



# Global Pork Update & Outlook

**Brett Stuart**

President, Global AgriTrends

December 7, 2021

# Our Business: Global AgriTrends

- Global analysis of agriculture markets, est. 2006; **focused on global proteins** (beef, pork, poultry)
- Economic, policy, forecasting
- Extensive **global network of clients and contacts**
- On-the-ground research on 6 continents
- Clients include multinational processors, ag banks, Wall St banks, hedge funds, brokers, producers (hogs, cattle, chickens), trade associations, feed companies, pharmaceuticals, exporters, importers and others seeking market intel in the global protein space



# Outline

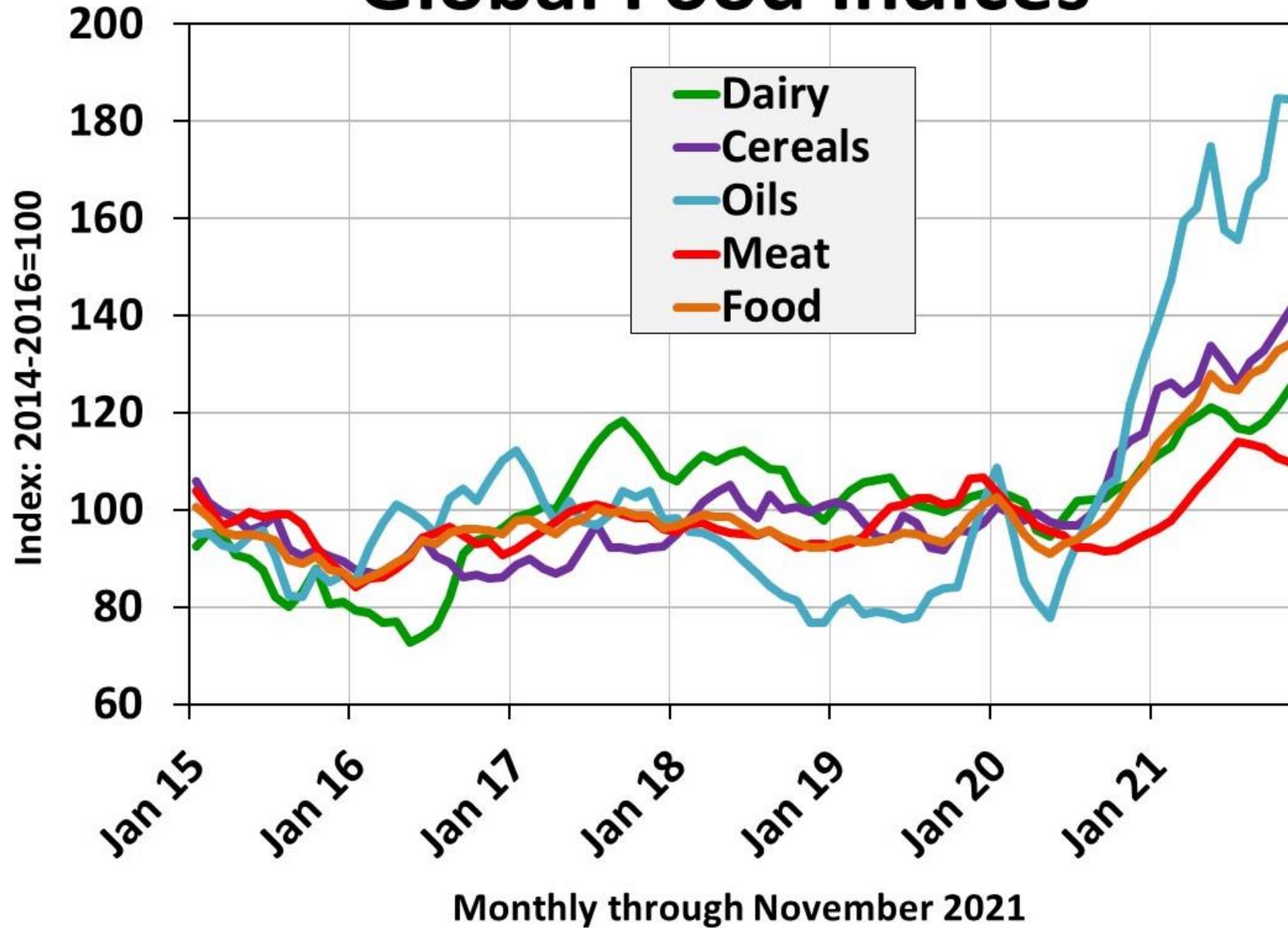
- Economy, inflation, COVID
- Global pork markets
  - China
  - ASF
- U.S. hogs, pork markets
- 10 Year Outlook



# Economy, Inflation, COVID

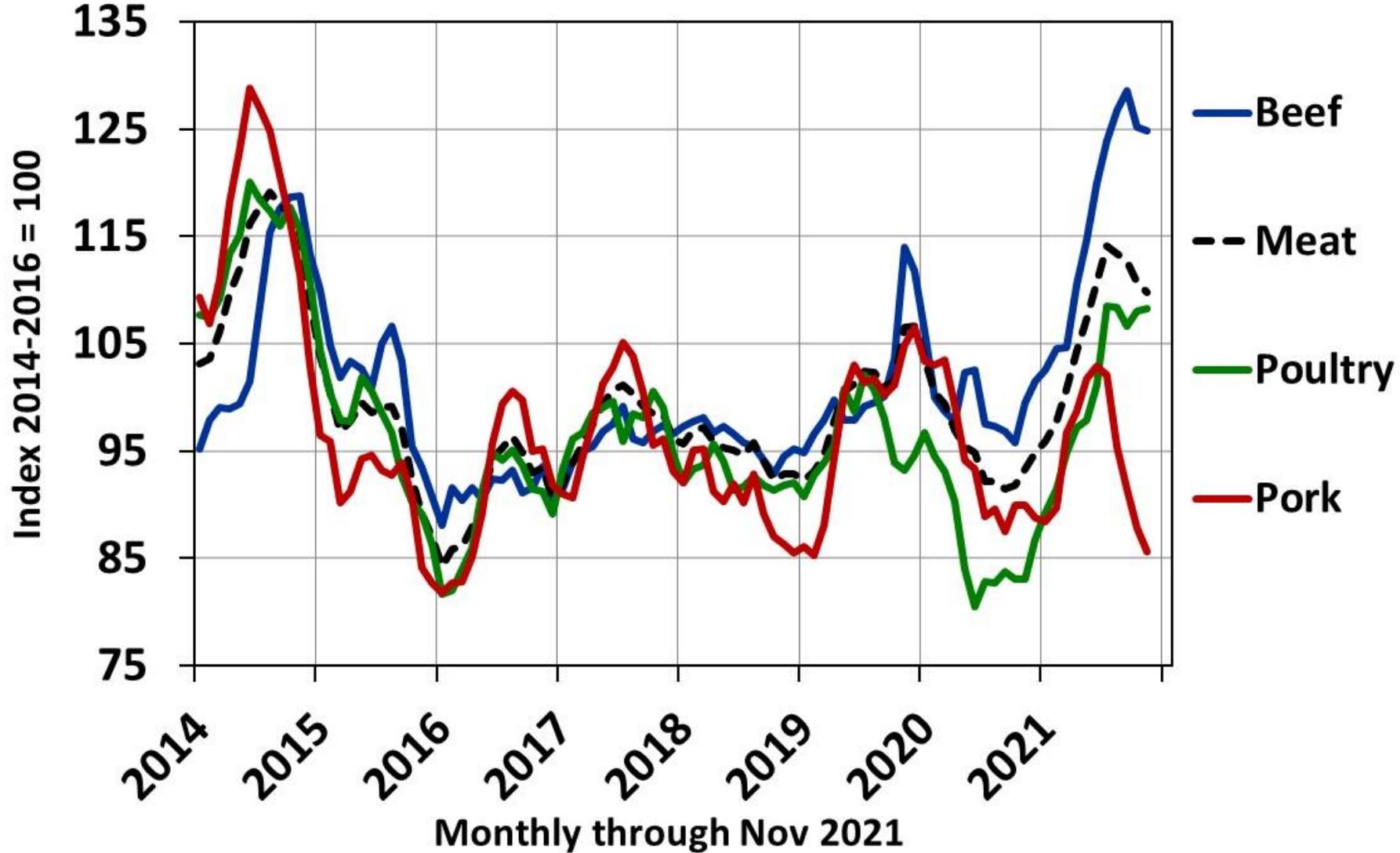
How did we get here...?

