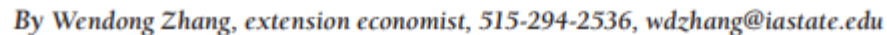


# Ag Decision Maker

## February 2019



[wdzhang@iastate.edu](mailto:wdzhang@iastate.edu), 515-294-2536

May 8<sup>th</sup>, 2019

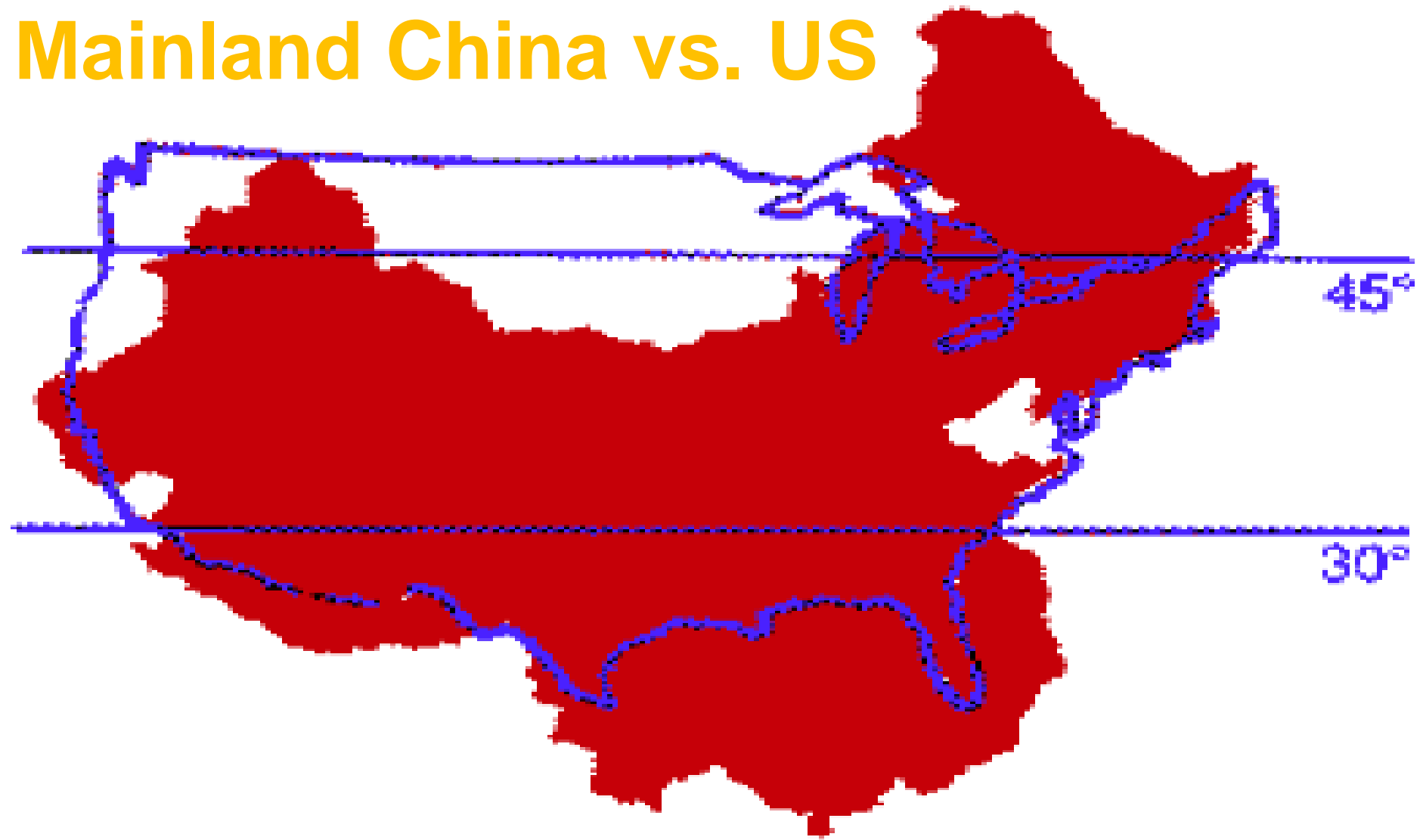
# A Quick Introduction: Dr. Wendong Zhang

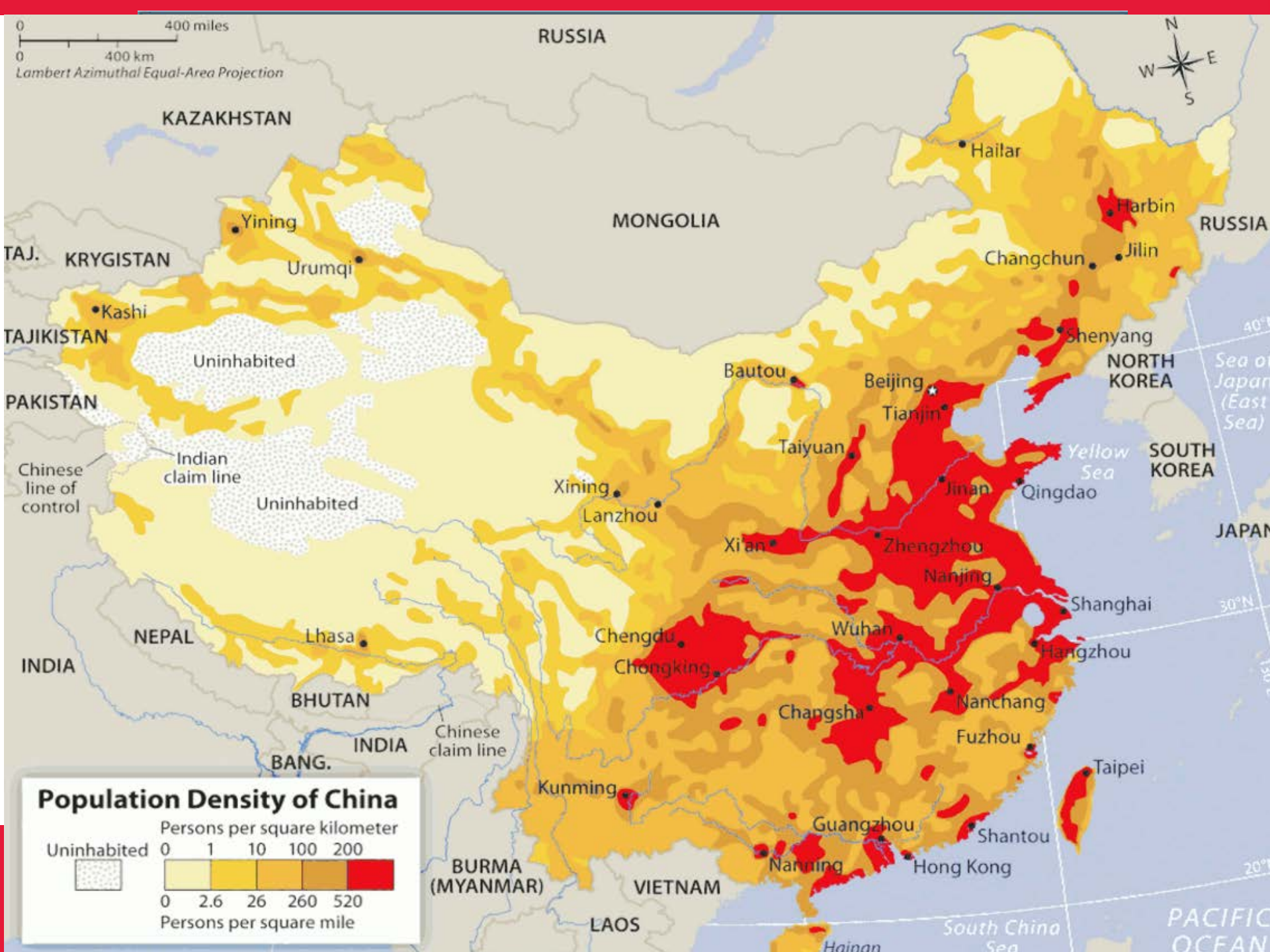
- Grown up in a rural county in NE China
- Attended college in Shanghai and Hong Kong
- Ph.D. in Ag Econ in 2015 from Ohio State
- 2012 summer intern at USDA-ERS on farm economy and farmland values
- Research and extension interests:

**land value/ownership** [www.card.iastate.edu/farmland/agriculture and the environment](http://www.card.iastate.edu/farmland/agriculture_and_the_environment)

