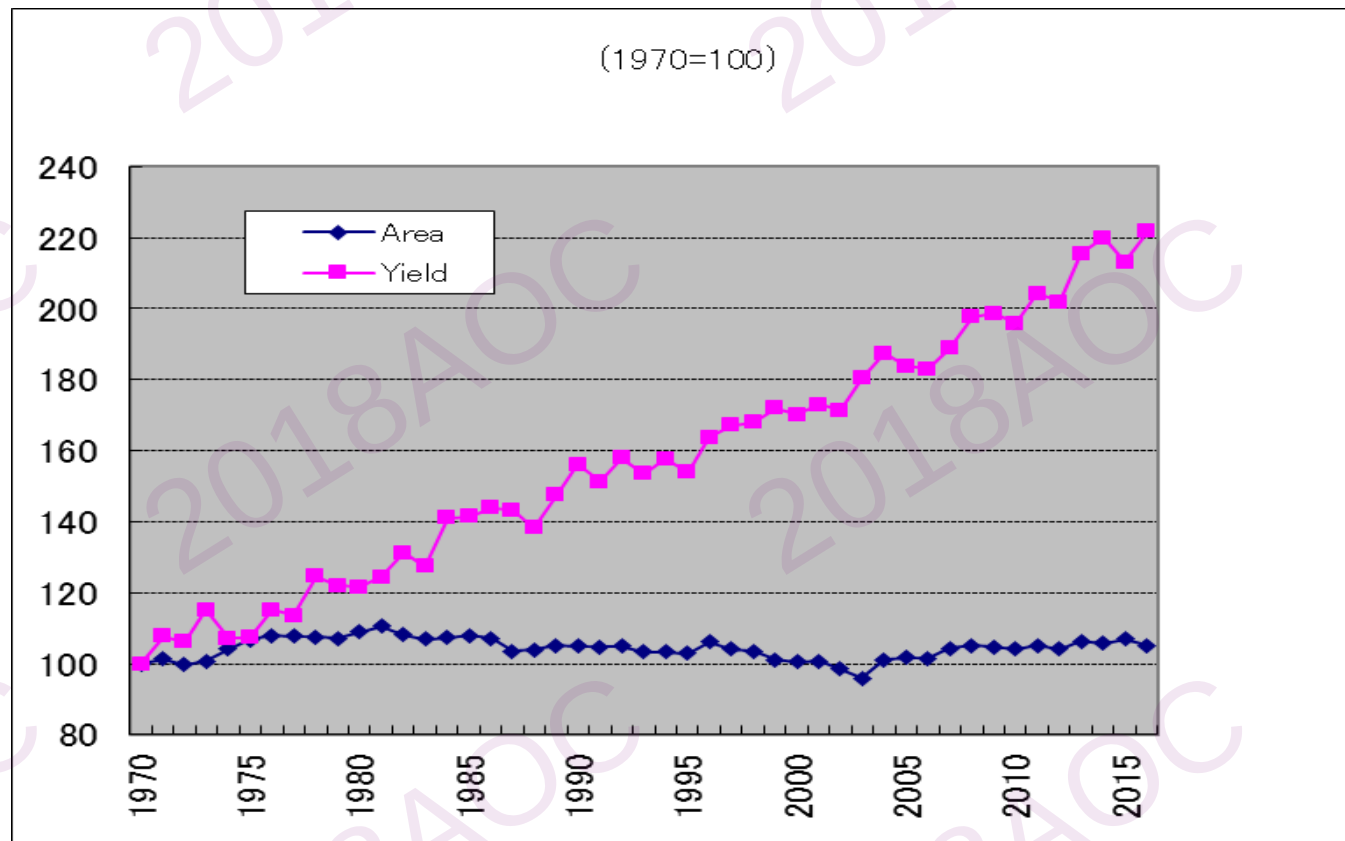


Data: USDA "Grain:World Markets and Trade" "WASDE" "PS&D Database"

Note: Cereals = Wheat + Maize + Rice(milled)

Factor of Increase in Cereals Production

- Driver is Yield -



Data: USDA "Grain: World Markets and Trade" "PS&D Database" "WASDE"

Note: Cereals = Wheat + Maize + Rice(milled)

Background of Yield Growth

- Increased **fertilizer** and **pesticide** input
- Introduction of farm **machinery**
- Land improvement and **irrigation**
- Cultivation technology and management
- Plant breeding (**Green revolution** in 1970's)
- Dissemination of GMO (Genetically Modified Organism)

Part 3: Situation

Effect of Income Increase on Dietary Pattern

- (Traditional)

Large quantities of **Carbohydrate**(Cereals) , small quantities of **animal protein**(Livestock products and Fish), as well as **oils** and sugar

- (**Income Increase**)

Decrease in intake of **Carbohydrate**, on the other hand, Increase in consumption of **animal protein, oils** and sugar

Increase in Feedstock for Animals, i.e., Corn and Soybean



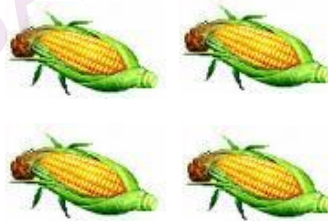
Meats Are Condensed Product of Cereals

- Feed grains needed to produce 1 kg of livestock products -

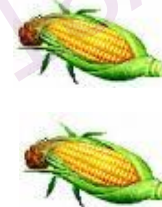
(Corn equivalent)



【Beef 9-12Kg】



【Pork - 4Kg】



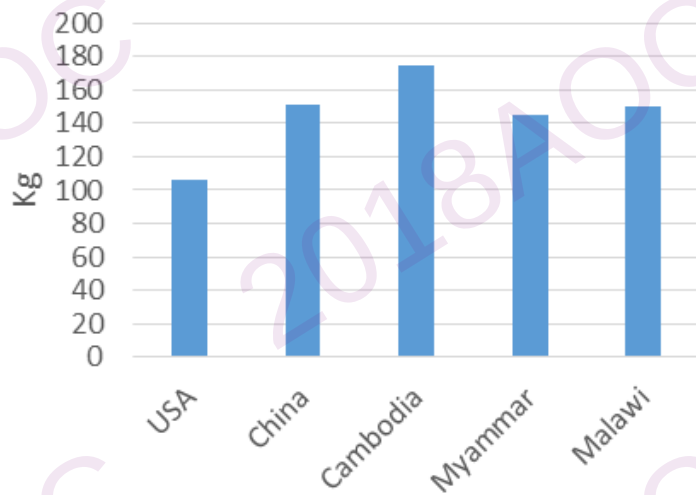
【Chicken - 2Kg】



【Egg - 2Kg】

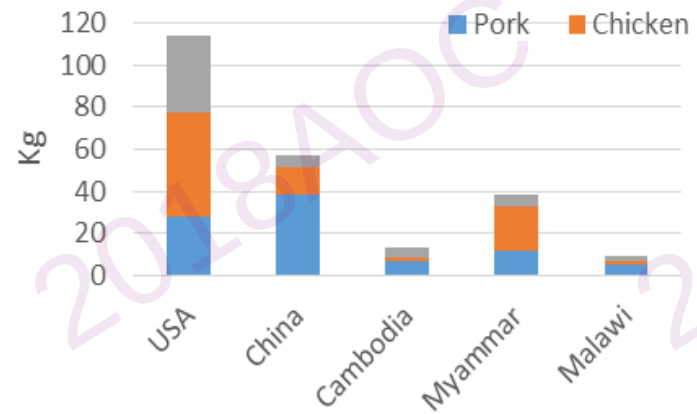
How Much Are People Eating?