# Global Food Indices



Source: UN/FAO

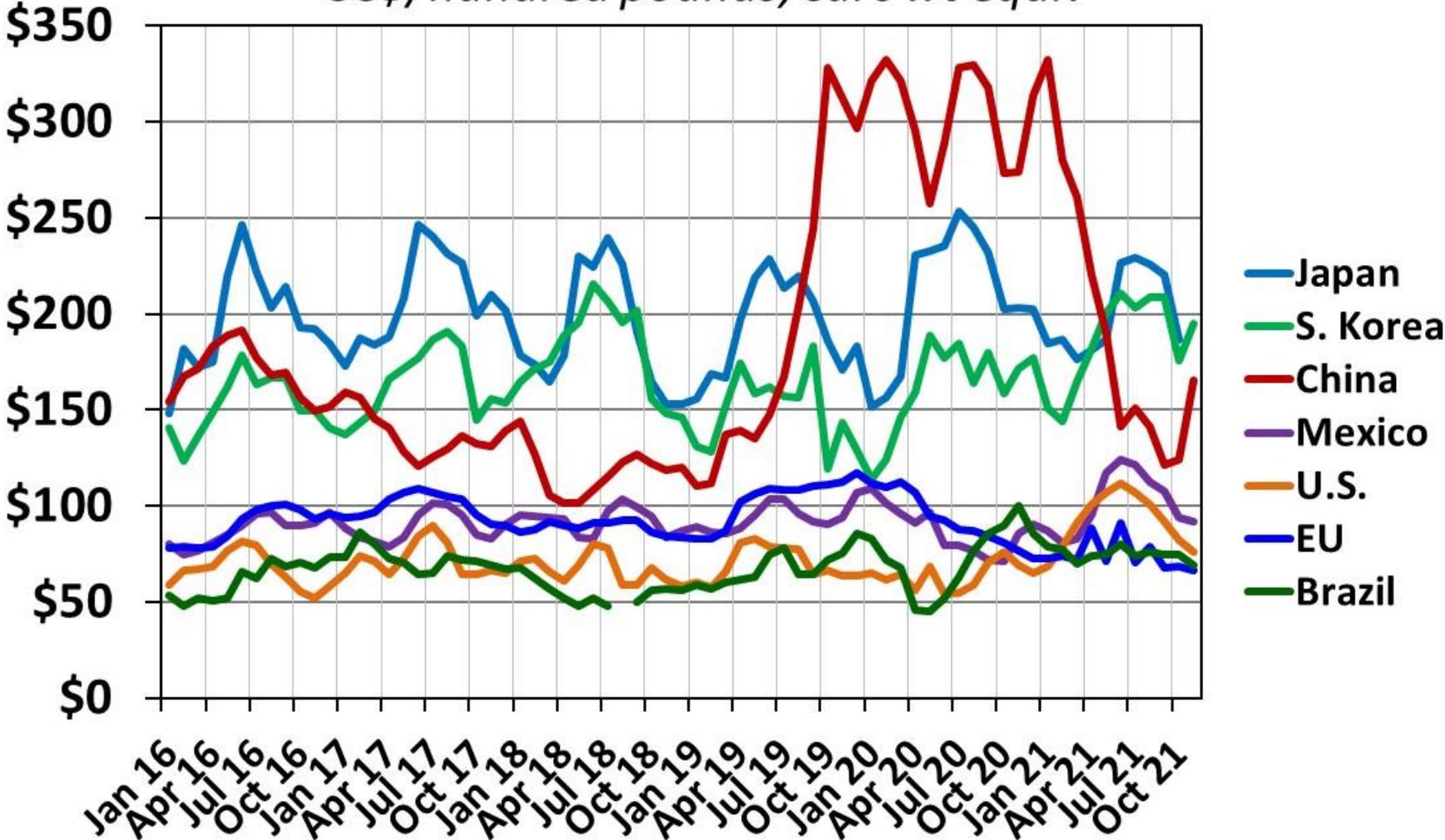
# Global Meat Price Indices



Source: UN/FAO

# Global Hog Prices

US\$/hundred pounds, carc wt equiv

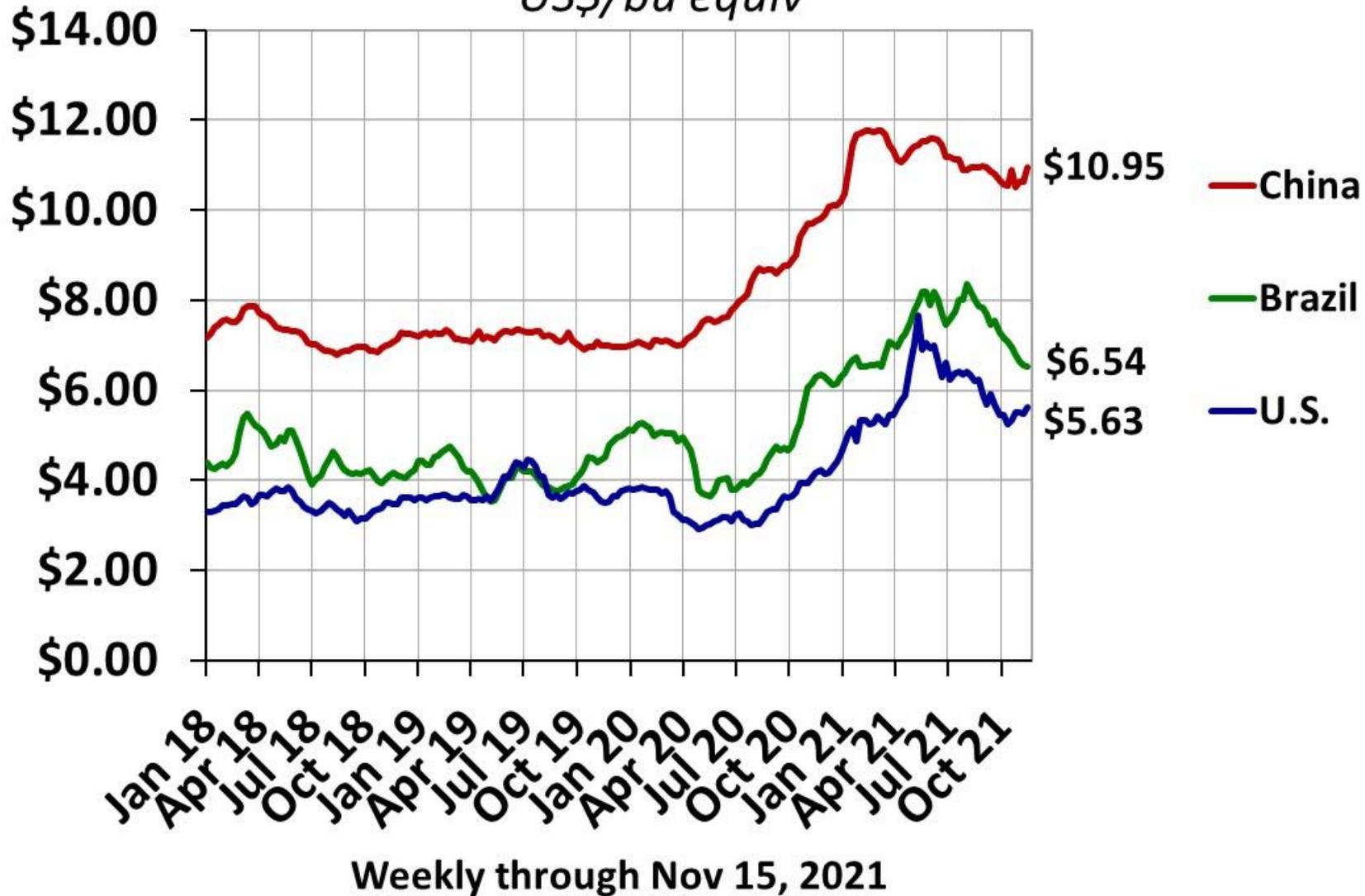


Monthly average through November 2021

Source: ALIC, Cepea, JCI, Economia, ADHB, USDA

# Corn Prices

US\$/bu equiv



Source: USDA, JCI, CEPEA

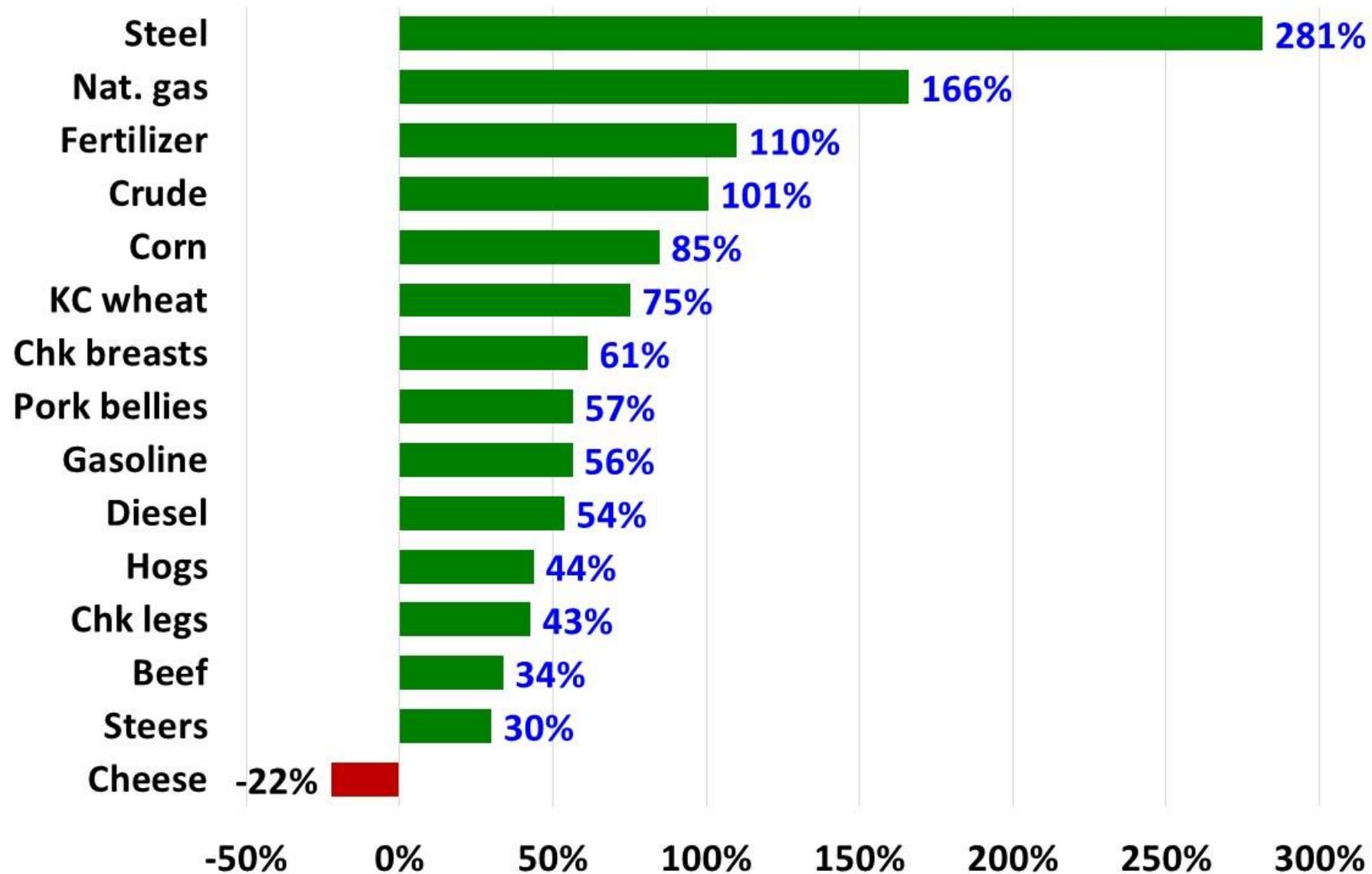
# The Commodity Super-Cycle Continues

- Driven by expanded money supplies
  - Global COVID stimulus: US\$10 TRILLION
  - Increased demand overloaded supply chains
    - West coast port issues
    - Container shortages (eastbound from Asia)
- NOW:
  - Rising labor, fuel, electricity costs
  - Surging fertilizer costs, glyphosate
- When does this end?
  - Look further than you think
- How does it end?
  - Soft or hard landing?



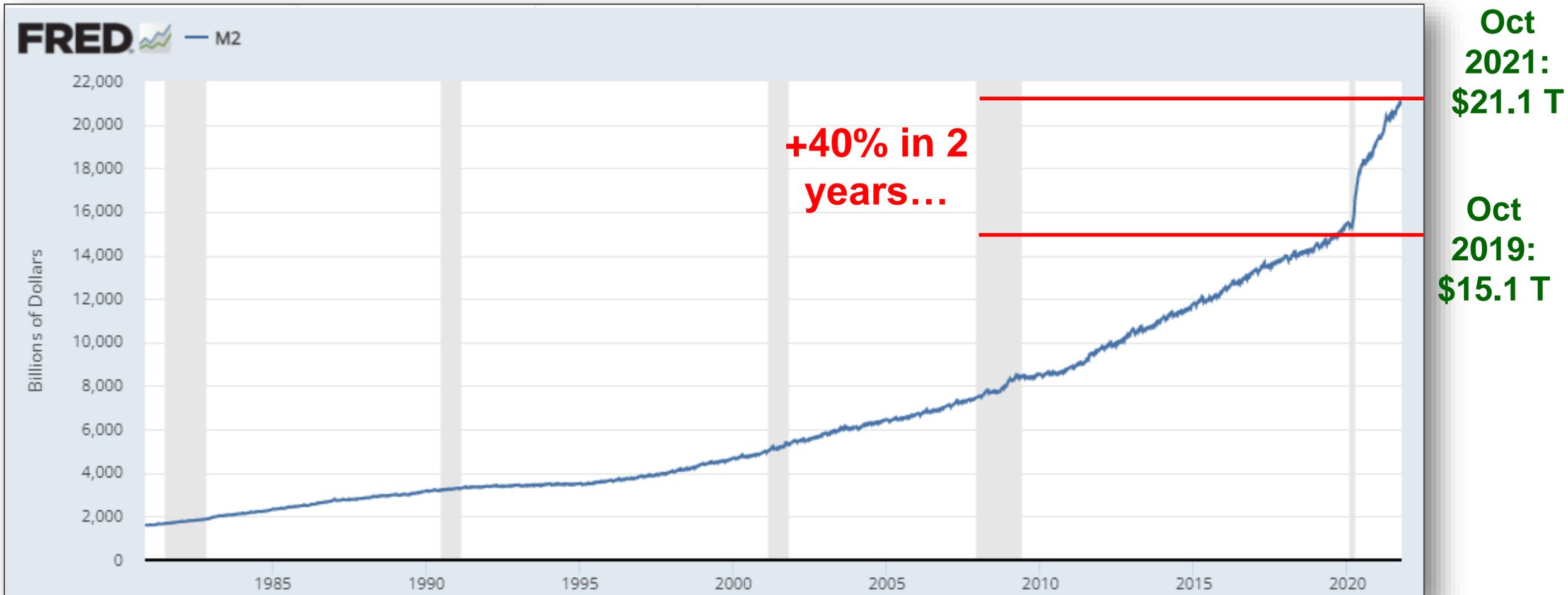


# Price Inflation since Aug. 1, 2021



Source: Bloomberg, USDA, EIA,

# Money Supply Supporting Inflation

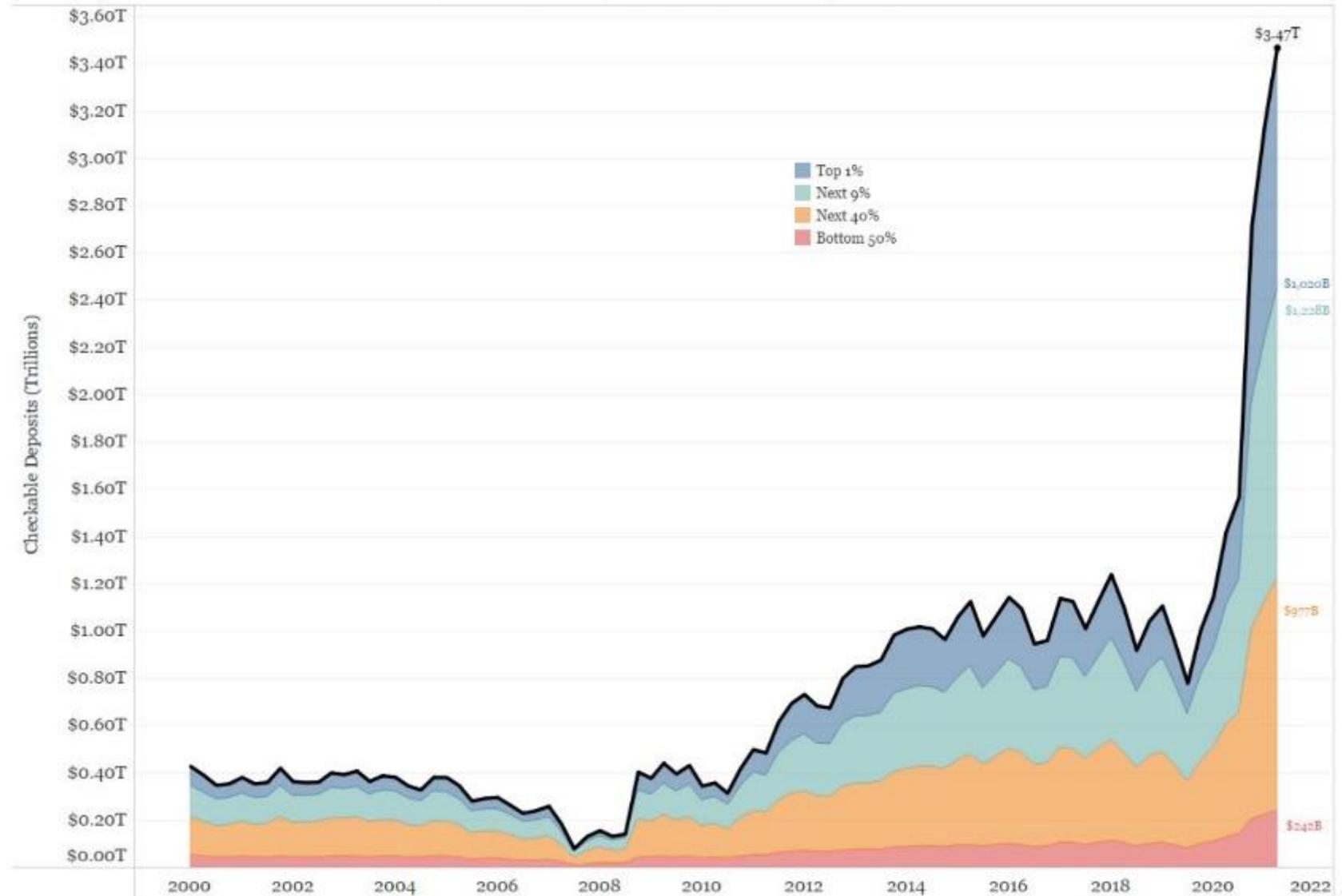


# Cash is everywhere...especially with the wealthy...

At \$3.5 trillion, checking account balances are still 4x higher than pre-COVID.

While all income groups have saved more, 65% of all the cash in checking accounts is held by the wealthiest 10%.

