



# Trade Outlook

**Luis A. Ribera**  
**Professor and Director**  
**Center for North American Studies**  
**Texas A&M University**

**Atlanta, Georgia, September 20, 2022**

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# Outline

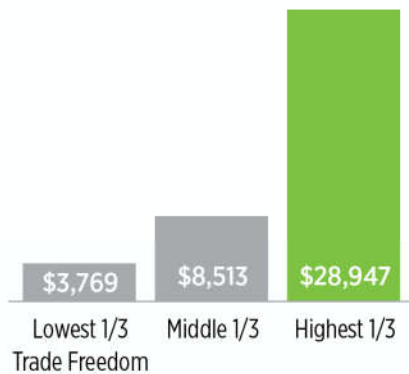
- Outlook
  - Impact of Russia/Ukraine War
  - Heads Up!
  - Inflation
-

# Results of Trade Freedom

## Nations with More Trade Freedom Also Have ...

### ... Higher Average National Income

Average National Income



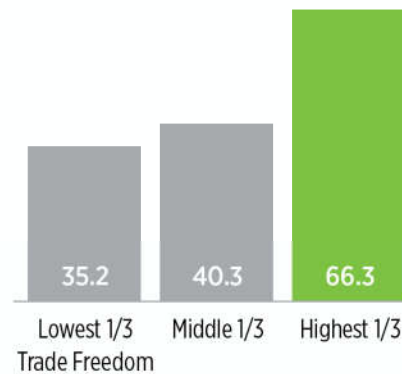
### ... More Food Security

Higher scores indicate more food security



### ... More Political Stability and Less Violence and Terrorism

Higher scores indicate more political stability and less politically motivated violence and terrorism



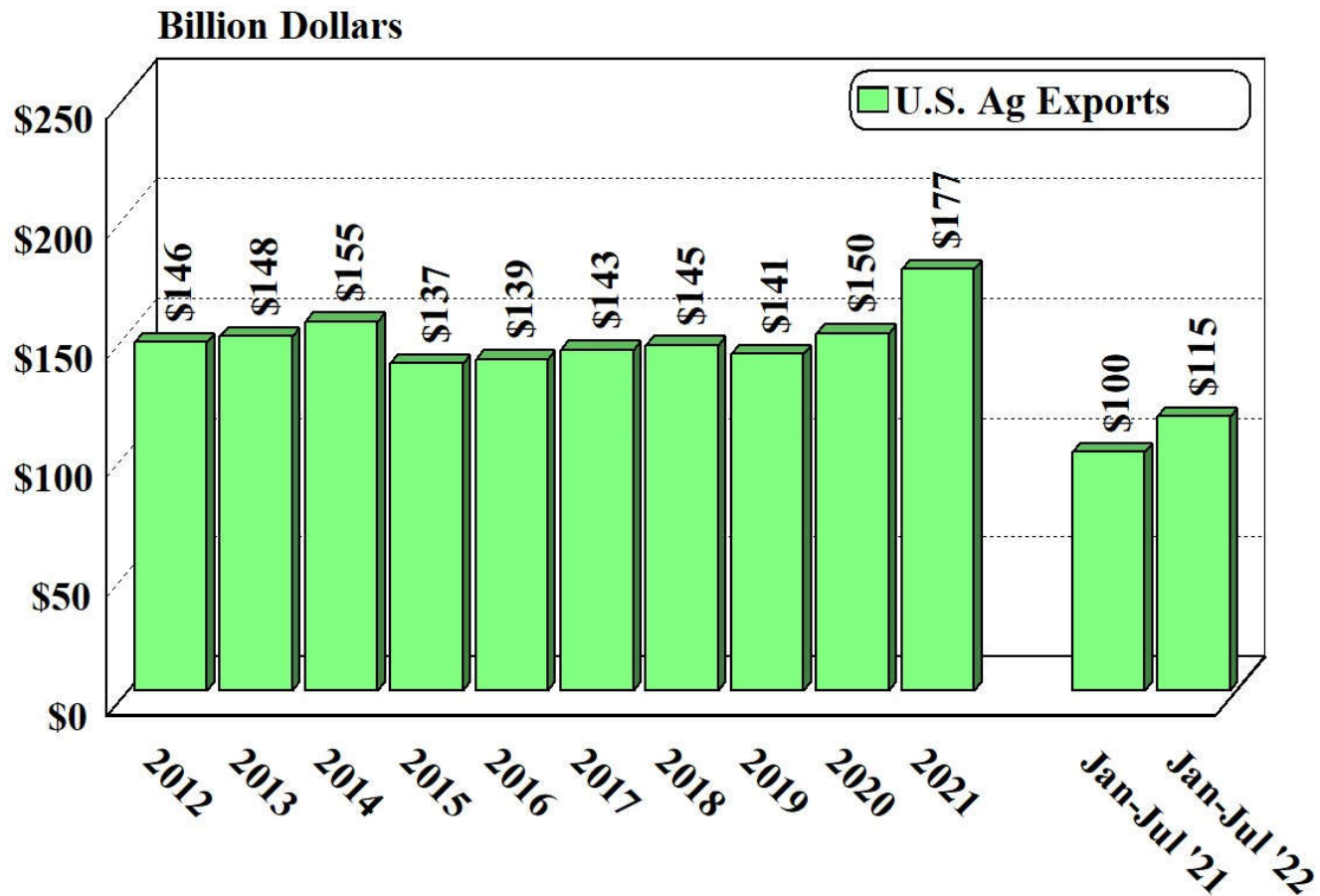
### ... Healthier Environments and Less Polluted Ecosystems

Higher scores indicate better environmental protection



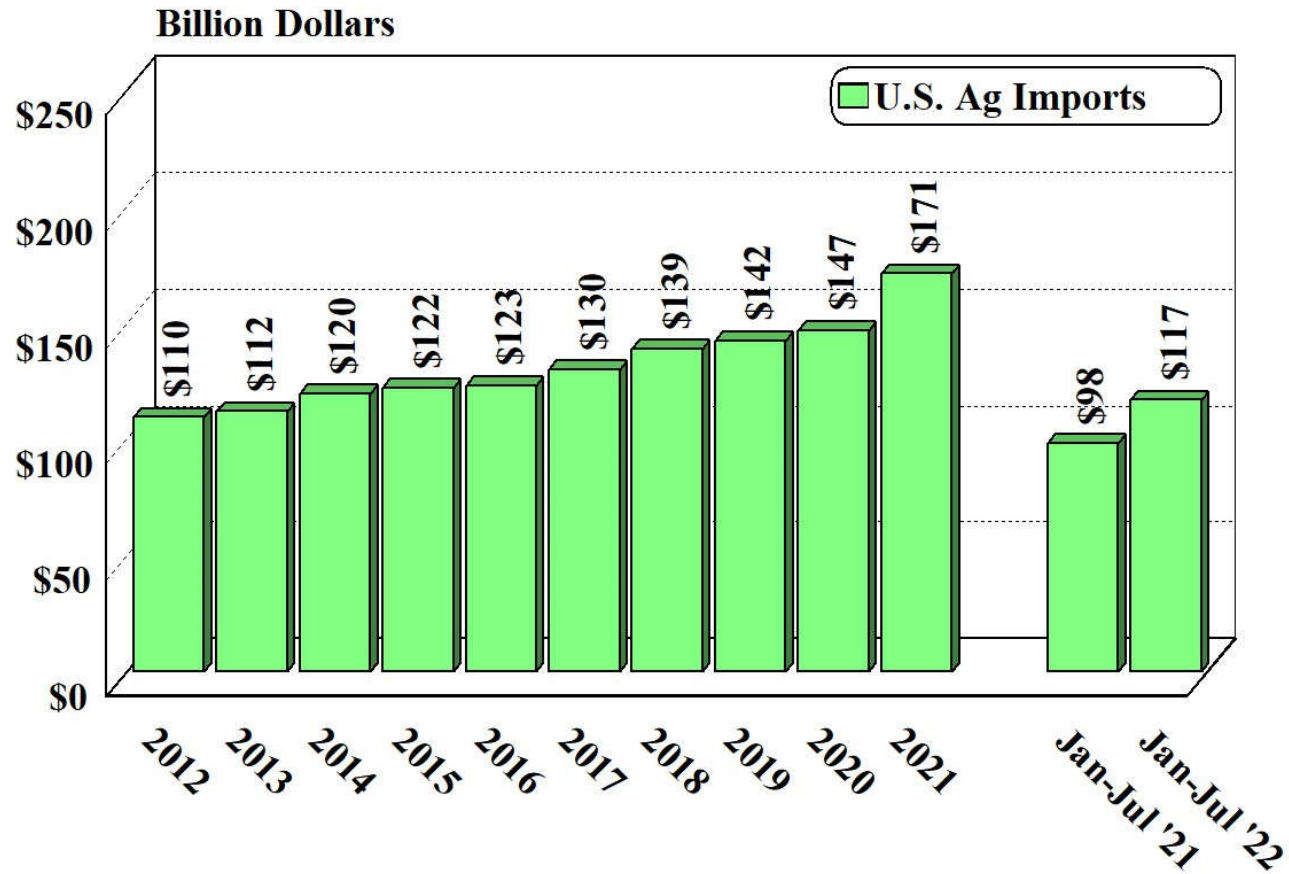
**SOURCES:** World Bank, The Economist Intelligence Unit, Yale University, and The Heritage Foundation's 2020 Index of Economic Freedom (forthcoming 2020).