Cereals Per Capita Annual Food Consumption (2013)



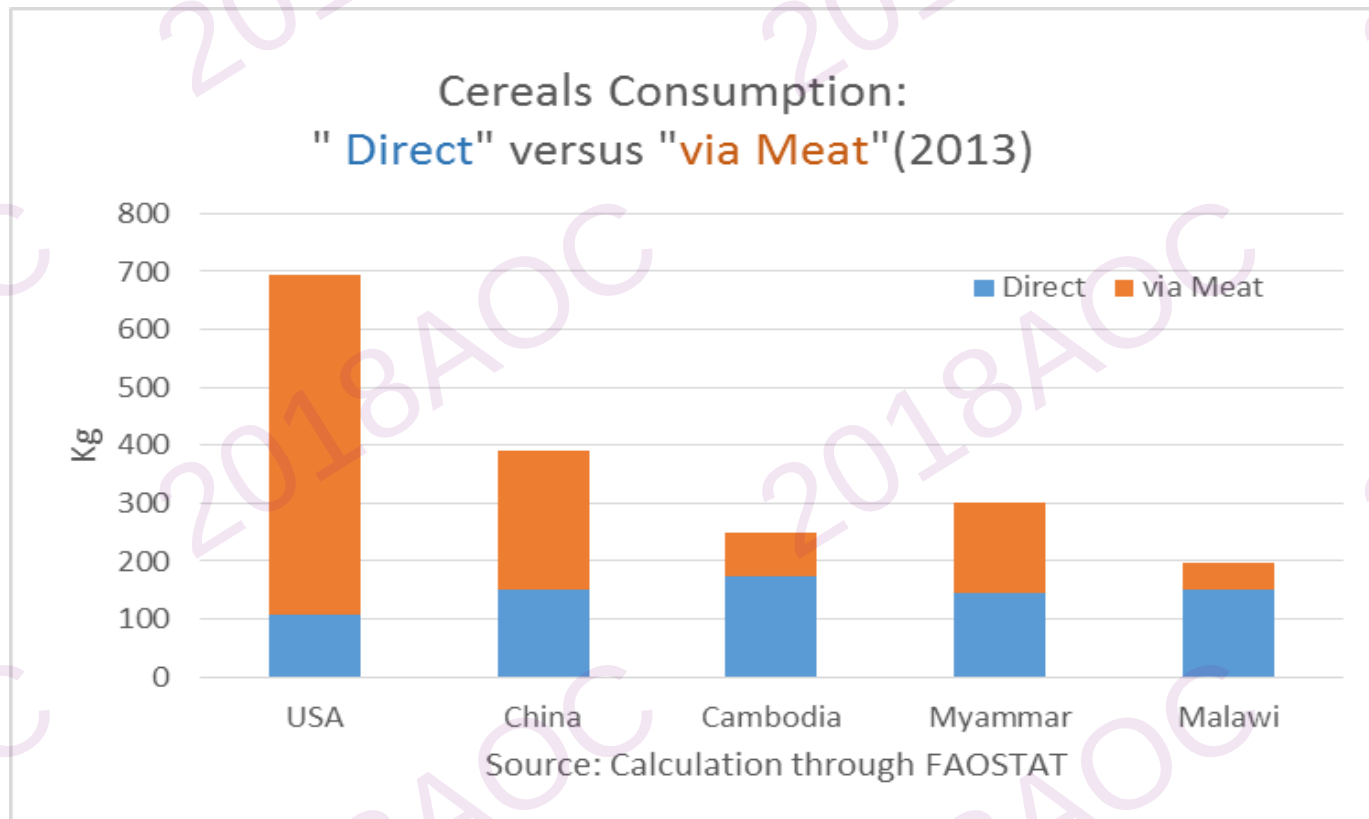
Data: Faostat

Meats Per Capita Annual Food Consumption (2013)

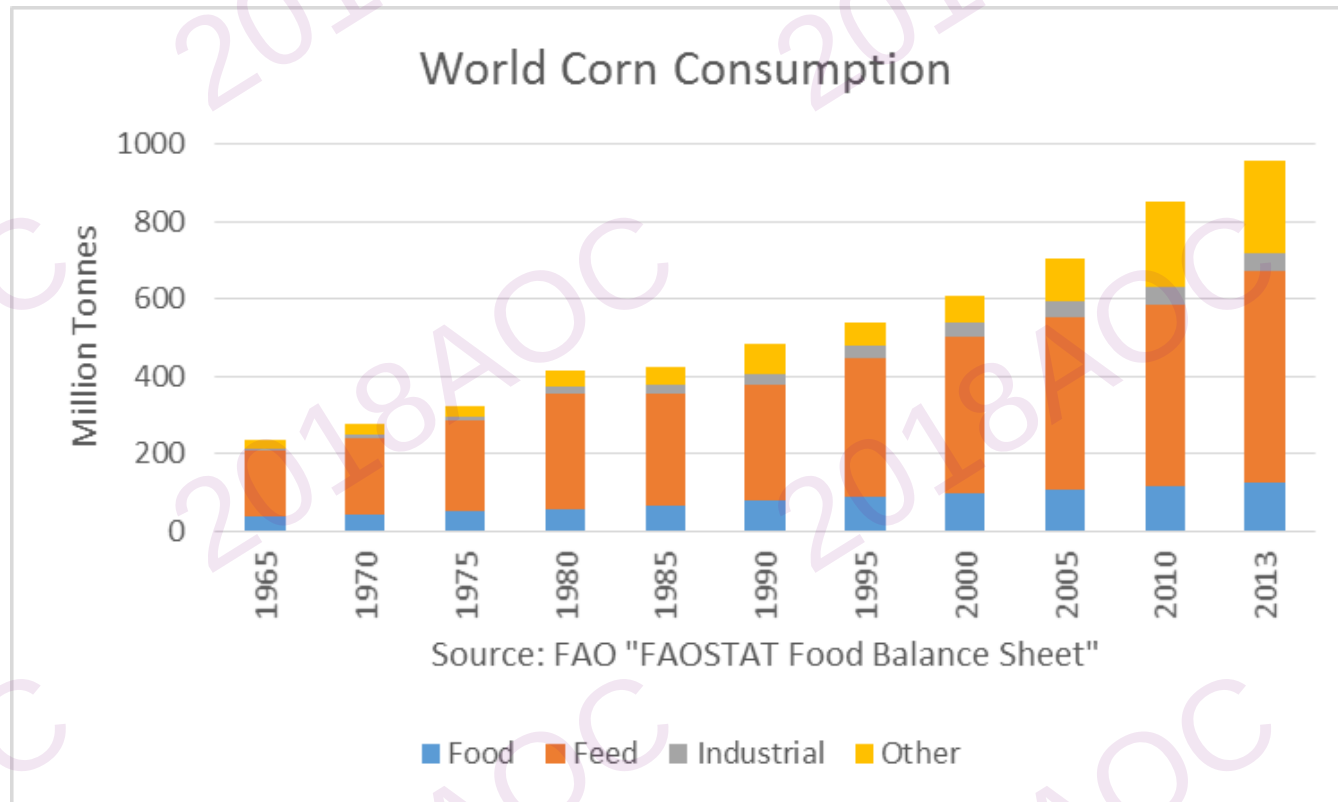


Data: Faostat

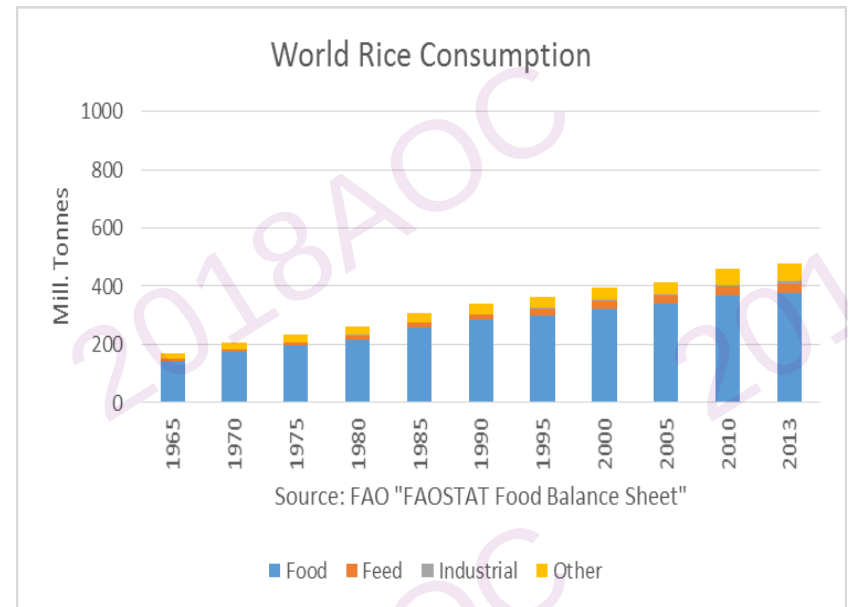
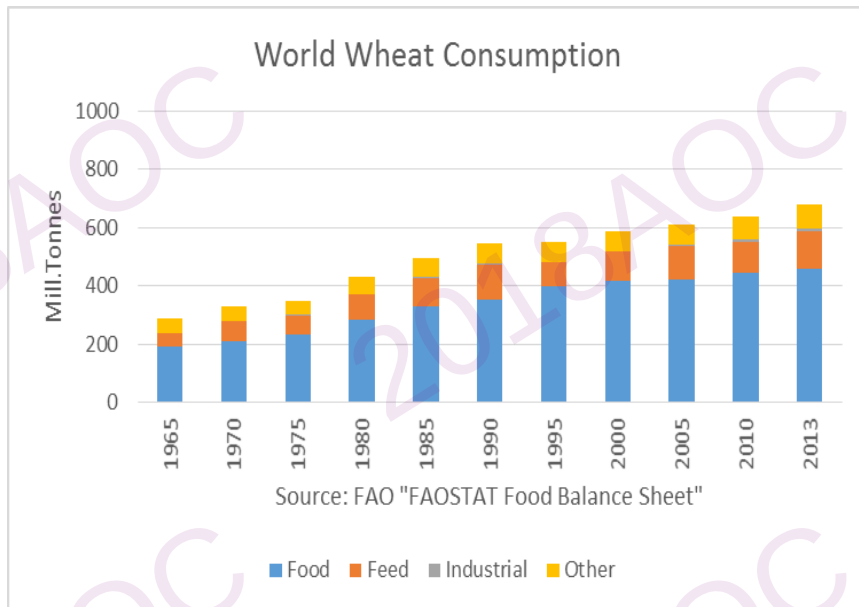
People Eat Food Cereals, plus Feed Cereals via Meat