**China Ag center** [www.card.iastate.edu/china](http://www.card.iastate.edu/china)

# Mainland China vs. US







# #1: Ag is comparative advantage for US, not for China

Figure 1. Number of farmers in Chinese provinces compared to Iowa

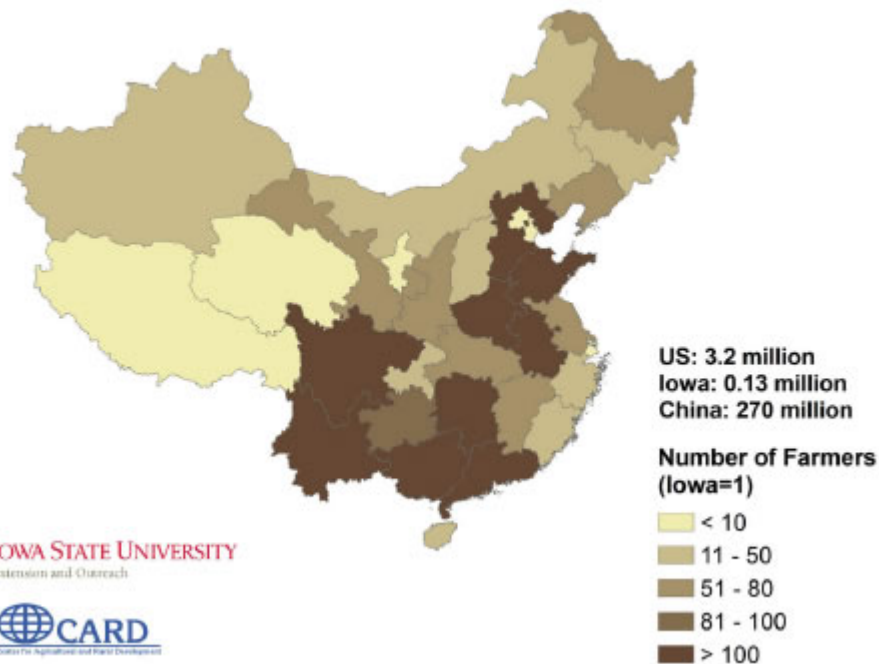
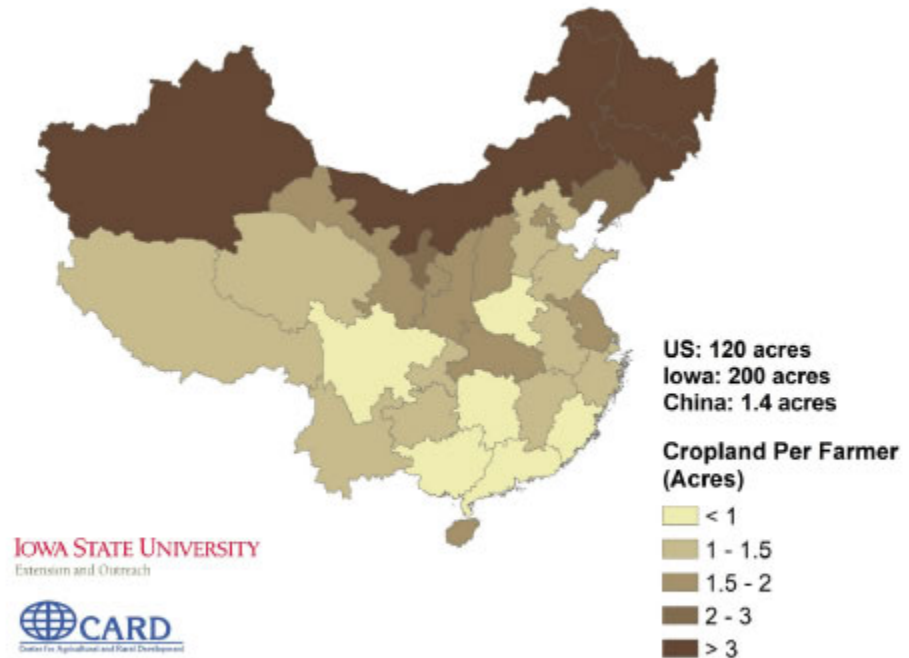
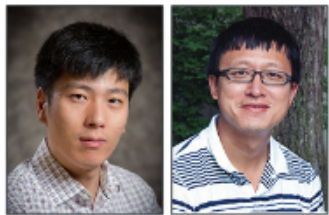


Figure 2. Crop land per farmer in China in acres



*Because crop land per farmer is so small in China, using Iowa as the unit here would create too many decimal points. We use acres instead.*



## Navigating the Chinese agricultural economy through the lens of Iowa

By Wendong Zhang, extension economist, 515-294-2536, [wdzhang@iastate.edu](mailto:wdzhang@iastate.edu); Minghao Li, postdoctoral researcher, Center for Agricultural and Rural Development, Iowa State University







# China Corn Yield





**Corn Yield**  
(Iowa=100%)

 No data

 11% - 40%

 41% - 45%

 46% - 50%

 51% - 60%

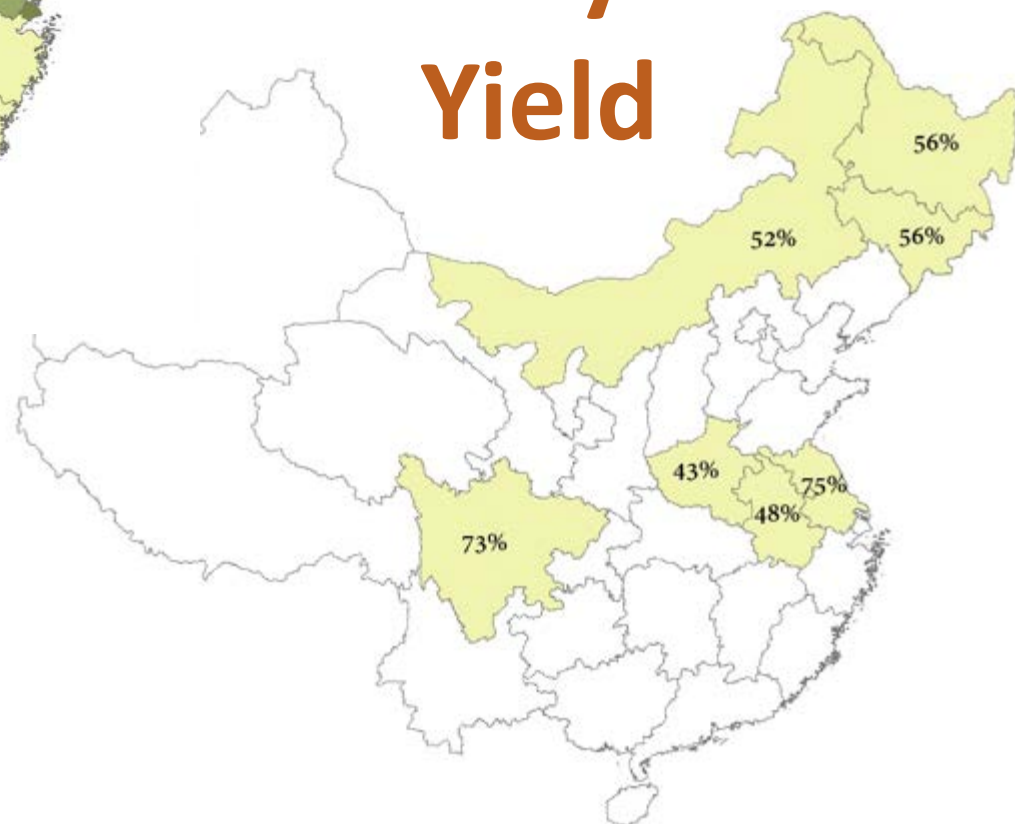
2015 Soybean Yield

US: 48 Bu/acre

Iowa: 56 Bu/acre

China: 26 Bu/acre

## China Soybean Yield





**CRUNCH TIME FOR U.S.-CHINA TRADE TALKS:** Mnuchin and U.S. Trade Representative Robert Lighthizer resume trade negotiations today in Beijing with a Chinese team led by Vice Premier Liu He, as both sides look to finalize a deal in the coming weeks.

"We hope within the next two rounds, in China and in D.C., to be at the point where we can either recommend to the president we have a deal or make a recommendation that we don't," Mnuchin said in an interview Monday with Fox Business.

Liu and Chinese negotiators are scheduled to be in Washington for the final round of talks beginning on May 8.

**Are we there yet?** U.S. officials have said both sides have made progress in several areas, including agreement on a strong enforcement mechanism. They have also seen how a deal will address President Donald Trump's tariffs on \$110 billion worth of Chinese goods and Beijing's retaliatory duties on \$110 billion worth of U.S. goods.

Mnuchin noted that "there's still some important issues, so we have more work to do." More [here](#).