## U.S. Agricultural Exports, 2012 - July 2022



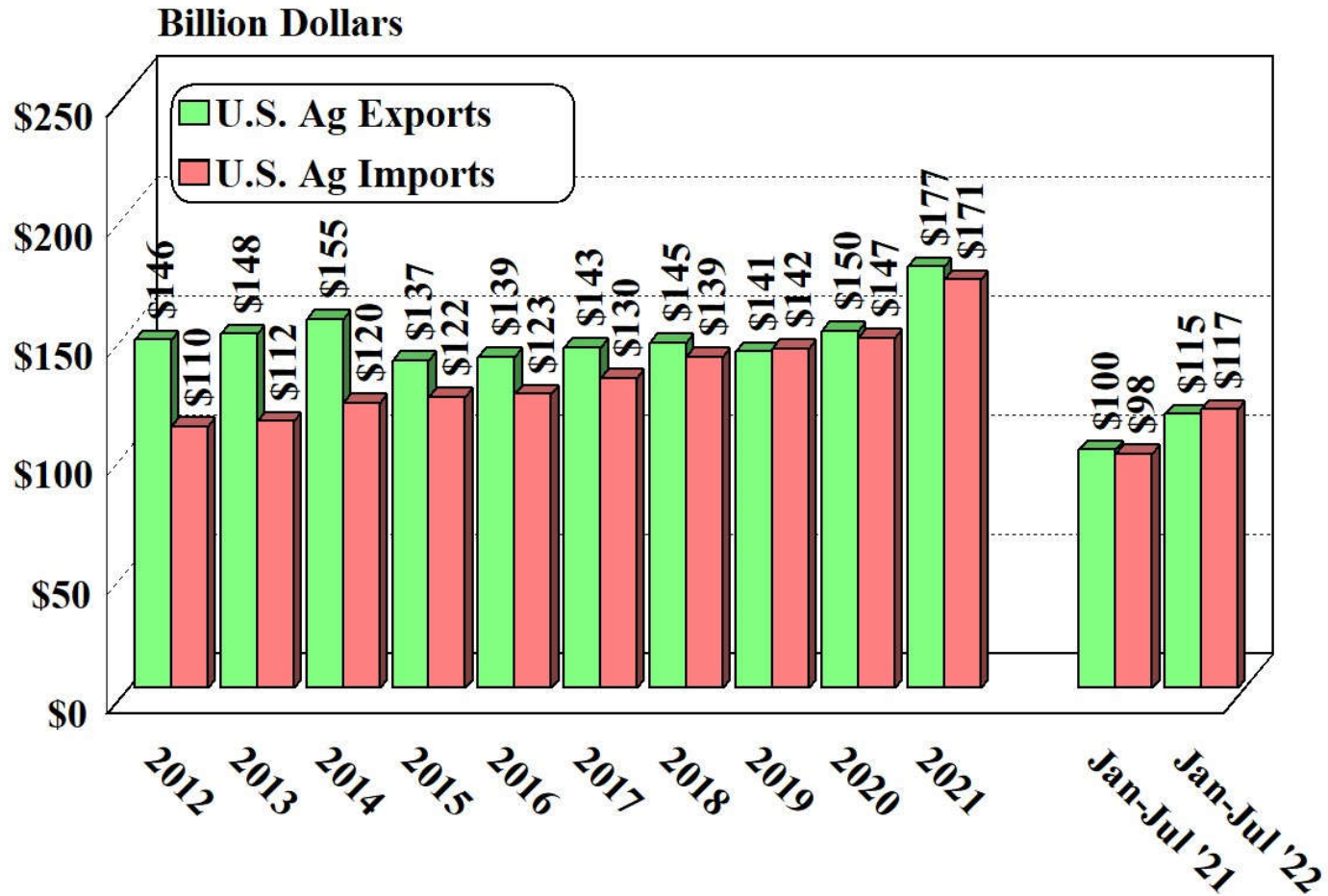
Source: Global Agricultural Trade System (GATS), USDA/FAS

## U.S. Agricultural Imports, 2012 - July 2022



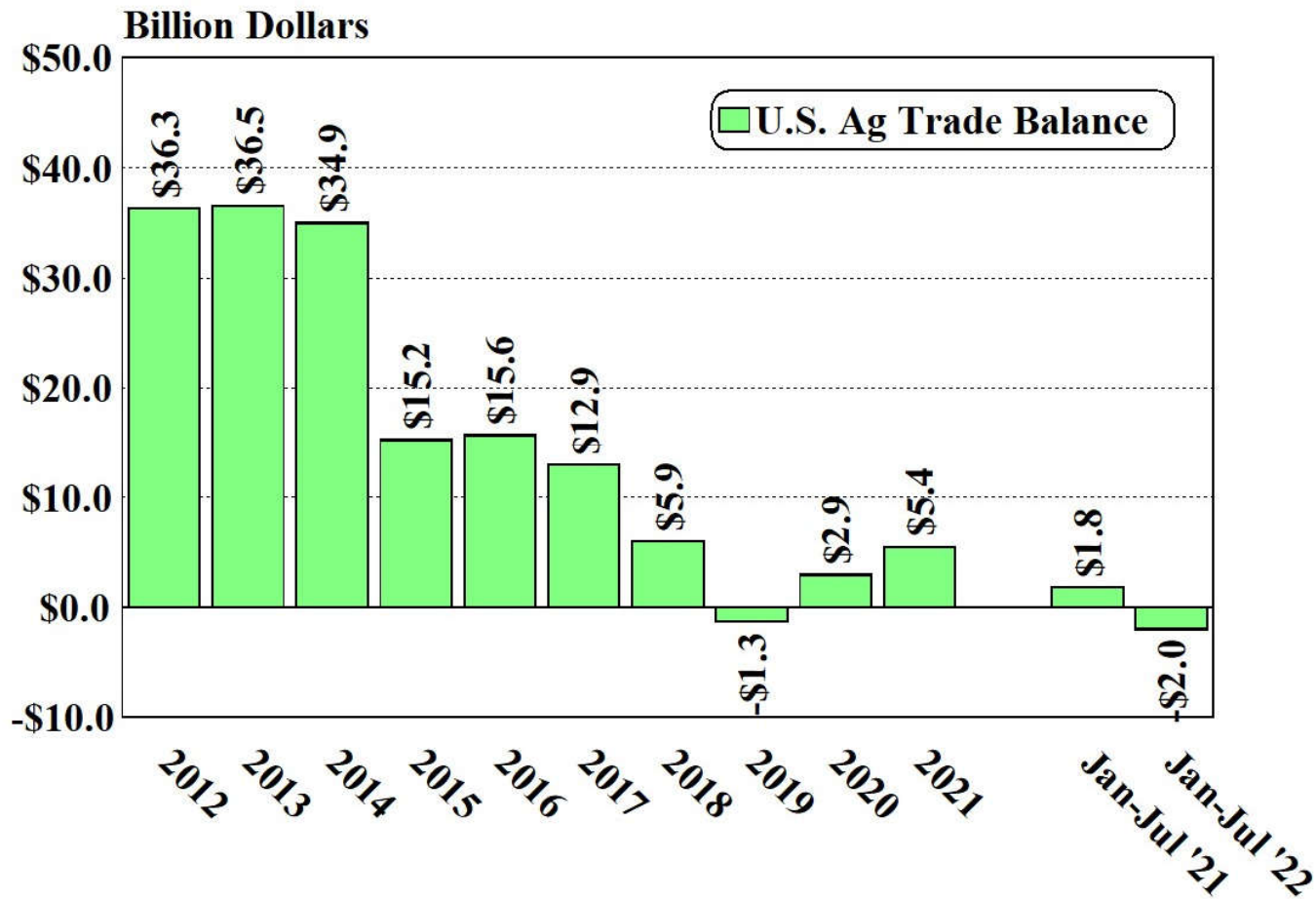
Source: Global Agricultural Trade System (GATS), USDA/FAS