Checkable Deposits and Currency Held



# Household balance sheets look good...

## U.S. Household Wealth and Debt Payments

— Net Worth — Debt Service

% of Disposable Income

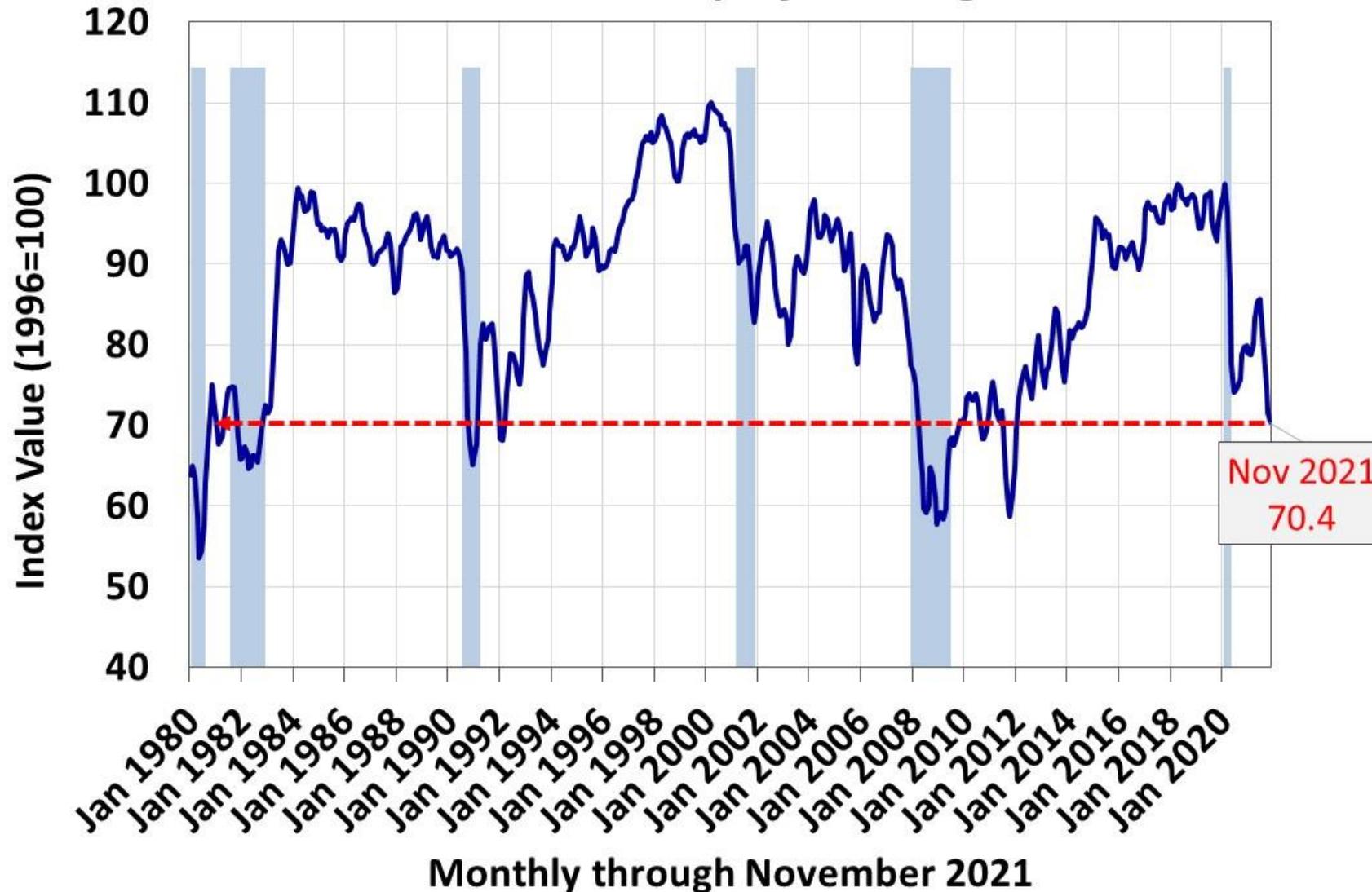
% of Disposable Income



Households and nonprofit organizations. Sources: Federal Reserve Board, Bureau of Economic Analysis, Haver Analytics, Capital Innovations as of 7/31/21.

# Index of U.S. Consumer Sentiment

*University of Michigan*



- 1 in 4 consumers cited inflationary reductions in their living standards in November, with lower income and older consumers voicing the greatest impact.
- Nominal income gains were widely reported but when asked about inflation-adjusted gains, **half** of all families anticipated reduced real incomes next year.
- Rising prices for homes, vehicles, and durables were reported more frequently than any other time in more than half a century.

Economics

# Powell Weighs Earlier End to Bond Tapering Amid Hot Inflation

By [Craig Torres](#), [Matthew Boesler](#), and [Christopher Condon](#)

November 30, 2021, 8:59 AM MST *Updated on November 30, 2021, 9:39 AM MST*

- Said the **strong U.S. economy and elevated inflation** could warrant ending the central bank's asset purchases sooner than planned next year, **though the new omicron strain of Covid-19 poses a fresh risk to the outlook**
- Says could wrap up purchases a few months earlier
- Says it's time to retire word 'transitory' for price increases

<https://www.bloomberg.com/news/articles/2021-11-30/powell-says-appropriate-to-weigh-earlier-end-to-bond-buy-tapering>

# Potential Results of Persistent Inflation

1. Inflation turns to “stagflation”
  - Inflation + economic slowing
  - Fed “tapers” bond purchases
  - Fed raises interest rates
2. Instability in the 3<sup>rd</sup> world
  - Central banks already raising rates in Africa
  - Remember Arab Spring (2010)?



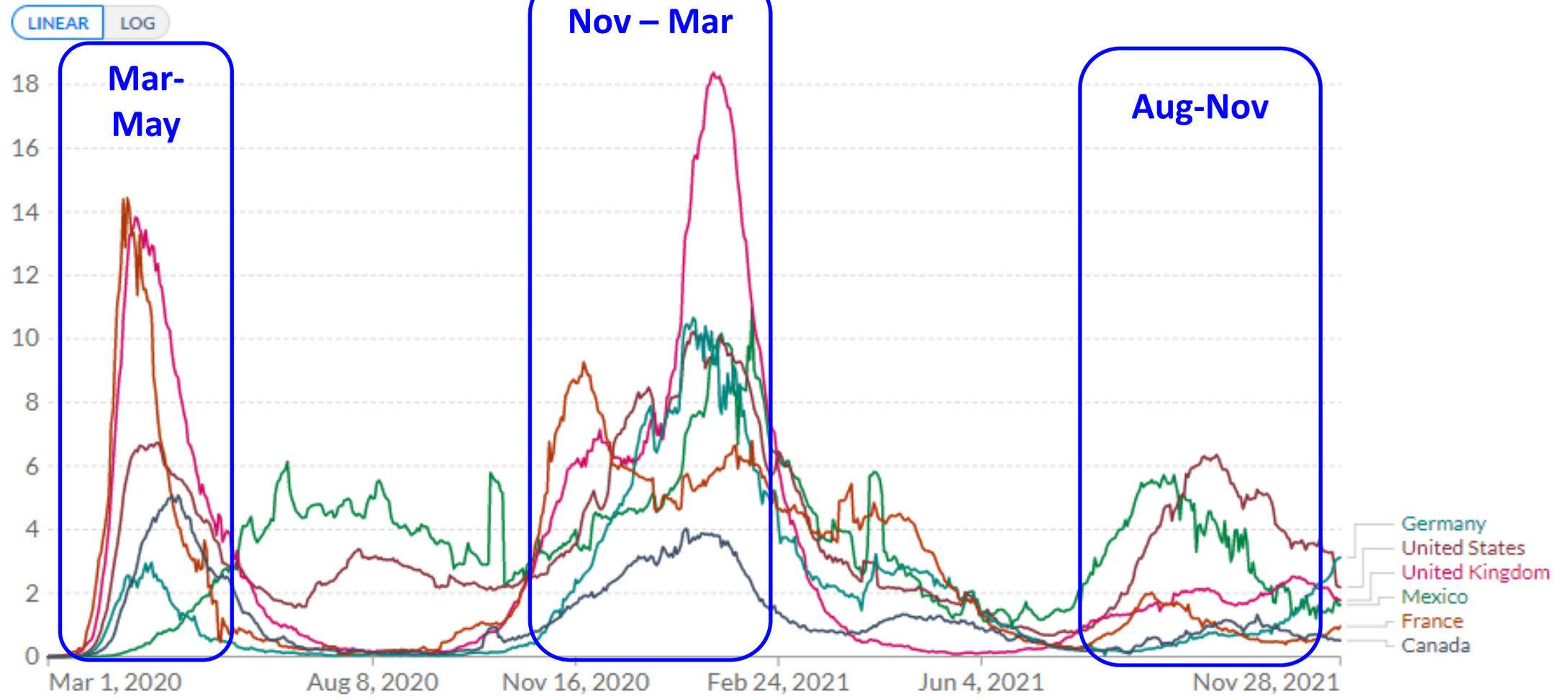
# COVID Omicron Variant

- A highly divergent variant with a high number of mutations ... some of which are concerning and may be associated with immune escape potential and higher transmissibility. - WHO
- WHO says omicron poses a “VERY HIGH” global risk
  - Suggests “SEVERE CONSEQUENCES” for some areas
- By next week we should know much more about
  - Transmissibility
  - Virulence
  - Existing vaccine protection

# COVID-19 Death Rate

Daily new confirmed COVID-19 **deaths** per million people

7-day rolling average. Due to limited testing and challenges in the attribution of the cause of death, confirmed deaths can be lower than the true number of deaths.



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

Source: <https://ourworldindata.org/covid-cases>

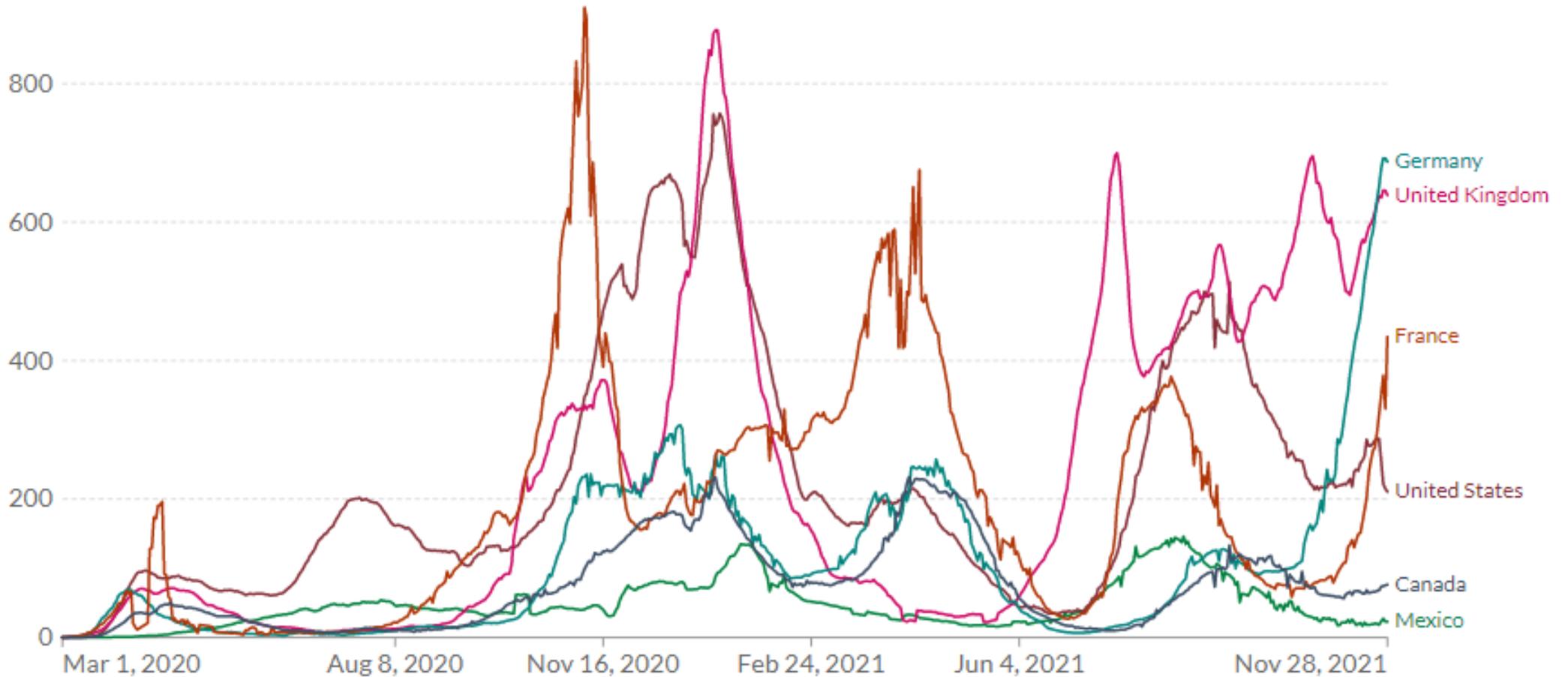
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Daily new confirmed COVID-19 **cases** per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.



**LINEAR** LOG



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

Source: <https://ourworldindata.org/covid-deaths>

# Global Vaccination Rates

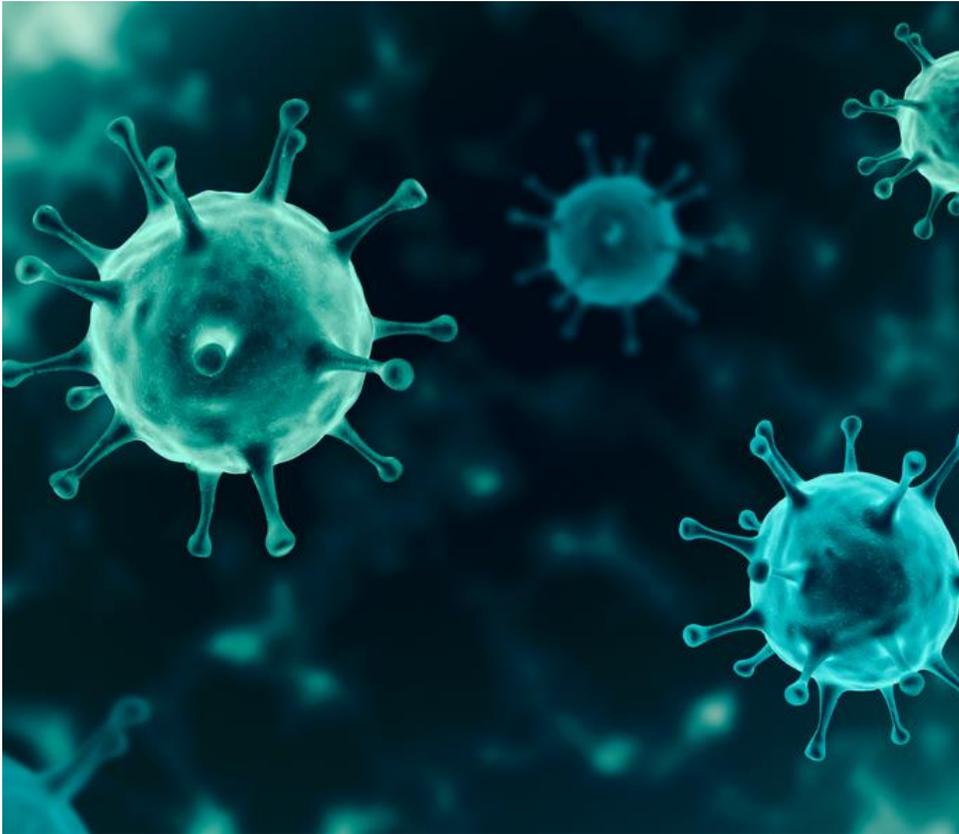
 = >70%

 = <30%

Location	Doses given	Fully vaccinated	% fully vaccinated
China	2.33B	1.07B	76%
India	1.13B	378M	27%
U.S.	443M	194M	59%
Brazil	297M	128M	60%
Indonesia	217M	85.4M	31%
Japan	195M	95.8M	76%
Mexico	130M	63.4M	49%
Pakistan	120M	48.6M	22%
Turkey	119M	49.8M	59%
Germany	116M	56.3M	68%
Russia	115M	51.7M	36%
U.K.	110M	46M	69%

