

US-China Agricultural Trade: Challenges and Opportunities

Wendong Zhang

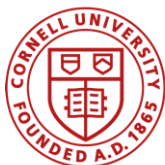
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ASFMRA Webinar, June 14, 2023



Dyson
Cornell
SC Johnson College of Business

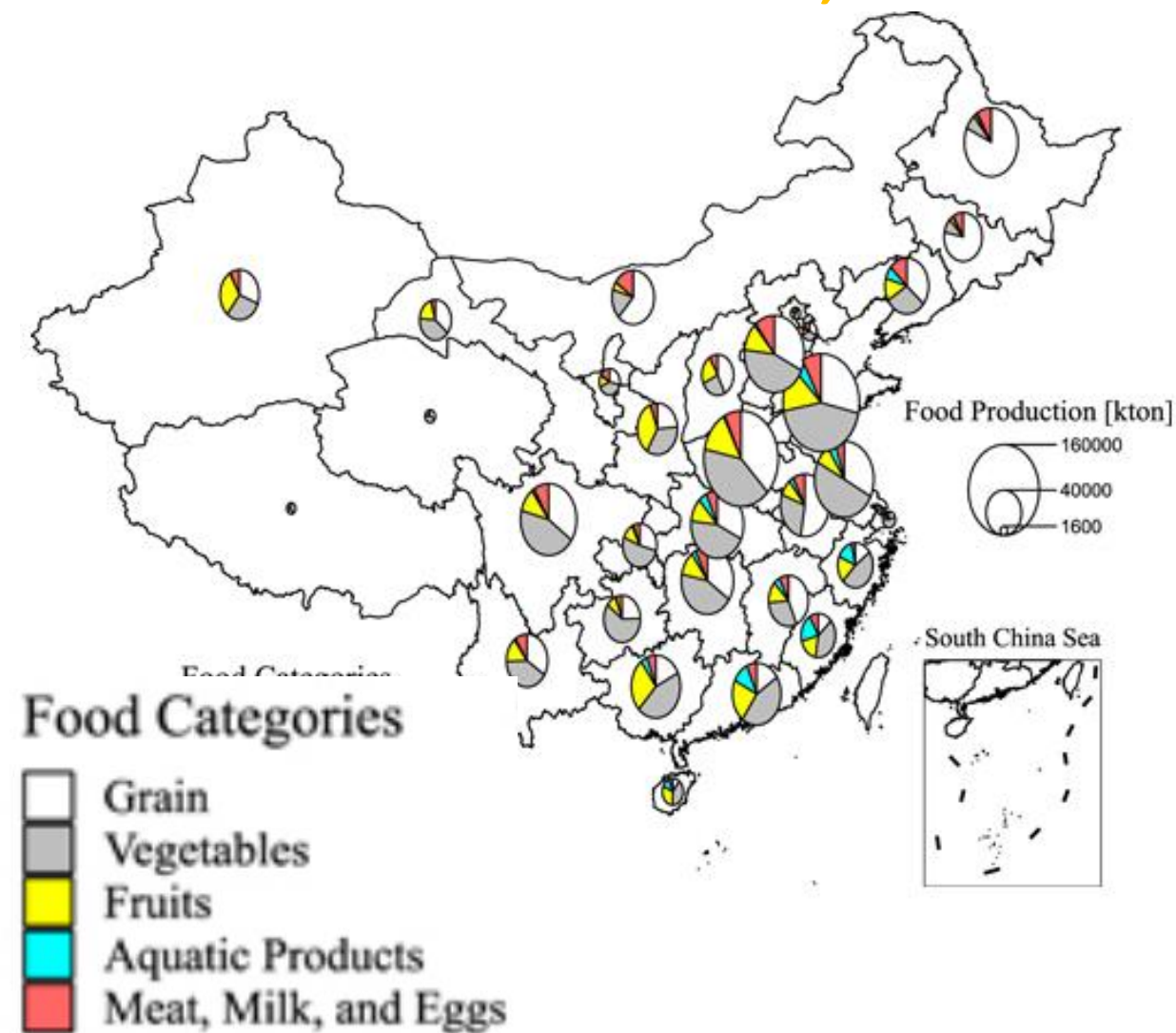


Cornell **CALS**
College of Agriculture and Life Sciences

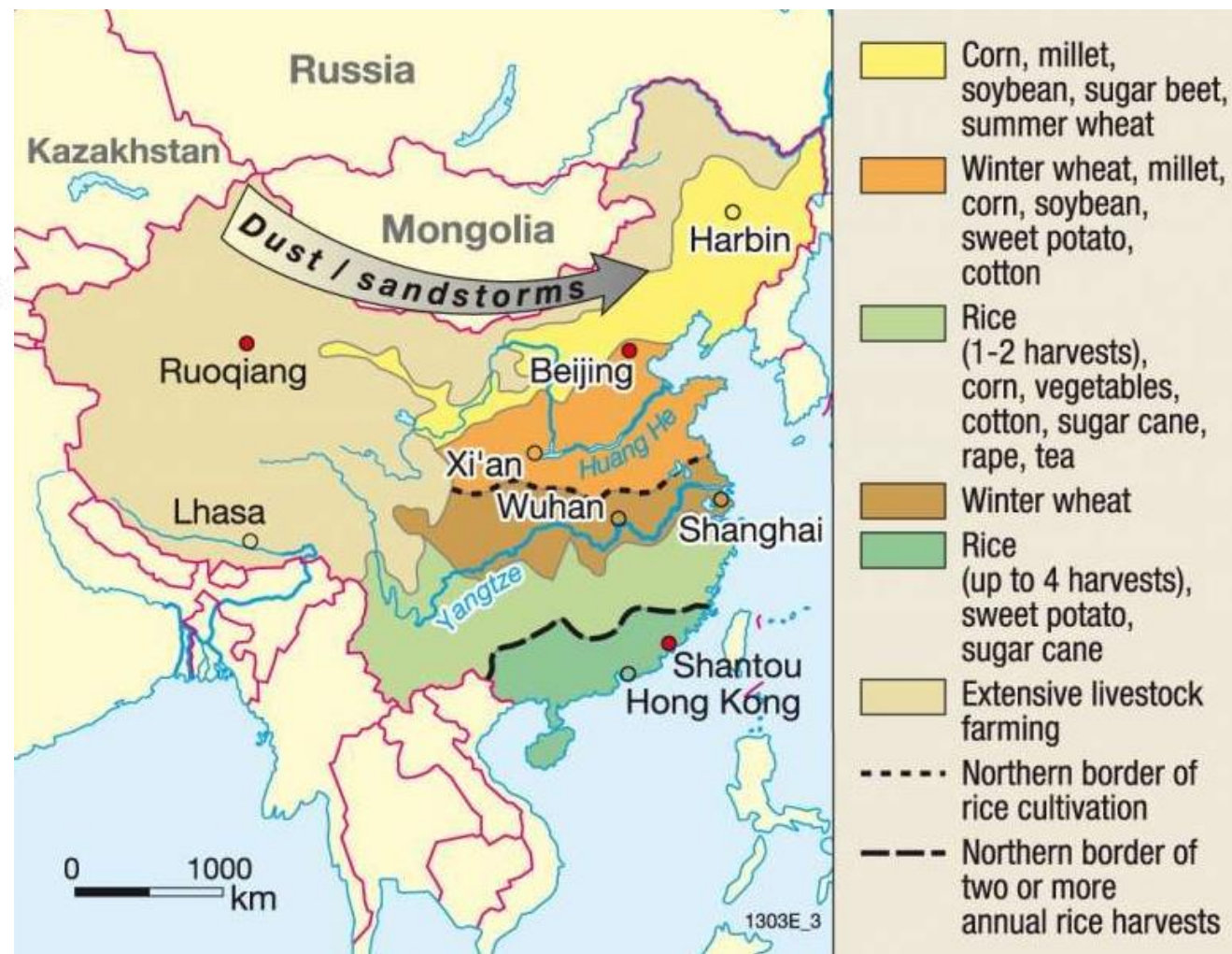
A Quick Introduction: Dr. Wendong Zhang

- Grew up in a rural county in Shandong Province, China
- Attended college in Shanghai and Hong Kong
- Ph.D. in Ag Econ from Ohio State in 2015
- Worked at Iowa State for 7 years, leading the Iowa Land Value Survey 15-22
- Moved to Cornell University Dyson School of Applied Economics & Management in July 2022 (50% research 50% extension appointment)
- Research and extension interests:
 - Led land value/ownership surveys <https://www.card.iastate.edu/farmland>
 - Co-founded ISU China Ag Center** <https://www.card.iastate.edu/china>
 - Cornell Atkinson Center for Sustainability: <https://atkinson.cornell.edu/>
 - Cornell Institute for China Economic Research (CICER)**
<http://china.dyson.cornell.edu/>
 - Global Public Voices Fellow, Einaudi Center for International Studies

Food Production in China, 2018



China's Major Crops



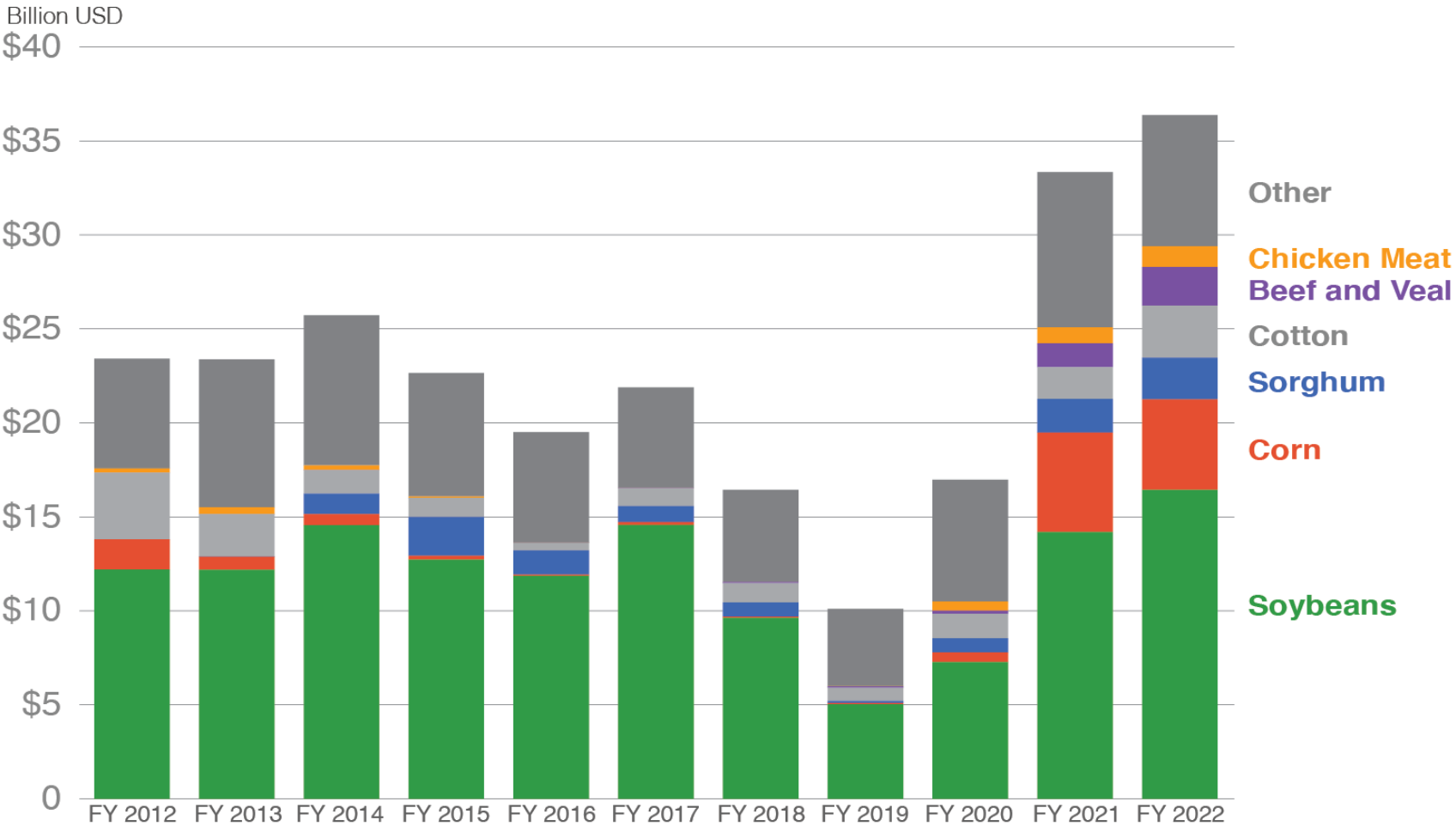
Four Stories

- Chinese soybean imports
- Chilean cherries
- European pork exports
- Chinese dairy demand