## U.S. Agricultural Trade, 2012 - July 2022



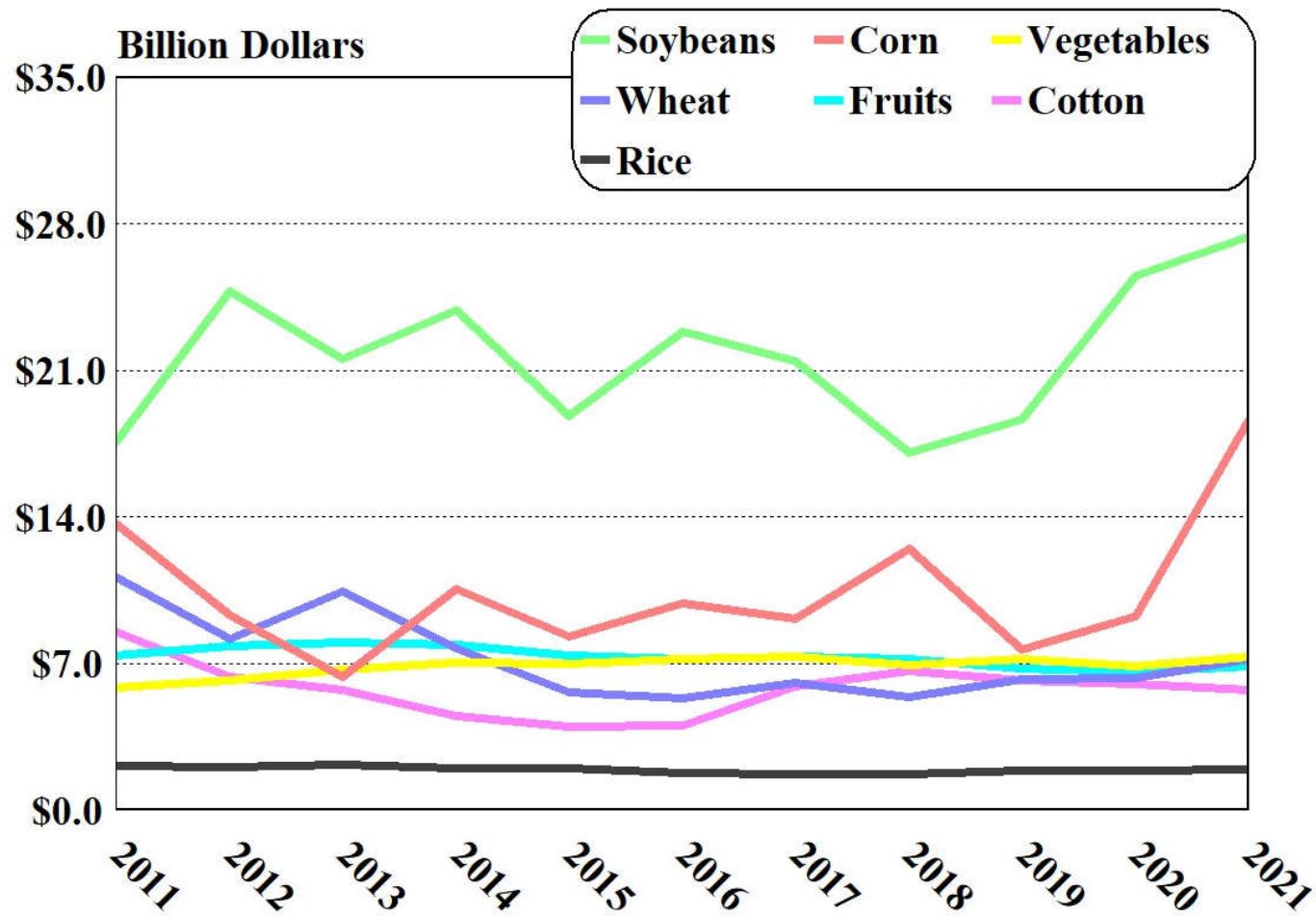
Source: Global Agricultural Trade System (GATS), USDA/FAS