Location	Doses given	Fully vaccinated	% fully vaccinated
France	101M	46.4M	69%
Vietnam	101M	36.1M	37%
Iran	98.2M	42.2M	50%
Italy	92.6M	43.9M	74%
Thailand	85.4M	37.1M	53%
Bangladesh	84.9M	33.1M	20%
S. Korea	82.2M	40.2M	78%
Spain	74M	37.5M	79%
Philippines	71.7M	39.5M	36%
Argentina	64.3M	27.5M	61%
Canada	59.7M	28.7M	76%
Colombia	51.8M	22.9M	45%

**COVID will continue to drive global markets, likely for years...**



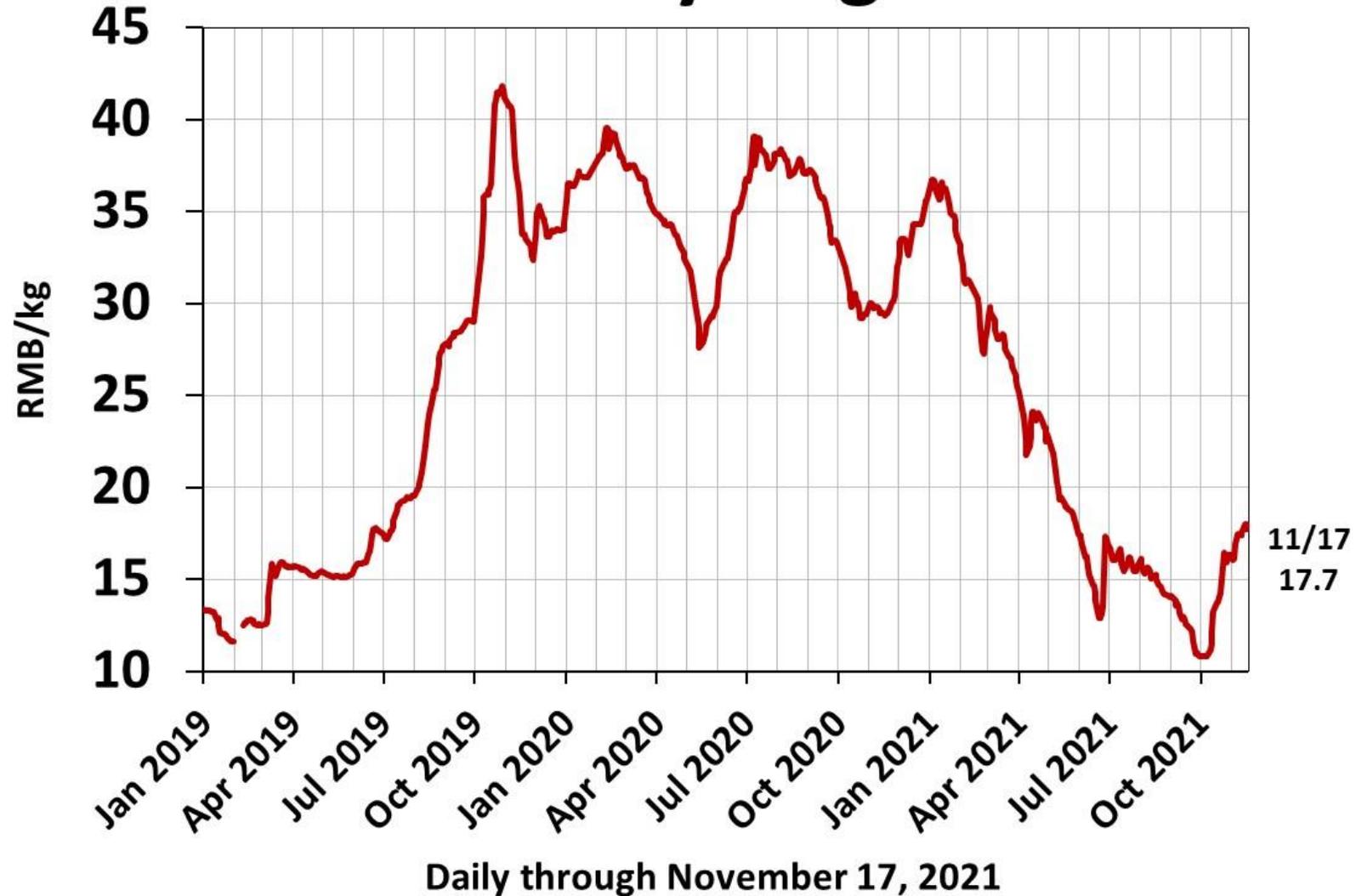
# Global Pork Markets

China

ASF

# China Hog Losses Drive Liquidation

## China Daily Hog Prices

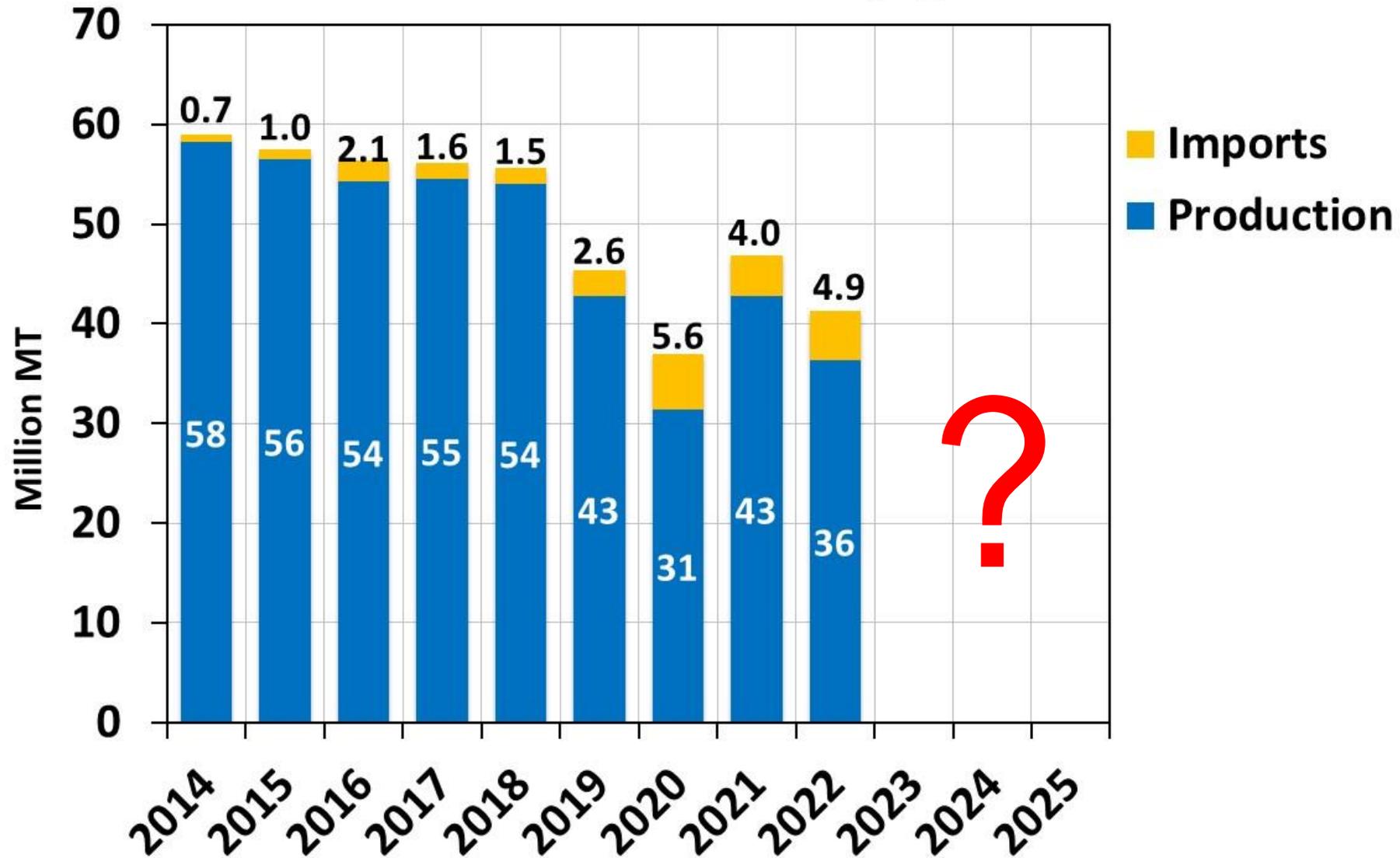


Source: JCI

# China confirms new ASF variant strains in 2 provinces

- Chinese researchers are calling for increased vigilance in two provinces after confirming that two additional variants of the African Swine Flu (ASF) virus were detected in domestic pigs.
- The study indicates that the variants are not as deadly as the ASF strain that sparked a 40% decline in China's hog population since 2018, the research published last month in Emerging Microbes & Infections magazine added.
- Scientists were able to isolate genotype I ASFV from the infected pigs and inoculated healthy swine to determine pathogenicity in addition to tracking disease signs, lesions, contact transmission and viral loads in different organs and tissues.
- Because the mutated genotypes cause infected pigs continuously shed viruses and develop low-level viraemia — the presence of viruses in the blood — **early diagnosis is more difficult than other viral strains already in the field**, they added. The study results imply that
  - the spread of these variants will “cause more problems and pose bigger challenges for ASF eradication in China,” in addition to potentially causing severe and continuous losses to the nation's hog industry, the scientists warned.