Chinese soybean imports

Chinese imports from US were concentrated on feed grains, especially soybeans

U.S. Agricultural Exports to China

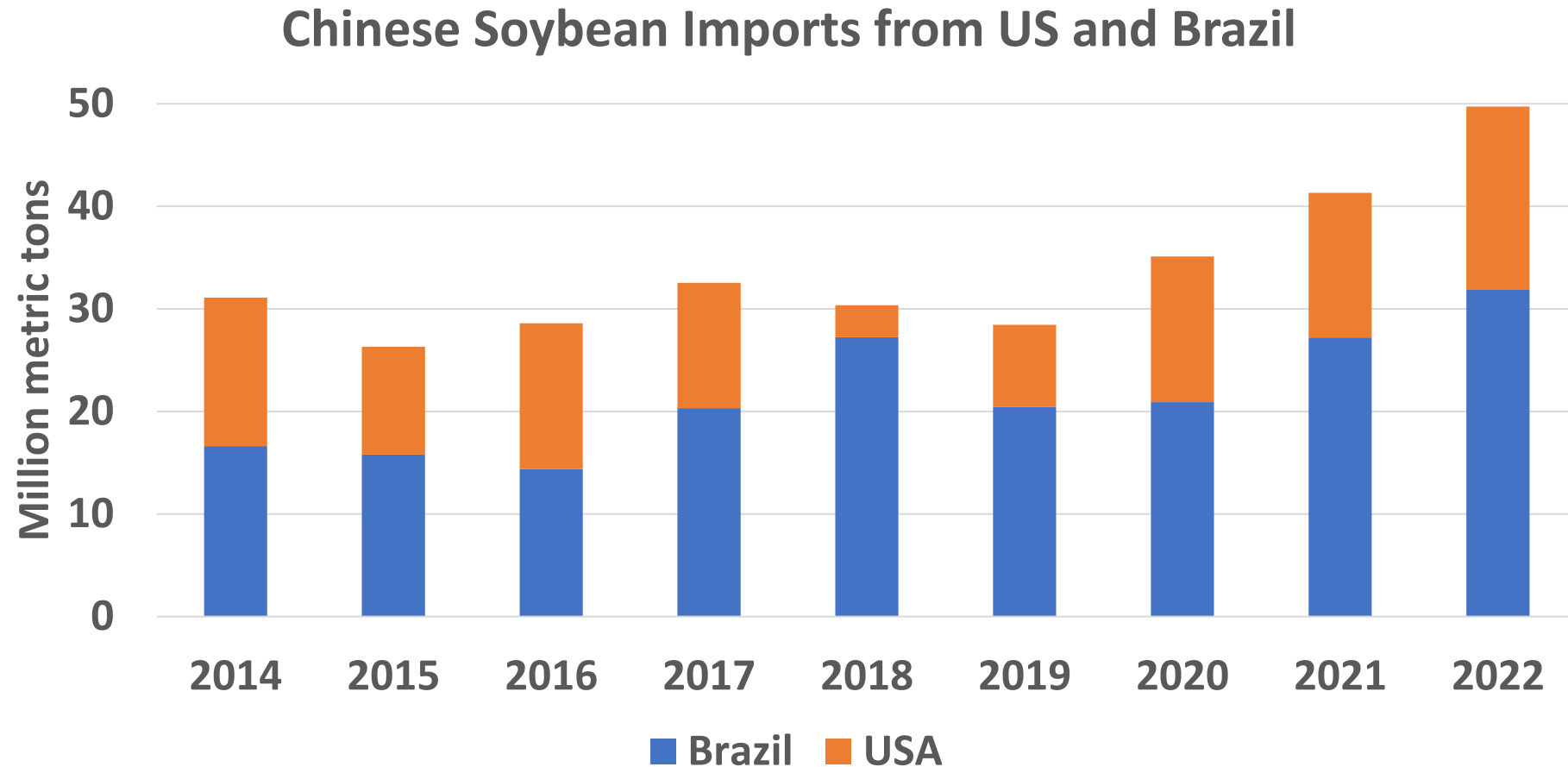


Featured Article
The Case for Healthy U.S.-China Agricultural Trade Relations Despite Deglobalization Pressures†

Wendong Zhang ✉
First published: 13 October 2020 | <https://doi.org/10.1002/aepp.13115>

Source: Trade Data Monitor, LLC
<https://www.fas.usda.gov/data/record-us-fy-2022-agricultural-exports-china>

Brazil captures a lion's share of Chinese soybean imports, however, cannot go without US supply





SOURCE / ECONOMY

China to expand pilot area for GM soybeans, corn, will strengthen supervision

By Shen Weiduo

Published: Feb 21, 2023 10:03 PM

China granted approval for its first domestically developed GM crop strains in 10 years - two corn and one soybean - at the end of 2019, news portal Caixin.com reported.

China is bulldozing parks and “green belt” around Chengdu to create more farmland

Apparent push for food security reverses grand greenery plan, wastes billions of taxpayers' money

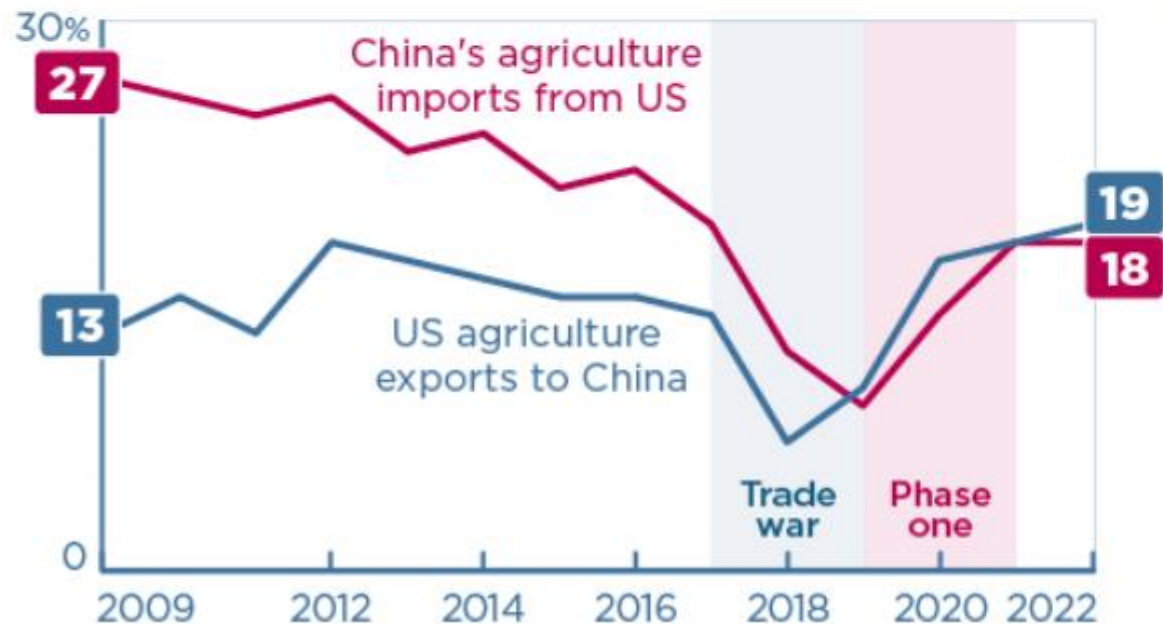
By Gu Ting for RFA Mandarin

2023.04.28

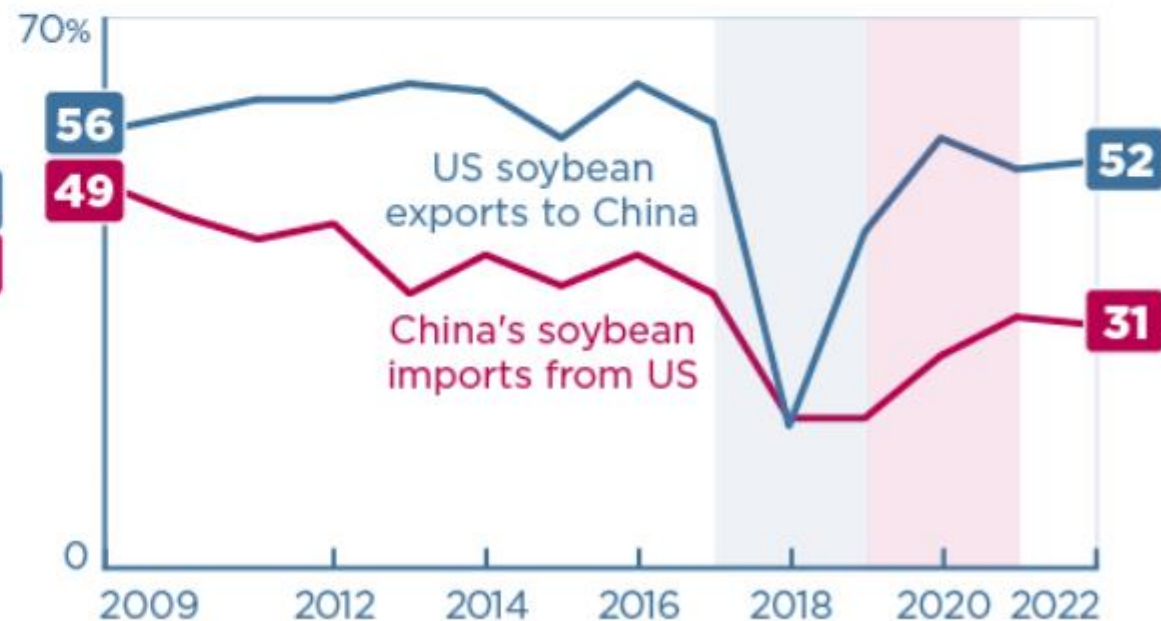


China is becoming less dependent on American farmers, but US export dependence on China remains high

a. Agricultural trade between US and China as a share of each country's total



b. Soybean trade between US and China as a share of each country's total



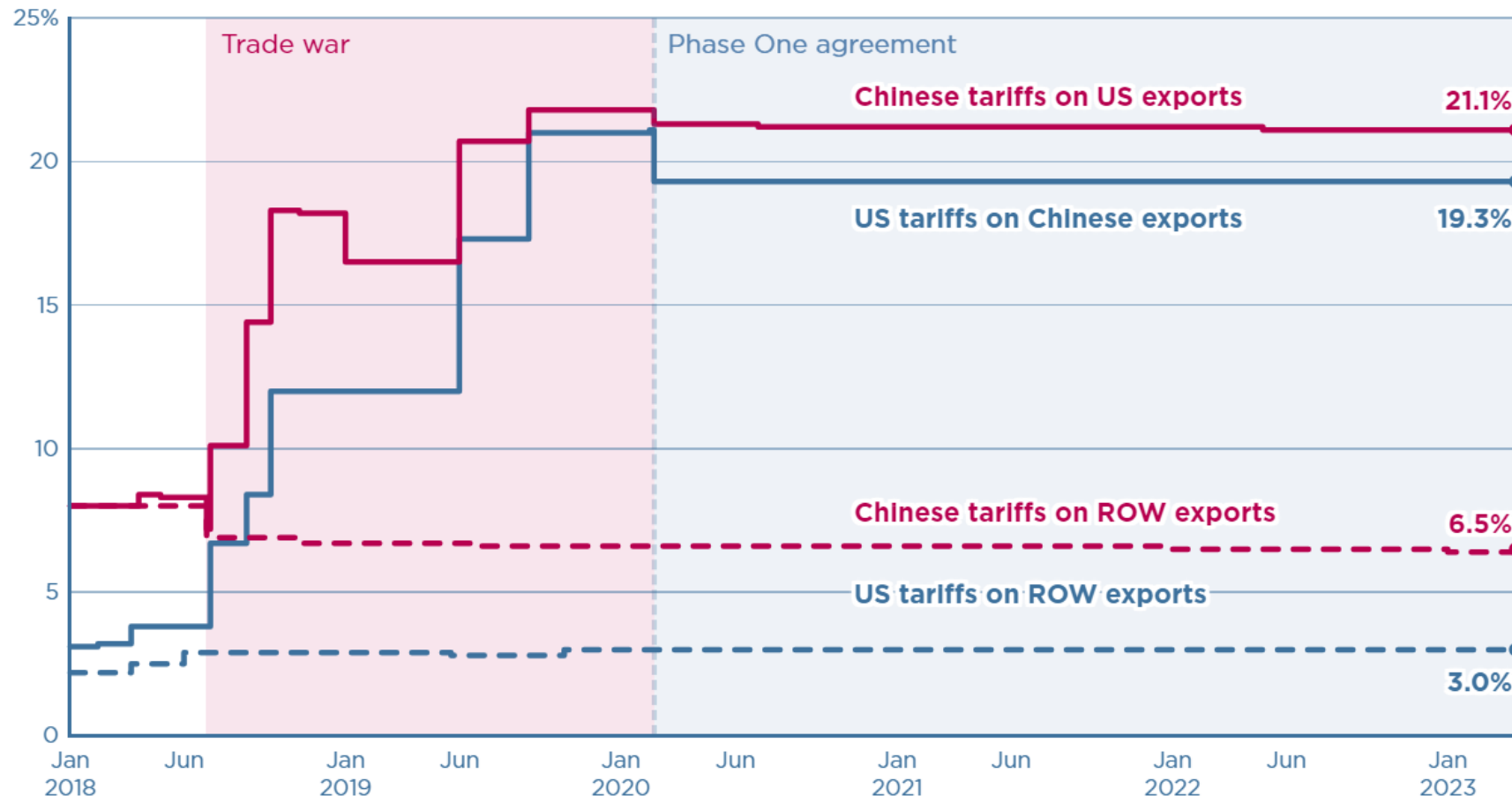
China's Strengthening Trade Ties with US Competitors