## Crunch time for U.S.-China trade talks

By SABRINA RODRIGUEZ  
([srodriguez@politico.com](mailto:srodriguez@politico.com); @SabRod123)  
04/30/2019 10:00 AM EDT

## White House's Mulvaney says China trade talks will be resolved 'one way or the other' within two weeks

PUBLISHED TUE, APR 30 2019 • 11:24 AM EDT UPDATED 4 HOURS AGO



Jacob Pramuk  
@JACOBPRAMUK



Thomas Franck  
@TOMWFRANCK

SHARE



### KEY POINTS

- White House chief of staff Mick Mulvaney says the U.S. should know in the next two weeks whether it will reach a trade deal with China.
- The Trump administration is trying to strike an agreement to end a potentially damaging trade conflict.





**Donald J. Trump** ✓  
@realDonaldTrump



The United States has been losing, for many years, 600 to 800 Billion Dollars a year on Trade. With China we lose 500 Billion Dollars. Sorry, we're not going to be doing that anymore!

♥ 73.3K 6:08 AM - May 6, 2019



💬 28.4K people are talking about this



**Donald J. Trump** ✓ @realDonaldTrump · May 5, 2019



For 10 months, China has been paying Tariffs to the USA of 25% on 50 Billion Dollars of High Tech, and 10% on 200 Billion Dollars of other goods. These payments are partially responsible for our great economic results. The 10% will go up to 25% on Friday. 325 Billions Dollars....



**Donald J. Trump** ✓  
@realDonaldTrump

....of additional goods sent to us by China remain untaxed, but will be shortly, at a rate of 25%. The Tariffs paid to the USA have had little impact on product cost, mostly borne by China. The Trade Deal with China continues, but too slowly, as they attempt to renegotiate. No!

♥ 69.9K 11:08 AM - May 5, 2019



💬 24.8K people are talking about this



**Bloomberg**

Sub

Markets

## Stocks Pare Losses After Shock From Trump's Tweets: Markets Wrap

By [Sarah Ponczek](#)

May 5, 2019, 5:18 PM CDT

Updated on May 6, 2019, 12:34 PM CDT

The Dow Jones Industrial Average **DJIA**, **-0.74%** slid 226 points, or 0.9%, to 26,278, with the benchmark hitting an intraday low at 26,033.95. The S&P 500 index **SPX**, **-0.81%** declined 28 points, or 1%, to 2,917, while the Nasdaq

# China stocks drop 5.5%



**CARD**

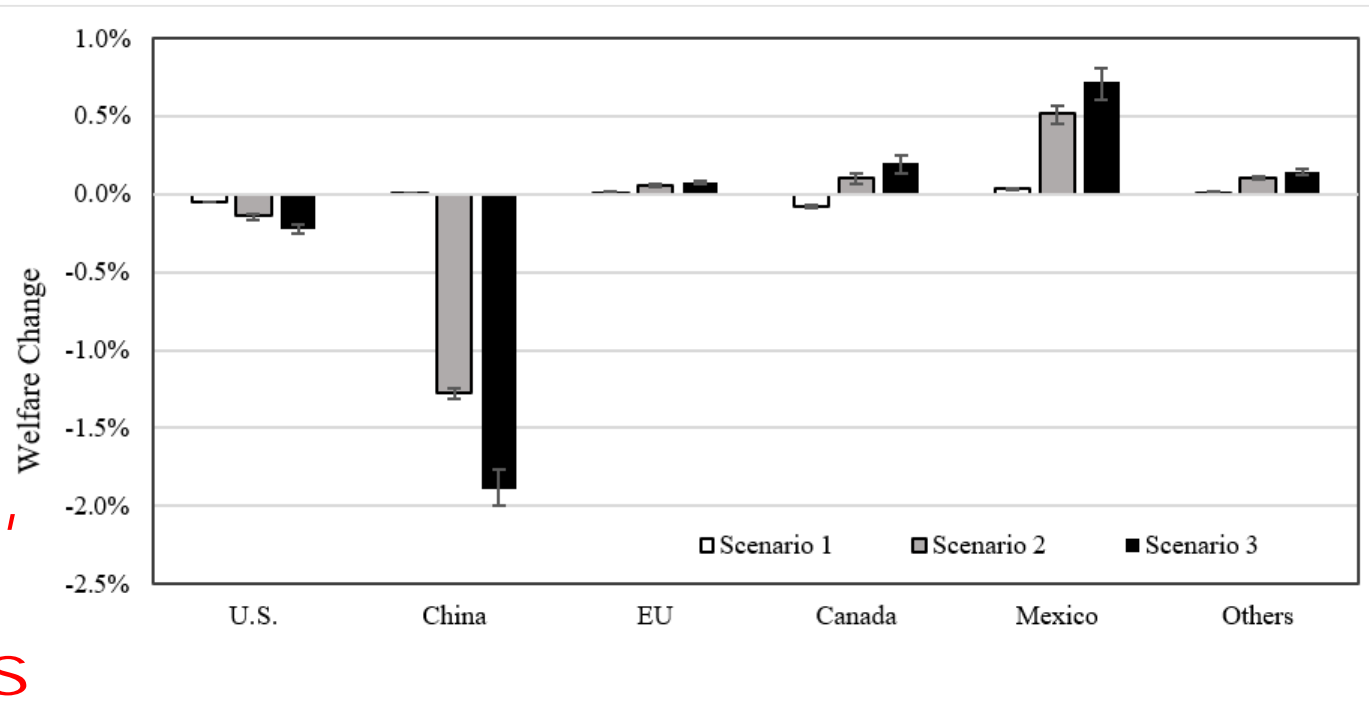
Center for Agricultural and Rural Development

## The 2018 Trade War: Data and Nascent General Equilibrium Analysis

Minghao Li, Edward J. Balistreri, Wendong Zhang

December 2018 [18-WP 587]

Figure 1. Welfare changes in selected countries.



Scenario 2: Tariff increases in scenario 1 and additional tariff increases between the United States and China, including the \$50 billion round and the \$200 billion/\$60 billion round of tariff increases. The scenario reflects the current tariffs (as in October 2018).

Scenario 3: Tariff increases in scenario 1 and 2, and additional tariff increases that are scheduled to happen at the end of 2018, i.e., the U.S. tariffs on \$200 billion Chinese products will increase by another 15%, and China's retaliatory tariffs will increase by 0~15%.

#2:  
Why China  
decided to  
talk?  
China  
suffers  
greater  
economic  
Loss overall,  
but also for  
US ag states  
like Iowa

September 2018  
18-PB 25

## The Impact of the 2018 Trade Disruptions on the Iowa Economy

- Overall losses in **Iowa's Gross State Product** are calculated to be \$1 to \$2 billion (off of a Gross State Product of \$190 billion).
- Overall losses to Iowa's **Soybean** industry of \$159 to \$891 million, with an average revenue loss across all models of \$545 million (Iowa soybeans are a \$5.2 billion industry).
- Overall losses to Iowa's **Corn** industry of \$90 to \$579 million, with an average revenue loss across all models of \$333 million (Iowa corn is an \$8.5 billion industry).
- Overall losses to Iowa's **Pork/Hog** industry of \$558 to \$955 million, with an average revenue loss across all models of \$776 million (the Iowa pork/hog industry is a \$7.1 billion industry).
- A 2% drop in **Ethanol** prices resulting in approximately \$105 million in lost revenues to Iowa ethanol producers.
- Revenue losses in these industries translate into **additional lost labor income** across the state. Labor income declines from the impacts to the corn, soybean, and hog industries range from \$366 to \$484 million without federal offsets and \$245 to \$364 million with federal offsets.
- Iowa **tax revenue losses** (personal income and sales taxes) range from \$111 to \$146 million. Federal offsets would reduce tax losses to \$75 to \$110 million.

## CARD researchers win three AAEA awards

Researchers from the Center for Agricultural and Rural Development at Iowa State University will be presented with three awards from the Agricultural and Applied Economics Association.

Edward Balistreri, Chad Hart, Dermot Hayes, Minghao Li, Lee Schulz, Wendong Zhang, and John Crespi, along with David Swenson of the Department of Economics at Iowa State University, will be presented with the prestigious Bruce Gardner Memorial Prize for Applied Policy Analysis Award. The AAEA presents the Bruce Gardner prize as recognition for "outstanding impact on agricultural and related policy."

Balistreri et al. are receiving recognition for their work on the CARD Policy Brief ["The Impact of the 2018 Trade Disruptions on the Iowa Economy,"](#) which examines the effects of recent trade disruptions on Iowa's economy and finds overall losses in Iowa's Gross State Product from \$1 to \$2 billion.