# China Pork Supplies

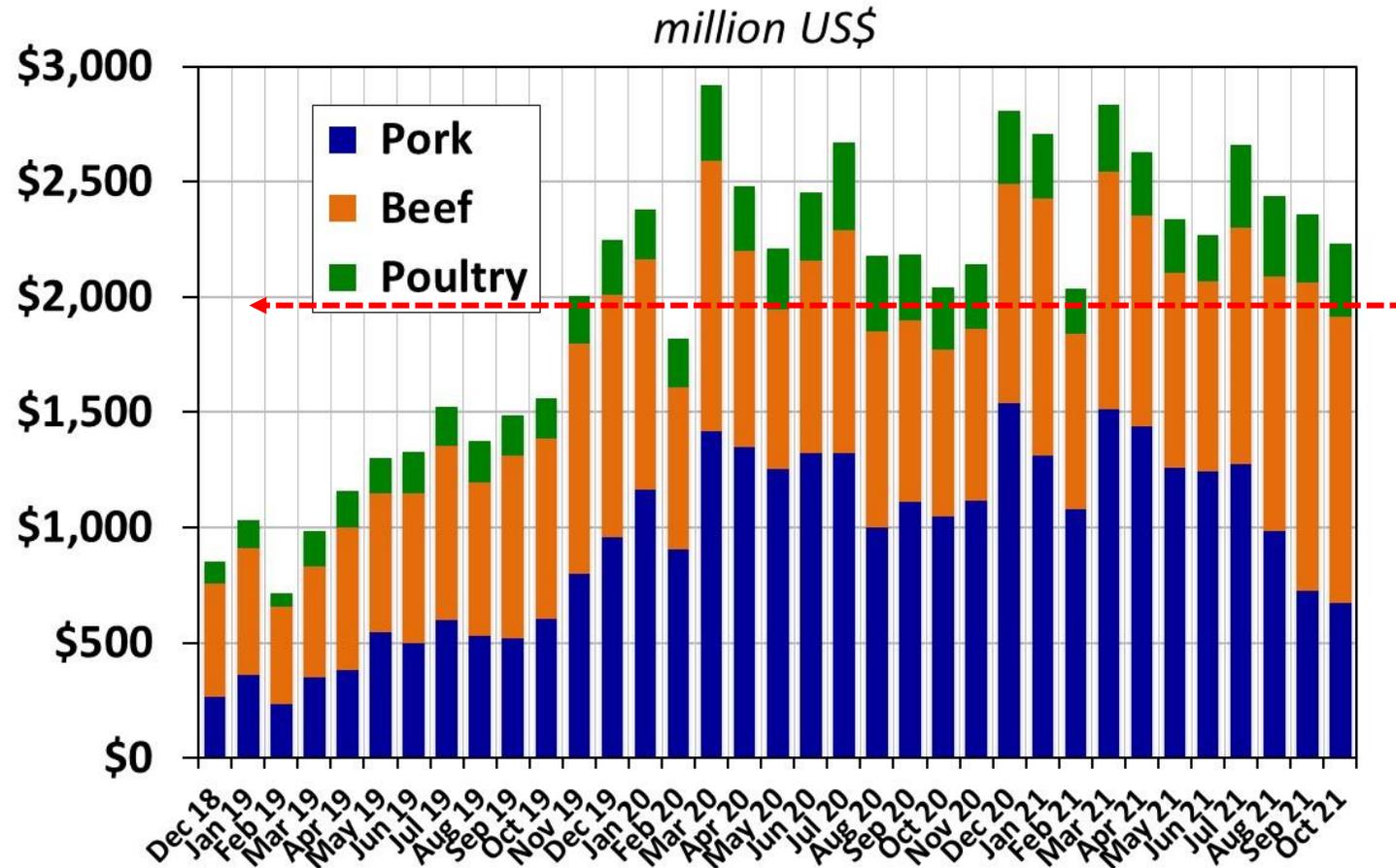


Source: USDA, AgriTrends Forecasts

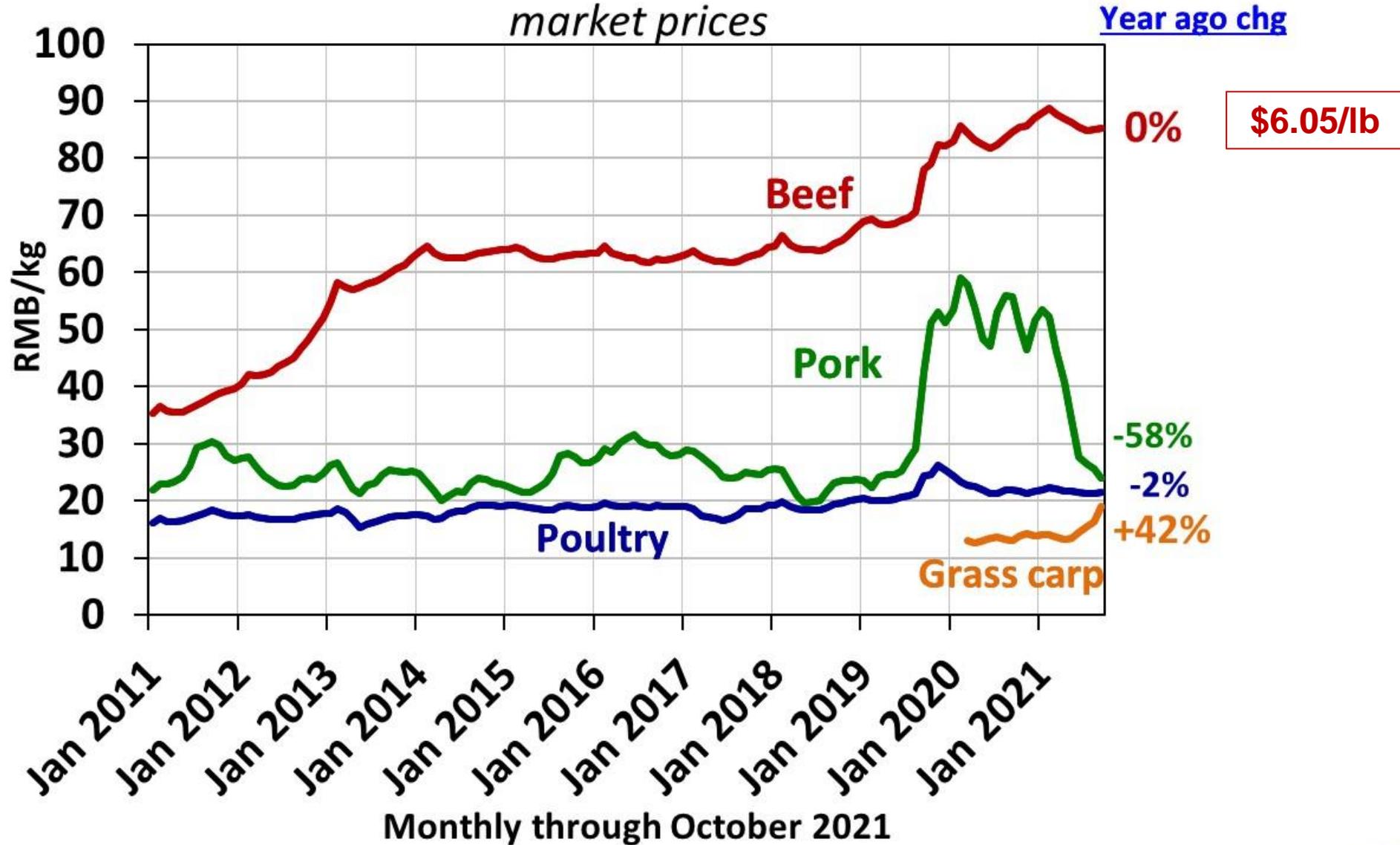
# China Oversupplies Pork Market

*But STILL KEEPS IMPORTING?*

## China Total Meat & Poultry Imports



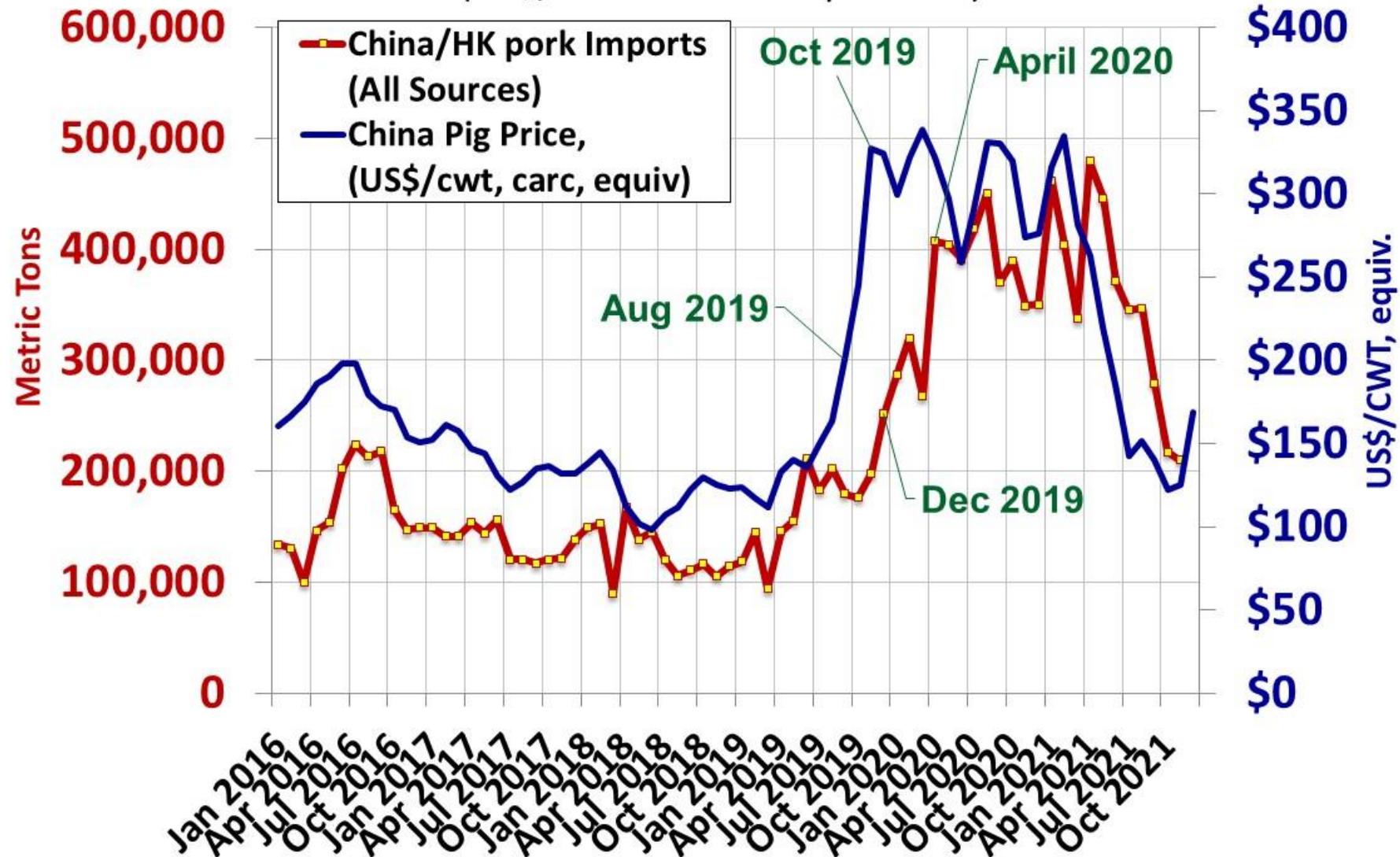
# China Meat & Poultry Prices



Source: China Ministry of Agriculture

# China Pork Imports and China Pig Prices

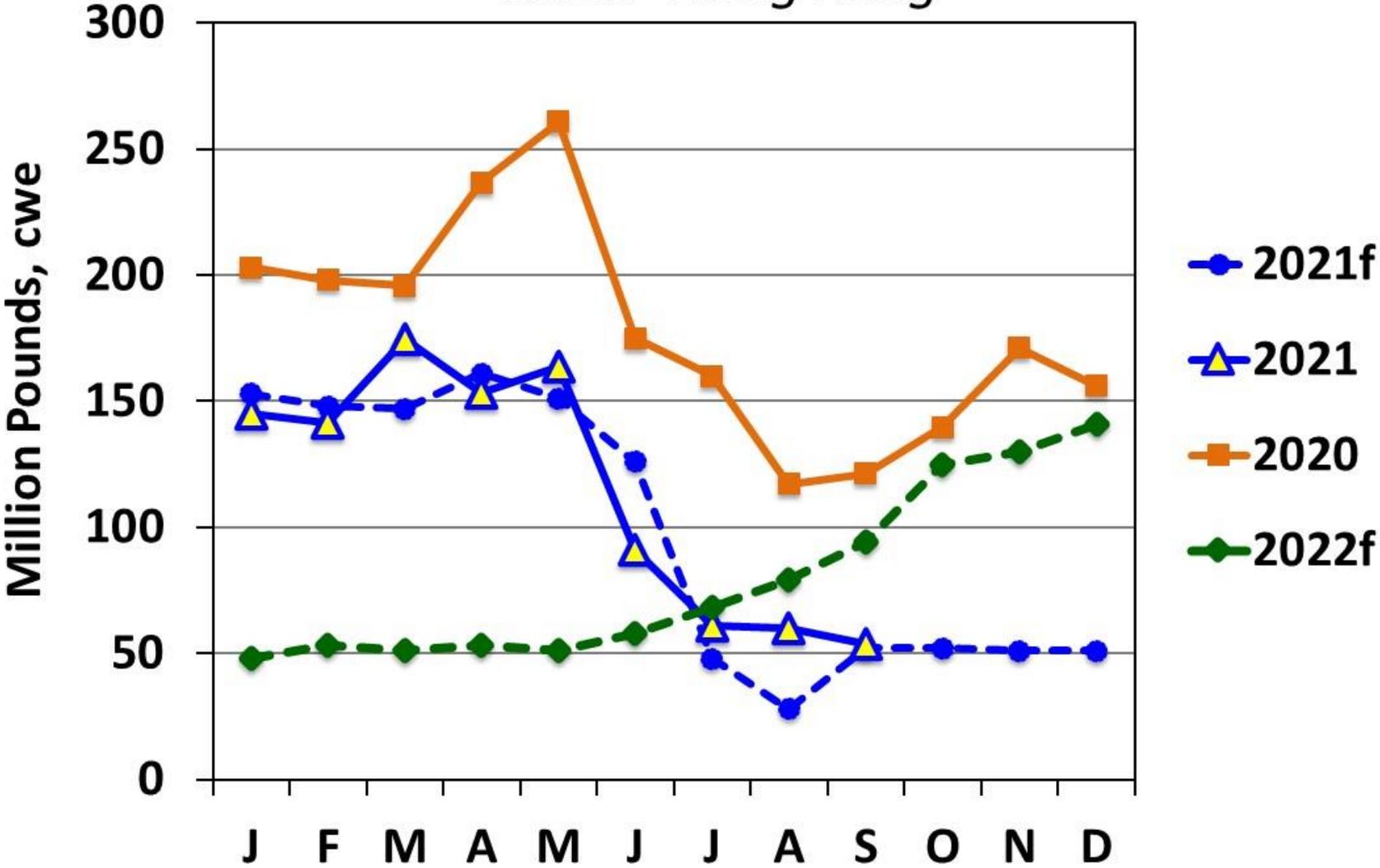
(US\$/lb carcass wt. equivalent)