in response to US-China trade war & decoupling



US-China trade war tariffs: An up-to-date chart

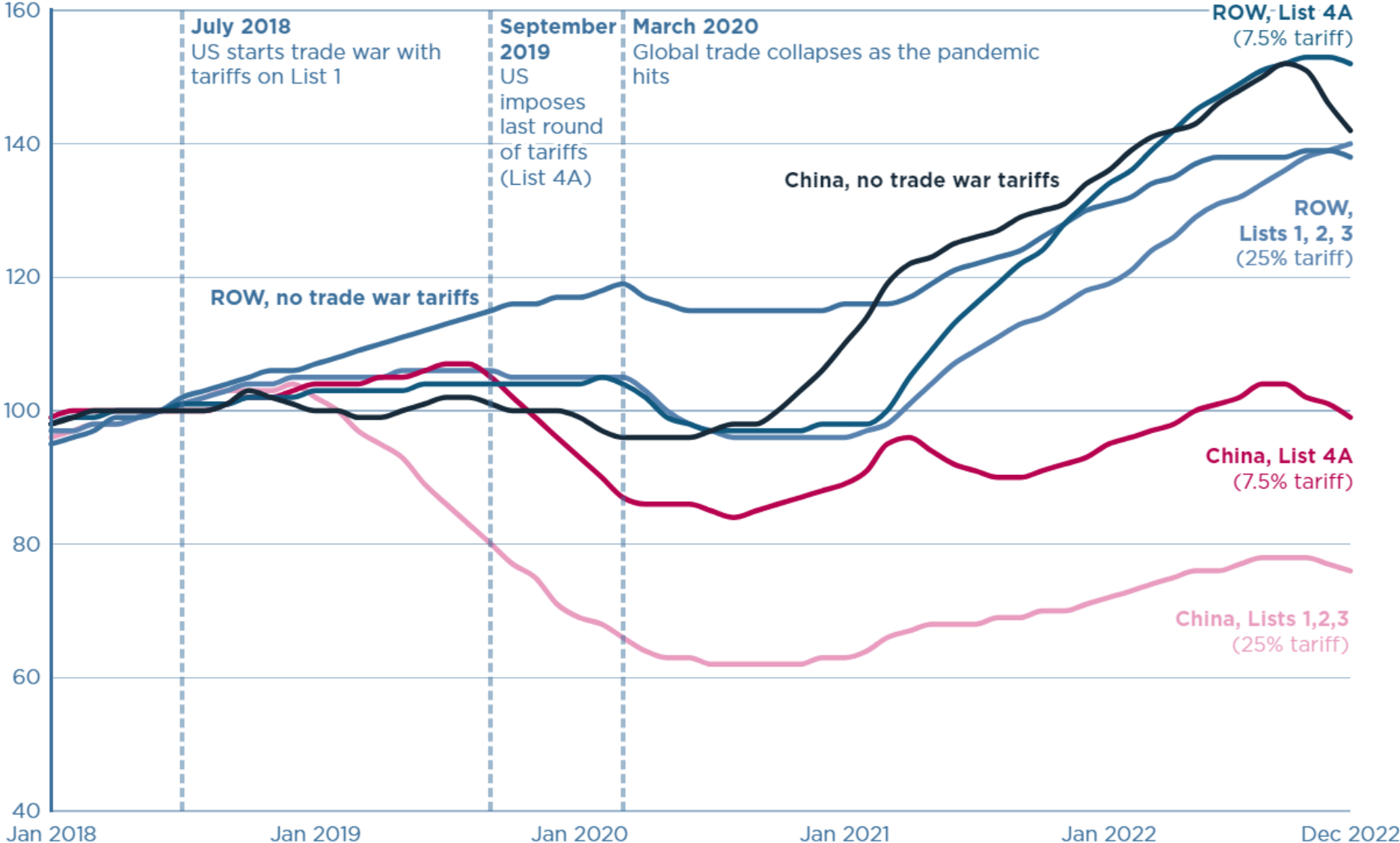
a. US-China tariff rates toward each other and rest of world (ROW)



Chinese tariffs on other countries dropped while the US-China trade war is still ongoing

US imports from China are both decoupling and reaching new highs.

b. US monthly goods imports from China and rest of world by trade war tariff list (index, June 2018=100)



Chilean Cherries

Chilean cherry exports to China hit new high

By Chu Daye

Published: Jan 19, 2023 12:46 AM

GLOBAL
TIMES
DISCOVER CHINA. DISCOVER THE WORLD.



Fresh cherry exports from Chile to global markets in the 2022/23 season are expected to top 80 million boxes, or around **400,000 tons**

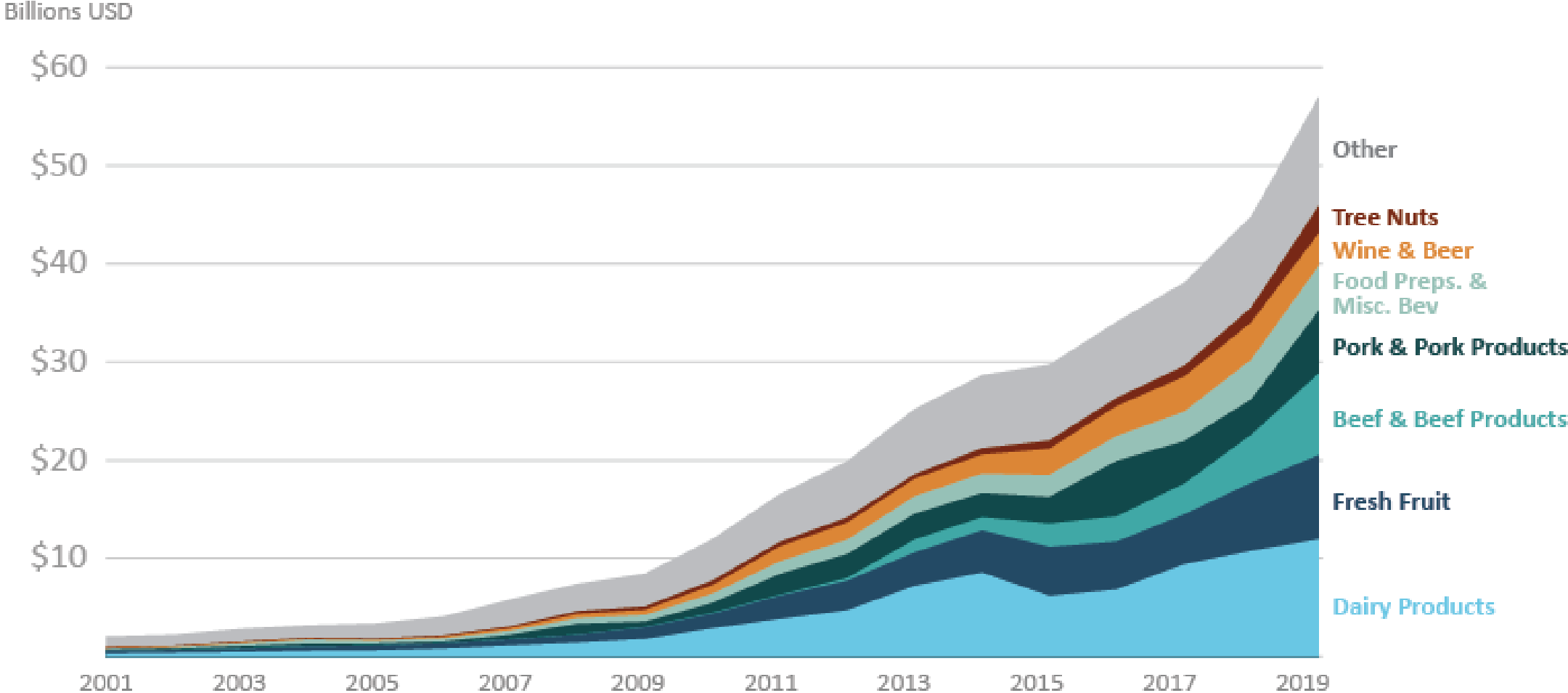
89% of Chilean cherry exports go to China

Conspicuous Consumption

- Thorstein Veblen (1857-1929) introduced the term “conspicuous consumption” (referring to consumption undertaken to **make a statement to others about one’s class or accomplishments**). This term, more than any other, is what Veblen is known for.
- Veblen grew up in a Norwegian immigrant farming community in Wisconsin.



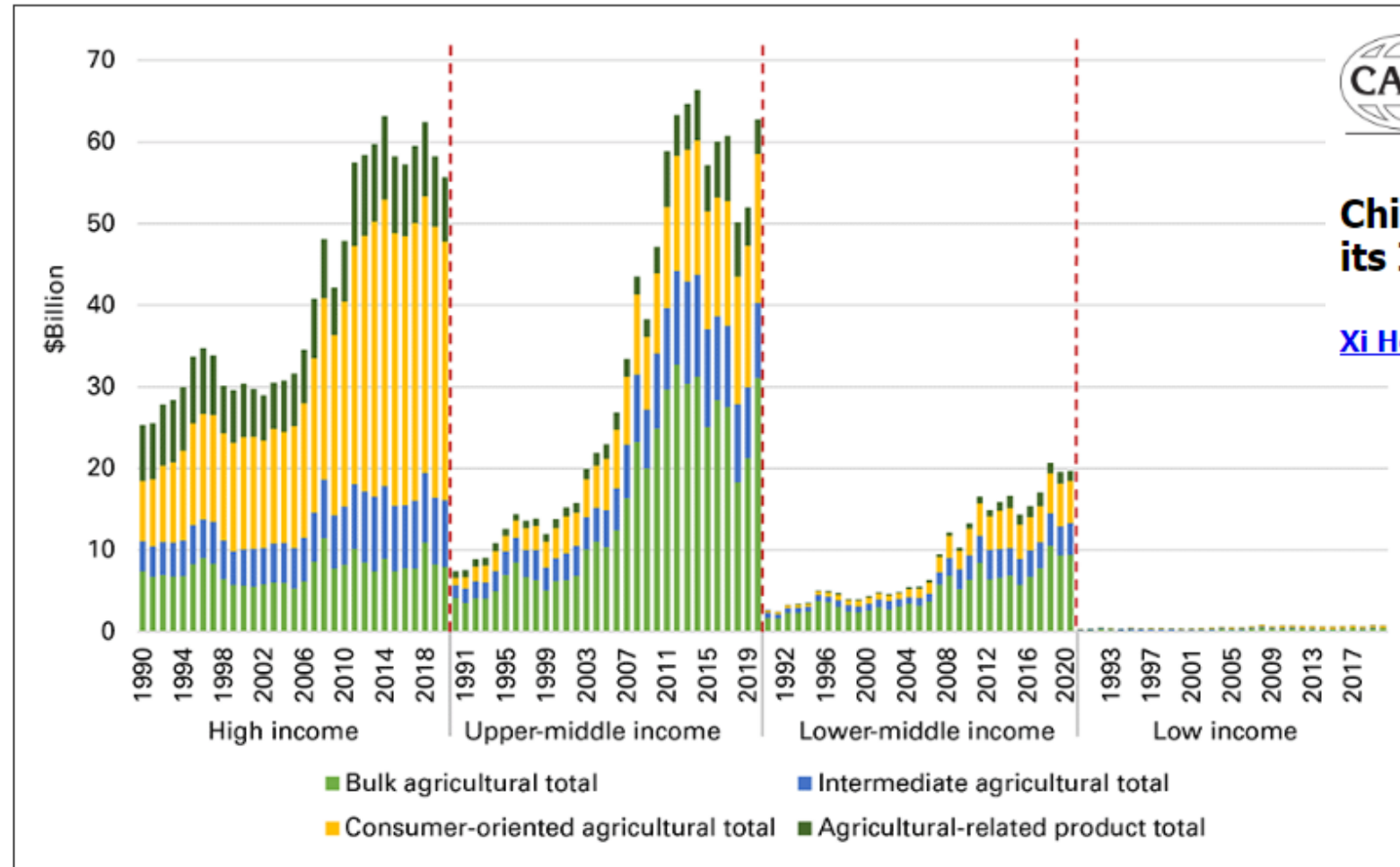
China's Global Consumer-Oriented Product Imports, 2001-2019



Source: Trade Data Monitor

<https://www.fas.usda.gov/data/china-evolving-demand-world-s-largest-agricultural-import-market>

States. Figure 2 illustrates US exports of four agricultural categories—bulk (e.g., corn, soybeans, wheat), intermediate (e.g., soybean meal and soybean oil), consumer-oriented (e.g., pork and beef products), and agriculture-related products (e.g., seafood and forestry products)—to high-income, upper-middle-income, lower-middle-income, and low-income countries from 1990 to 2020.