### #3: Trade disruptions give China strategic incentives to further diversify away from U.S., potentially benefitting our competitors

| Commodity (2016 value of China ag imports)                          | USA | Brazil       | Europe       | Australia   | Argentina or Uruguay |
|---|-----|--------------|--------------|-------------|----------------------|
| Soybean (\$34.4 Bil.)<br>(China increased production by 9% in 2018) | 38% | 47%          |              |             | A-10%                |
| Pork (\$2.32 Bil.)  | 13% |              | 50%          | Canada: 11% |                      |
| Ethanol (\$0.38 Bil.)   | 70% | 11%          | Pakistan 15% |             |                      |
| Beef (\$2.42 Bil.)  | 0%  | 22%          |              | 28%         | U-21%                |
| Poultry (\$1.11 Bil.)   |     | 79%          |              |             | A-9%                 |
| Corn (\$0.87 Bil.)  | 10% | Ukraine: 79% |              |             |                      |

#### China's Ag Import Sources

China can produce 97% of its pork, but only 15% of its soybean demand domestically  
China provided about US\$200/acre subsidy to increase soy production (up 9% 2018)

# What Have We Learned from China's Past Trade Retaliation Strategies?

Minghao Li, Wendong Zhang, and Chad Hart

JEL Classifications: Q17, F10

Keywords: Agricultural Commodities, China, Tariff, Trade Retaliation

## *Proportional, Restrained Response*

Currently, China has a huge overall trade surplus with the United States, and thus naturally has no incentive to change the status quo and avoid dispute escalations. As the two cases above demonstrate, China targets U.S. agricultural commodities with trade flows comparable to U.S. targets in order to send a clear message.

## *Target Products That Are Substitutable*

In these two cases, China chose commodities that are easily substitutable across production and domestic production. Half of the U.S. broiler products were chicken feet, a replacement for which is commonly used for feed and can be replaced by corn or other coarse grains. In terms of

## *Inflict Economic and Political Costs*

From the perspective of China's government, the ultimate goal of retaliatory tariffs is to pressure politically influential interest groups in the United States, turning them into lobbyists. For retaliation measures to be effective, China's market as an export destination for U.S. products must be important for U.S. producers, as is the case for broiler products and sorghum. For this reason, the U.S. government has long recognized the political significance of the U.S. agricultural industry and is the reason why it targets U.S. agricultural exports in trade spats.

# UPDATE 1-CHINA SAYS NEW ANIMAL FEED STANDARDS WILL CUT CHUNK OUT OF APPETITE FOR SOY

10/28/2018

China's Feed Industry Association on Friday approved new standards for feed for pigs and chickens, lowering the protein levels in pig feed by 1.5 percentage points and those for chickens by one percentage point, the agriculture ministry said in a statement that day. It did not say when the new standards would take effect.

The ministry also said in the statement that China's overall yearly consumption of soymeal would fall by 11 million tonnes. The country used 71 million tonnes of soymeal to make animal feed in the 2017-18 crop year.

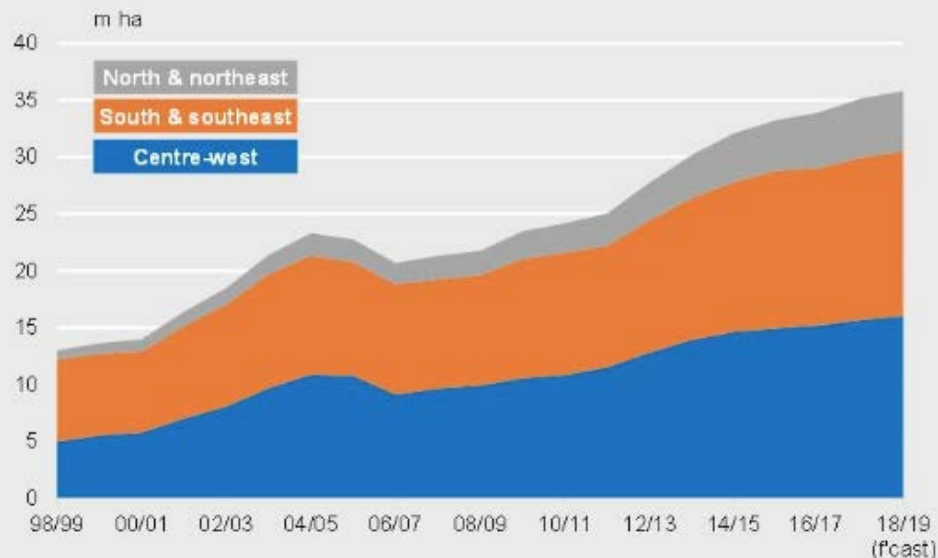


### Bolsonaro wins Brazilian presidency

The former military officer is the latest in a global wave of far-right nationalists to surge at the ballot box.

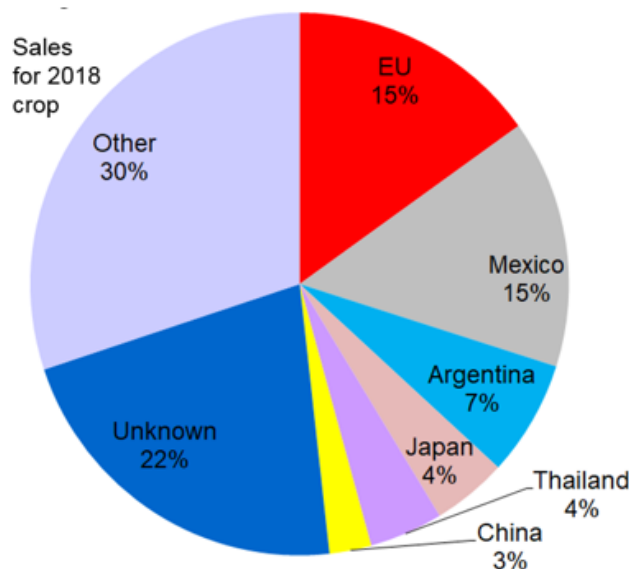
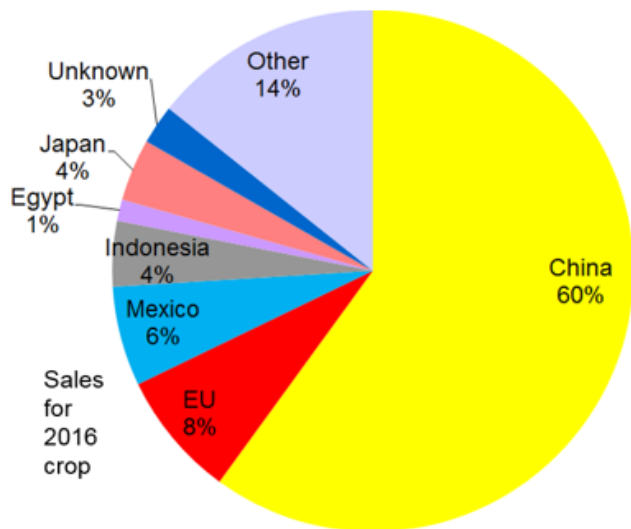
washingtonpost.com