## U.S. Agricultural Trade Balance, 2012 - July 2022



Source: Global Agricultural Trade System (GATS), USDA/FAS

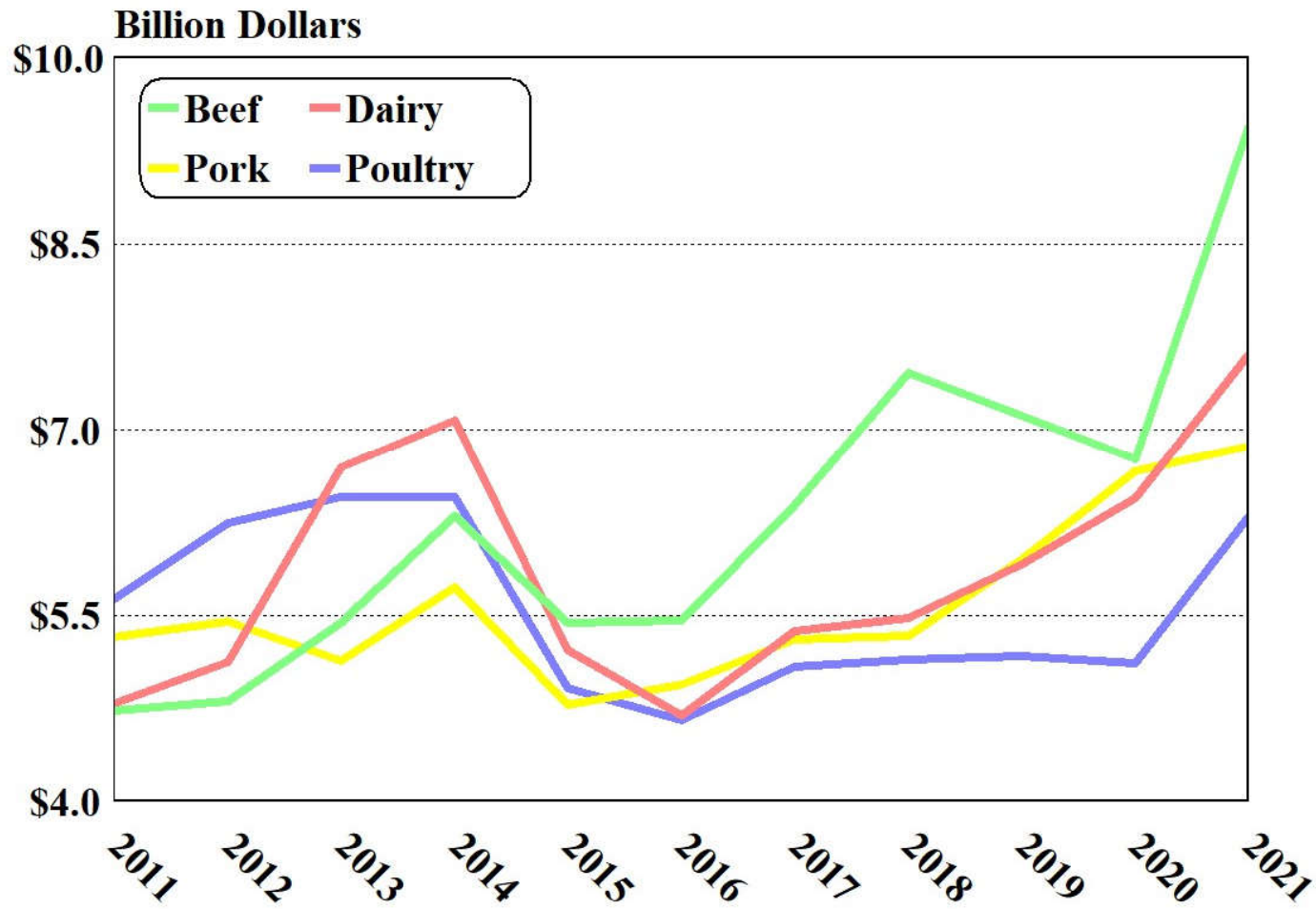
## U.S. Ag Crop Exports, 2011-2021



Source: Global Agricultural Trade System (GATS), USDA/FAS

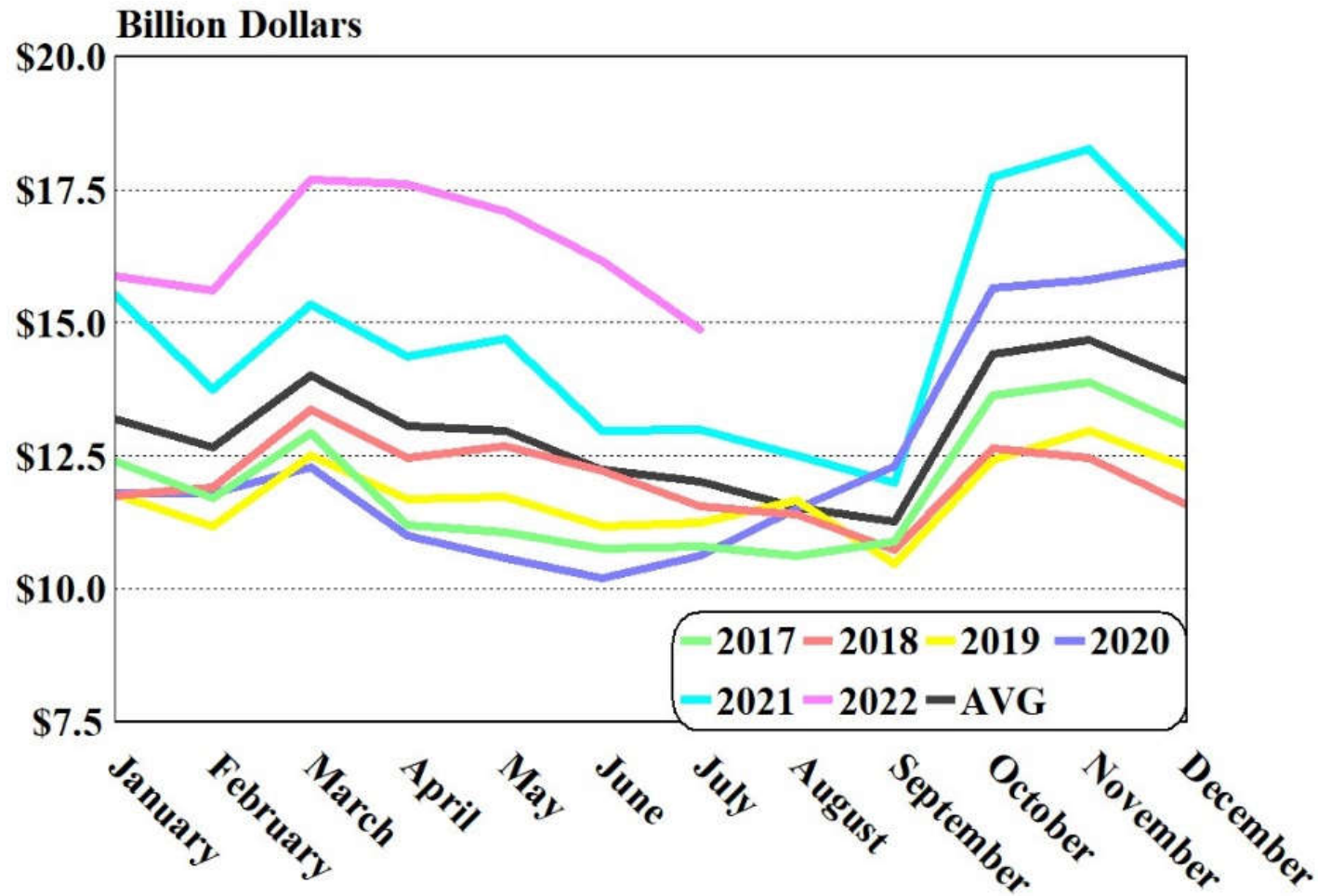


## U.S. Ag Animal Product Exports, 2011-2021



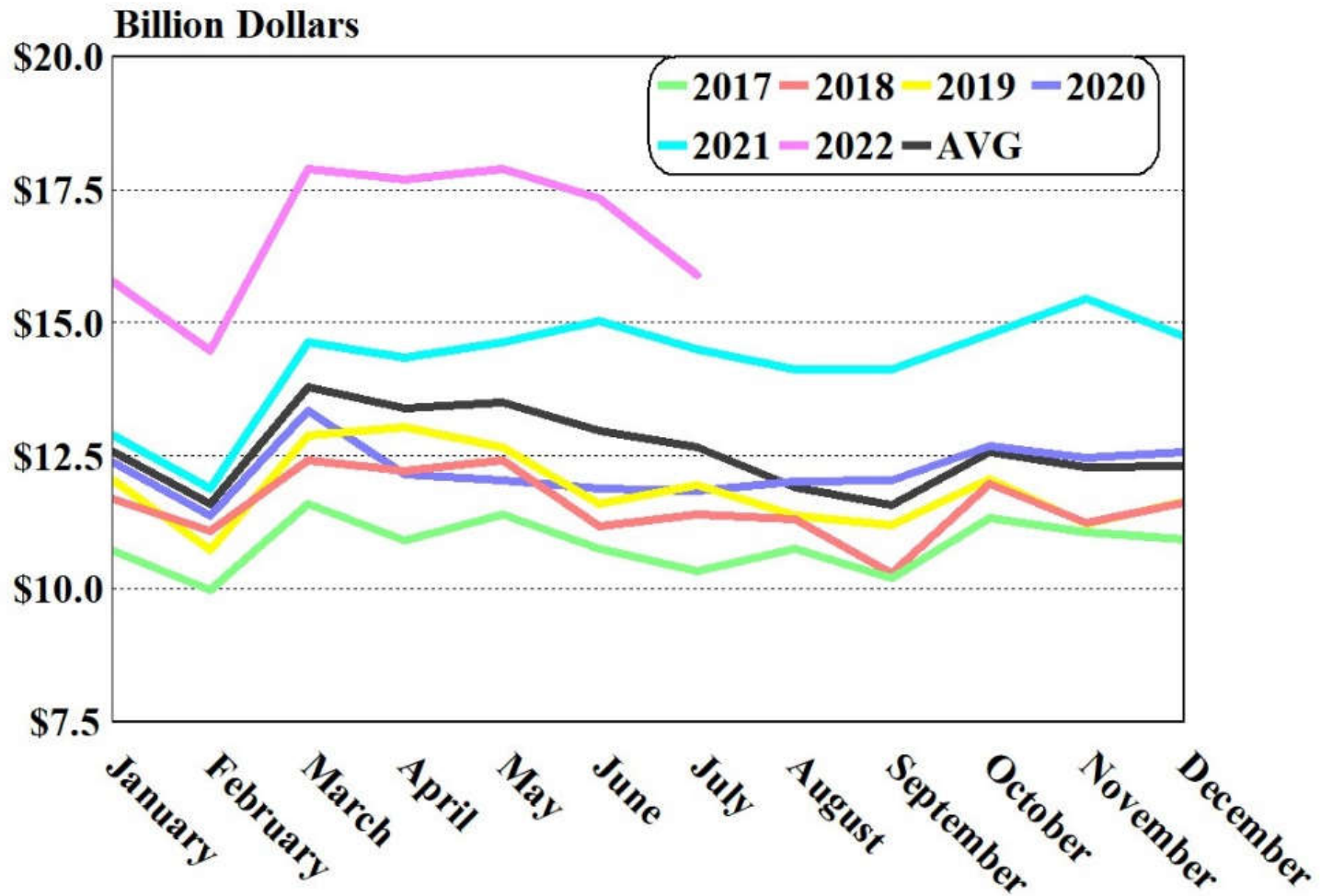
Source: Global Agricultural Trade System (GATS), USDA/FAS

## Monthly U.S. Ag Exports, 2017 - July 2022



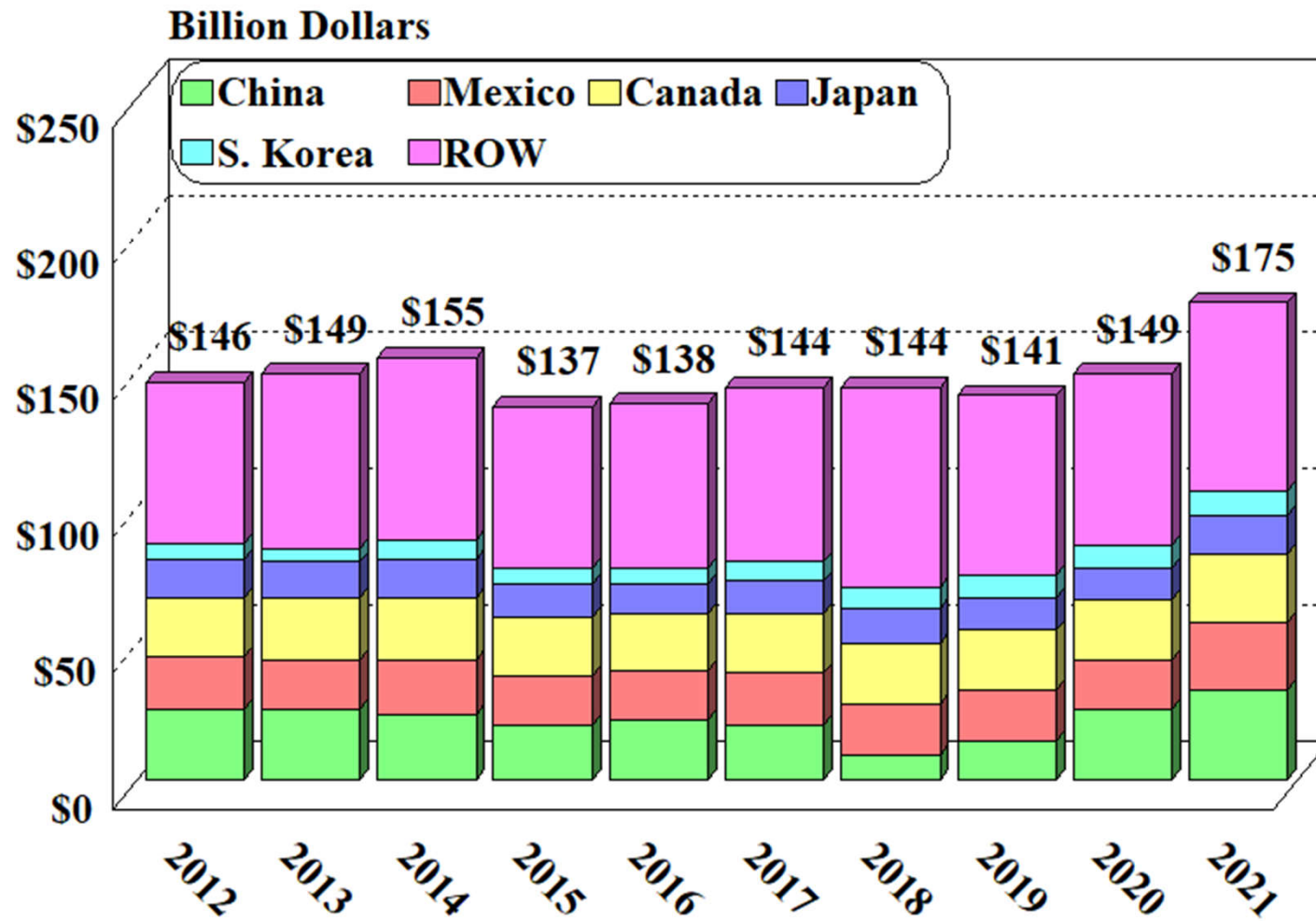
Source: Global Agricultural Trade System (GATS), USDA/FAS