China's Changing Population Structure and its Implications for US Agricultural Exports

Xi He and Wendong Zhang

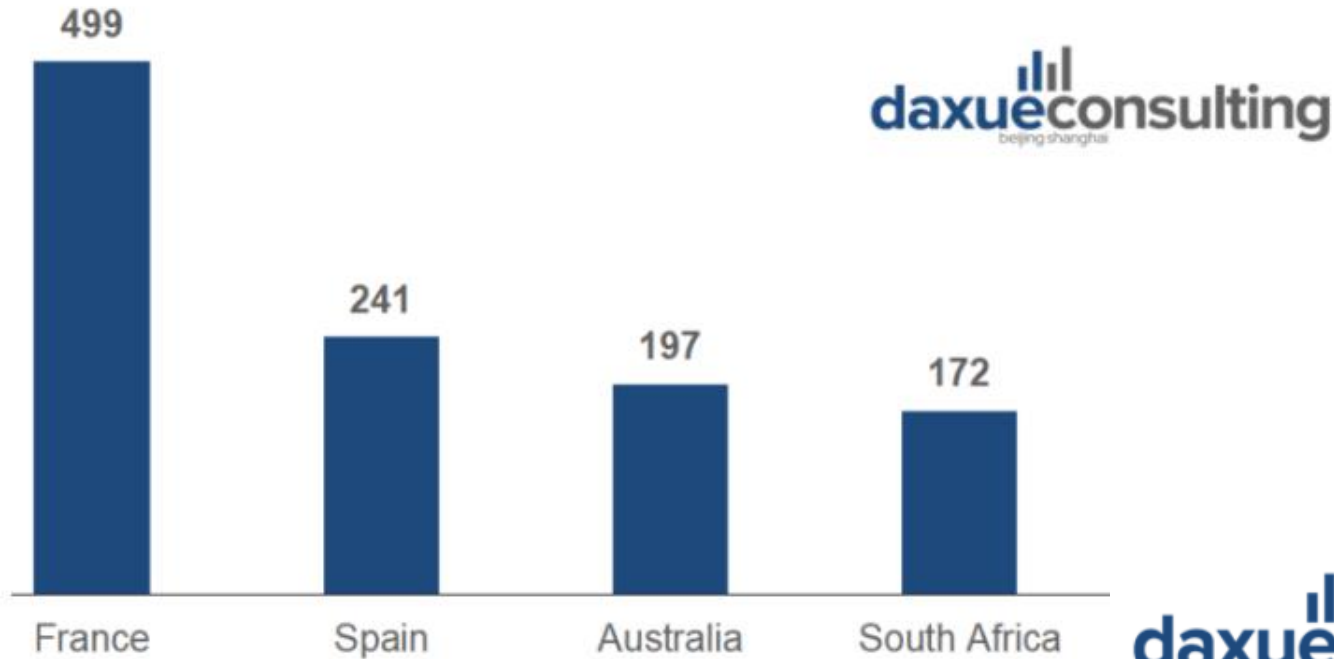
https://www.card.iastate.edu/ag_policy_review/article/?a=122

Figure 2. US exports of agricultural commodities to countries with different income levels.

Note: Based on data from USDA GATS (2021). We use World Bank's classification to classify countries into different income groups and use USDA's definition of agricultural products and classification of agricultural product categories.

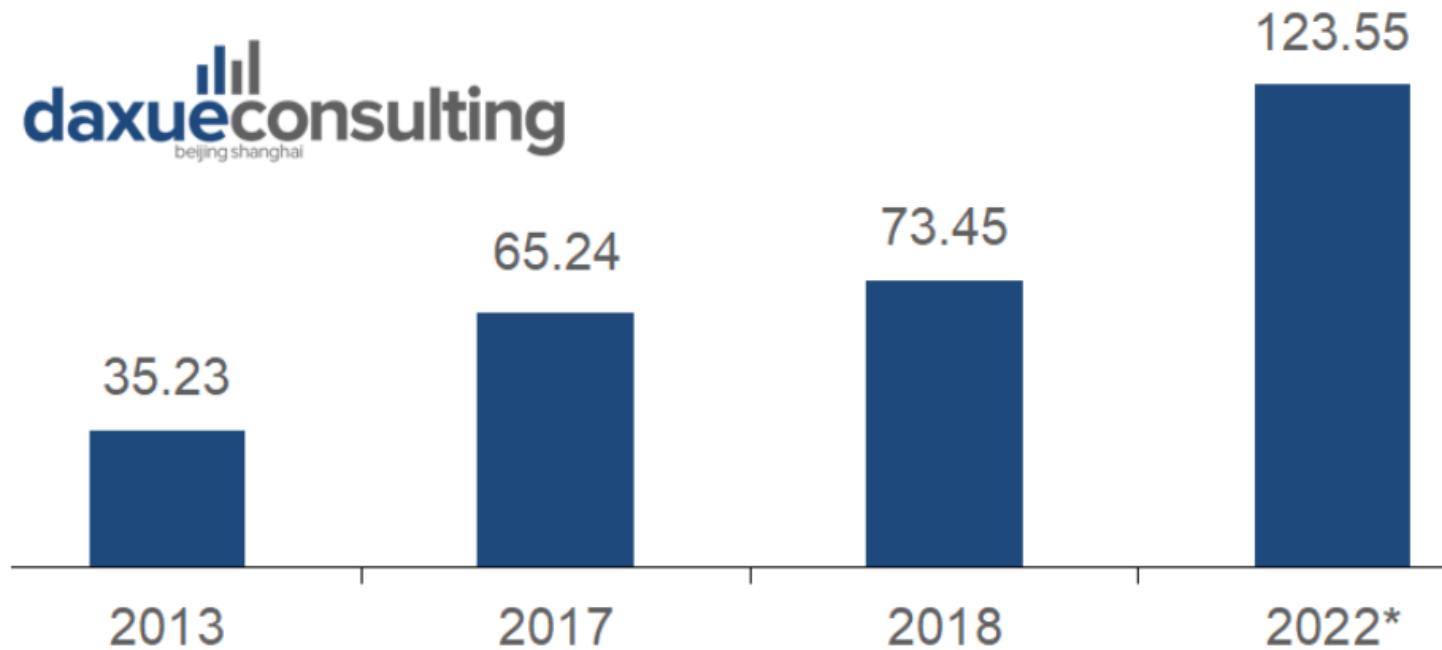
Baidu searches for wine from certain countries

*Number is for comparison and does not represent actual search volume



Another example: wine

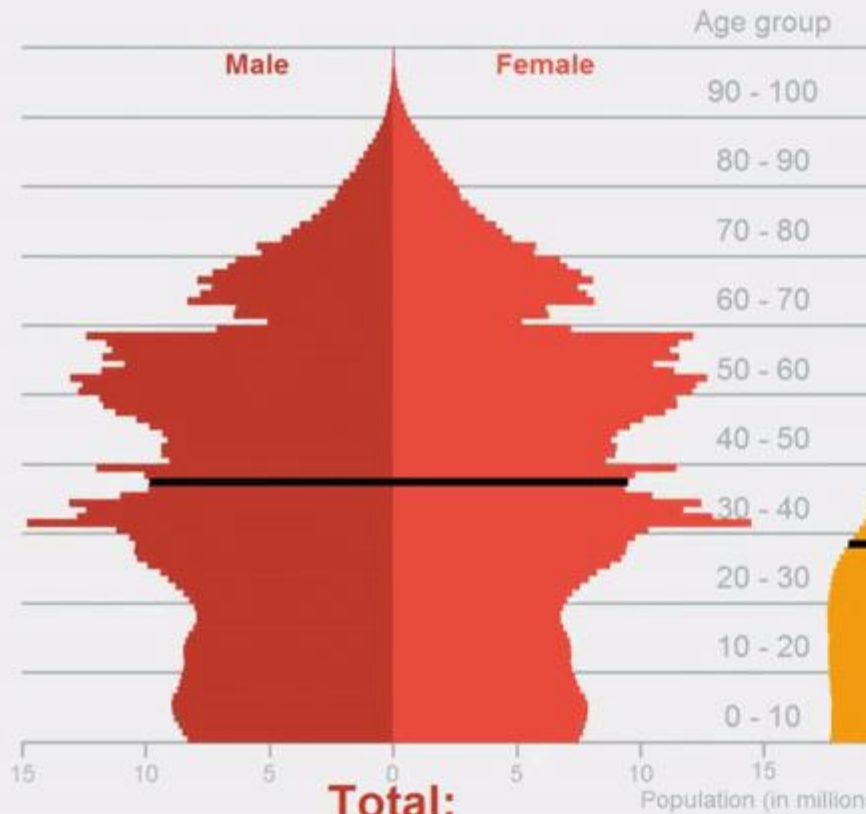
Sales value of wine in China (billion USD)