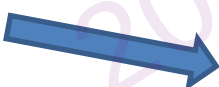
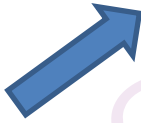
Corn: Feed and Biofuel Use Accelerate Consumption Increase



Wheat and Rice; Gradual Increase as Food Consumption Is Main Driver

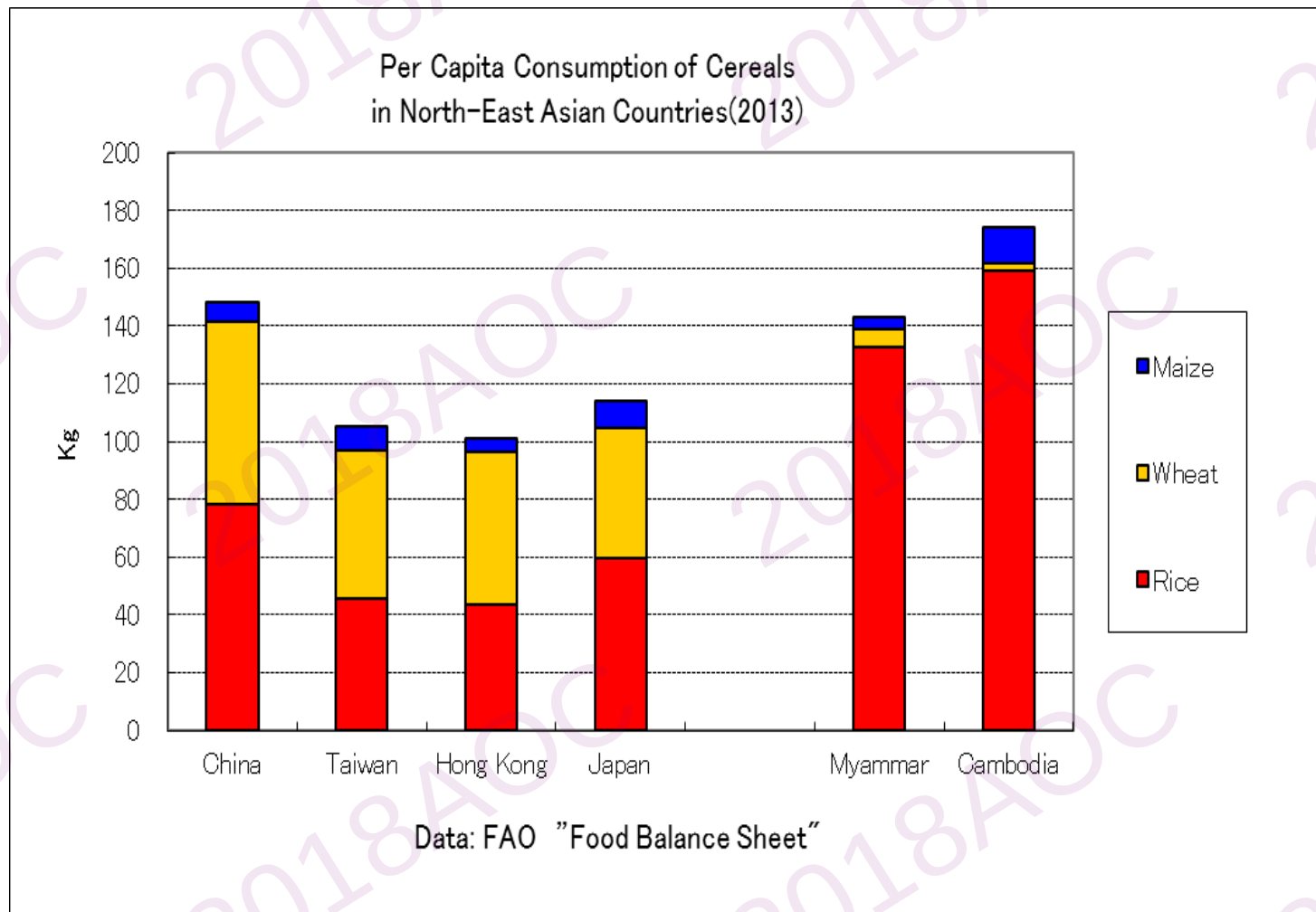


Consumption: Factor Decomposition

Factor Group	Population	Per capita food consumption	Total feed consumption
Developed countries			
Emerging Countries			
Developig Countries			