## Monthly U.S. Ag Imports, 2017 - July 2022



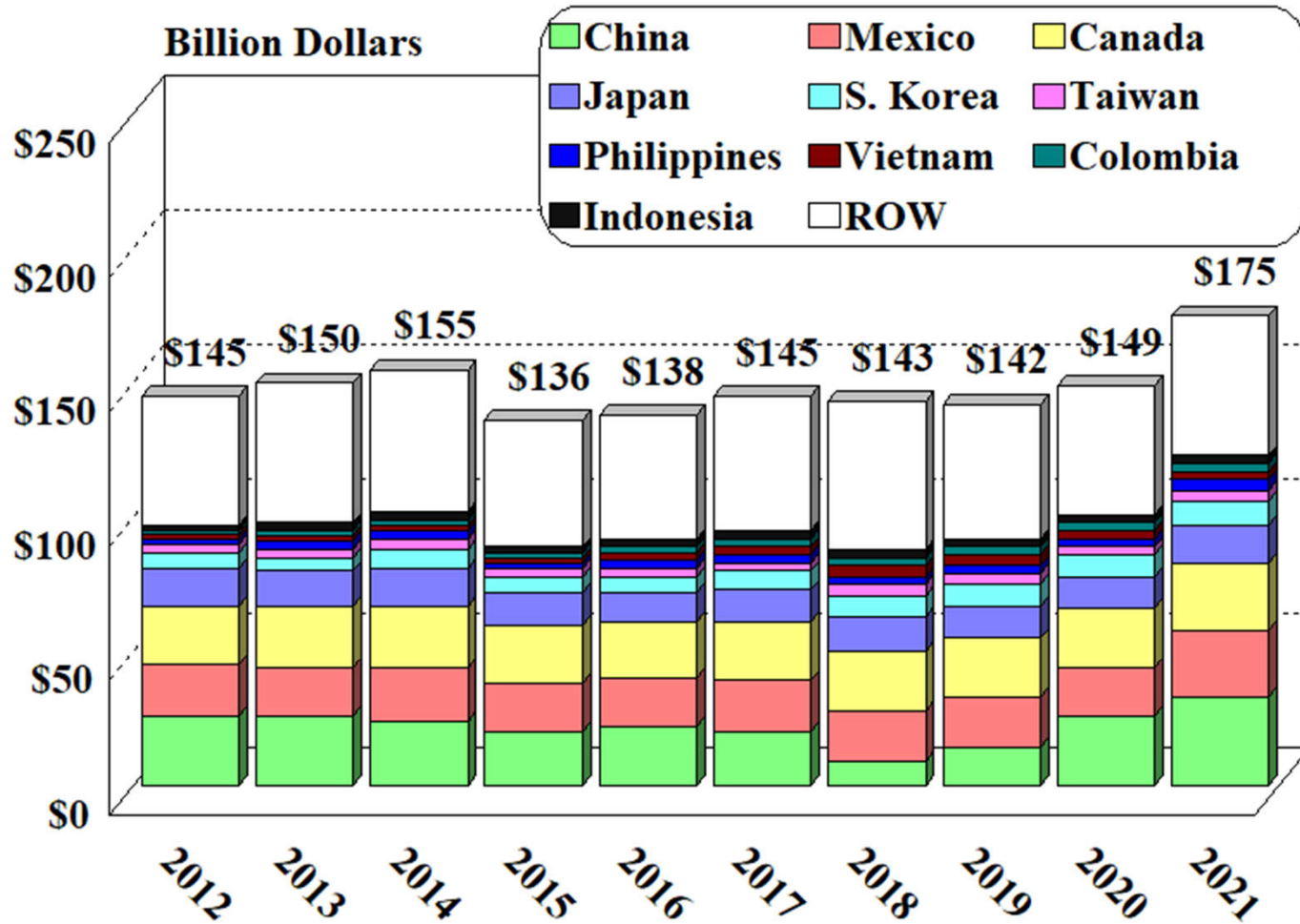
Source: Global Agricultural Trade System (GATS), USDA/FAS

## Top Markets for U.S. Ag Exports, 2012-2021



Source: Global Agricultural Trade System (GATS), USDA/FAS

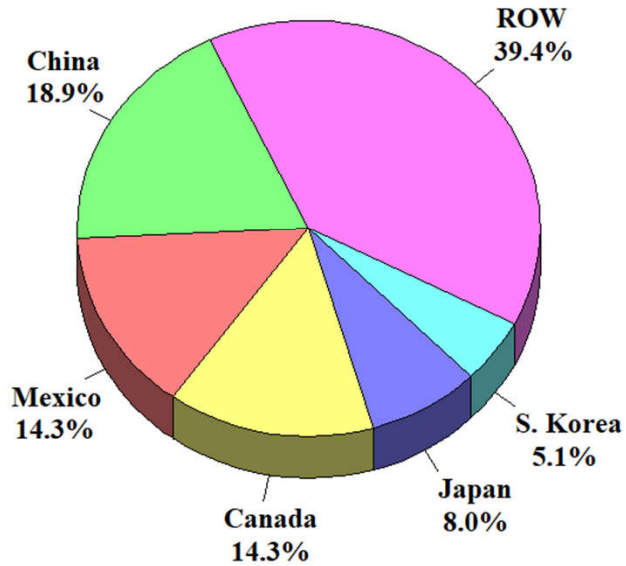
## Top Markets for U.S. Ag Exports, 2012-2021



Source: Global Agricultural Trade System (GATS), USDA/FAS

## Top Markets for U.S. Ag Exports, 2021

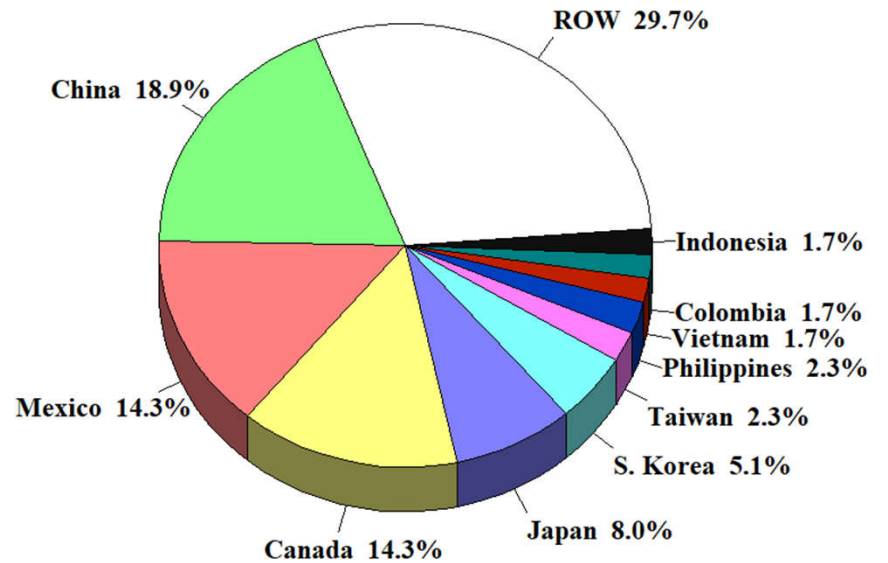
Total U.S. Agricultural Exports:  
\$176.524 Billion