Yes, Chinese Population is Aging, but Income Growth is More Important

Population projection
2021

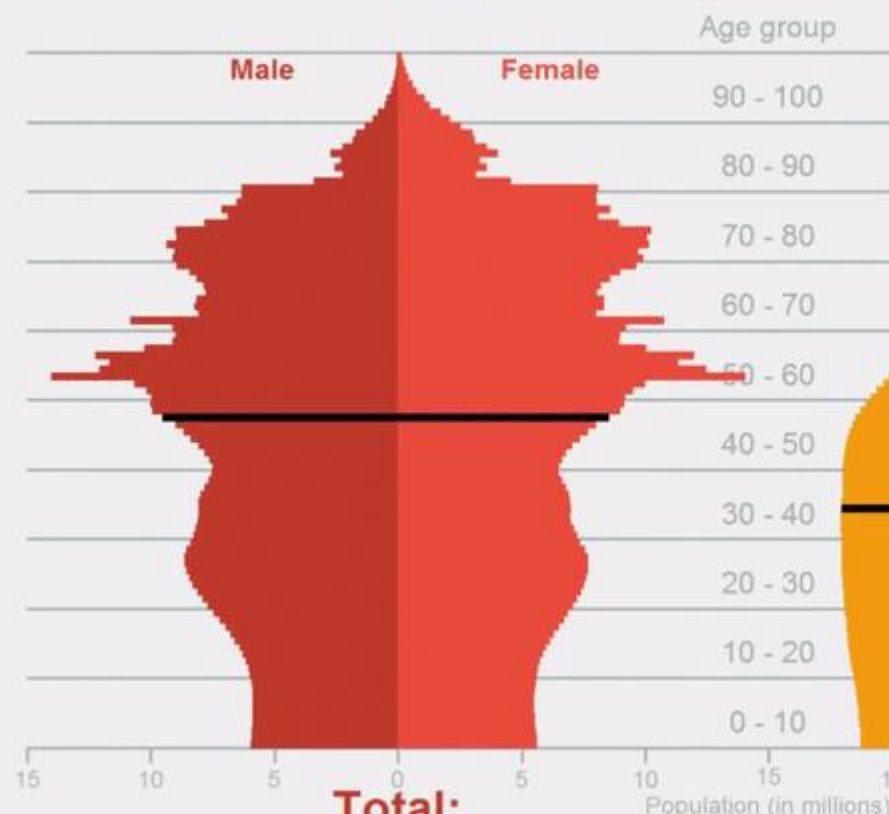
China



■ Median age

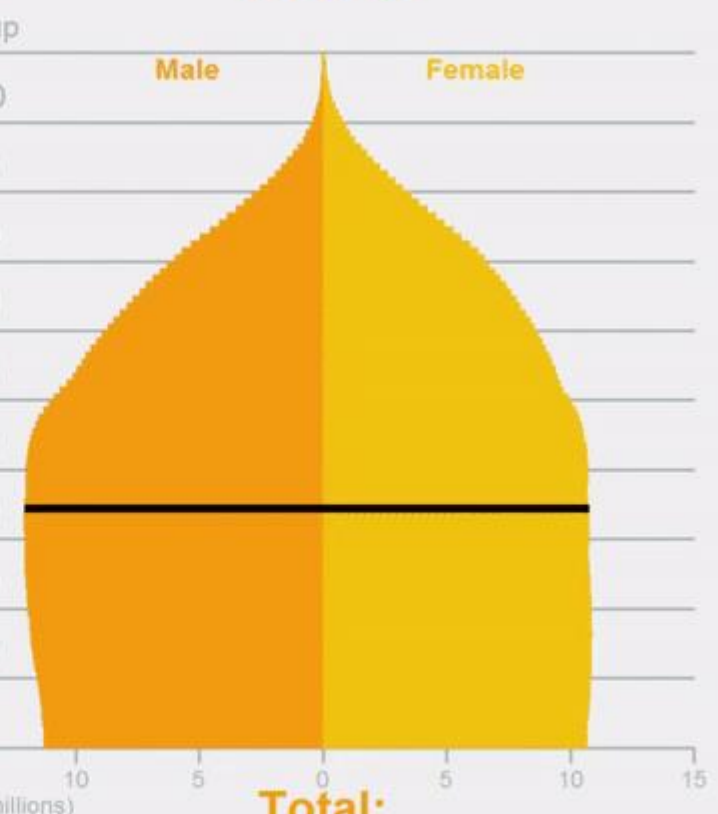
Population projection
2043

China



■ Median age

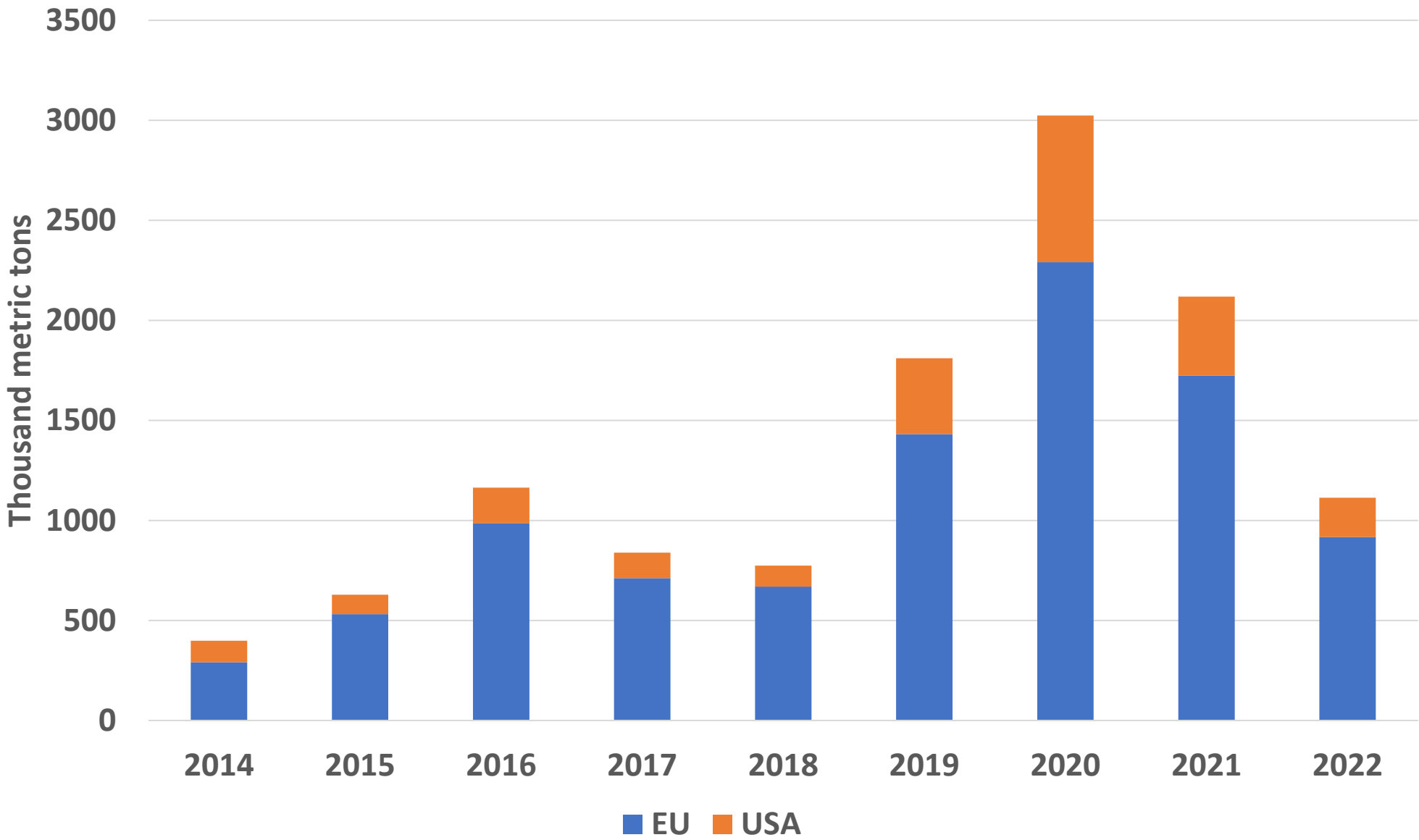
India



Data source: US Census Bureau IDB
Visualization by @aronstrandberg

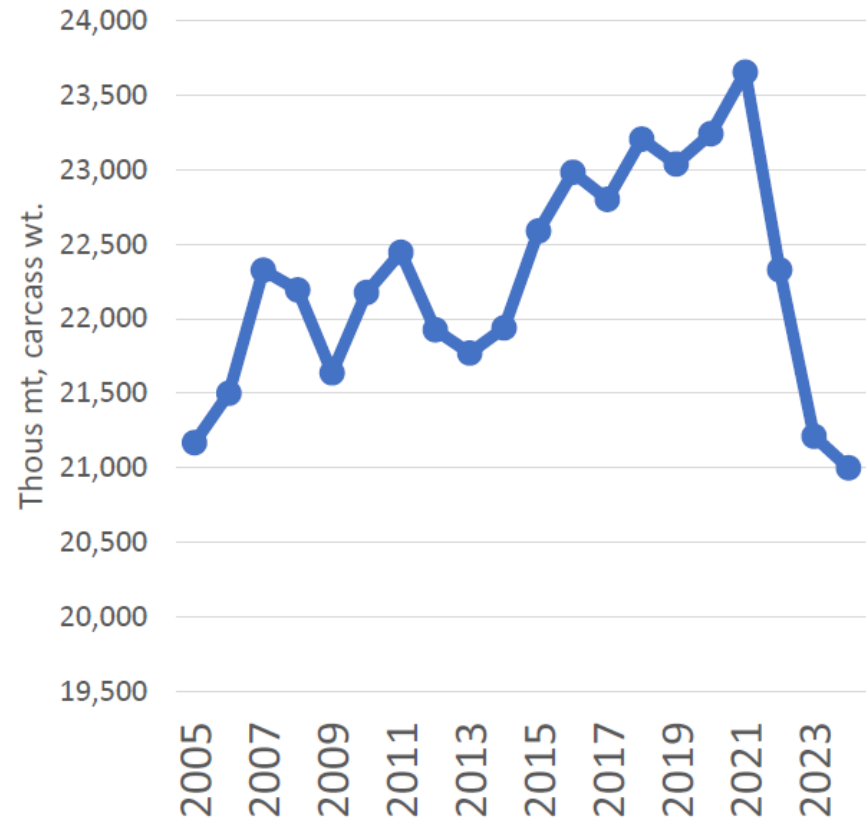
European Pork Exports

Chinese pork imports from US and EU

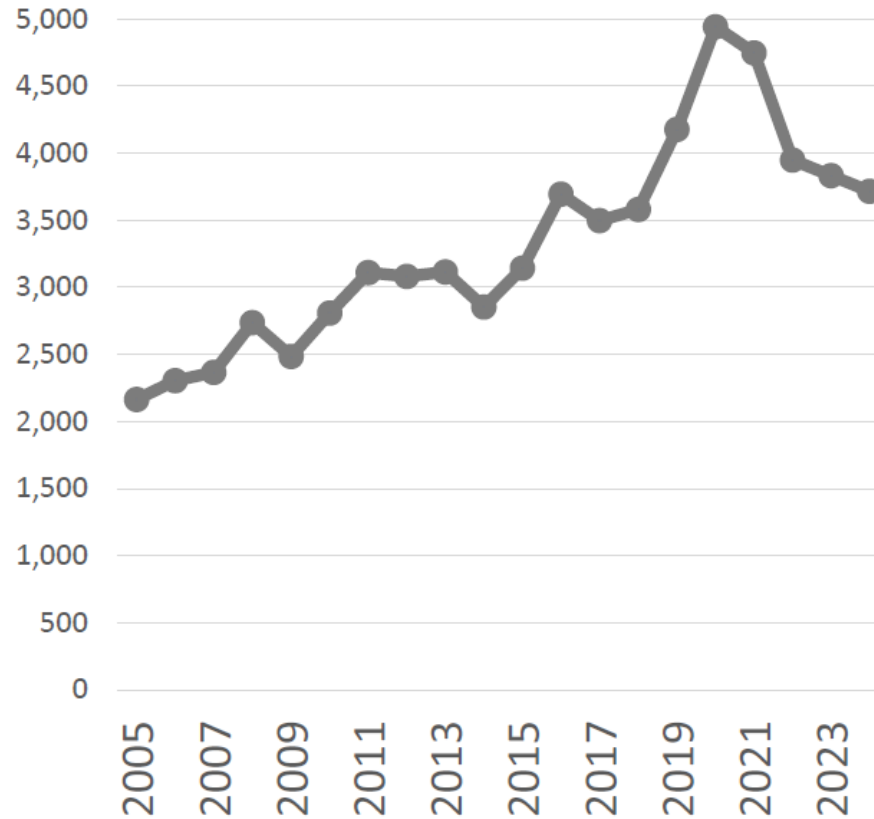


EU pork production in 2023 to decline by another 5% to the lowest levels since ~2006
Exports were down 17% and production down 5% in 2022, with further reductions this year

EU pork production



EU pork exports



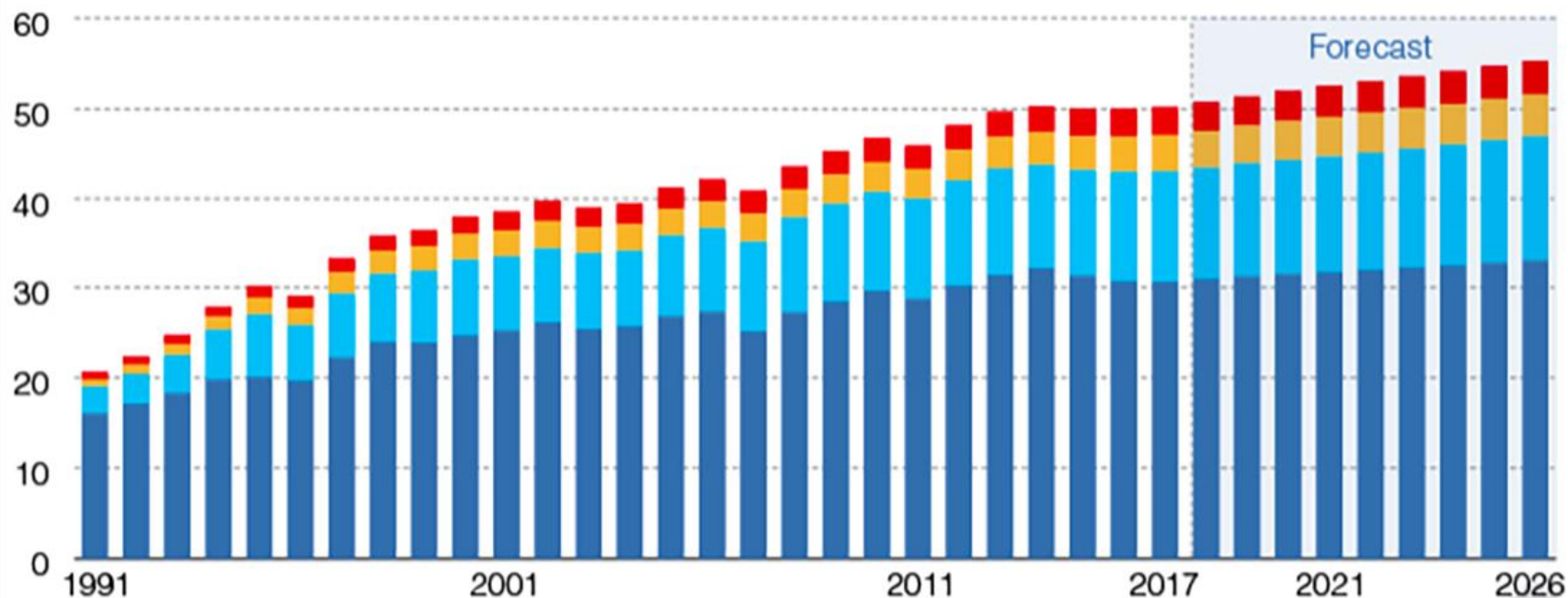
A smaller breeding herd as well as African Swine Fever (ASF) push EU pigmeat production further down in 2023, by 5%, despite lowering feed prices. Further decline in exports to China will contribute to a 3% reduction of EU exports in 2023. – EU Commission March 30, 2023



A Meatier Middle Kingdom

■ Pork ■ Poultry ■ Beef and veal ■ Sheep

Unit: Kilograms per capita



What remains unchanged after COVID-19: Chinese surging meat consumption & beyond

Source: 财新数据
Caixin Data

Original Sources: Organization for Economic Co-operation and Development, Food and Agriculture Organization of the United Nations