In 2019/2021 there was a 4-6 month lag for import surges following price surges

Monthly through Oct 2021, prices through mid-Nov

# U.S. Pork Exports to *China+Hong Kong*



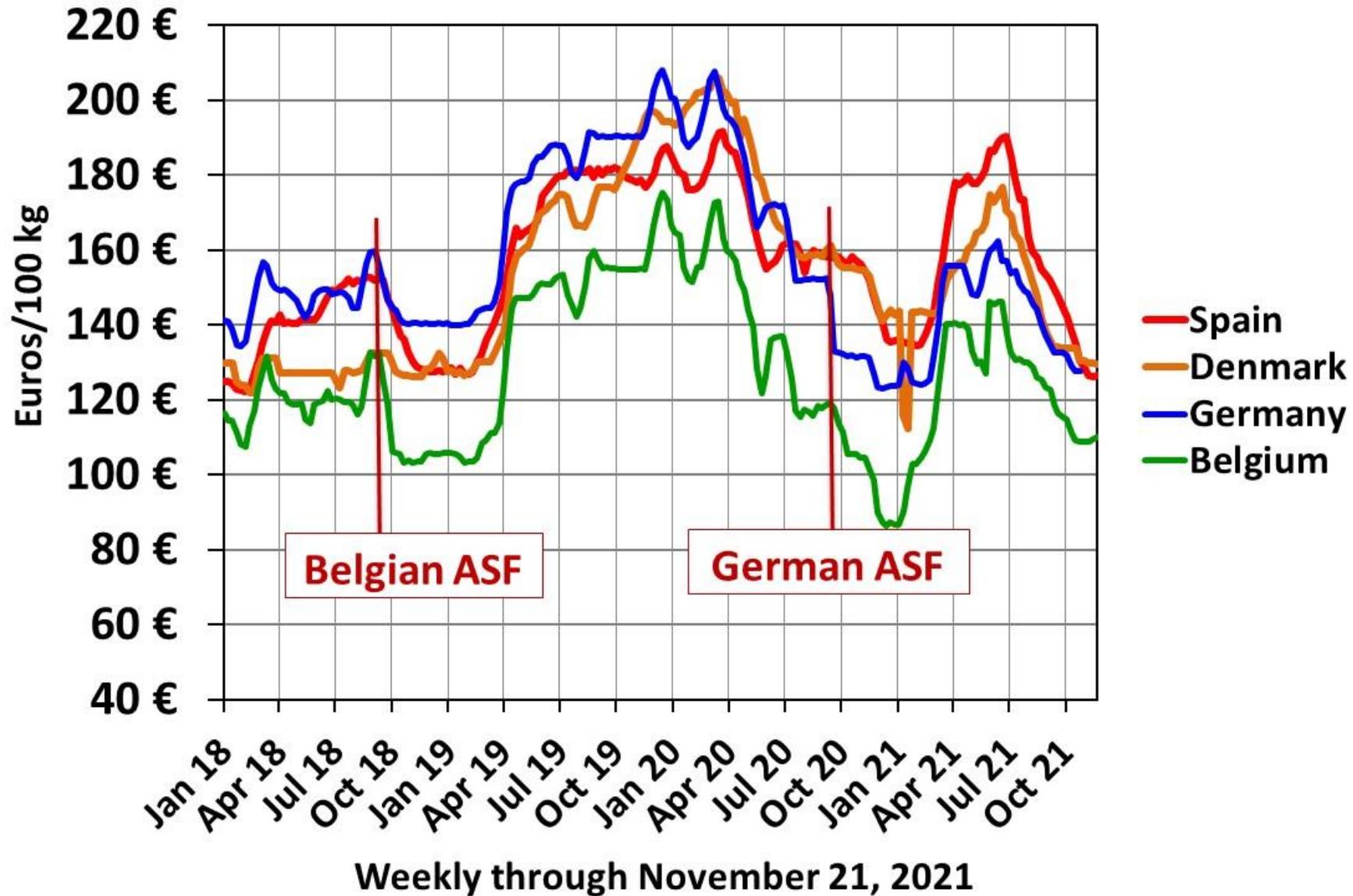
Source: USDA/FAS, AgriTrends Forecasts

# ASF Outside of China

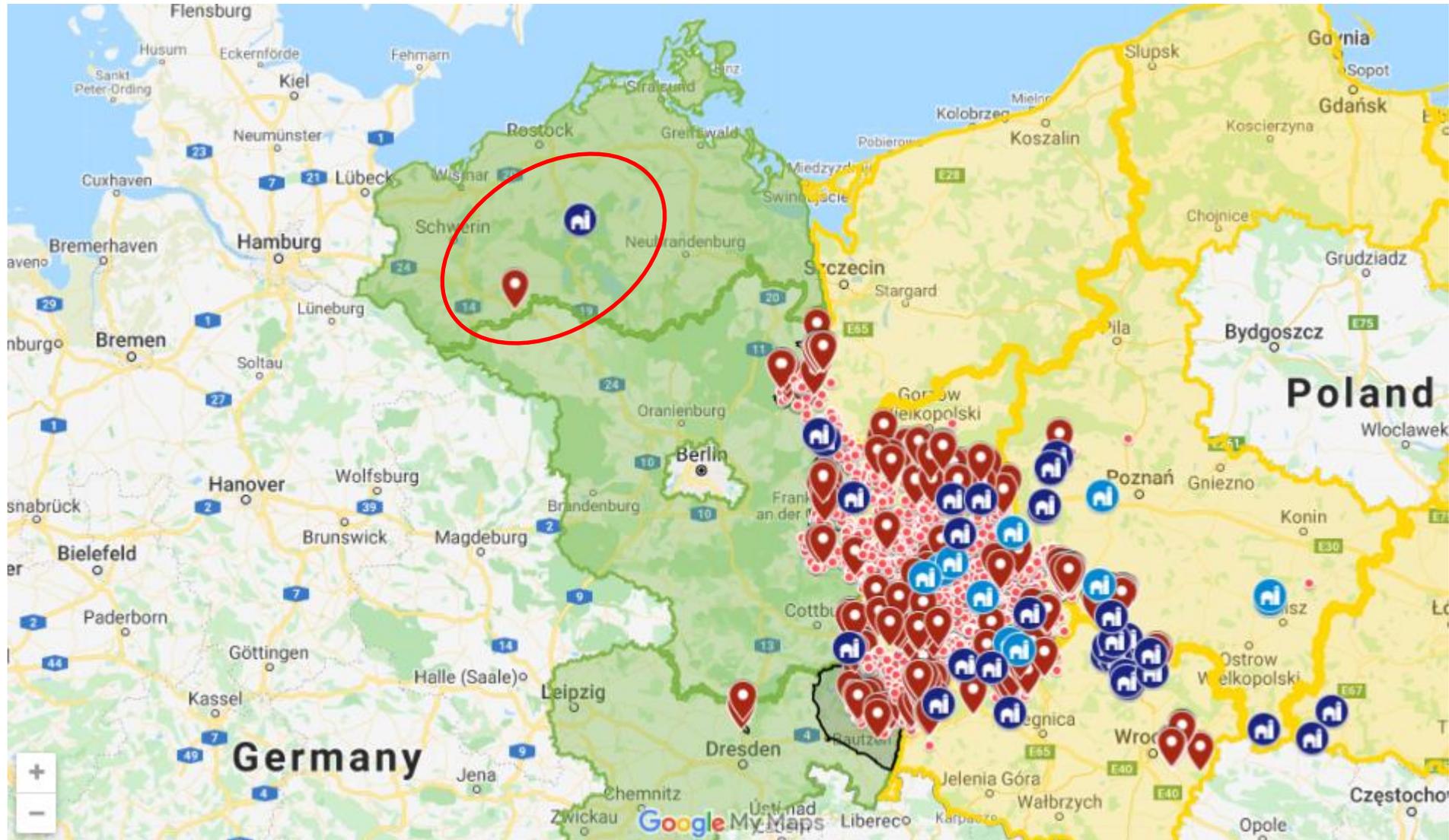
- The EU found >1,700+ infections on domestic farms in 2021
  - And nearly 10,500 cases in wild boars
- Germany is now **OUT** of the global pork markets
  - New cases in the Northeast on **commercial farms**
- Poland findings continue rising
- And Bulgaria

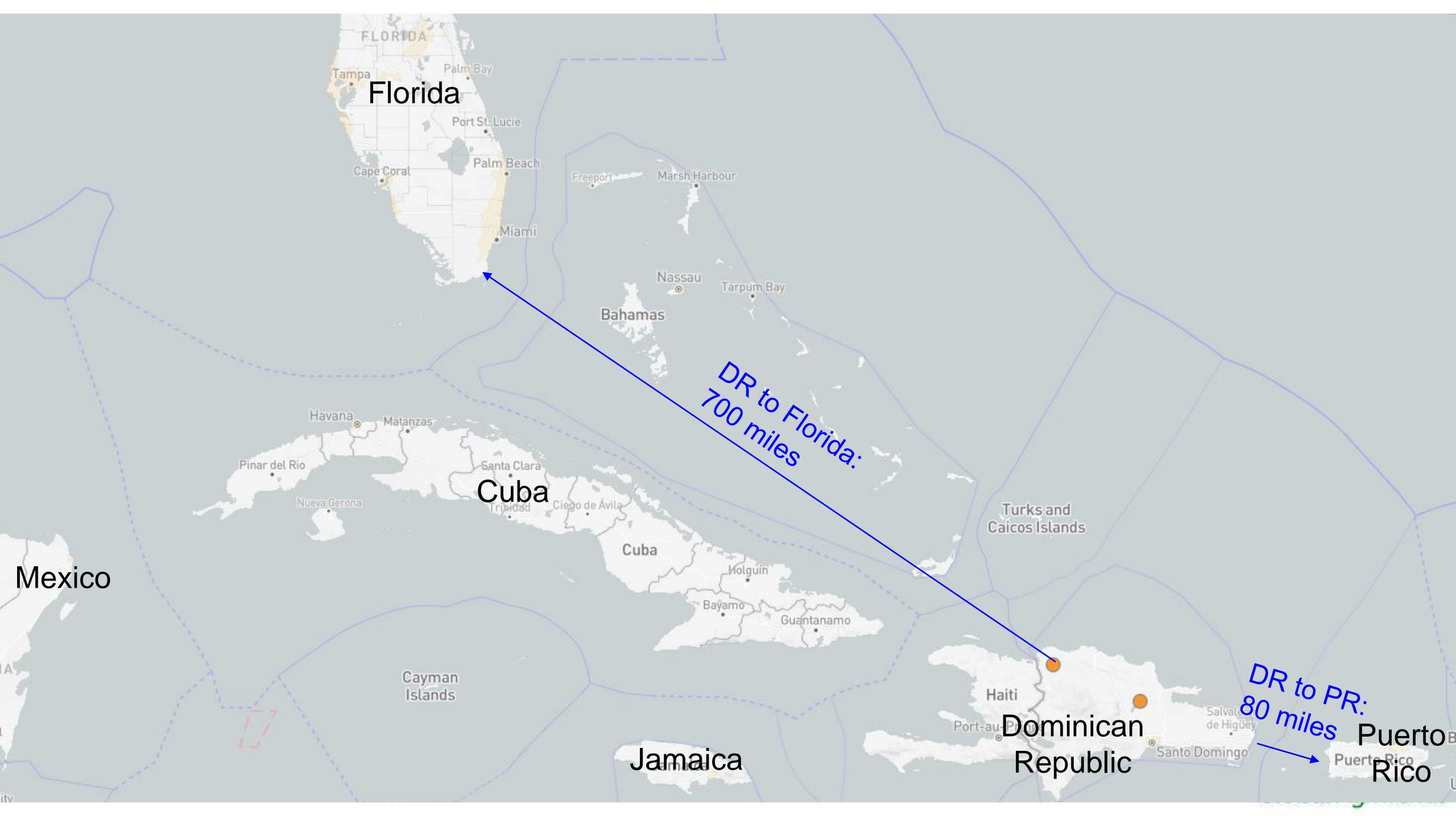


# EU Hog Carcass Prices



Source: ADHB





FLORIDA

Florida

Tampa

Palm Bay

Port St. Lucie

Palm Beach

Cape Coral

Miami

Freeport

Marsh Harbour

Nassau

Tarpum Bay

Bahamas

Havana

Matanzas

Pinar del Rio

Nueva Gerona

Santa Clara

Cuba

Triunvirato

Ciego de Ávila

Cuba

Molguín

Bayamo

Guantanamo

Turks and  
Caicos Islands

Mexico

Cayman  
Islands

Jamaica

Haiti

Dominican  
Republic

DR to PR:  
80 miles

Puerto  
Rico

Salvador  
de Higüey

Santo Domingo

Puerto Rico

# What About ASF Vaccines?

- Getting closer, **not there yet...**
- Will it fix everything? **No...**
  - As many as 7 strains in China alone
  - Vaccinated hogs will test positive for ASF (**and close export markets**)
  - Remember ASF is not “highly contagious”
- **Benefits of a vaccine:**
  - **Non-exporting nations** (DR, Haiti, Korea, China) could utilize the vaccines, IF it matches their strains
  - Would we use it here? **Unlikely**

# What if ASF is Detected in the U.S.?

- Wild boars or a domestic farm?
- USDA would halt all movements for 72 hours
  - Quarantine zones established
- **Export markets close instantly**
  - Some may be **more willing to regionalize and open**: Mexico, Canada
    - But it would likely take weeks
  - Others would be **more difficult**: China, Japan, others

# U.S. Hogs and Pork

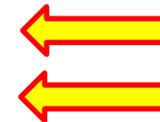
Supplies

Exports

Risks

# USDA: Hogs and Pigs Survey

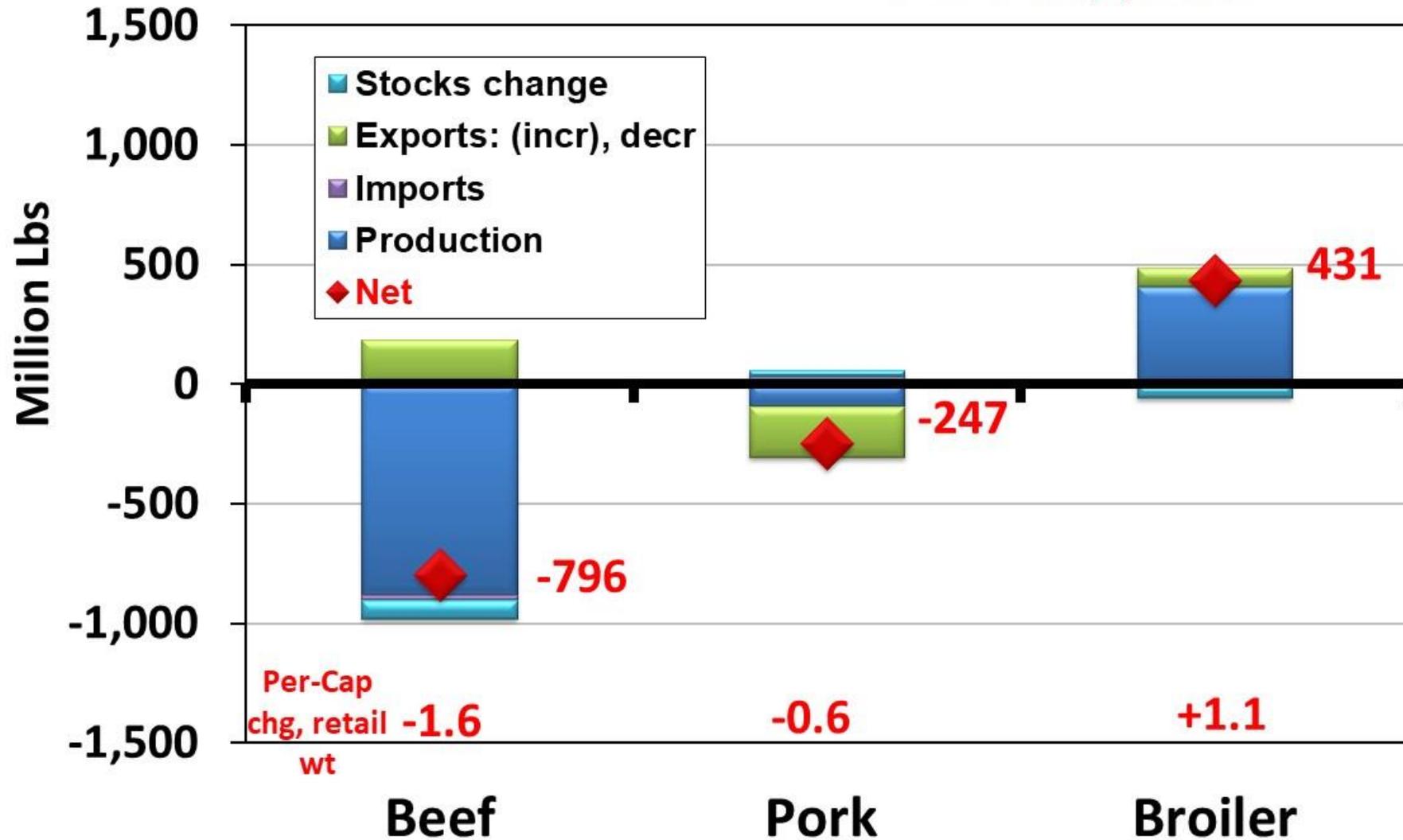
	Est	Actual
All Hogs and Pigs Sep 1	98.3%	<b>96.1%</b>
Kept for Breeding	98.9%	<b>97.7%</b>
Kept for Marketing	98.2%	<b>95.9%</b>
Pig Crop	96.6%	<b>94.0%</b>
Pigs Saved per Litter	100.4%	<b>100.6%</b>
Farrowings	96.3%	<b>93.4%</b>
Sep-Nov Farrowing Intentions	98.6%	<b>95.8%</b>
Dec-Feb Farrowing Intentions	99.9%	<b>101.4%</b>
Hogs < 50 lbs	98.3%	<b>94.4%</b>
Hogs 50-119 lbs	98.3%	<b>94.0%</b>
Hogs 120-179 lbs	98.1%	<b>98.6%</b>
Hogs > 180 lbs	98.0%	<b>98.7%</b>