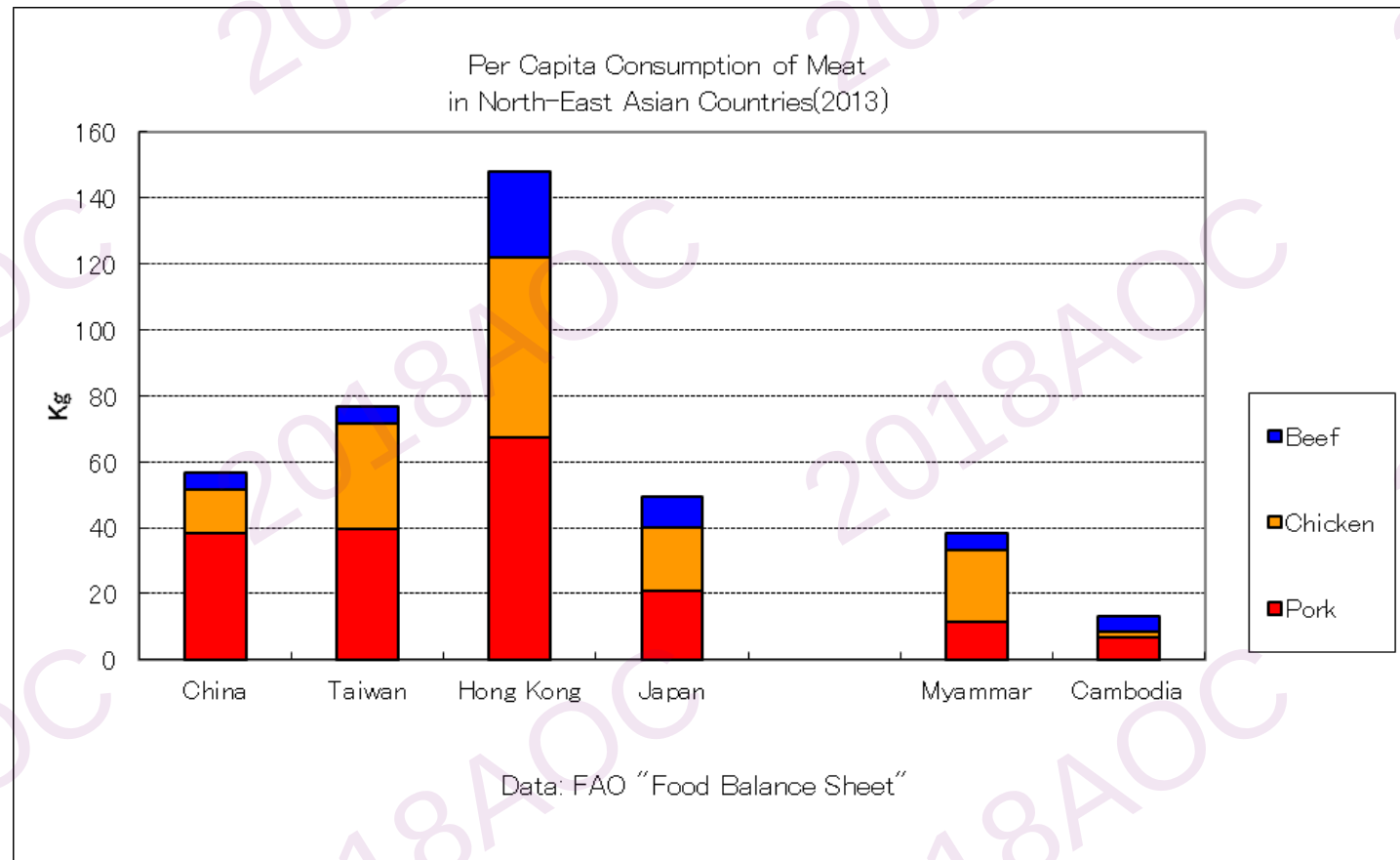
Dietary Pattern in Asian Countries

— Cereals —

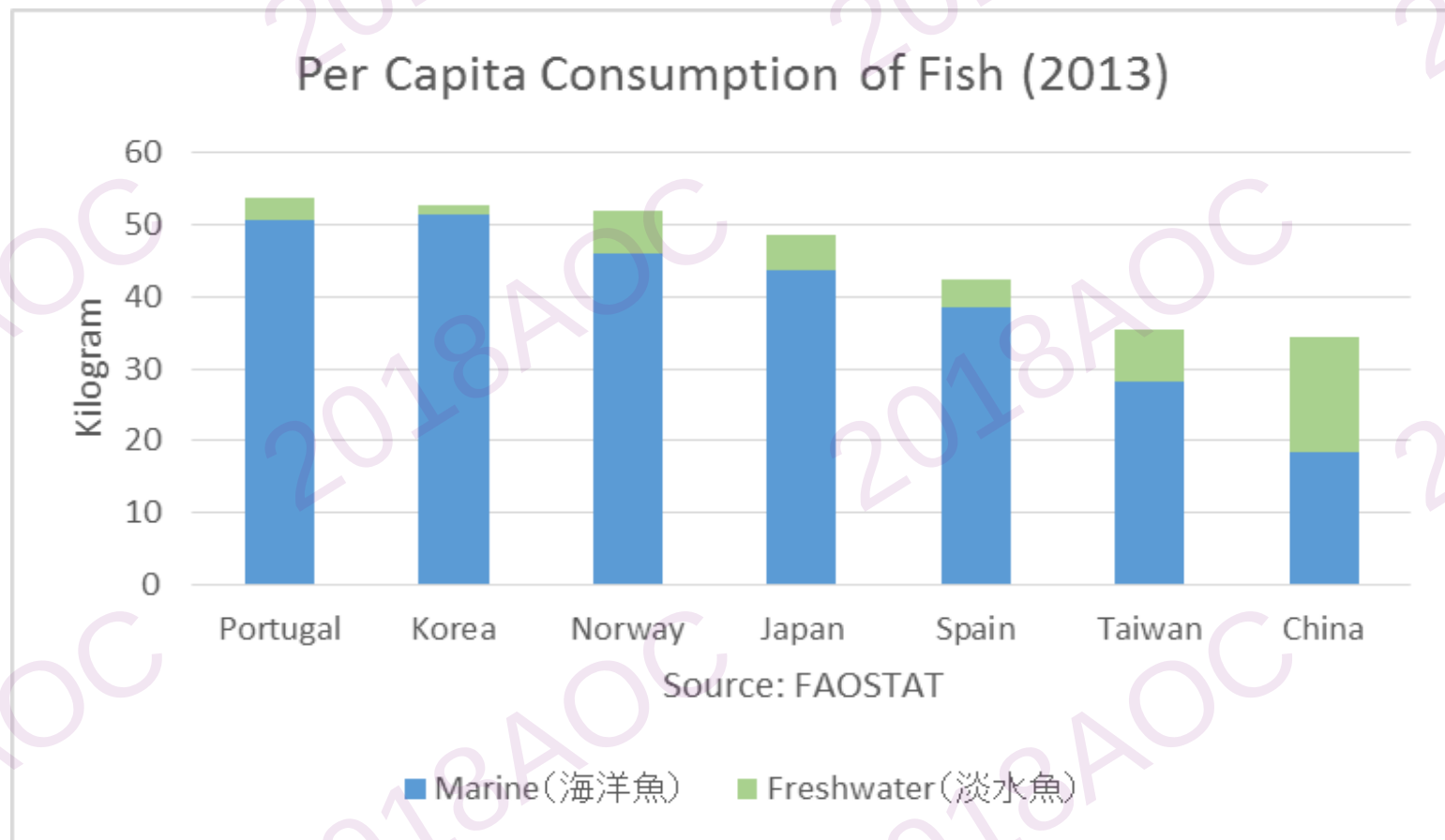


Dietary Pattern in North Asian Countries

— Meat —



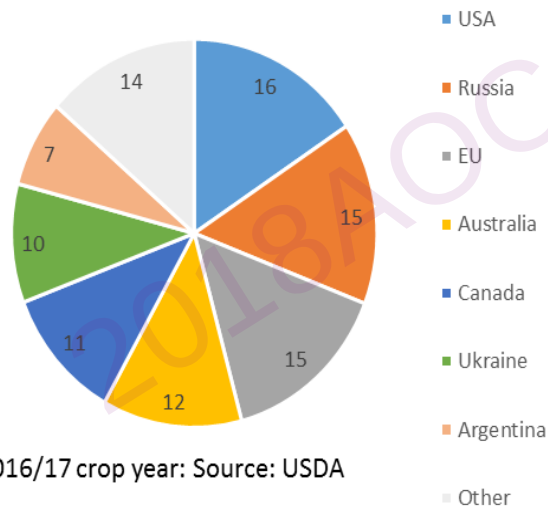
Fish Consumption



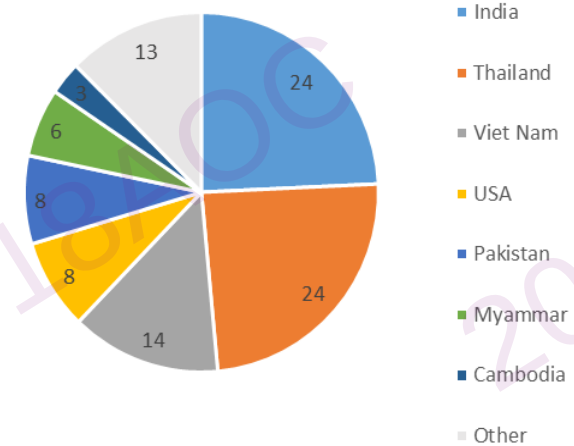
Main Export Countries of Food Crops

- Dispersion -

Wheat: Share of Main Exporting Countries

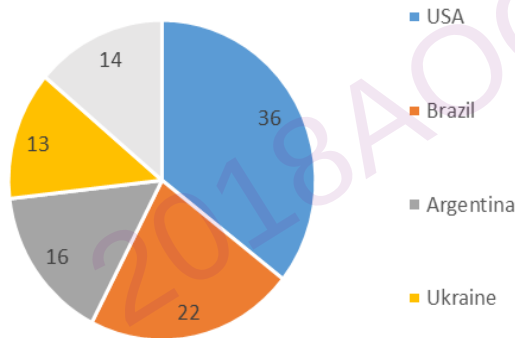


Rice: Share of Main Exporting Countries(%)



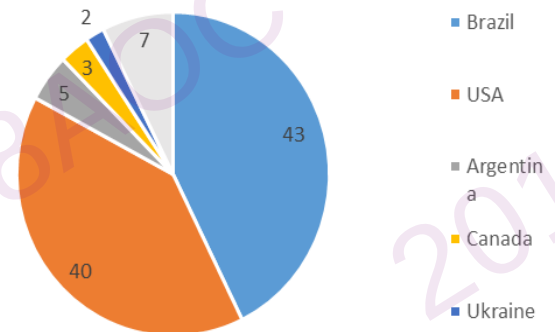
Main Export Countries of Feed Crops - Oligopoly -

Corn: Share of Main Exporting Countries(%)