Oct 12, 2018 08:20 PM DAILY CHART



Charts of the Day: China's Growing Meat Consumption

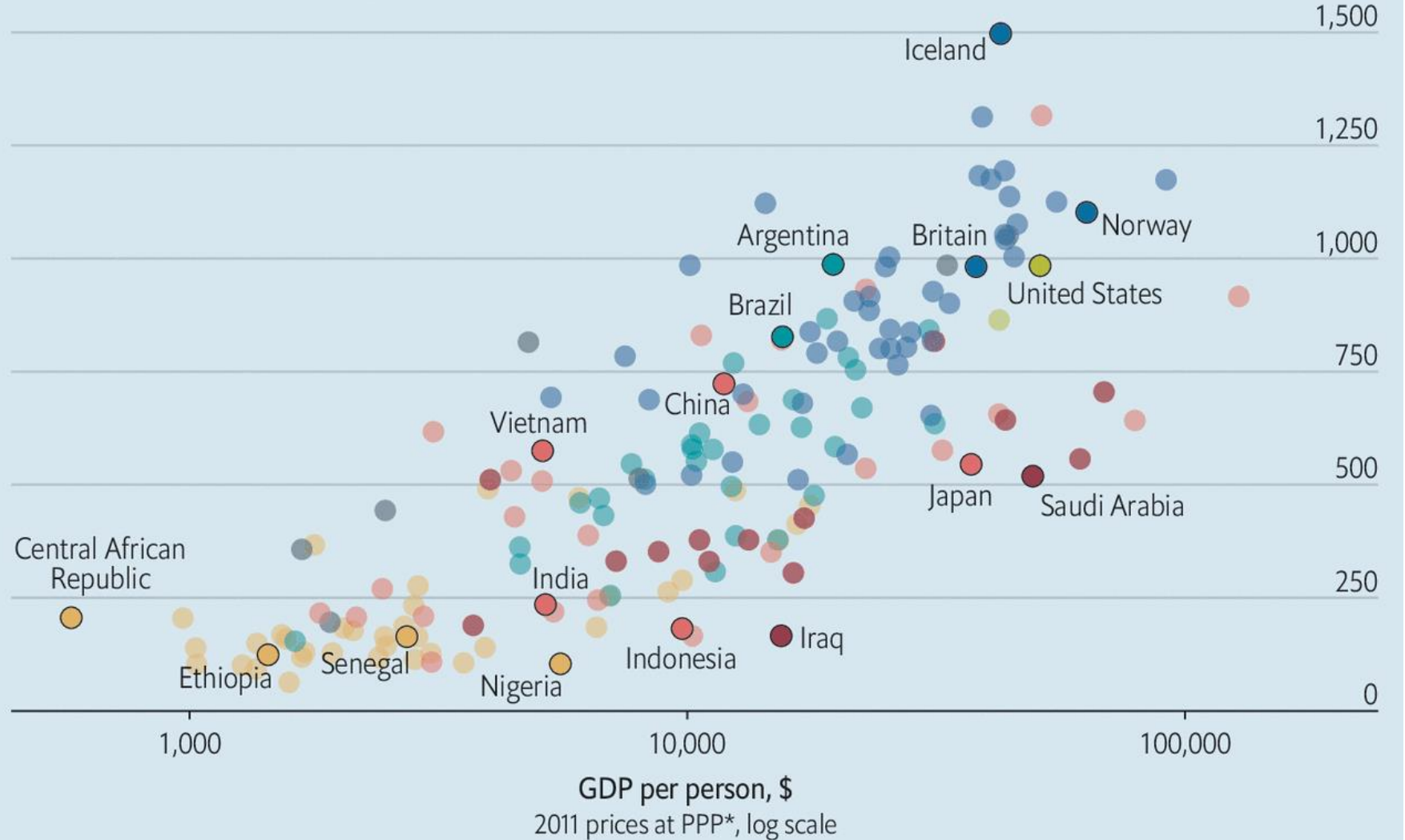
Meat Economics

Economic carnivores

GDP per person and food supply, 2013

- Asia
- Europe
- Latin America
- Middle East & north Africa
- Oceania
- North America
- Sub-Saharan Africa

Daily food supply from animal products, kilocalories per person

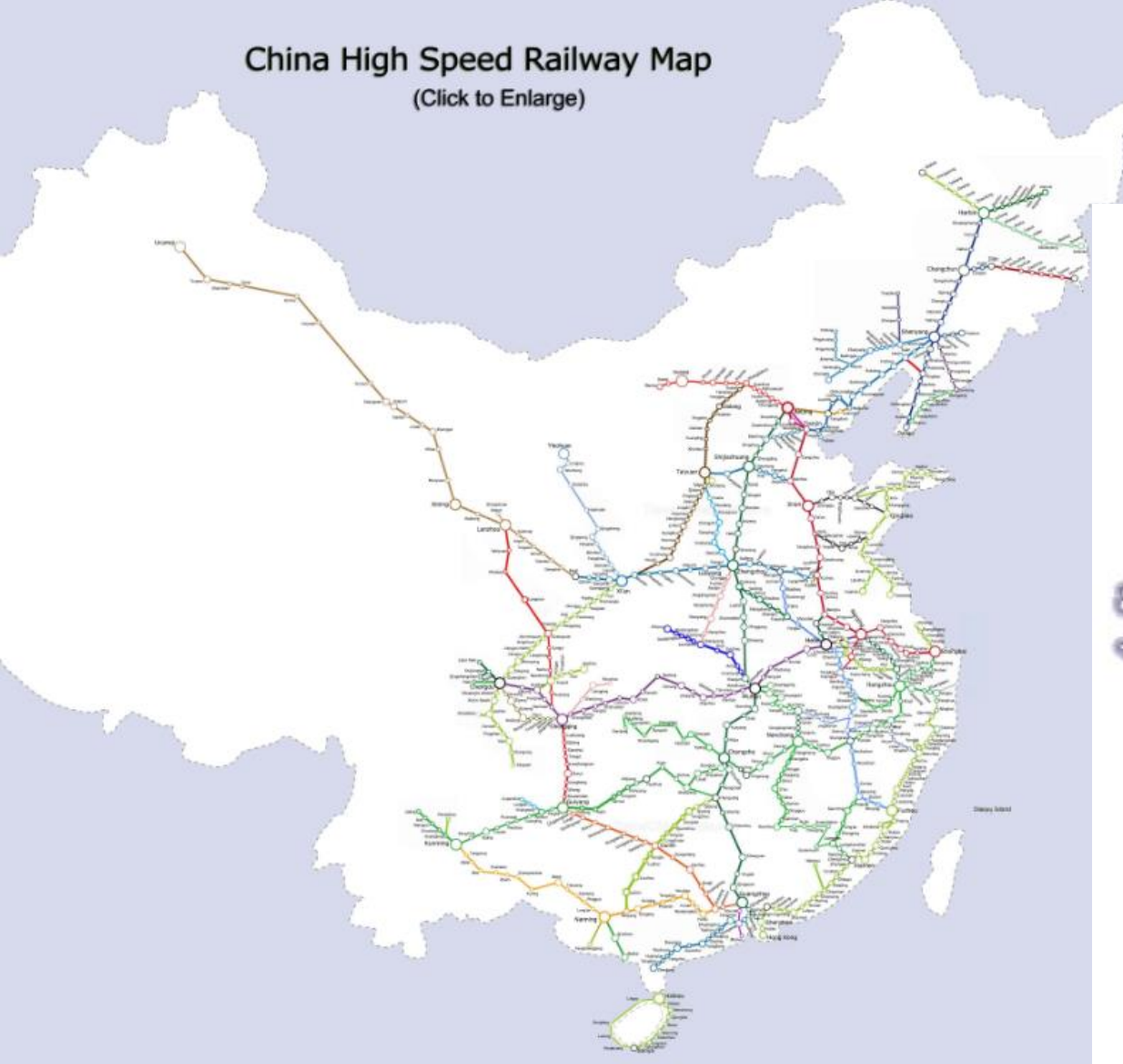


Sources: IMF; FAO

*Purchasing-power parity

China High Speed Railway Map

(Click to Enlarge)



High Speed Rail

<https://www.travelchinaguide.com/images/map/train/high-speed-railway.jpg>

China is a Country of Rapid Change

“四横四纵” 国家冷链物流骨干通道网络布局示意图

Cold Chains



Agricultural transformation in my hometown

Greenhouse – plastic film - Shandong Province



Now the high-tunnel production system has been upgraded



Chinese Dairy Demand



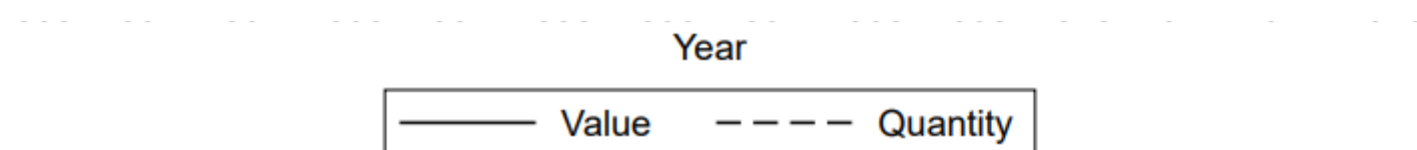
China's dairy market: How a population known for lactose intolerance became the world's largest dairy importer

Figure 1: Event Study Graph: China's Dairy Exports

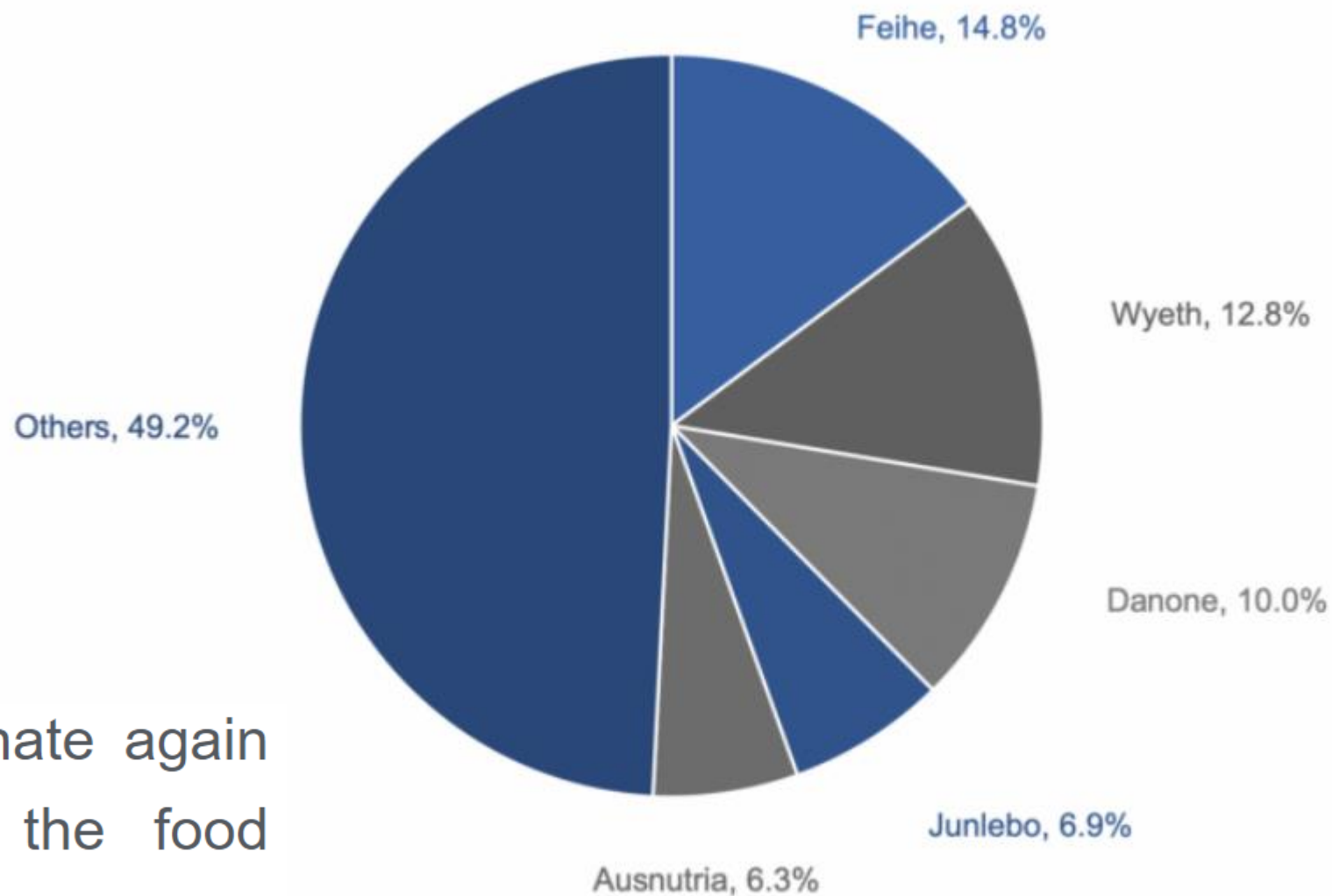
The 2008 melamine scandal and government's efforts to pick up the pieces

In 2008, the Chinese milk market was implicated in probably the worst scandal that the food industry in China has ever seen. Traces of melamine – a toxic industrial compound generally used in plastics and fertilizers– were found in locally produced **infant milk powder**. Apparently, the substance was supposed **to boost the milk protein content**, but after four months of the discovery, around 300,000 babies fell sick and 6 babies died of kidney malfunctioning.