Source: Global Agricultural Trade System (GATS), USDA/FAS

## Top Markets for U.S. Ag Exports, 2021

Total U.S. Agricultural Exports:  
\$176.524 Billion

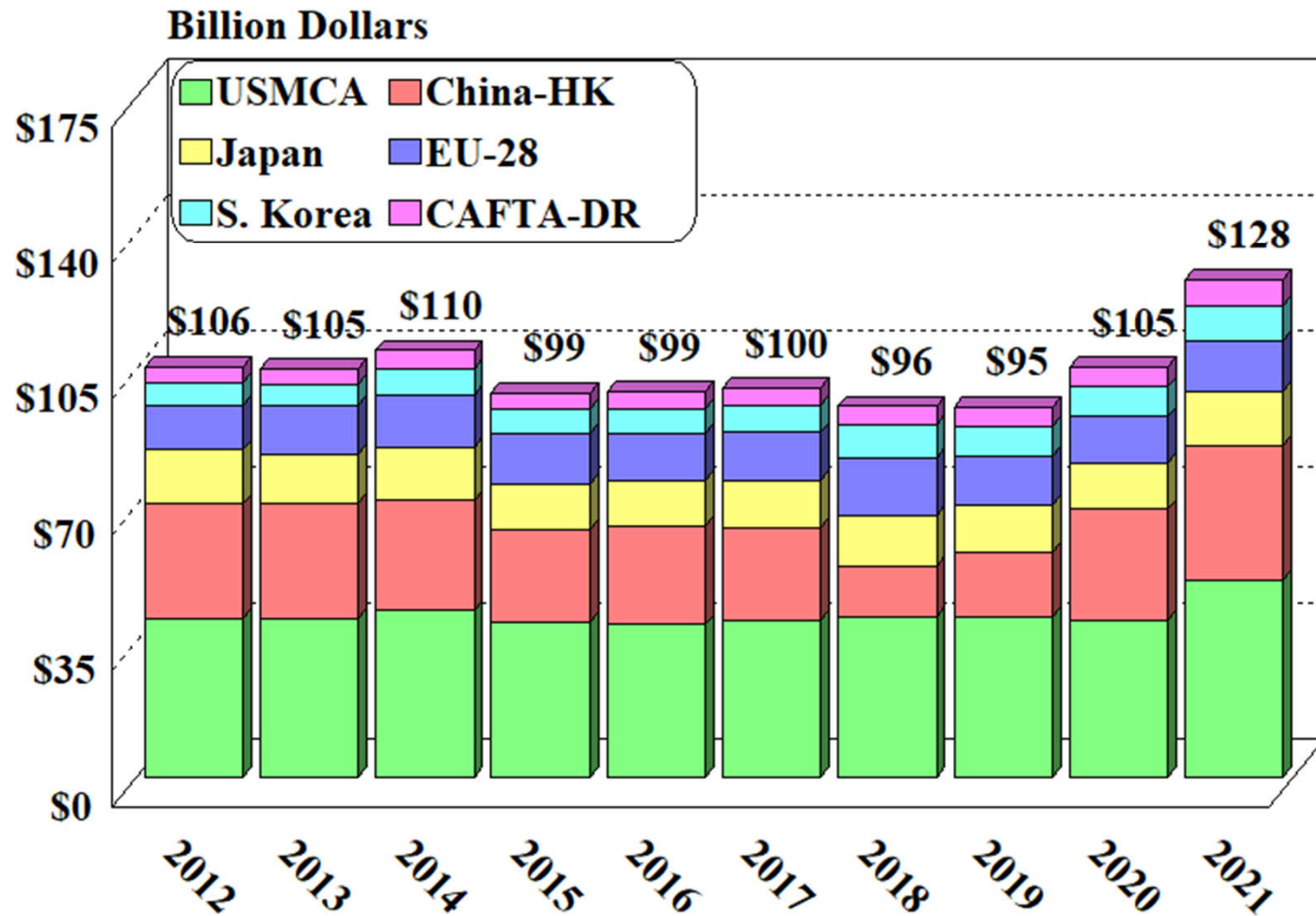


Source: Global Agricultural Trade System (GATS), USDA/FAS



China		Mexico		Canada		Japan	
\$	32,776,739,000	\$	25,450,706,000	\$	25,314,399,000	\$	14,199,428,000
Soybeans	43.07%	Corn	18.46%	Misc. Hort	8.52%	Corn	22.46%
Corn	15.43%	Soybeans	10.30%	Grn & Feed Misc	7.53%	Frz. Beef/Veal	13.09%
Grain Sorghum	5.43%	Frz. Pork	5.29%	Fresh Vegetables	7.47%	Frz. Pork	10.53%
Frz. Beef/Veal	4.65%	Wheat	5.08%	Feeds	5.96%	Soybeans	9.54%
Feeds	3.25%	Non-Fat Dry Milk	3.78%	Ethanol	4.04%	Feeds	6.59%
Other	28.17%	Other	57.08%	Other	66.49%	Other	37.80%
Korea, South		Taiwan		Philippines		Vietnam	
\$	9,319,521,000	\$	3,831,122,000	\$	3,560,629,000	\$	3,454,628,000
Frz. Beef/Veal	24.91%	Soybeans	19.11%	Soybean Meal	27.40%	Cotton	27.03%
Corn	9.22%	Frz. Beef/Veal	17.28%	Wheat	24.87%	Feeds	12.18%
Feeds	8.42%	Corn	10.88%	Non-Fat Dry Milk	8.78%	Soybeans	11.38%
Misc. Hort	5.53%	Wheat	7.98%	Broiler Meat	4.08%	Non-Fat Dry Milk	5.79%
Fr. Pork	5.45%	Misc. Hort	6.62%	Feeds	4.02%	Soybean Meal	5.02%
Other	46.48%	Other	38.12%	Other	30.85%	Other	38.59%
Colombia		Indonesia					
\$	3,369,037,000	\$	2,908,234,000				
Corn	32.33%	Soybeans	37.20%				
Soybean Meal	15.70%	Feeds	10.79%				
Frz. Pork	7.23%	Non-Fat Dry Milk	7.31%				
Soybeans	6.80%	Inedible Meatmeal	4.80%				
Wheat	5.67%	Cotton	3.97%				
Other	32.27%	Other	35.93%				

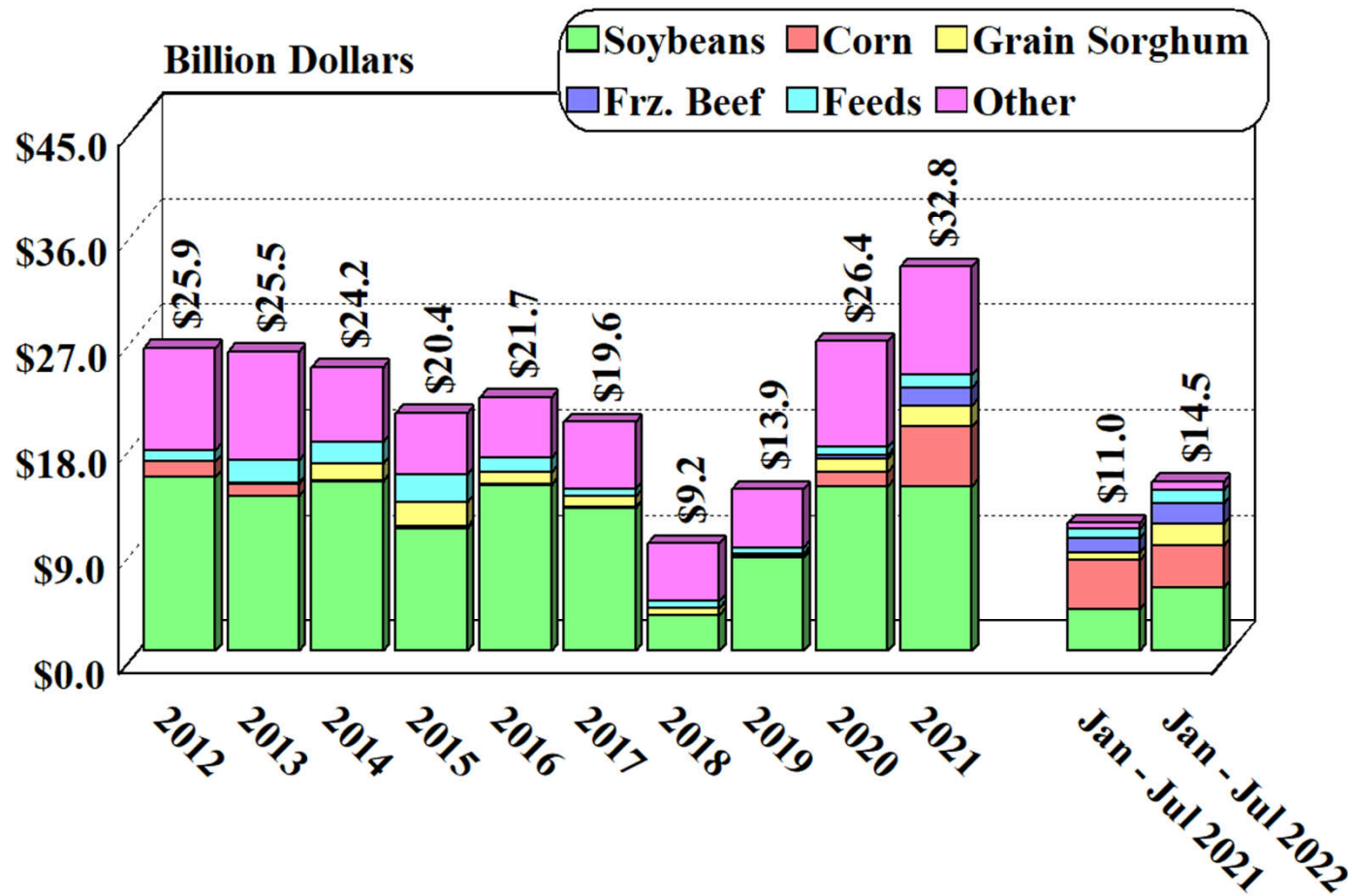
## Main U.S. Free Trade Markets, 2012-2021



Source: Global Agricultural Trade System (GATS), USDA/FAS

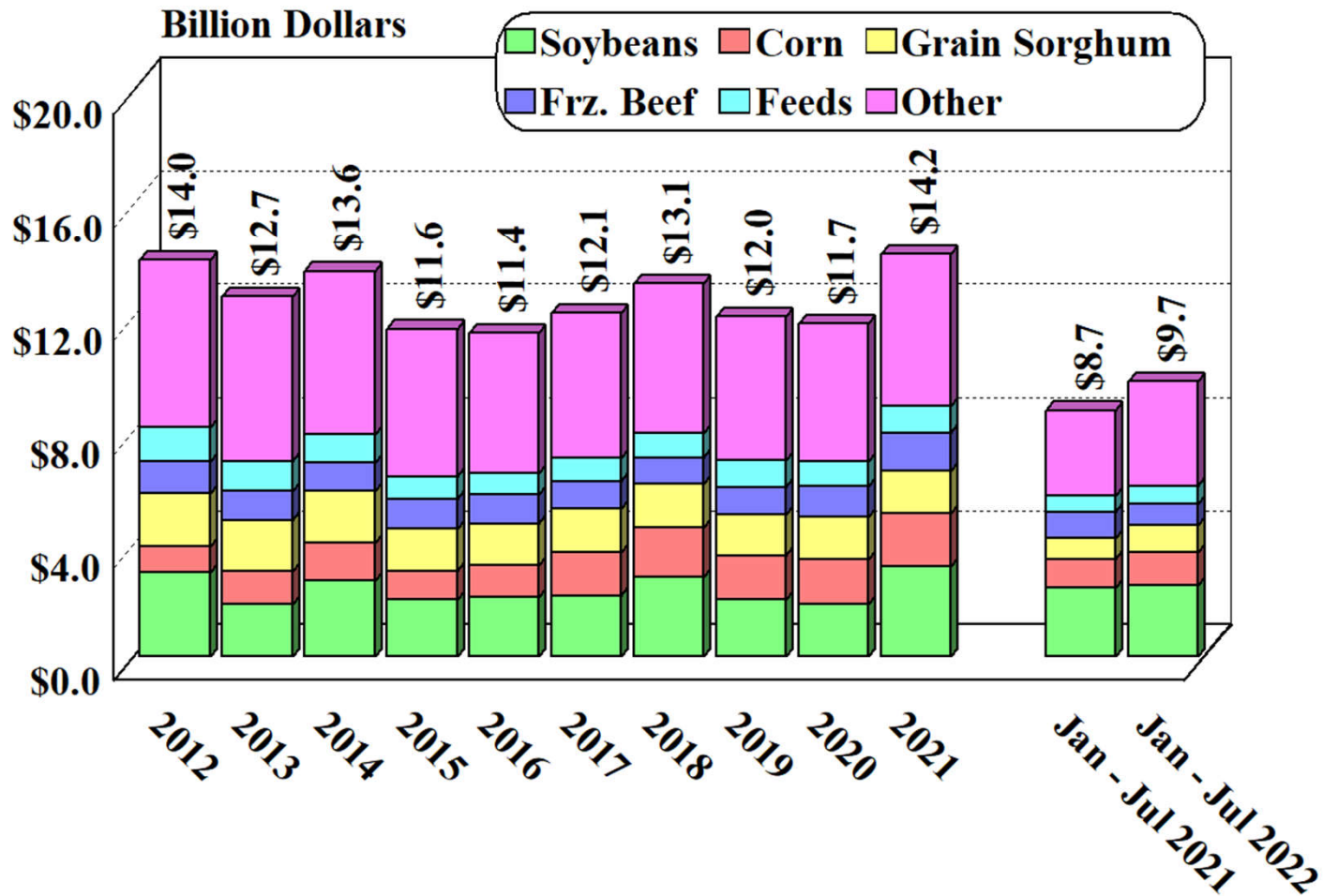


## U.S. Ag Exports to China, 2012 - July 2022



Source: Global Agricultural Trade System (GATS), USDA/FAS

## U.S. Ag Exports to Japan, 2012 - July 2022



Source: Global Agricultural Trade System (GATS), USDA/FAS

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# Impacts of Russia-Ukraine War