### Soybeans: Brazilian area by region\*

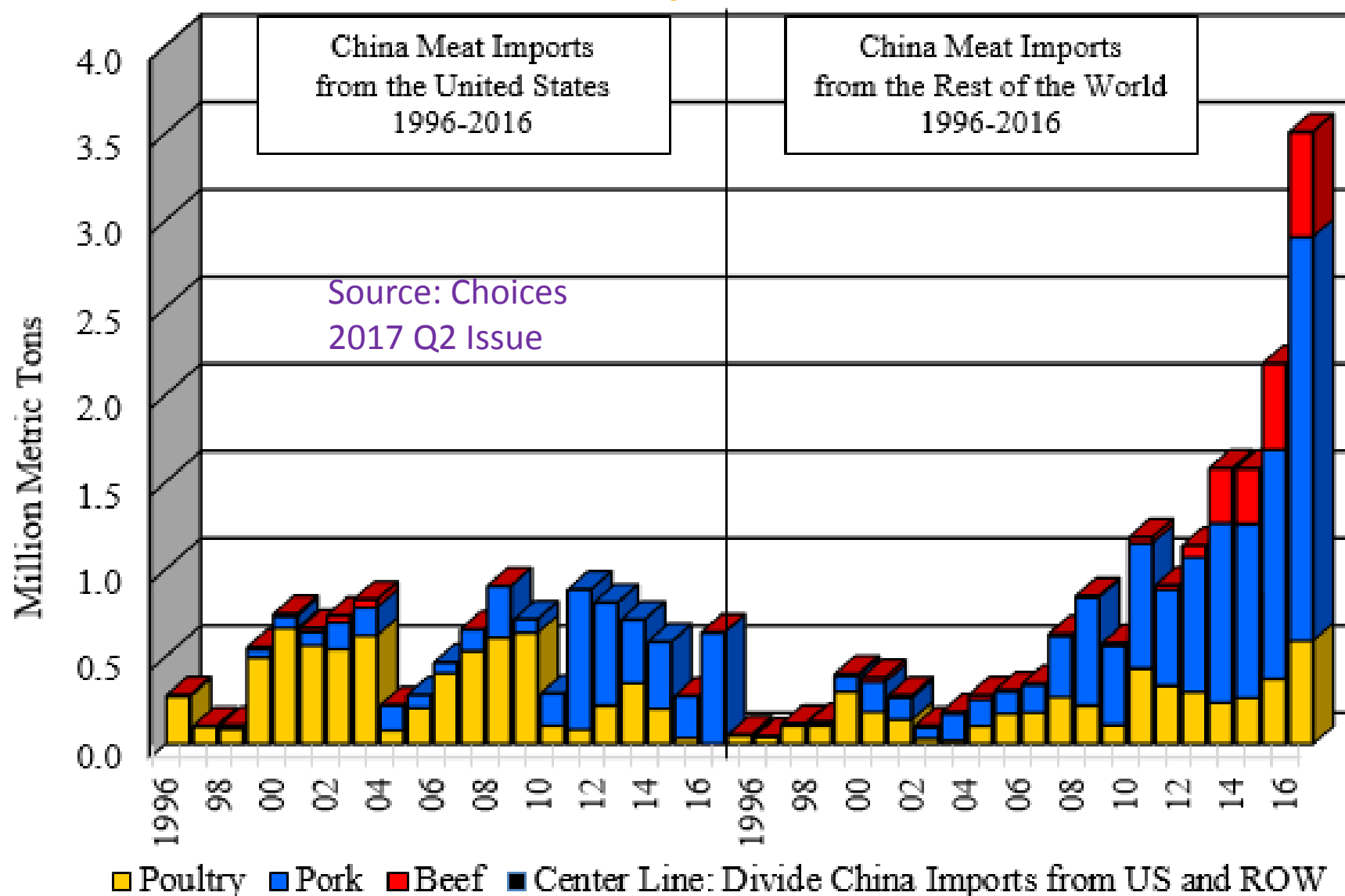


## Soybean Export Market Share (2016 crop vs. 2018 crop)

Soy  
Stats  
Worrying

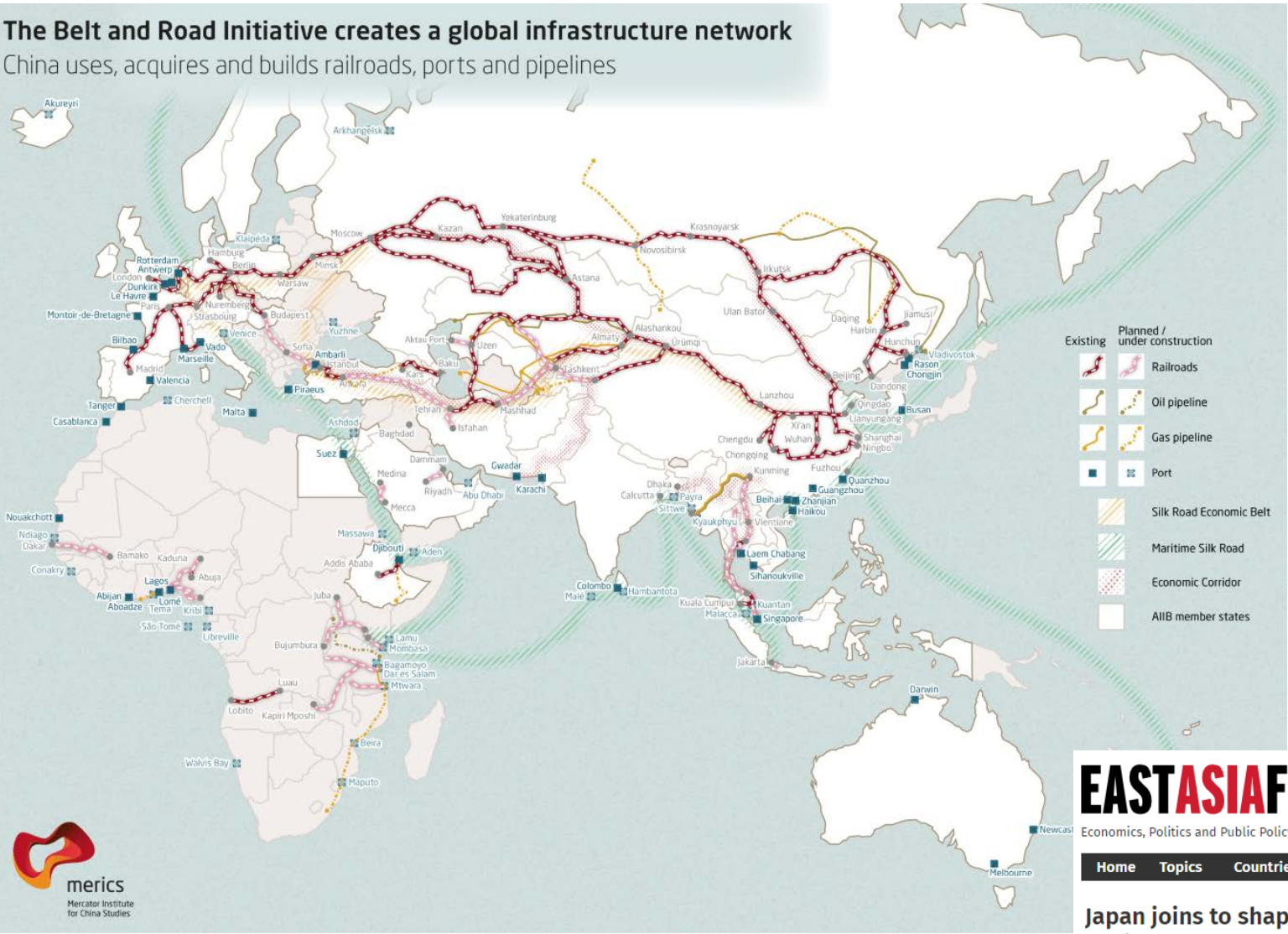


# US Loses Market Share as China Increases Meat Imports from the World





**The Belt and Road Initiative creates a global infrastructure network**  
 China uses, acquires and builds railroads, ports and pipelines



# China's Belt and Road Initiative

EASTASIAFORUM

Economics, Politics and Public Policy in East Asia and the Pacific

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Japan joins to shape China's Belt and Road

28 October 2018

Author: Shiro Armstrong, ANU



# Structural impacts of trade war

## Chinese Ag Policy Presents Future Demand that could be filled by our competitors

Minghao Li, Wendong Zhang, Dermot Hayes, Riley Arthur, Yantao Yang, and Xiudong Wang. 2017. ["China's New Nationwide E10 Ethanol Mandate and Its Global Implications."](#) *Agricultural Policy Review*. Center for Agricultural and Rural Development, Iowa State University.

### China cannot produce enough ethanol domestically to fulfill the 2020 E10 ethanol mandate

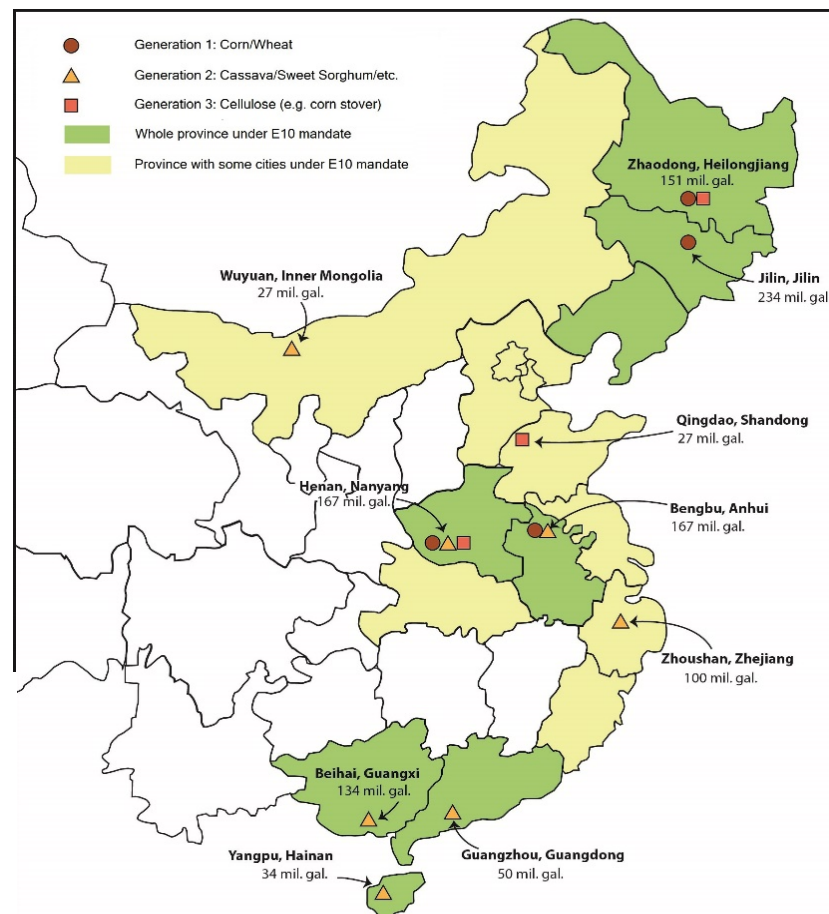
#### 4<sup>th</sup> largest producer – 1 Bil gal.