As a consequence, trust in local brands plummeted, leading to a **92%** drop in their exports. Since then, the government has actively worked to improve the safety of locally produced milk, as well as to help domestic brands win over consumers' trust once again.



The main players in China's baby formulas market in 2020



Domestic brands dominate again after recovering from the food safety scandal

Creativity is the key to win consumers' attention



Adult powdered milk by Nestlé

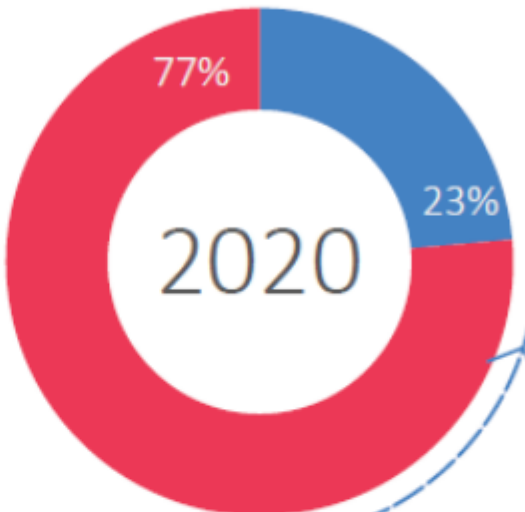
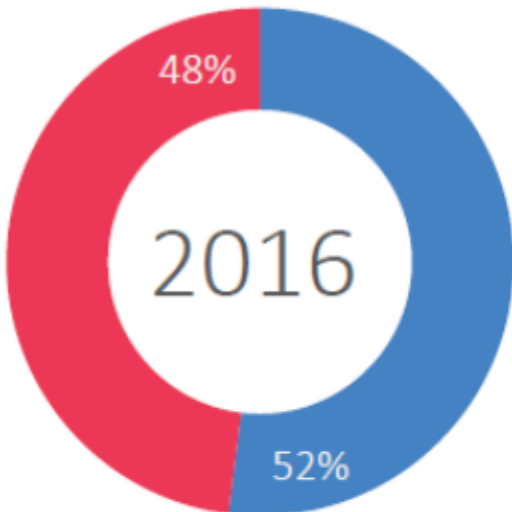
White Rabbit's candy flavoured milk

Chinese consumers sour on foreign dairy brands

🕒 2 min read

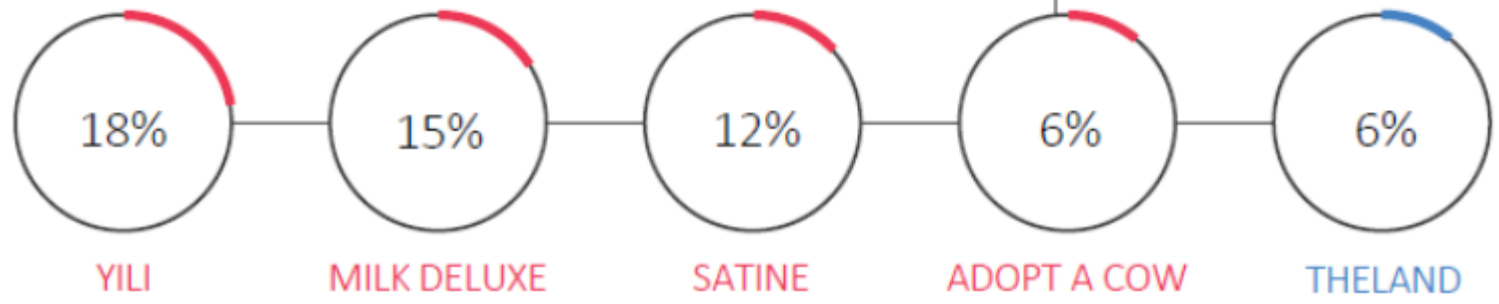
News, 24/09/2020

Foreign vs Domestic Market Share 2016 & 2020

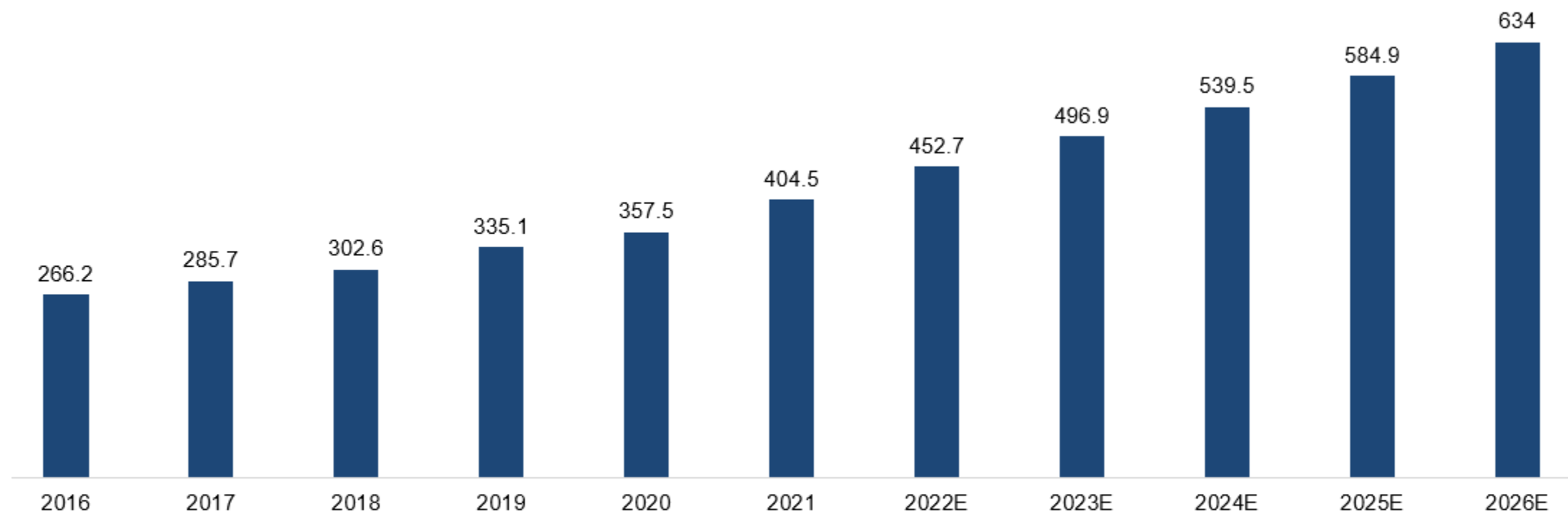


↓ 29 percentage points

Top 5 Brands



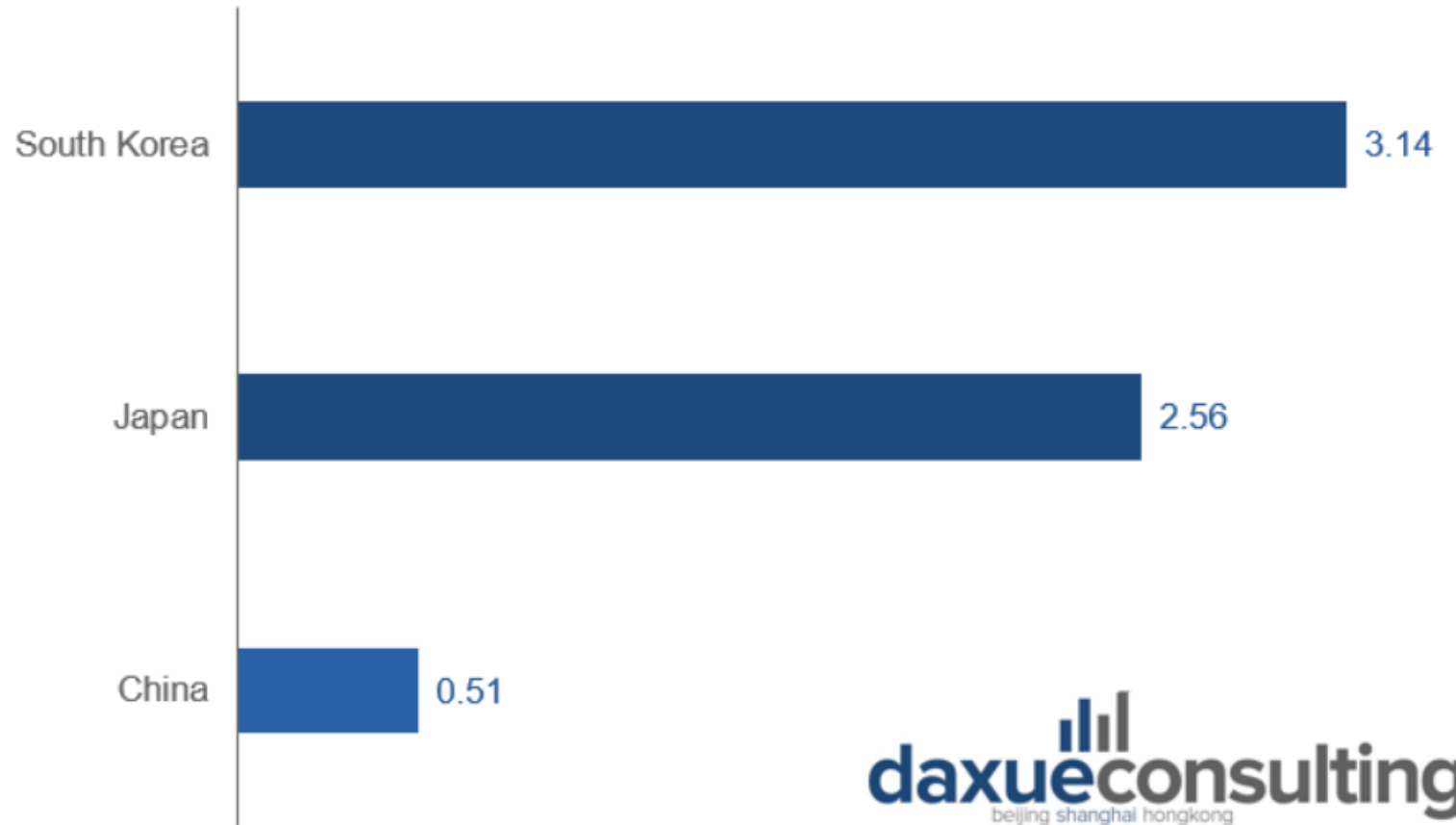
2016-2021 retail sales value of liquid milk in China and 2022-2026 estimates
(in billion RMB)





Source: Milkground, Milkground's star product: cheese lollipops

2019 per capita consumption of cheese in North-East Asia in kg

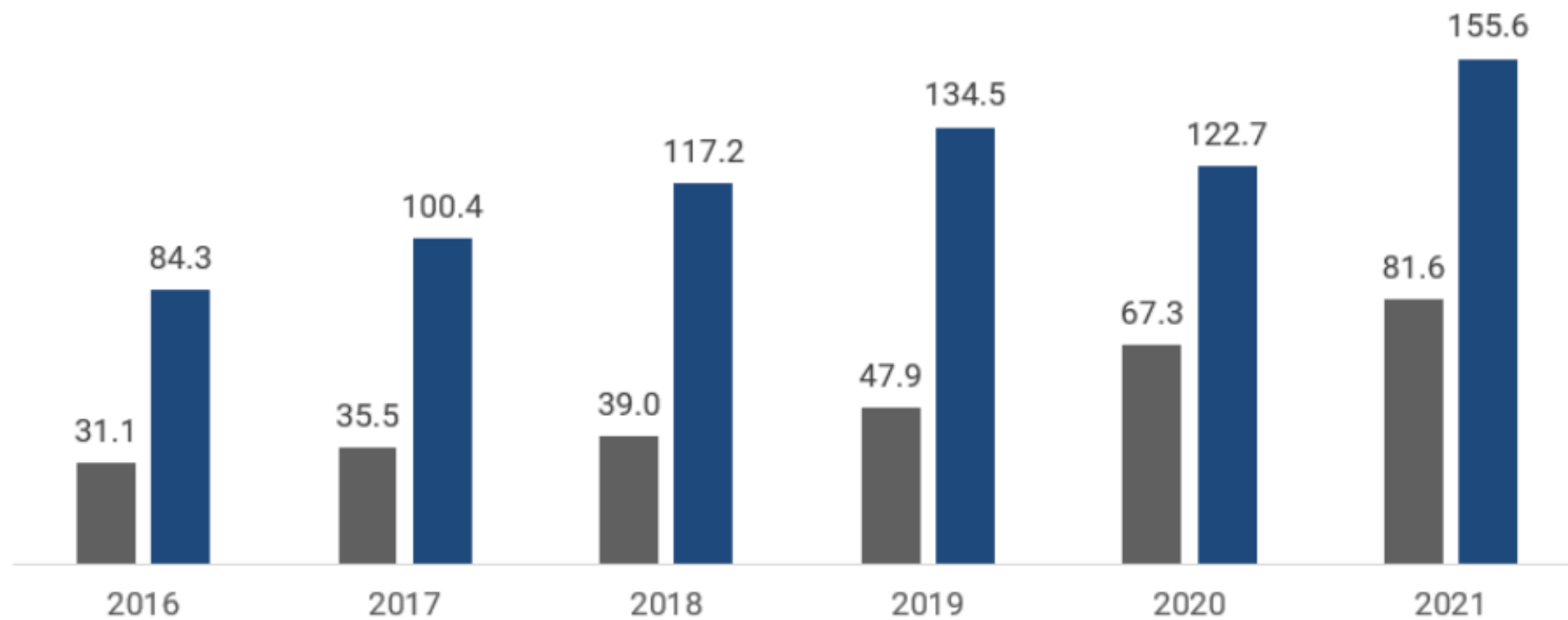


US: 19 kg per capita consumption of cheese in 2019

Evolution of cheese retail sales & sales in catering from 2016 to 2021

(Thousand tonnes)