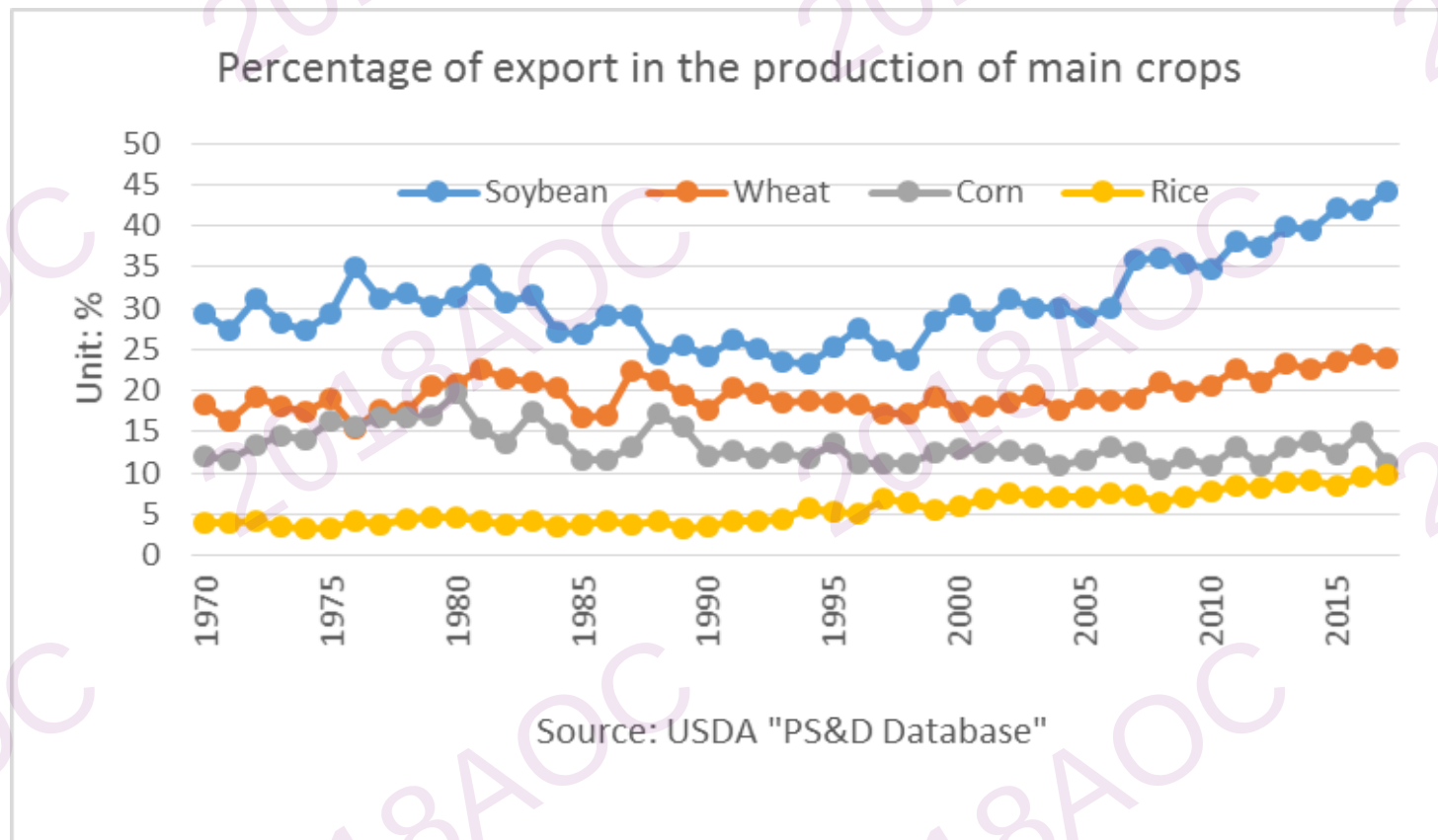
Data: 2016/17 crop year: Source:USDA

Soybean: Share of Exporting Countries(%)