- After US, Brazil and EU
- Corn ethanol 64%
- Also uses cassava, sorghum, corn stover
- Imported 225 mil. gal, mainly from U.S.
- Tariff rose from 5% to 30%

China consumes 40 bil. gal gasoline; 1 bil. gal ethanol in 2016

### China sets 2020 target for nationwide ethanol use to cut corn stocks

### China's Ethanol Trial



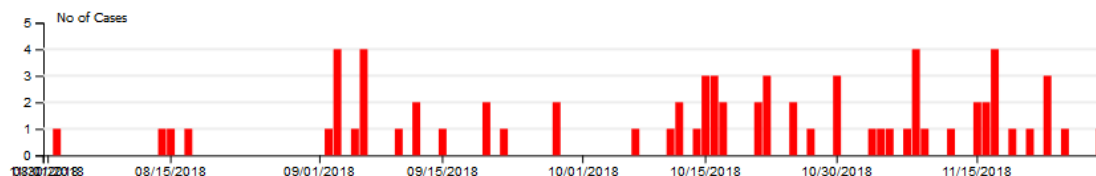
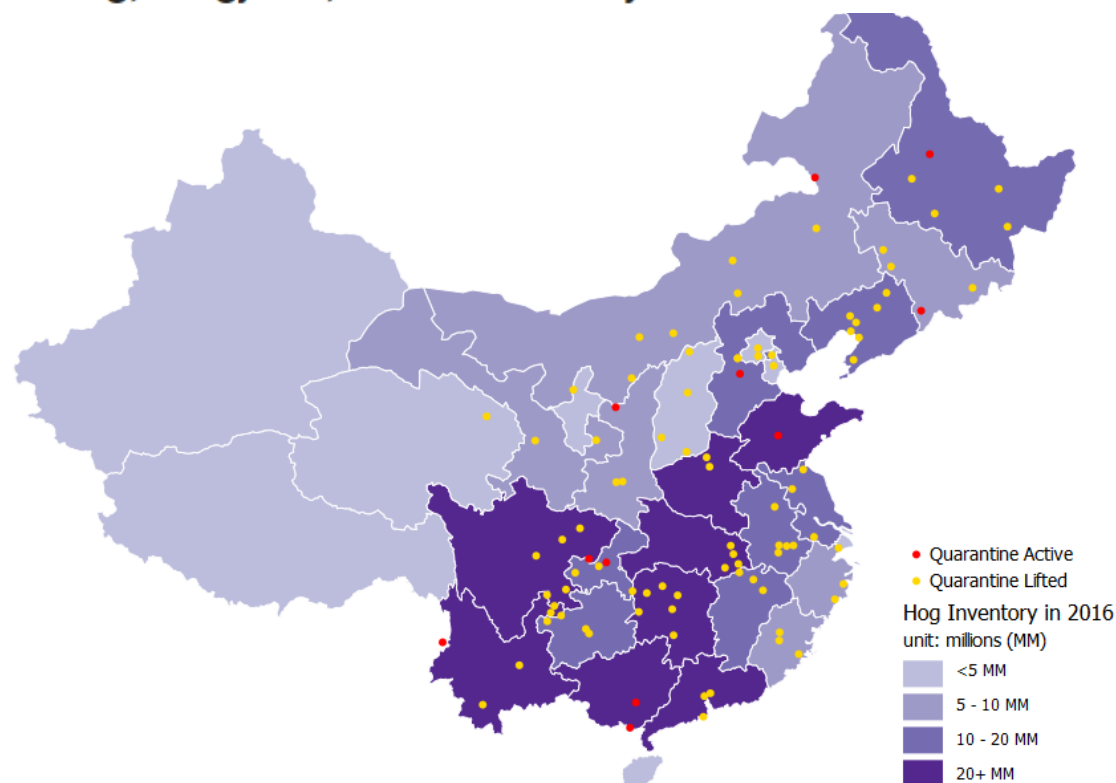
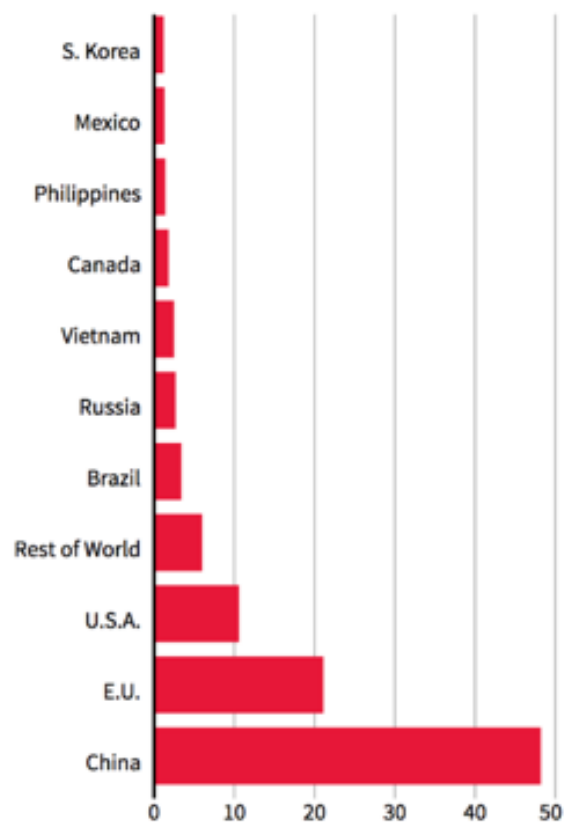


## World's Largest Pork Producer in Crisis: China's African Swine Fever Outbreak

by Yongtong Shao, Minghao Li, Wendong Zhang, Yongjie Ji, and Dermot Hayes

### TOP PORK PRODUCERS BY SHARE

In percent as share of total in 2017



# African Swine Fever in China: An Update

Minghao Li, Tao Xiong, Yongjie Ji, Dermot Hayes, and Wendong Zhang

minghao@iastate.edu; taoxiong@iastate.edu; yongjieji@iastate.edu; dhayes@iastate.edu;

wdzhang@iastate.edu

## Lean Hogs

### Latest Price & Chart for Lean Hogs

End of day Commodity Futures Price Quotes for Lean Hogs

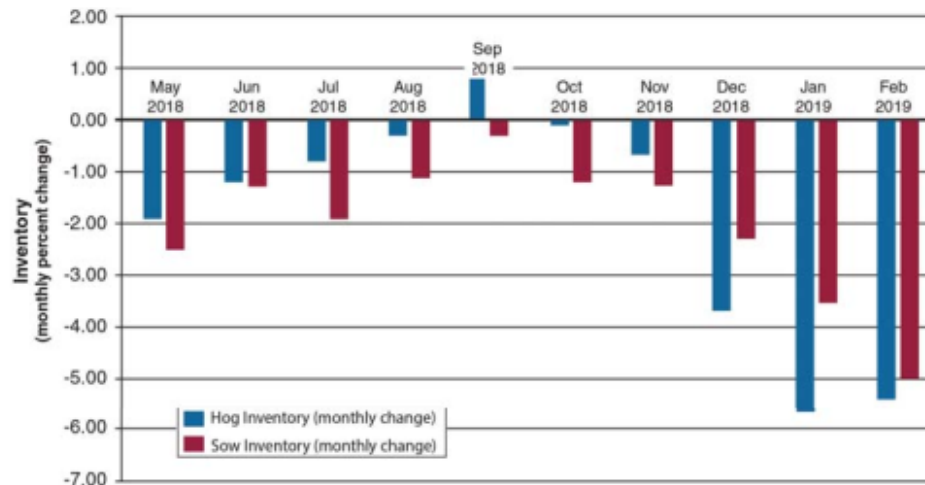


Figure 1. Monthly changes in China's hog inventory

Source: Ministry of Agriculture of China





#4: Arguably strategic misjudgments early on by both sides, exposing lack of mutual understandings and mistrust