Hogs and Pigs is a quarterly USDA survey of hog farms  
<https://usda.library.cornell.edu/concern/publications/rj430453j>

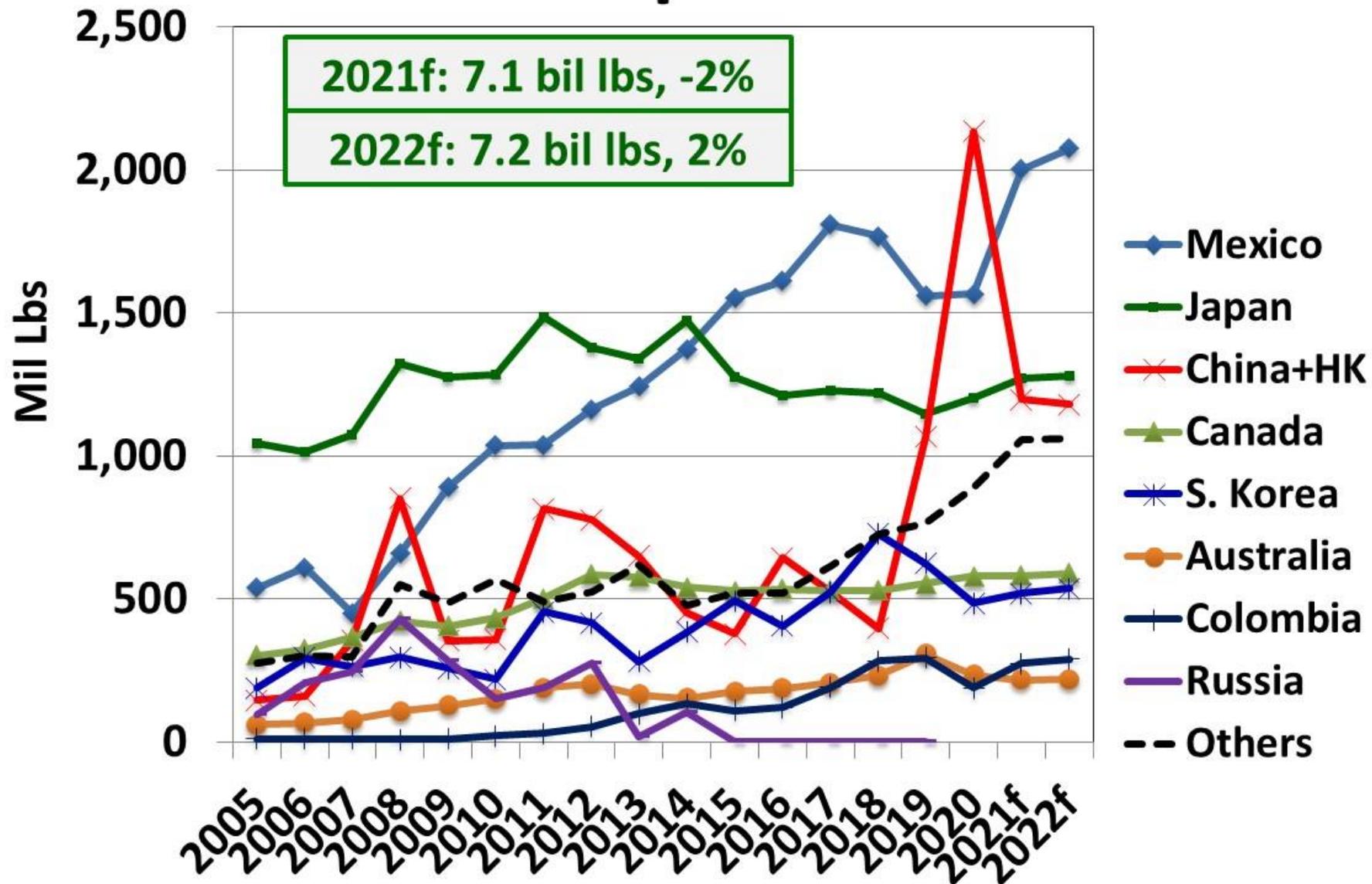
# USDA: 2022 Change

- U.S. Meat & Broiler *NET Supplies* -



Source: WASDE

# U.S. Pork Export Forecasts

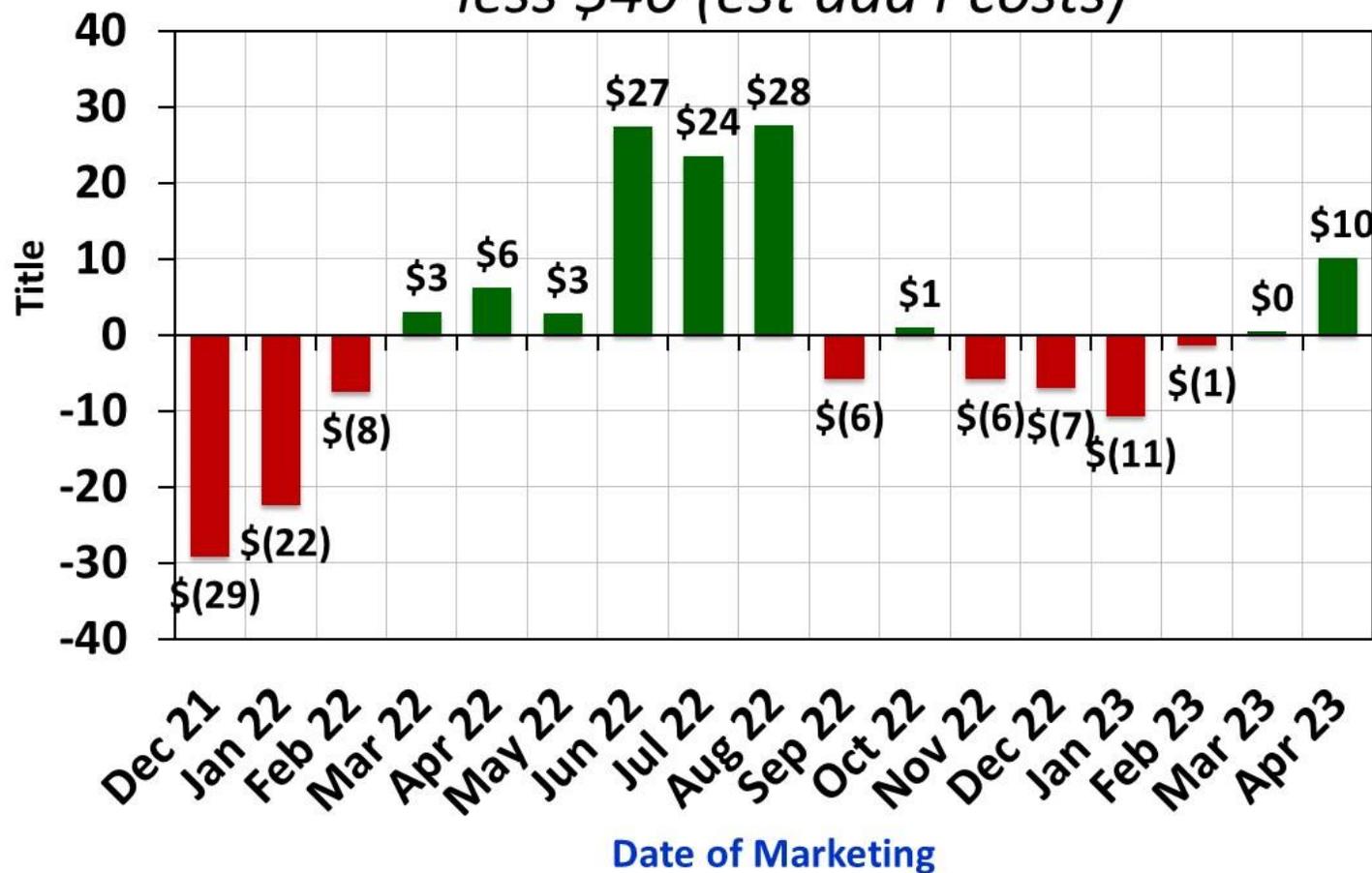


Source: USDA/FAS, AgriTrends Forecasts

# ISU Wean-Finish Crush Margins

## ISU Wean-Finish Crush

*less \$40 (est add'l costs)*



- Based on futures
- 5 month finishing
  - 10 bu corn
  - 150# soybean meal
- \$40/head: feed additives, labor, depr, vet, overhead, etc

# California's Prop 12 To Begin Jan 1, 2022

- The law is set to take effect Jan 1
  - Requirements for sow housing to sell pork into CA
- However, **there is currently no enforcement mechanism in place**
  - Pork shipped will initially be legal and exempt
- The law infers a lag in enforcement as pork clearing Jan 1 would obviously not be required to be produced in a CA-eligible facility back in 2021 (pre-Jan 1)
- Thus, **there is an expectation of a time lag before enforcement can be achieved**
  - [Our sources suggest mid-June as the likely deadline for compliance](#)
- Eligible supplies post-enforcement will be **INADEQUATE**
- Remember, cooked and processed pork is exempt from the rule

# California's Prop 12

- Think about it this way
  - Consider CA a foreign export market for U.S. pork
  - Buying 10% of U.S. pork production
    - Compliant hogs? 3%?
    - 7% too much pork upon enforcement
    - California pork shortages
  - The other 49 states have 7% TOO MUCH
- While the rule takes effect Jan 1, 2022, enforcement remains unclear and could be delayed 6 months
  - Registration is delayed