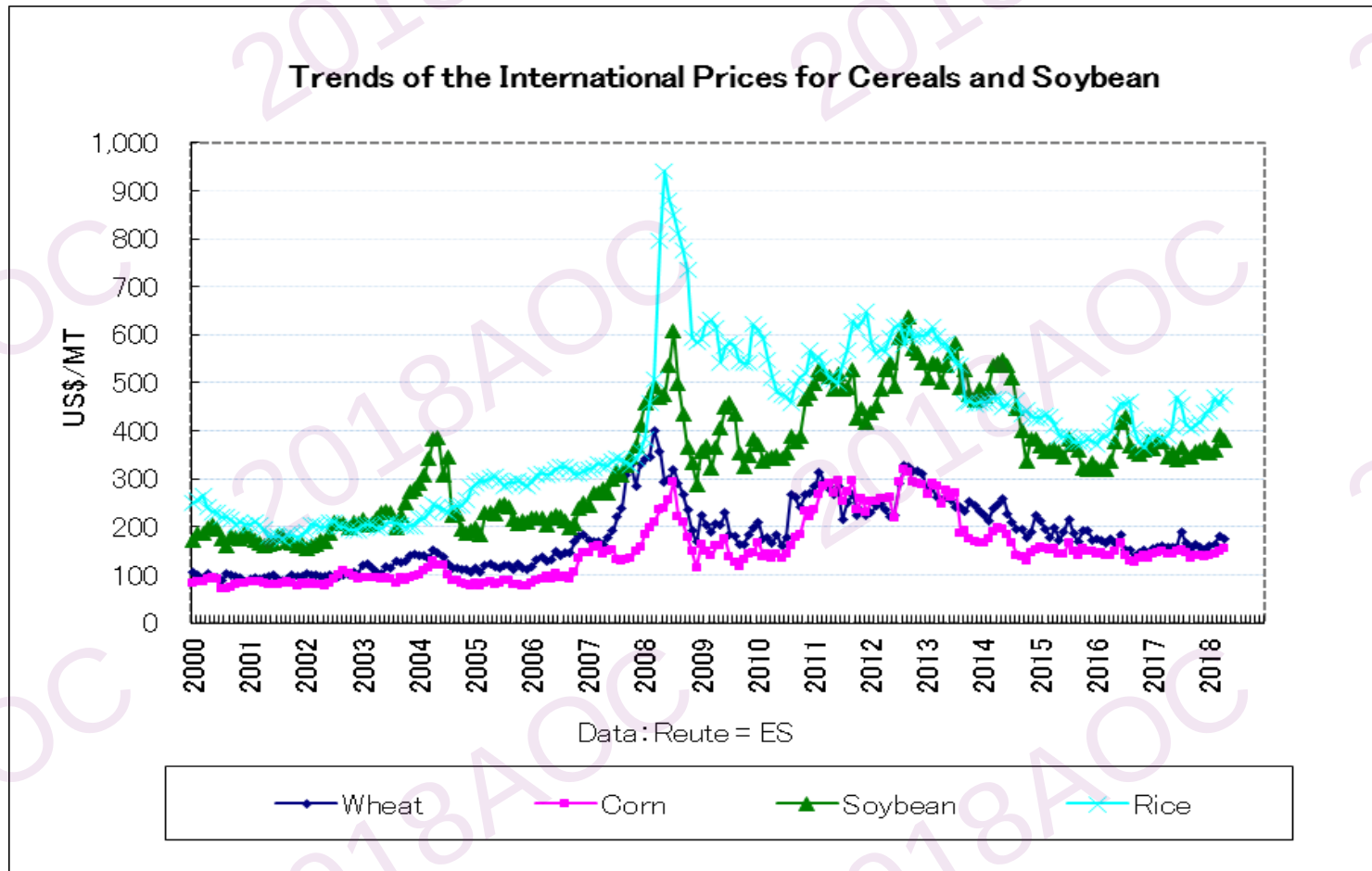


Data: 2016/17 crop year: Source: USDA

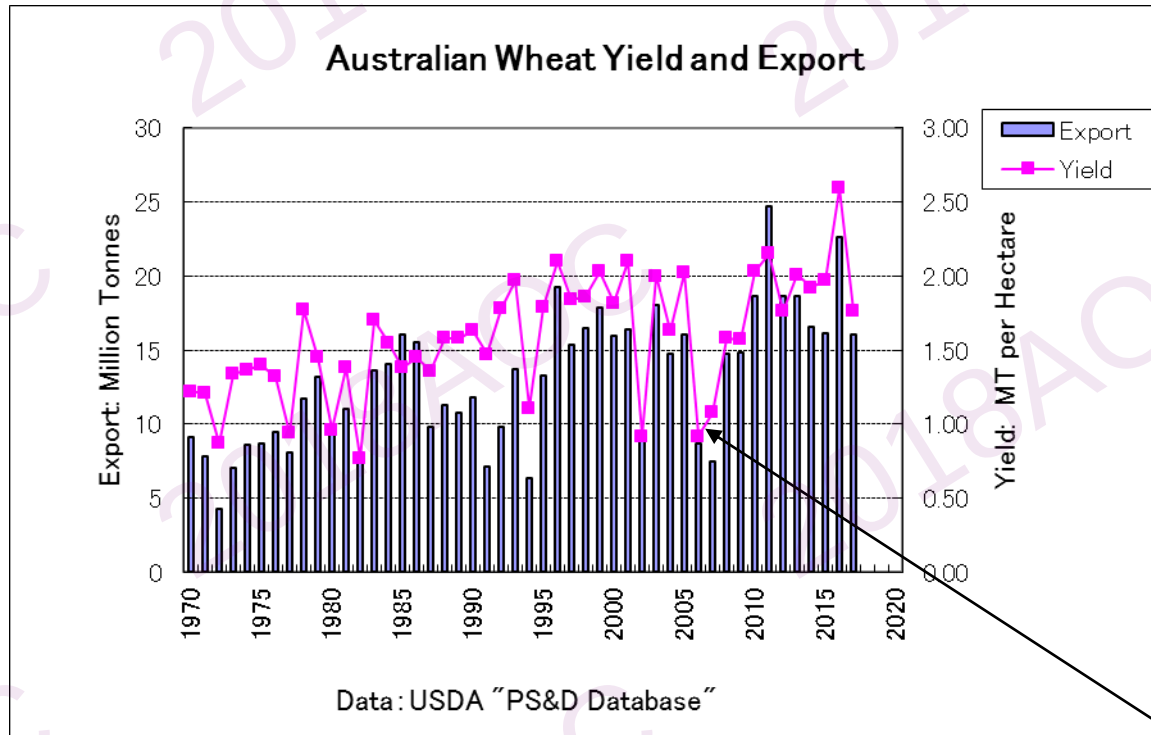
Trade is increasingly becoming important for cereals and soybean



Risk; Why did Prices Soar in 2006-07 ?



Australian Wheat; Historical Yield and Export



Drought of 2006
and 2007

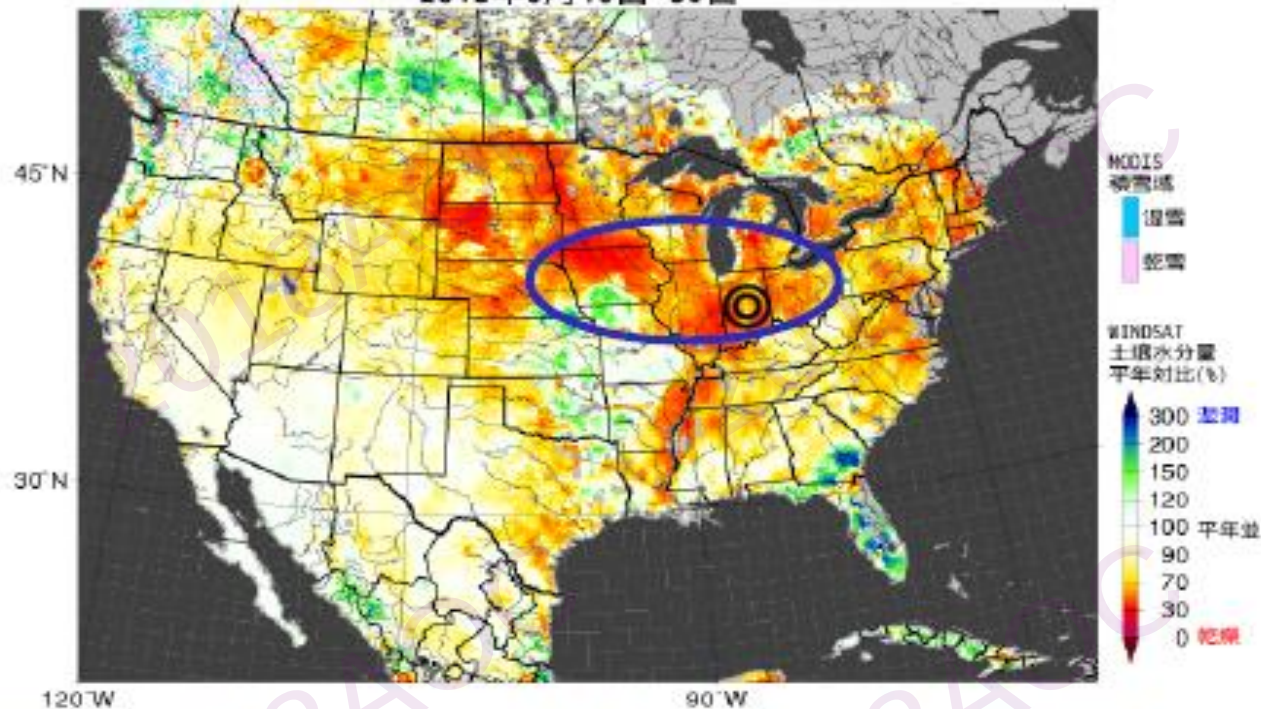
Recent Climate Incidents

- 2006-07 Drought in Australia, World Commodity Crisis (extreme price hike)
- 2010 Drought in Black Sea Countries (Russia, Ukraine and Kazak(h)stan
(decrease in wheat export)
- 2011 Flood in Thailand
- 2012 Drought in USA
(decrease in maize and soybean export)

2012 Summer US Drought

6月後半の土壤水分量(青円のコーンベルトは平年の半分以下)

2012年6月16日~30日



資料：JAXA提供の「WINDSAT土壌水分プロダクト」及び「JASMES積雪プロダクト」

Part 4: OUTLOOK

Outlook is **NOT** Intended to Be a **Forecast**

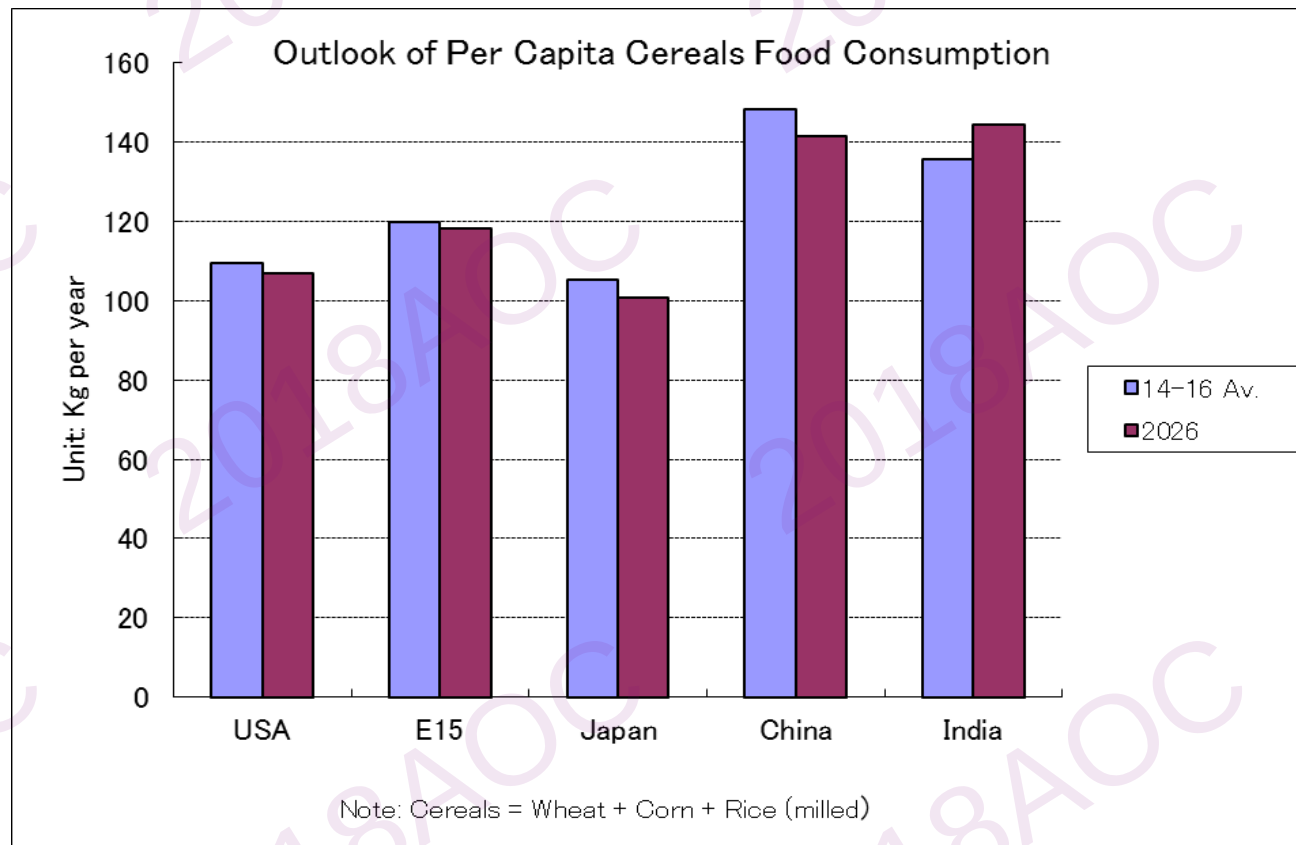
- of what the future will be,
- but instead are a description of what would be expected to happen,
- under very specific assumptions and circumstances on climatic conditions, macro economic indicators and agricultural policies.