# #5: China is a Country of Rapid Change



## High Speed Rail



U.S. GDP per capita was 20.2 times that of China

U.S. GDP per capita was  
3.7 times that of China

BROOKINGS

**130m**  
in rest of the WORLD

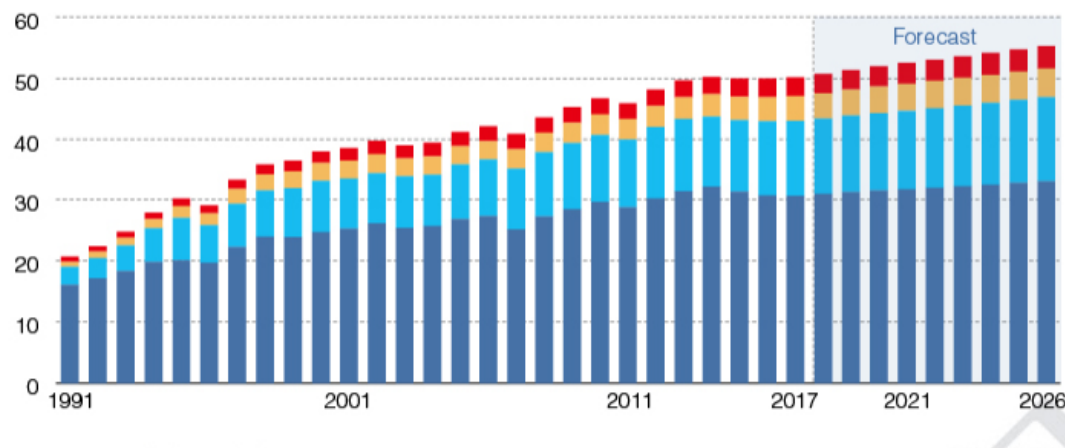
CC BY-SA

Chinese People Are  
Getting Richer, and  
will need more  
protein and better  
environment

## A Meatier Middle Kingdom

■ Pork ■ Poultry ■ Beef and veal ■ Sheep

Unit: Kilograms per capita



Source: 财新数据  
Caixin Data

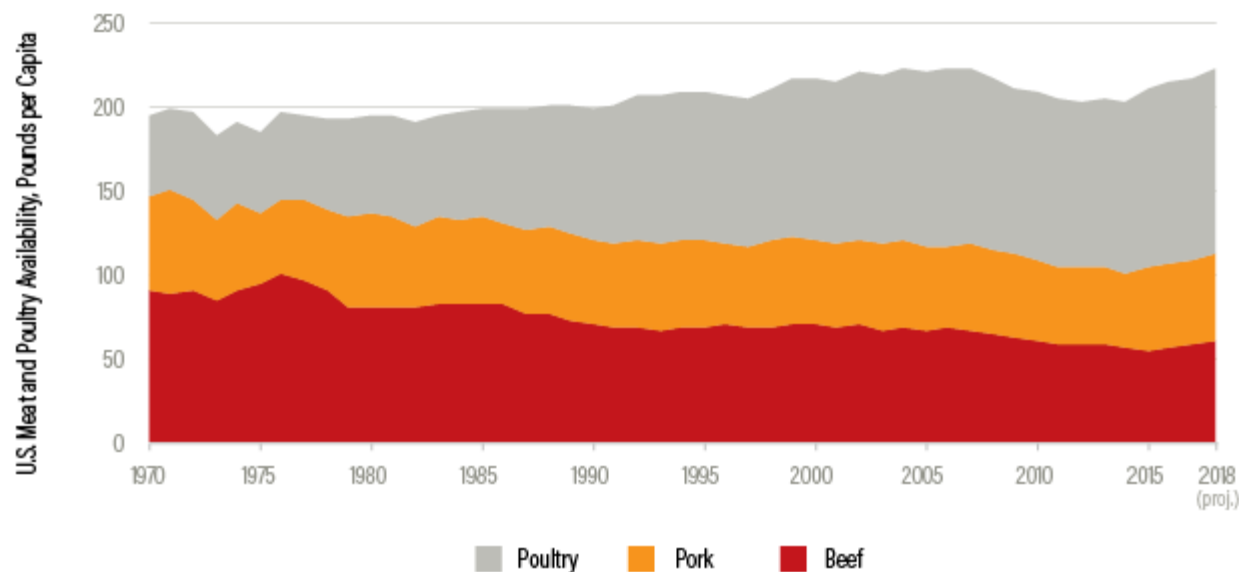
Original Sources: Organization for Economic Co-operation and Development, Food and Agriculture Organization of the United Nations

WORLD RESOURCES INSTITUTE

## 2018 Will See High Meat Consumption in the U.S., but the American Diet is Shifting

by  Richard Waite - January 24, 2018

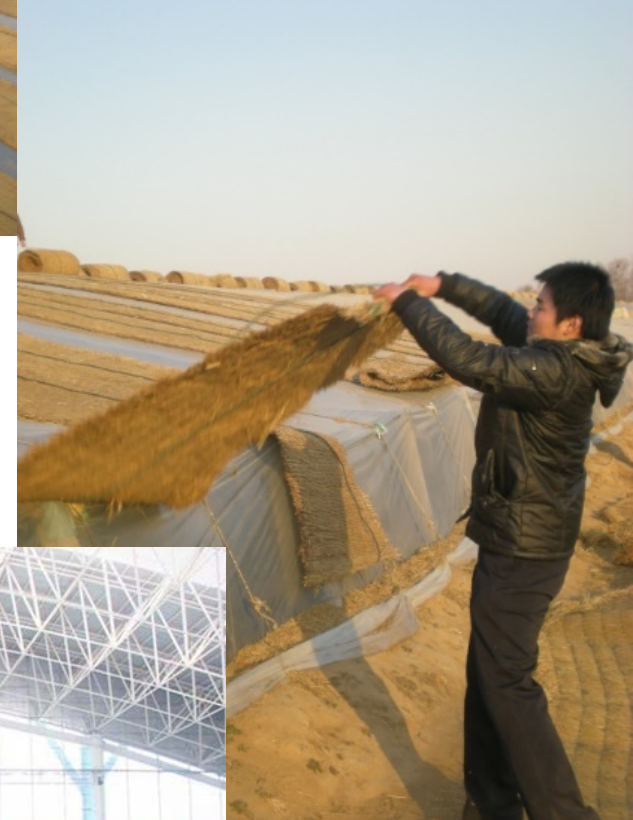
## U.S. Meat Consumption Has Shifted from Beef toward Chicken





# My hometown: Shenxian, Shandong Province

Greenhouse – plastic film - Shandong Province



IOWA STATE UNIVERSITY  
Extension and Outreach

CARD  
Cultural and Rural Development



# #6: Chinese economy and U.S.- China Relations at Inflection Points



## HOW CHINA BECAME CAPITALIST

RONALD COASE

Nobel Laureate in Economics  
& NING WANG

### Description this book

How China Became Capitalist details the extraordinary, and often unanticipated, journey that China has taken over the past thirty five years in transforming itself from a closed agrarian socialist economy to an indomitable economic force in the international

arena. The authors revitalise the debate around the rise of the Chinese economy through the use of primary sources, persuasively arguing that the reforms implemented by the Chinese leaders did not represent a concerted attempt to create a capitalist economy, and that it was marginal revolutions that introduced the market and entrepreneurship back to China. Lessons from the West were guided by the traditional

Chinese principle of seeking truth from facts . By turning to capitalism, China re-embraced her own cultural roots. How China Became Capitalist challenges received wisdom about the future of the Chinese economy, warning that while China has enormous potential for further growth, the future is clouded by the government's monopoly of ideas and power. Coase and Wang argue that the development of a

WORLD NEWS OCTOBER 17, 2017 / 9:29 PM / A YEAR AGO

integral in

## Xi says China will let the market play decisive role in resource allocation

WORLD NEWS NOVEMBER 12, 2013 / 3:47 AM / 5 YEARS AGO



## China vows 'decisive' role for markets, results by 2020

# U.S.-China Relations at Critical Inflection Point

NATIONAL BESTSELLER

"Thucydides's Trap identifies a cardinal challenge to world order."

—HENRY KISSINGER, former US secretary of state

## DESTINED FOR WAR

CAN AMERICA AND CHINA  
ESCAPE THUCYDIDES'S TRAP?