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Sources: Organization for Security and Cooperation in Europe (Russia-controlled area in eastern Ukraine); Dr. Phillip Karber, Potomac Foundation (Russian incursions, areas of control, counterattacks)

Max Rust and Emma Brown/The Wall Street Journal

[https://www.wsj.com/articles/ukraine-russia-war-end-11652967707?mod=livecoverage\\_web](https://www.wsj.com/articles/ukraine-russia-war-end-11652967707?mod=livecoverage_web)

# Ukraine: Wheat Production

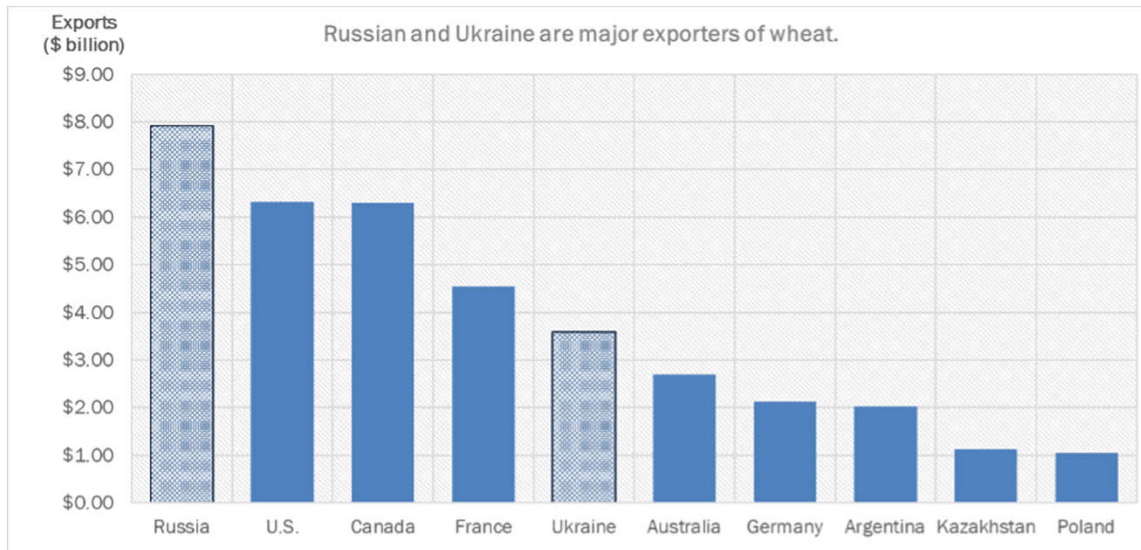




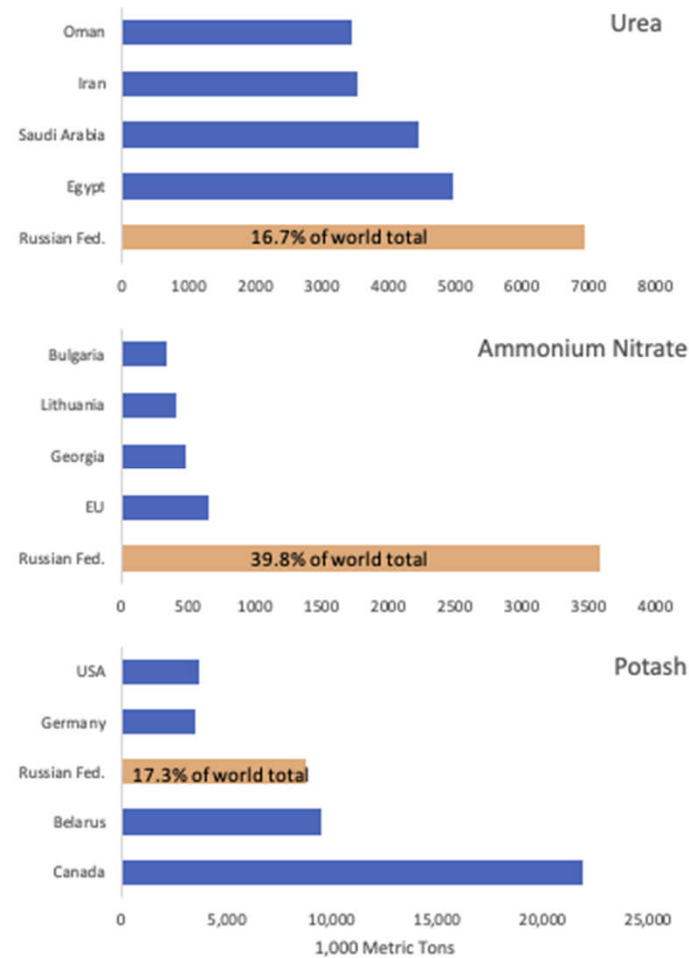
# Ukraine: Corn Production



# Major Exporters: Wheat & Corn



# Major Exporters of Fertilizers



Source: Anderson, John D. . "The Russia/Ukraine Conflict and Farm Input Markets". *Southern Ag Today* 2(14.3). March 30, 2022.



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# Ukraine Grain Export Deal

- Signed by Ukraine, Turkey, Russia and UN on July 22, 2022
  - Provides safe passage and inspection of grains from three Ukrainian ports on the Black Sea
  - First Ukrainian corn ship left Aug 3 to Lebanon
  - Last for 120 days with potential for renewal
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# Ukraine Grain Export Deal

- Goods news but reality is that it will take months to reach pre-invasion levels
  - By the end of August 33 vessels (21,804 DWT) left Ukraine ports, need at least 371 vessels (67K DWT) to clear backlog
  - Conflicts affecting port infrastructure still big issue
  - Insurance cost increased by 199%
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# Heads Up!

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# Mexico

- Mexican Government Executive Order signed in 2020 to phaseout glyphosate and GMO corn by 2024
  - What about Ag imports?
  - Mexico virtually import all its corn from US
    - 85-90% feed corn
    - 10-15% sweet corn
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# **Inflation vs Price Changes**

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# Inflation vs. Price Changes

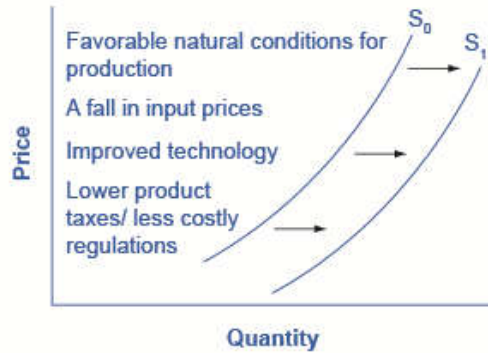
- Monetary Theory

- $MV=PQ$

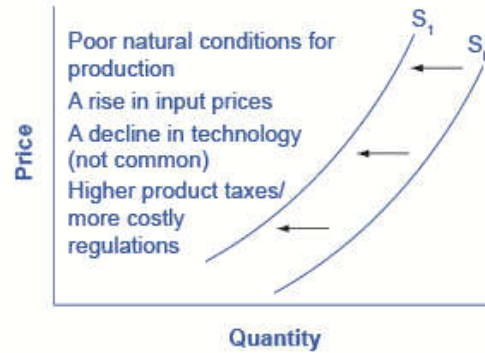
- M= money supply
      - V= velocity (# of times/year that \$ is spent)
      - P= price of goods and services
      - Q= quantity of goods and services
-