OECD-FAO Agricultural Outlook

- Released in every year since 1995.
- **Medium-Term(10 years ahead) Outlook on balances and prices of major agricultural commodity products.**
- Before 2005, OECD only. After 2005, become joint work between OECD and FAO. More detailed output in developing countries.
- **The latest issue is “The OECD-FAO Agricultural Outlook 2016-2025”(22nd publication)(Hereafter “Outlook”).**
- The tool for these outlook is **AGLINK-COSIMO model**, that comprises about 86,000 variables.

Outlook for Cereals Consumption

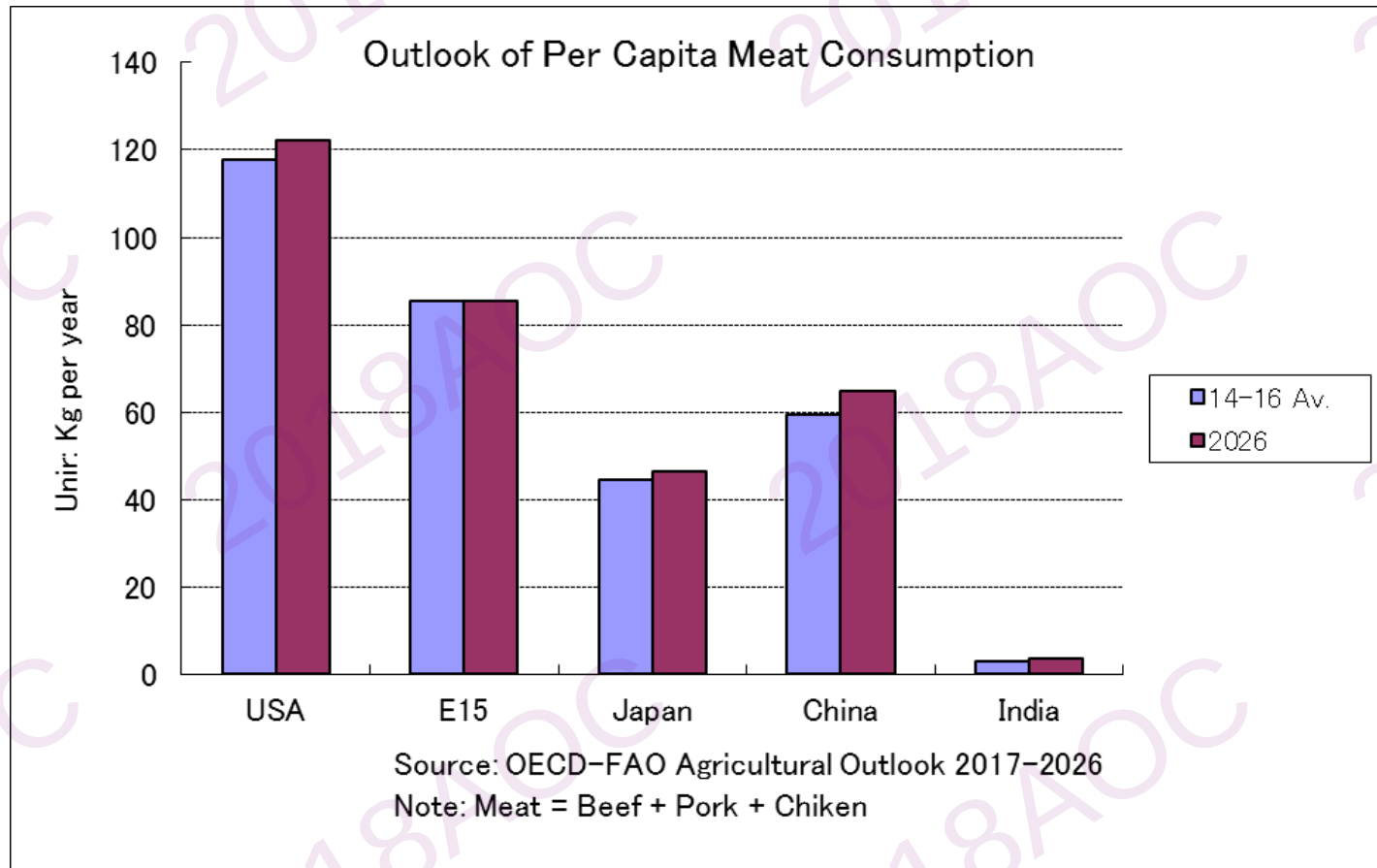
- per Capita Food Basis -



Source: "OECD-FAO Agricultural Outlook 2017-2026"