■ Retail sales ■ Sales in catering

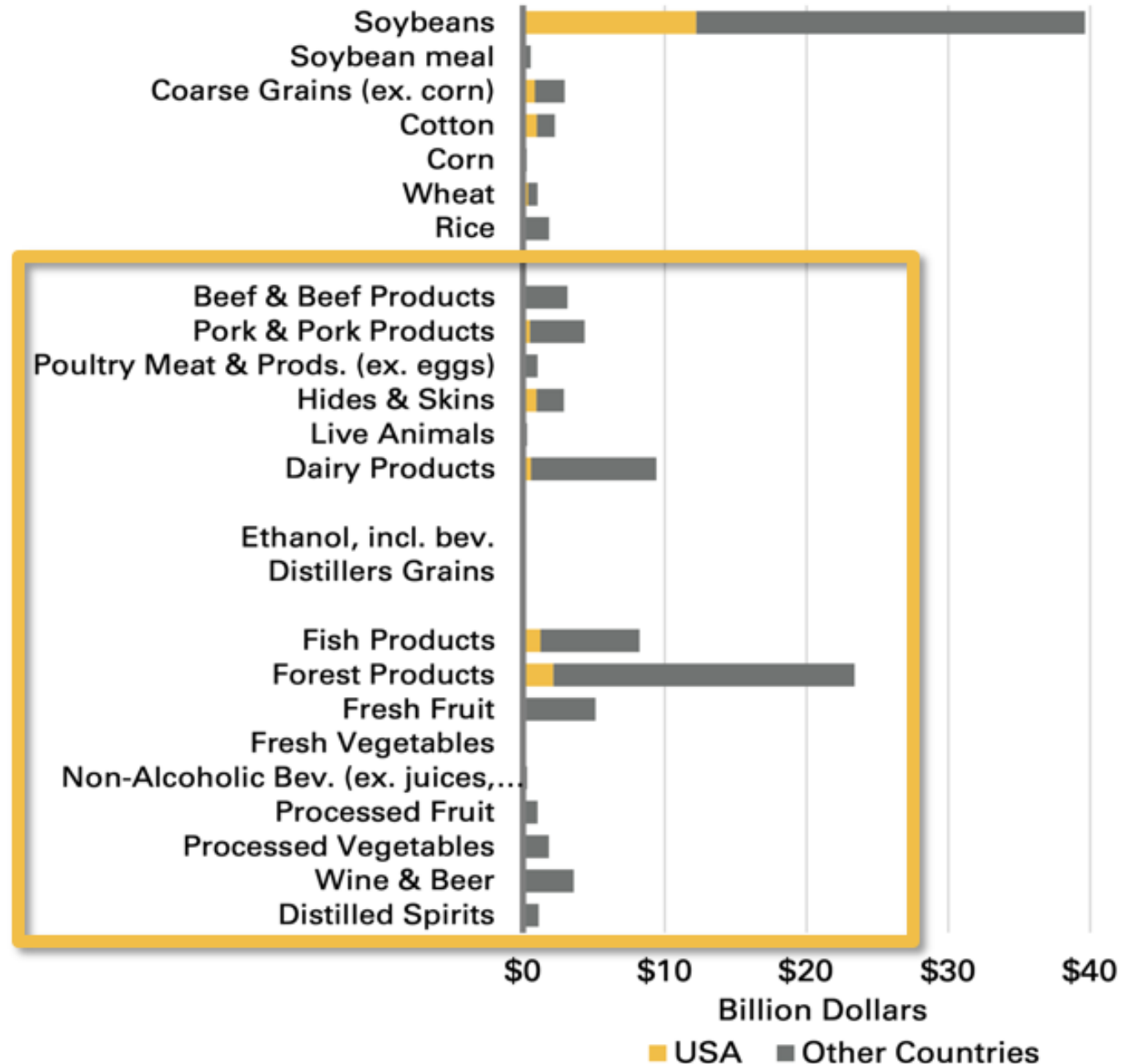


Four Stories

- Chinese soybean imports
- Chilean cherries
- European pork exports
- Chinese dairy demand

A possible & **more balanced** pathway for China's ag import surge?

Key Chinese agricultural imports by commodity and country in 2017



Learn more about Food and China

THE LANGUAGE

OF

FOOD

A LINGUIST
READS THE MENU

DAN JURAFSKY

SHARK'S FIN AND SICHUAN PEPPER

A SWEET-SOUR MEMOIR
OF EATING IN CHINA

FUCHSIA DUNLOP

"Not just a smart
memoir about
cross-cultural
eating but one of
the most engaging
books of any kind
I've read in years."
—Celia Barbour,
O, The Oprah Magazine

author of
REVOLUTIONARY
CHINESE COOKBOOK

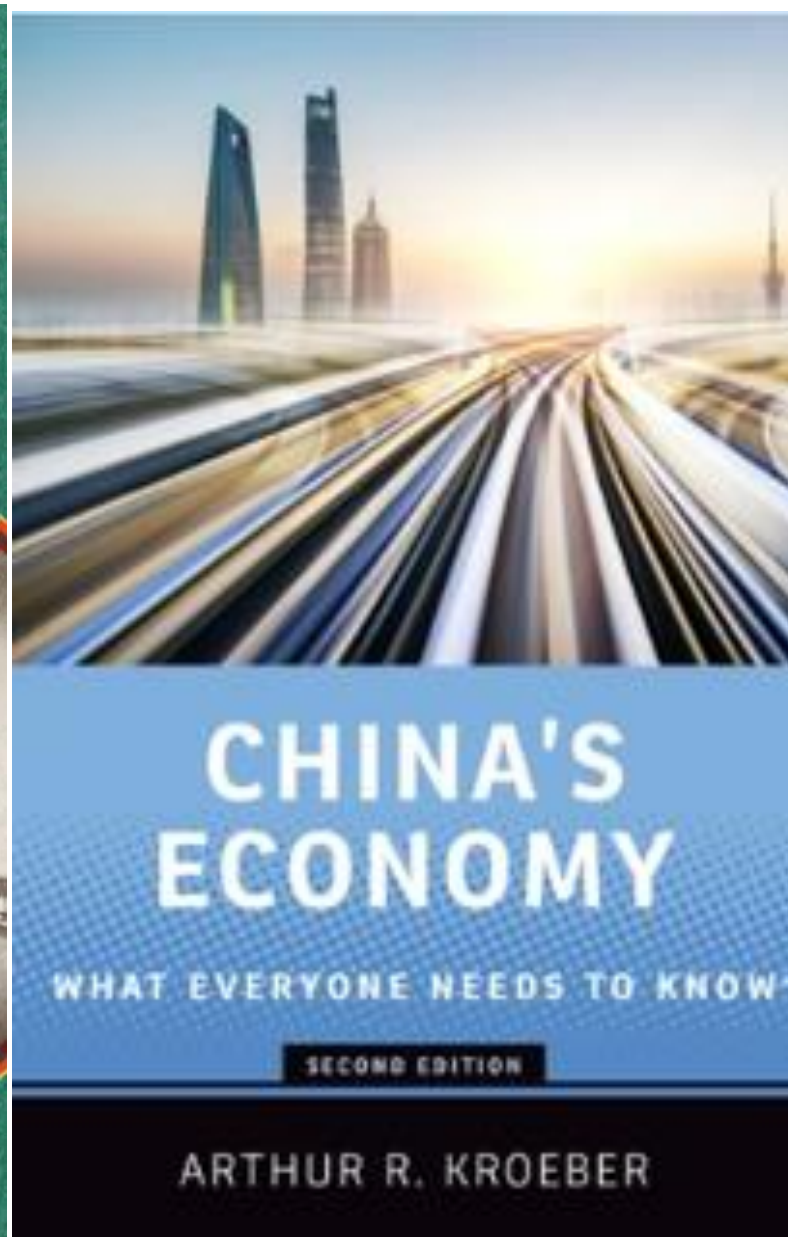
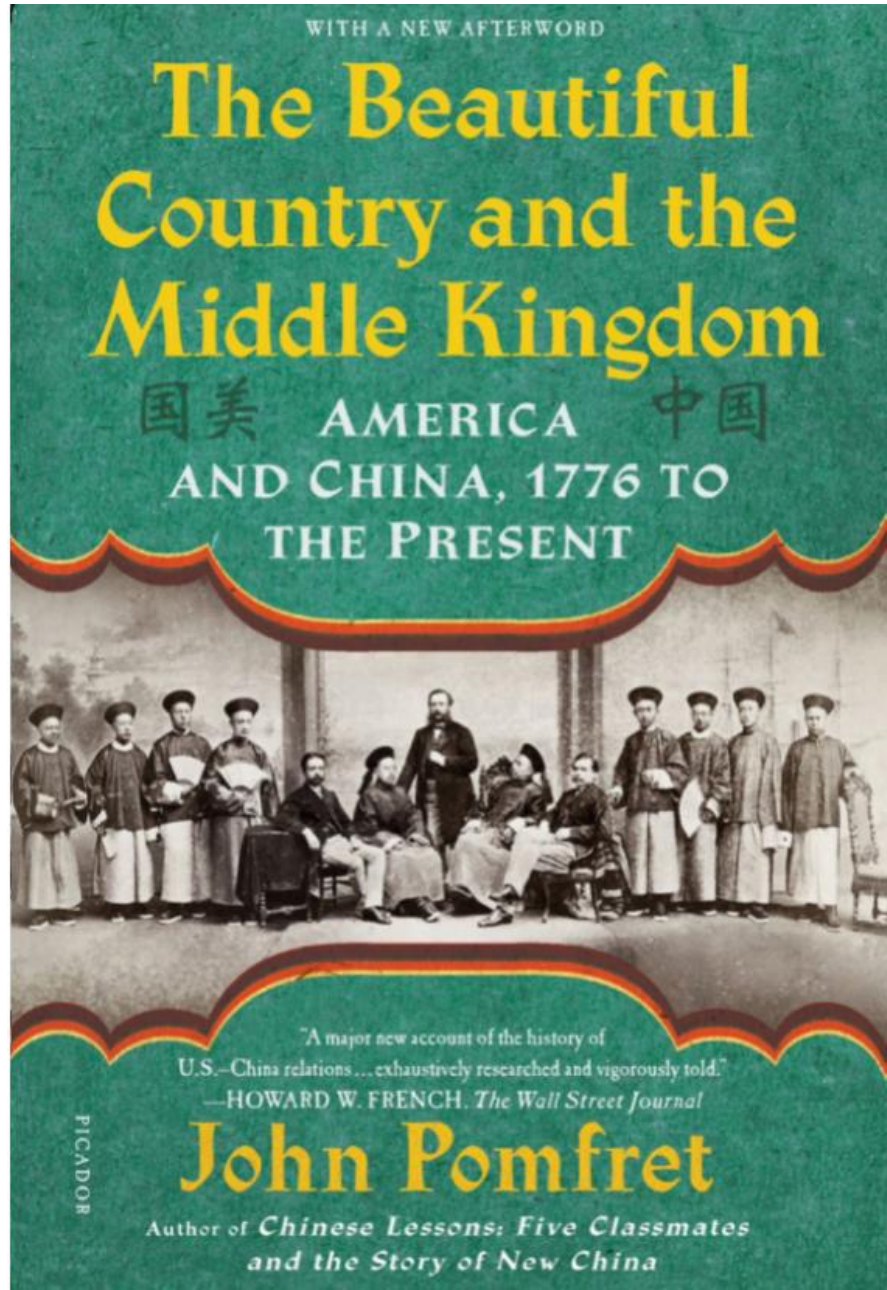


LAND OF FISH AND RICE

RECIPES FROM THE CULINARY HEART OF CHINA

FUCHSIA DUNLOP

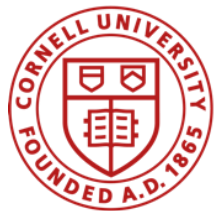
Learn more about contemporary Chinese economy



Thank You!

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<https://wendongzhang.weebly.com/>



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Cornell **CALS**
College of Agriculture and Life Sciences

Commodity Agriculture is Comparative Advantage for U.S., not China