GRAHAM  
ALLISON

*Lesson 4: Domestic performance is decisive.*

*Lesson 5: Hope is not a strategy.*



**"I** t was the rise of Athens, and the fear that this inspired in Sparta, that made war inevitable." —Thucydides

THE  
NATIONAL  
INTEREST



### Is a War between China and America Simply Unstoppable?

**B**uilding his analysis on Thucydides' study of the Peloponnesian War, Graham Allison and his colleagues have studied the classic international relations problem of military conflict between a rising power and an established dominant power. They identified 16 such situations over the past 500 years, and found that 12 of them ended in war — painting a gloomy picture of the future of US–China relations.

What is the

# Thucydides Trap?

“It was the rise of Athens, and the fear that this inspired in Sparta, that made war inevitable.”

–Thucydides

“We all need to work together to avoid the Thucydides trap – destructive tensions between an emerging power and established powers.”

–Xi Jinping  
President of China

|    | Period                         |   | Ruling Power                 | Rising Power   |   | Result |
|----|--------------------------------|---|------------------------------|----------------|---|--------|
| 1  | First half of 16th century     |    | France                       | Hapsburgs      |    | War    |
| 2  | 16th–17th centuries            |    | Hapsburgs                    | Ottoman Empire |    | War    |
| 3  | 17th century                   |    | Hapsburgs                    | Sweden         |    | War    |
| 4  | 17th century                   |    | Dutch Republic               | England        |    | War    |
| 5  | Late 17th–early 18th centuries |    | France                       | Great Britain  |    | War    |
| 6  | Late 18th–early 19th centuries |    | United Kingdom               | France         |    | War    |
| 7  | Mid-19th century               |    | United Kingdom, France       | Russia         |    | War    |
| 8  | 19th century                   |    | France                       | Germany        |    | War    |
| 9  | Late 19th–early 20th centuries |    | Russia, China                | Japan          |    | War    |
| 10 | Early 20th century             |    | United Kingdom               | United States  |    | No war |
| 11 | Early 20th century             |    | Russia, U.K., France         | Germany        |    | War    |
| 12 | Mid-20th century               |    | Soviet Union, U.K.<br>France | Germany        |    | War    |
| 13 | Mid-20th century               |    | United States                | Japan          |    | War    |
| 14 | 1970s–1980s                    |   | Soviet Union                 | Japan          |   | No war |
| 15 | 1940s–1980s                    |  | United States                | Soviet Union   |  | No war |
| 16 | 1990s–present                  |  | United Kingdom, France       | Germany        |  | No war |



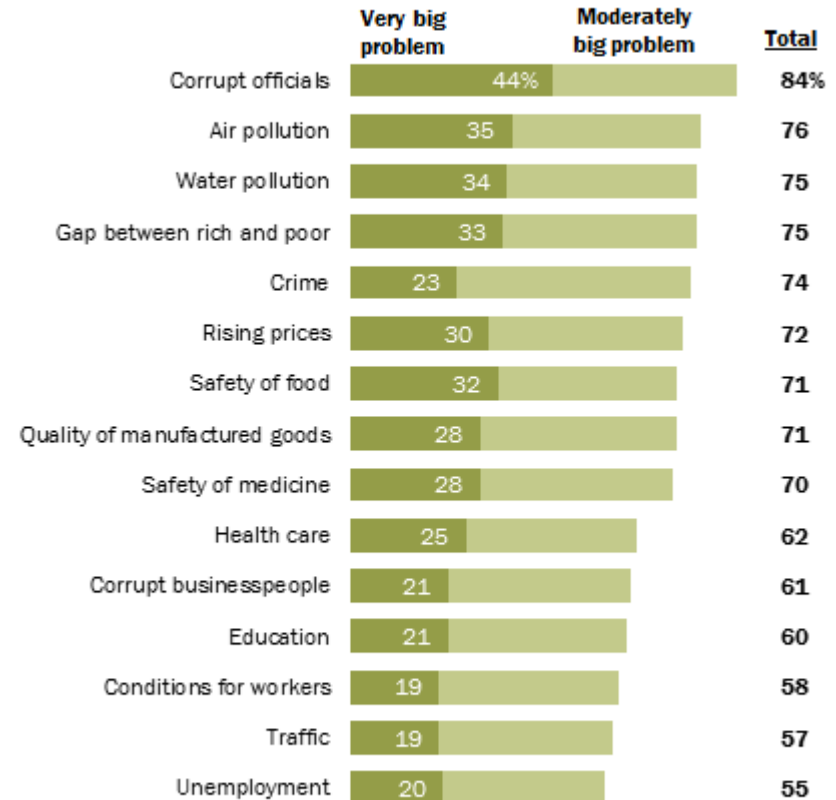
# #7: Chinese consumers, producers, and gov't increasingly like U.S.

BBVA RESEARCH

CHINA CONSUMPTION TRENDS | 2017

## Corrupt Officials, Pollution Are Top Concerns

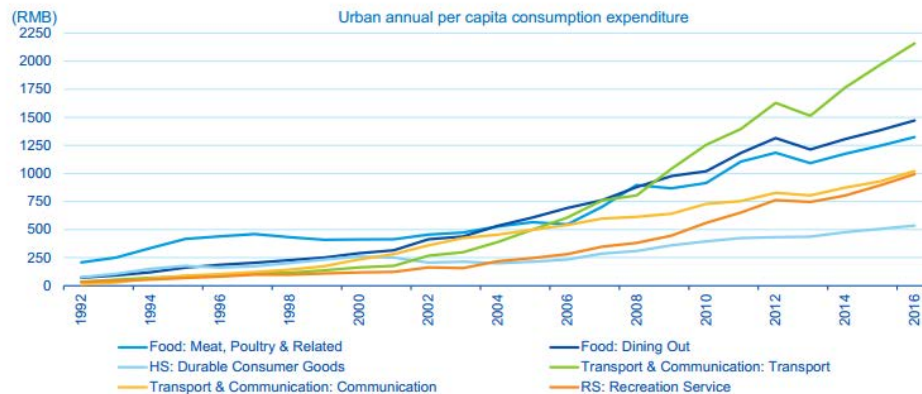
*How big of a problem is/are ...*



Source: Spring 2015 Global Attitudes survey. Q60a, bCH1, d-f, h-q.

PEW RESEARCH CENTER

Urban Chinese prefer to travel, stay connected, buy protein rich food, durable goods & recreation



## Corruption, Pollution, Inequality Are Top Concerns in China

*Many Worry about Threats to Traditions and Culture*

Pew Research Center

SEPTEMBER 24, 2015



2018: 1 Billion Users  
2013: 195 Mil. Users

## What's Wechat?

WeChat is a smartphone application that consists of...



Movie Ticket

+



Bill payment

+



Free calling

+



Investment

+



Social network



Mobile payment

+



User Review

+



Group buying

+



Taxi order

+



Free messaging



A staff member jumps for a photo to celebrate after Alibaba's "Double 11" shopping festival, also known as Singles' Day, set a new record of 213.5 billion yuan (\$30.7 billion) in Shanghai on Monday. Online shoppers in China on Sunday shattered last year's record of \$24 billion in sales during the country's annual buying frenzy. This year's extravaganza was the 10th one to be held. | AP

BUSINESS

## China's Alibaba nets record \$30 billion in Singles' Day sales extravaganza, but growth rate plunges

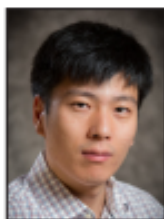
REUTERS

[PRINT](#) [SHARE](#)

NOV 12, 2018

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Extension and Outreach

 **CARD**  
Center for Agricultural and Rural Development



## Seven things to know about China to understand the trade war

By Wendong Zhang, extension economist, 515-294-2536, wdzhang@iastate.edu

1. Ag is not China's comparative advantage
2. China suffers more economically, but retaliate on ag states like Iowa
3. Trade war makes China further diversify away from US
4. Trade war exposes early strategic misjudgments and growing mistrust
5. China is a country of rapid change
6. Chinese economy and relations with US at inflection points
7. Chinese producers and consumers increasingly think and act like Americans

<https://www.extension.iastate.edu/agdm/articles/zhang/ZhaFeb19.html>

# Thank You!

**Wendong Zhang**

Assistant Professor and Extension Economist

478C Heady Hall, Iowa State University

515-294-2536

[wdzhang@iastate.edu](mailto:wdzhang@iastate.edu)

[www.card.iastate.edu/china](http://www.card.iastate.edu/china)

[www.card.iastate.edu/farmland](http://www.card.iastate.edu/farmland)