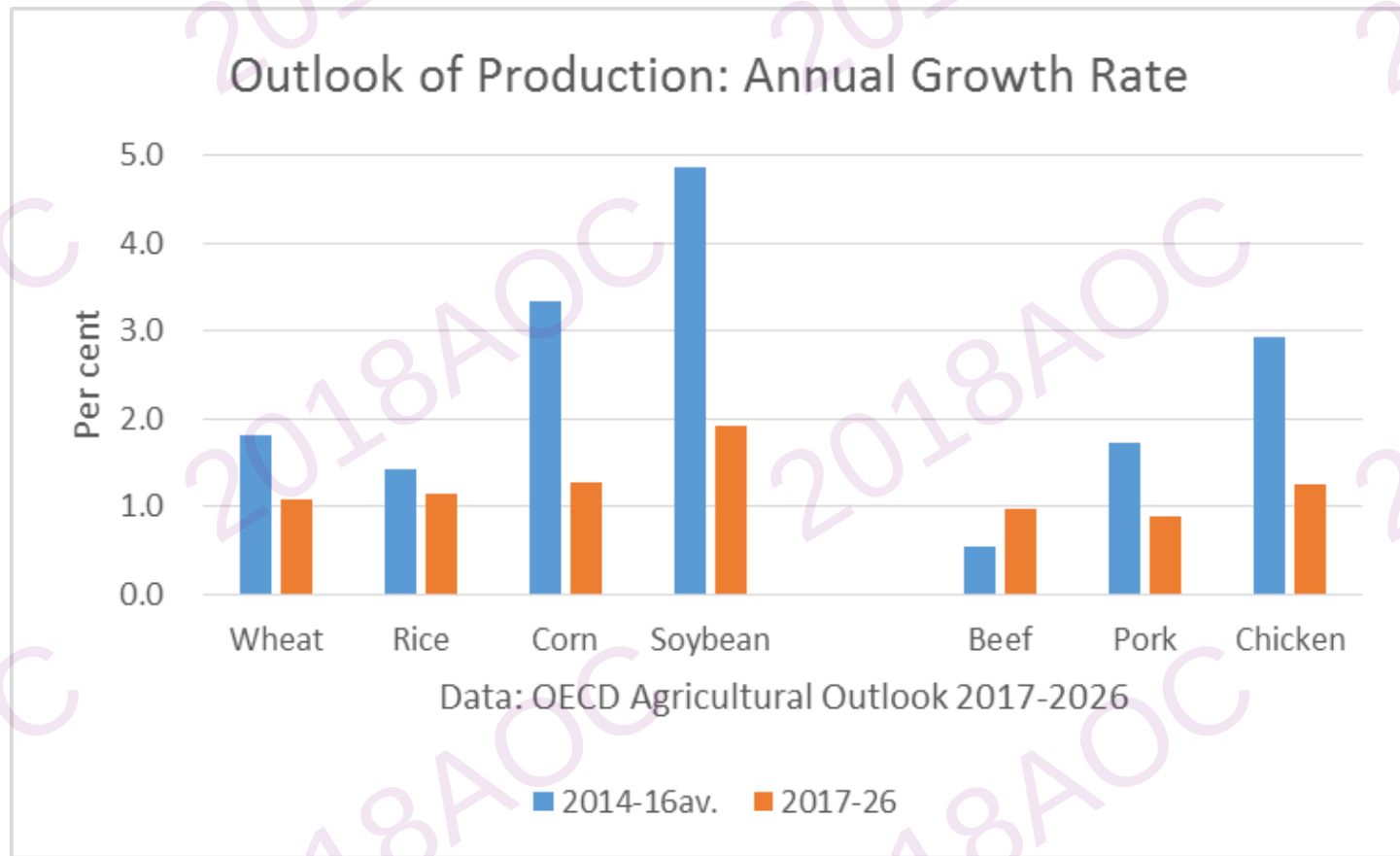
Outlook for Meat Consumption

- per Capita Basis -

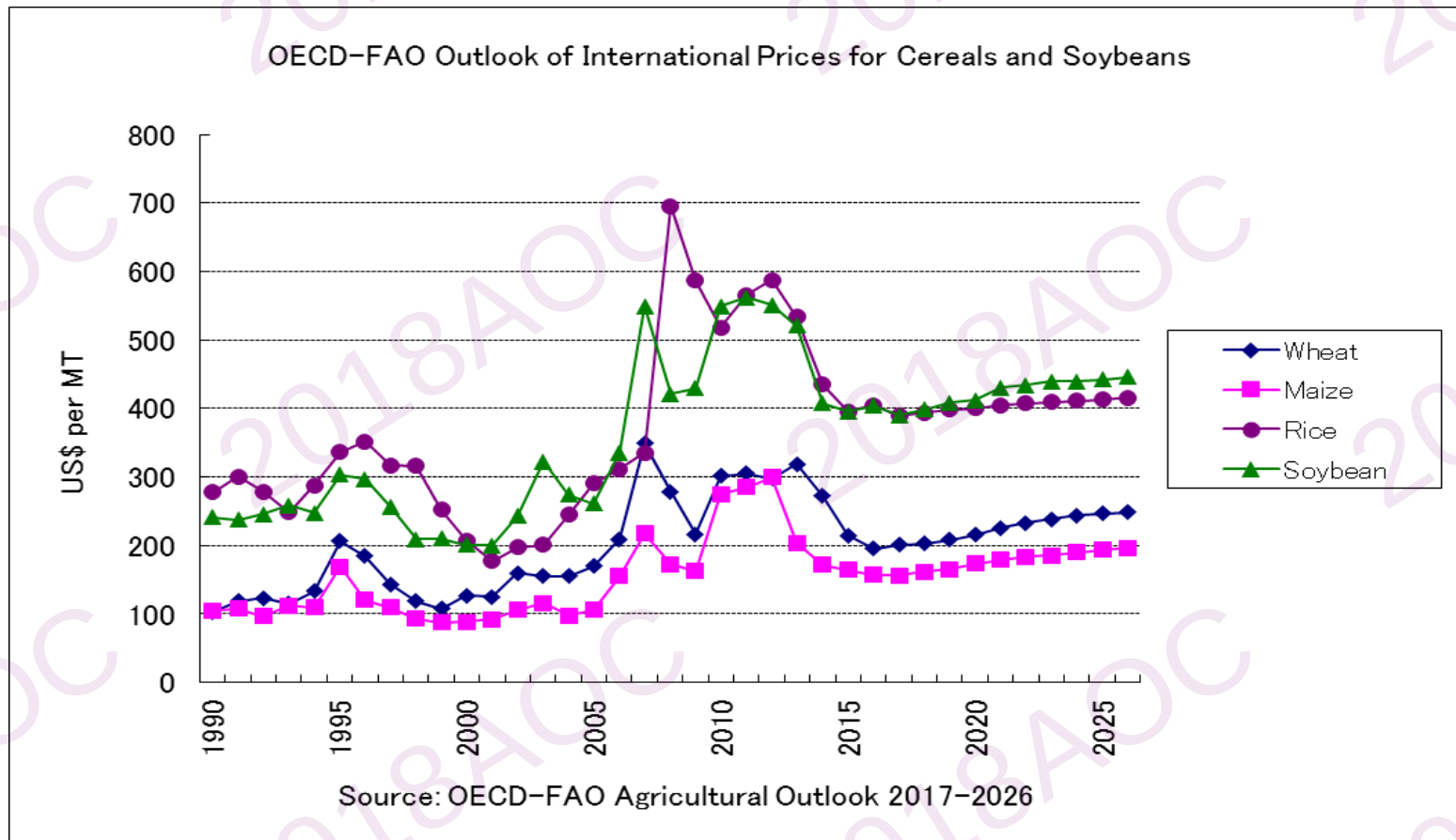


Production Outlook:

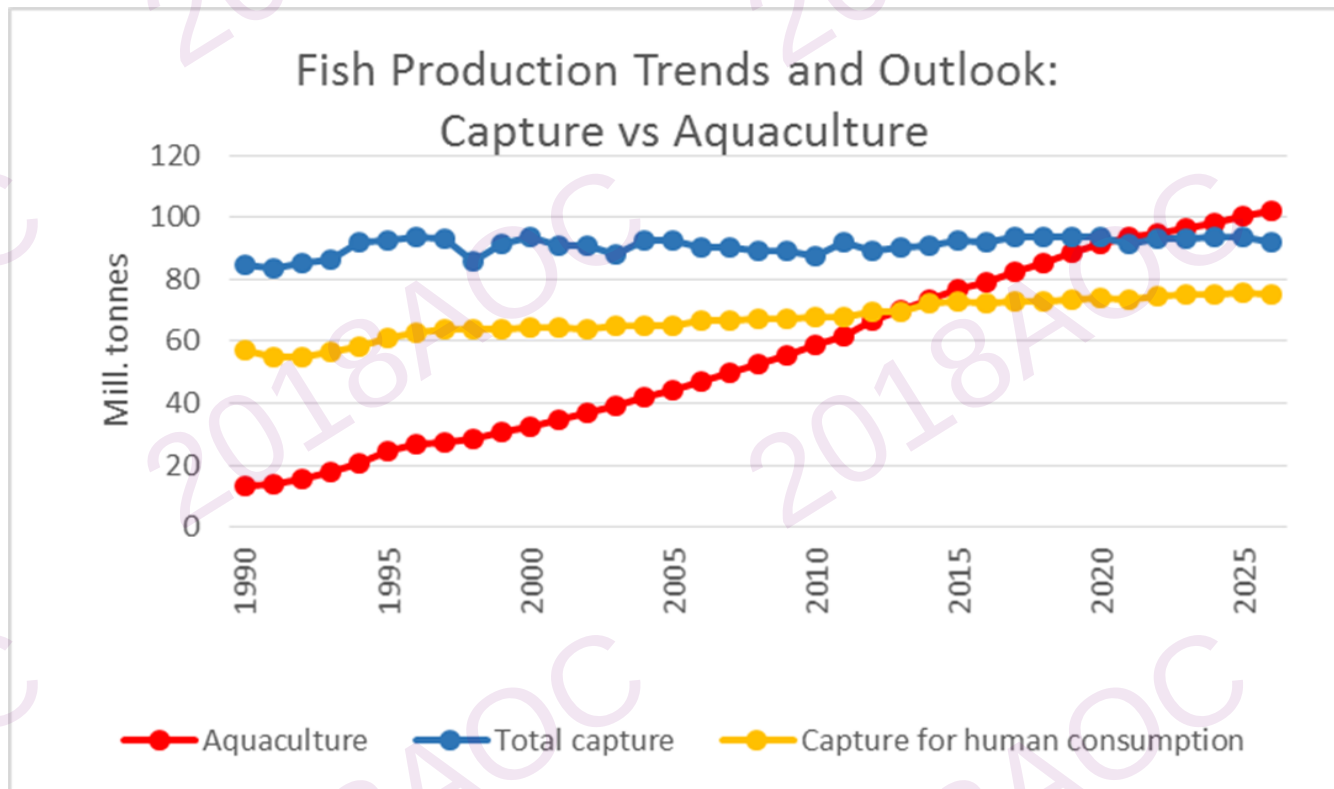
- Deceleration of Growth -



Outlook of International Prices for Cereals and Soybeans



Fish Production Trends and Outlook: Capture vs Aquaculture



Part 5: Concluding Remarks

(Risks and Uncertainties)

Risks and Uncertainties

- **Abnormal Weather:** i.e., Droughts and frosts brought by climate change?
- **Economic Growth:** Will world economy continue to show favorable growth?
- **Policy Change;** Multilateral and/or bilateral negotiations, domestic policy reform. how and when?



Thank you for your attention.

謝謝!

Note:

This presentation is based on my personal views,
and does not necessarily reflect the official
views of the Government of Japan.