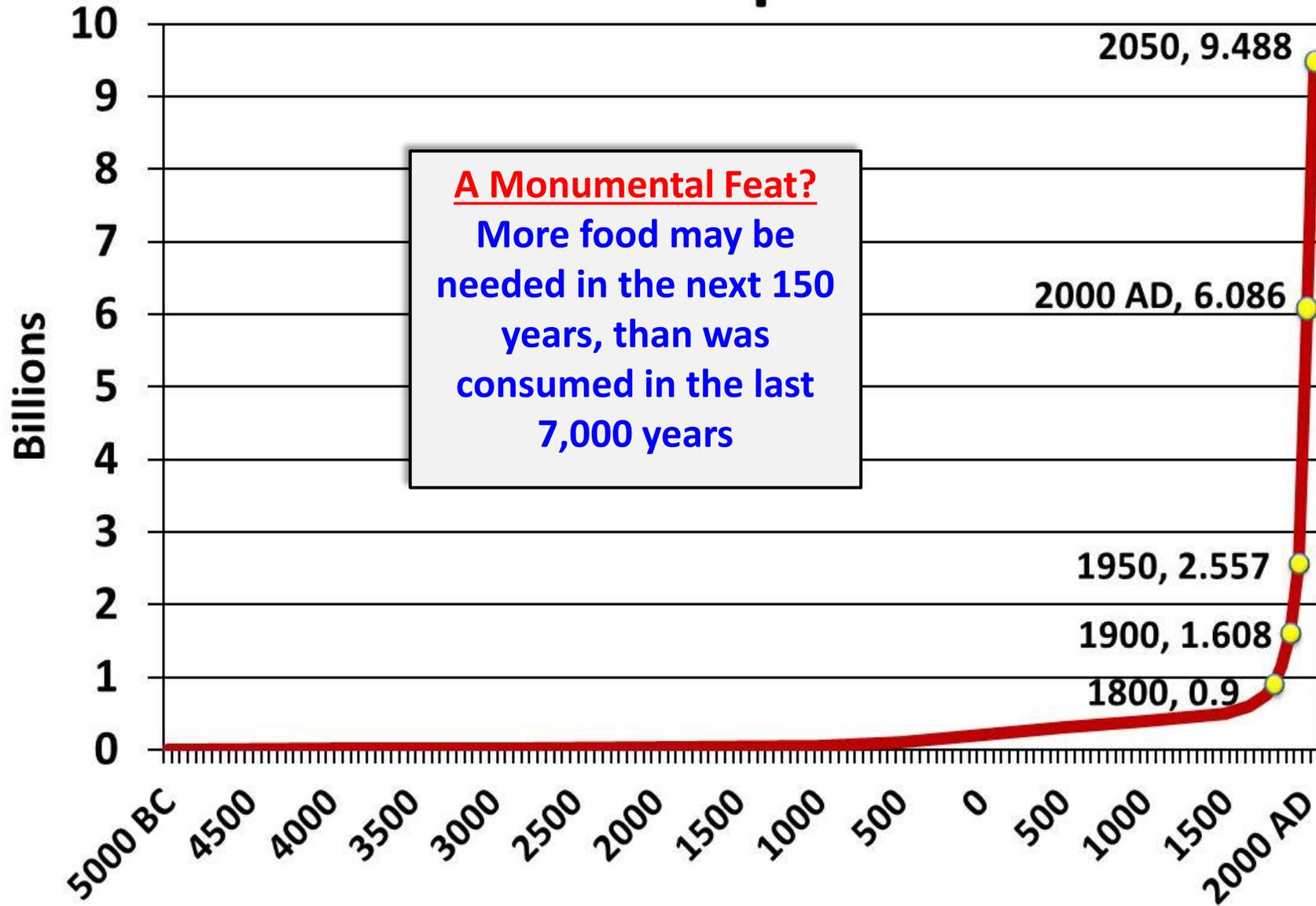
# 10-Year Pork Outlook

Supply and Demand

# Global Demand

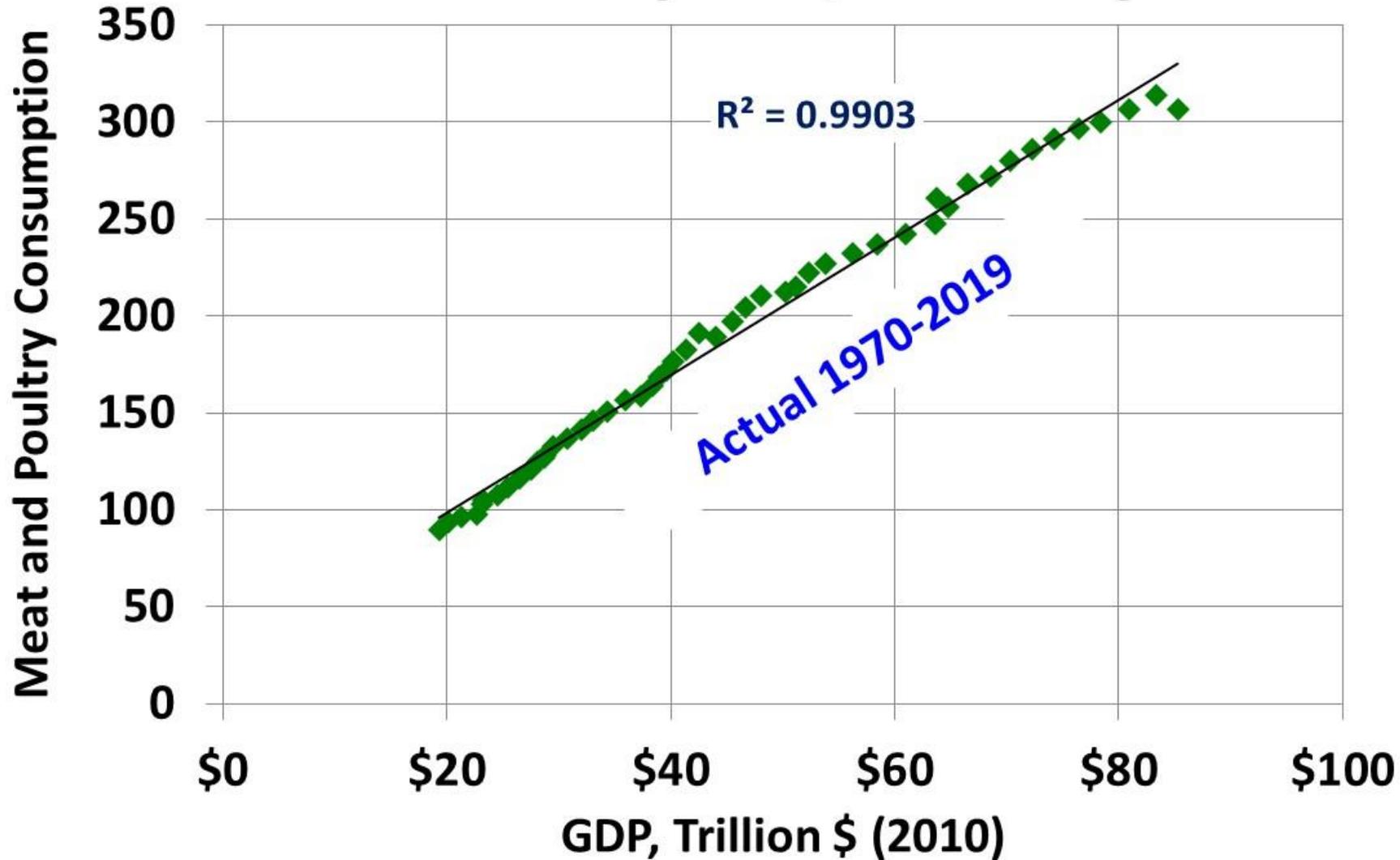


# World Population



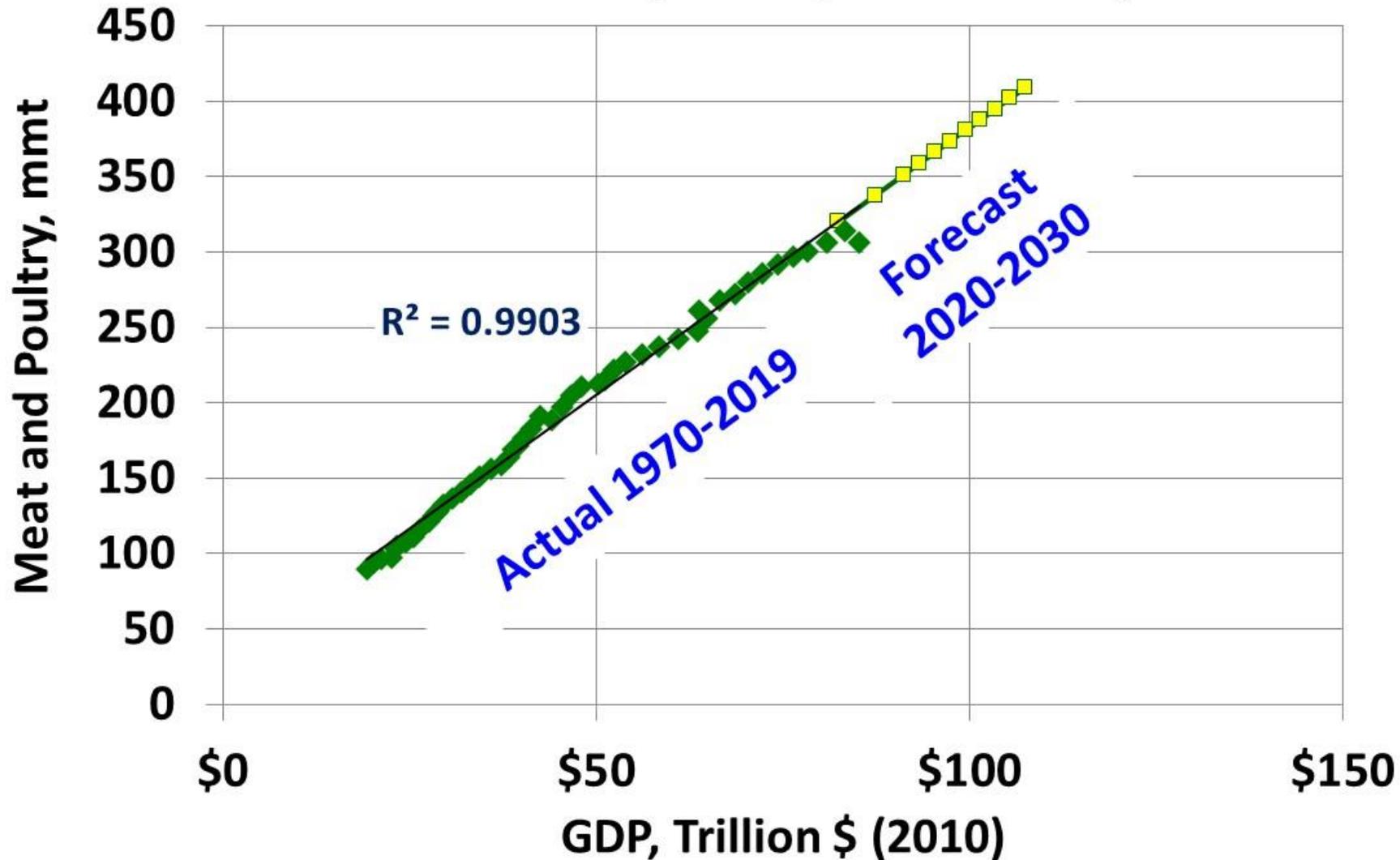
Source: US Department of Commerce, plus other published estimates

# Global GDP and Meat & Poultry Consumption, Annually



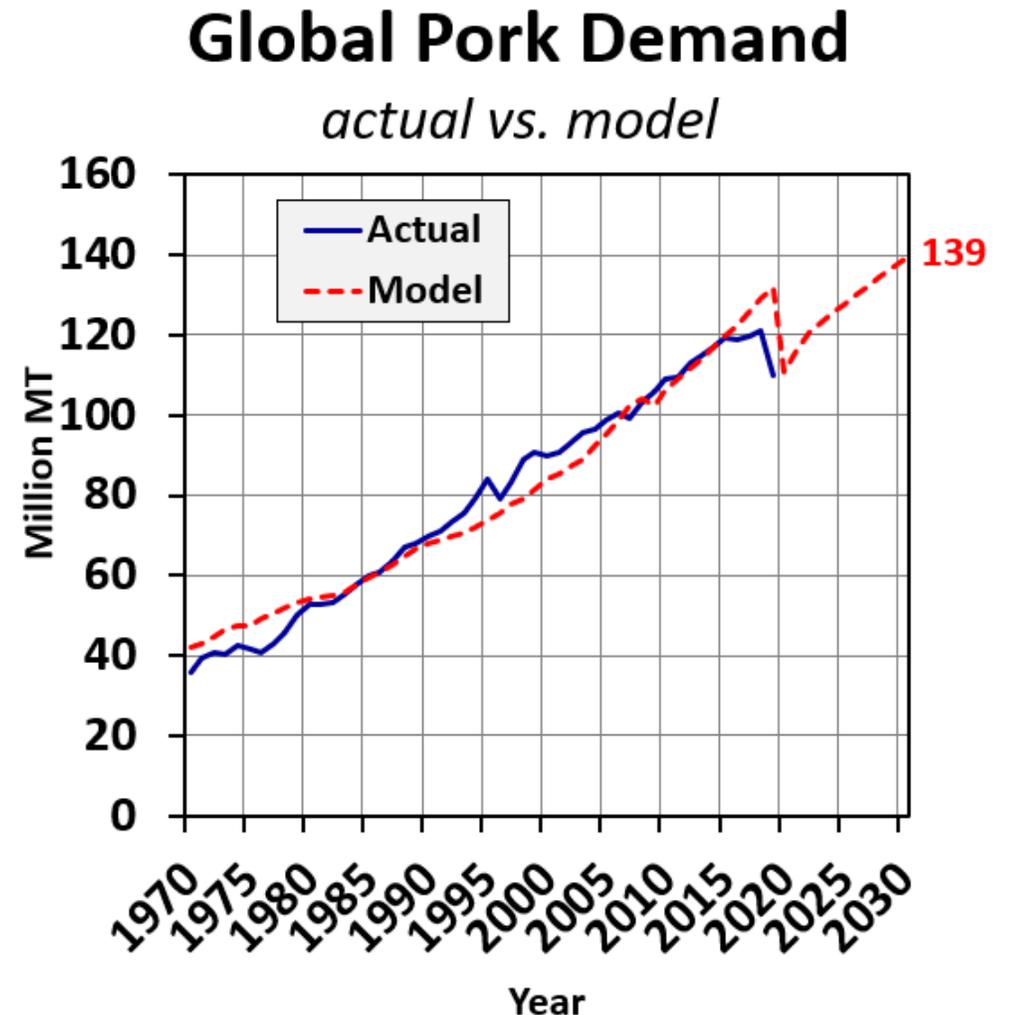
Source: UN/FAO

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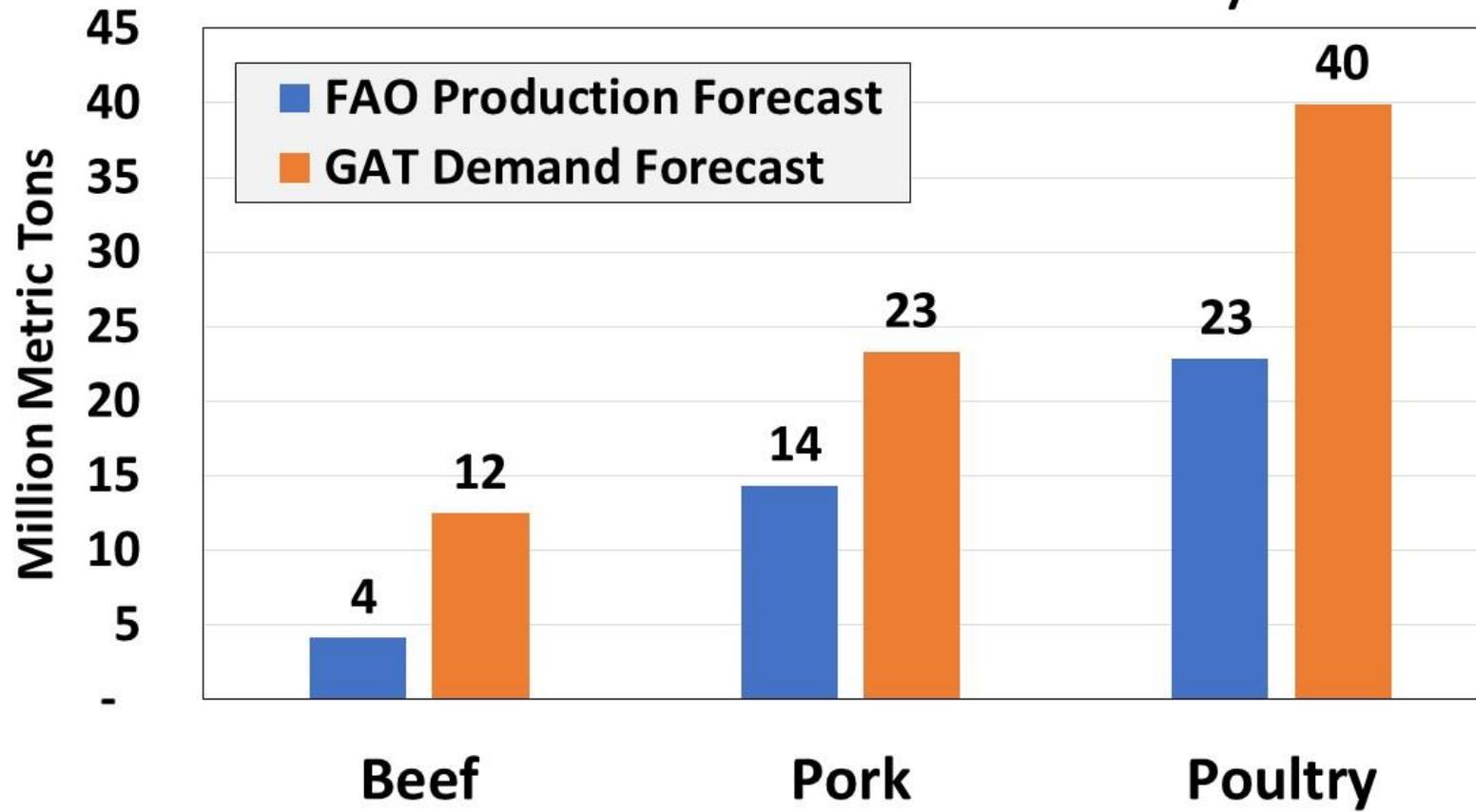
# Global Pork Demand to Outstrip Supply?

- Model of correlation between global GDP and global pork consumption suggests
  - 23 mmt more global pork needed in 11 years (compare to 2018)
- Model uses IMF/World Bank GDP forecasts through 2031



# Supply and Demand Projections

## 10-Year Projections: Global Meat and Poultry



# Watchlist

- **OMICRON variant – more data needed... (2 weeks)**
- **Russia amasses 175,000 troops near the Ukraine border**
  - Russia “saving” the EU/UK with natural gas now...
- **Food activism, legislation**
  - Consumer choice is under attack, Prop 12 in CA
- **Climate change – war on methane**
  - Gov’t to define “smart agriculture”
- **African Swine Fever (ASF)**  
(now in the DR and Haiti)
  - World’s worst swine disease, No vaccine
  - Stops all exports
- **Global Demand RISING**



  
**Global AgriTrends**

[www.globalagritrends.com](http://www.globalagritrends.com)

Thank You

**Brett Stuart**

[bstuart@globalagritrends.com](mailto:bstuart@globalagritrends.com)

**@agritrends**