# Inflation vs. Price Changes

## Supply Shift

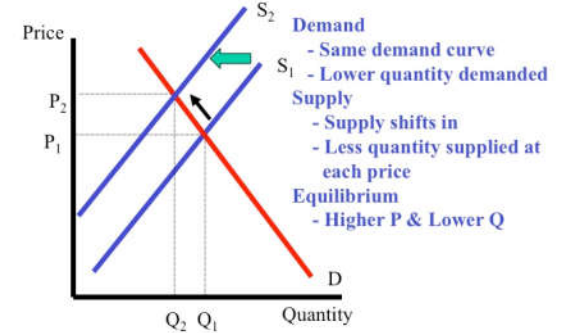


(a) Factors that increase supply

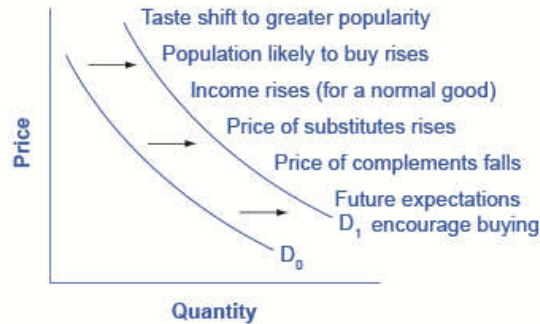


(b) Factors that decrease supply

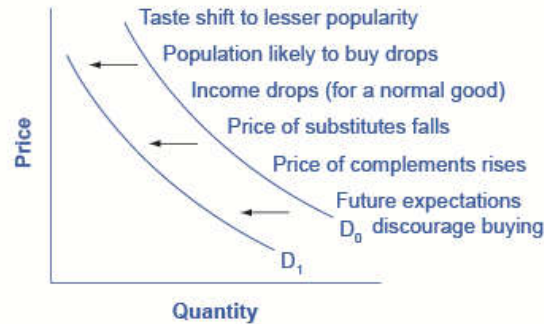
## Supply Shifts Left



## Demand Shift

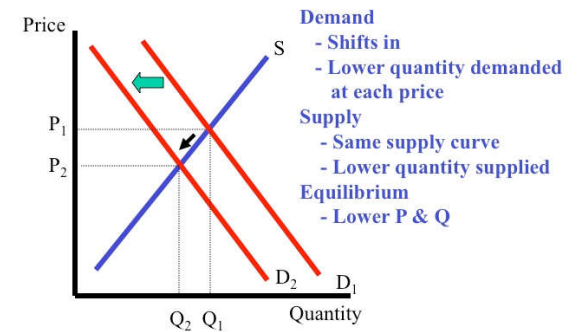


(a) Factors that increase demand




(b) Factors that decrease demand

## Demand Shifts Left




# Inflation vs. Price Changes



Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.

— *Milton Friedman* —

AZ QUOTES



Supply creates its own demand.

~ Jean-Baptiste Say

AZ QUOTES

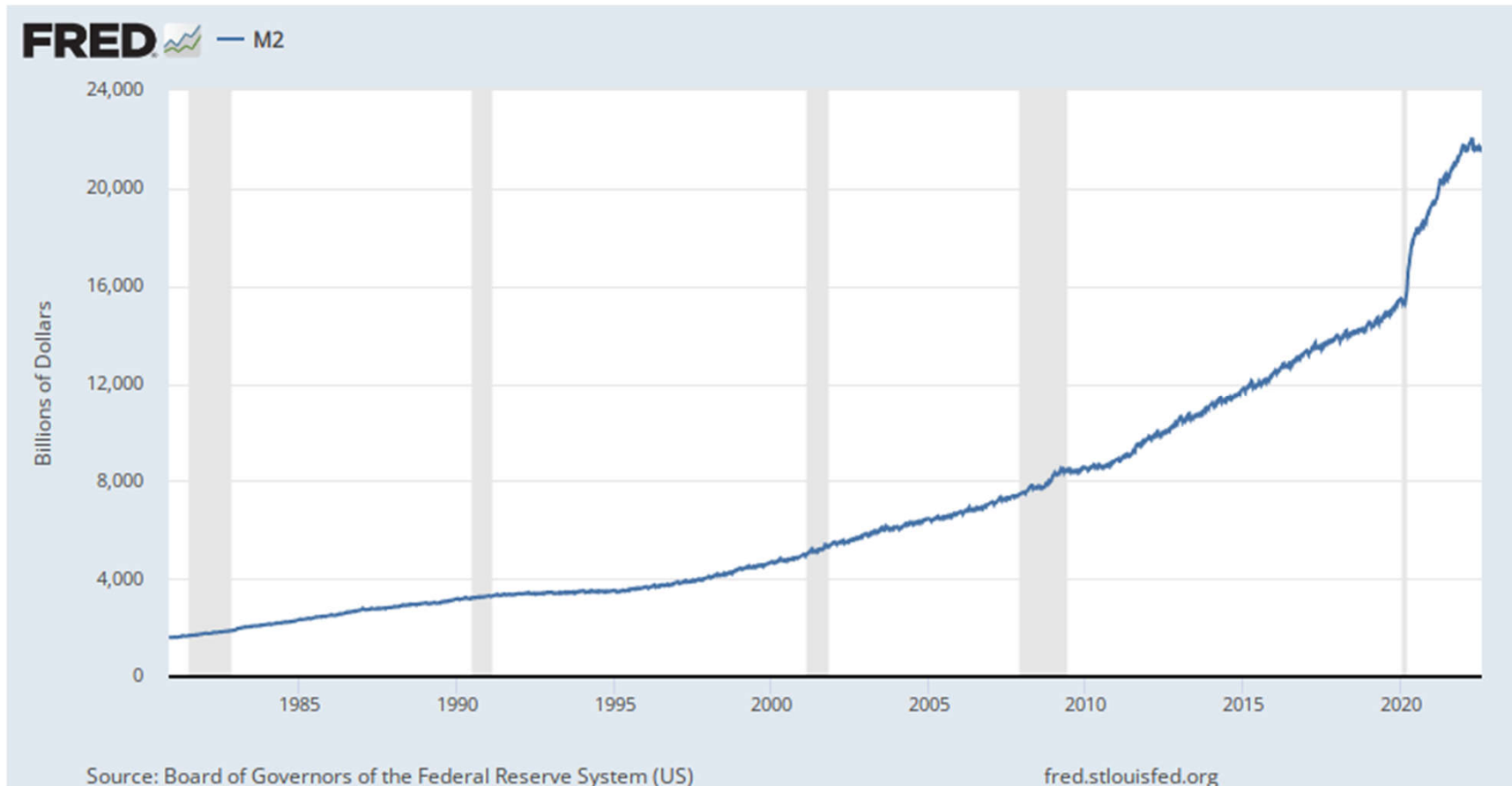


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# Inflation vs. Price Changes



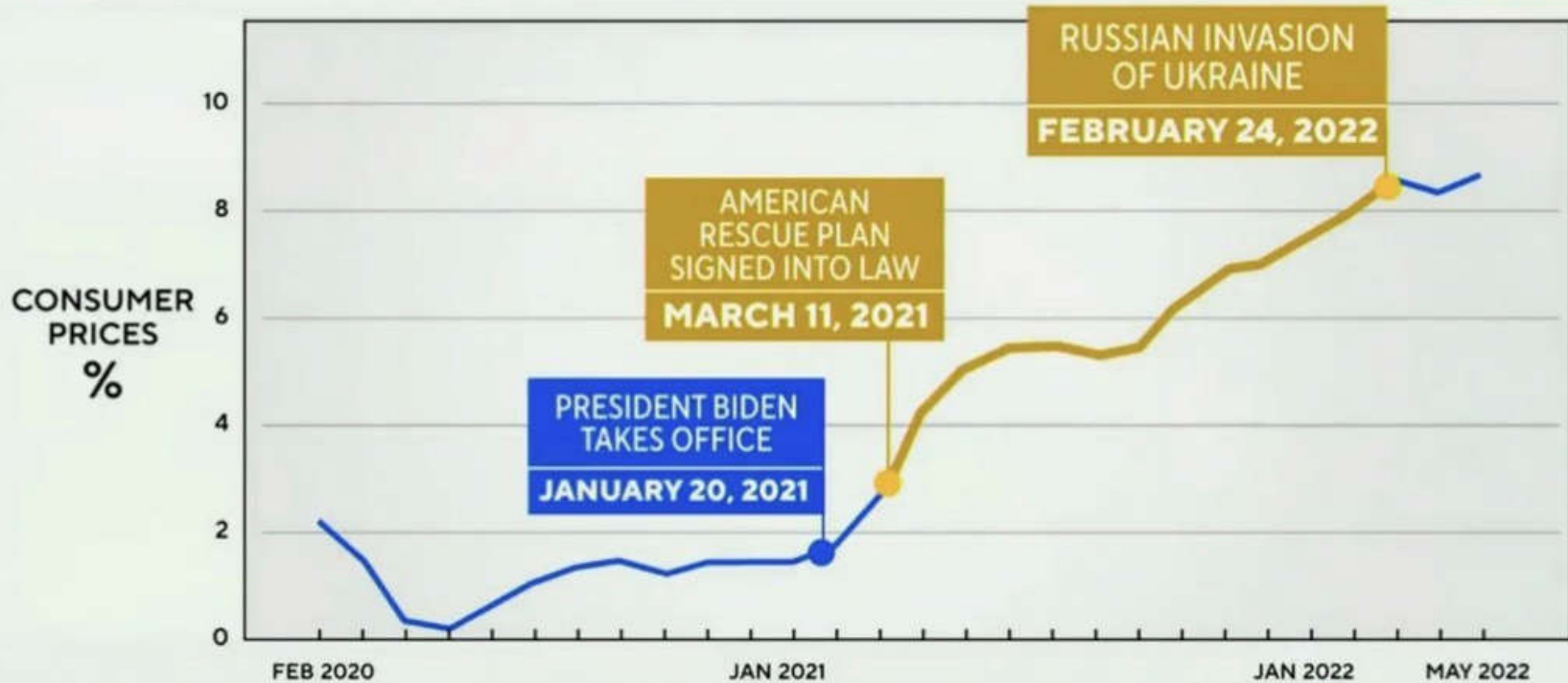
# The War Caused Inflation?



**From March 2020 to Feb 2022,  
money supply increased by 41.2%**

# The War Caused Inflation?

## U.S. INFLATION



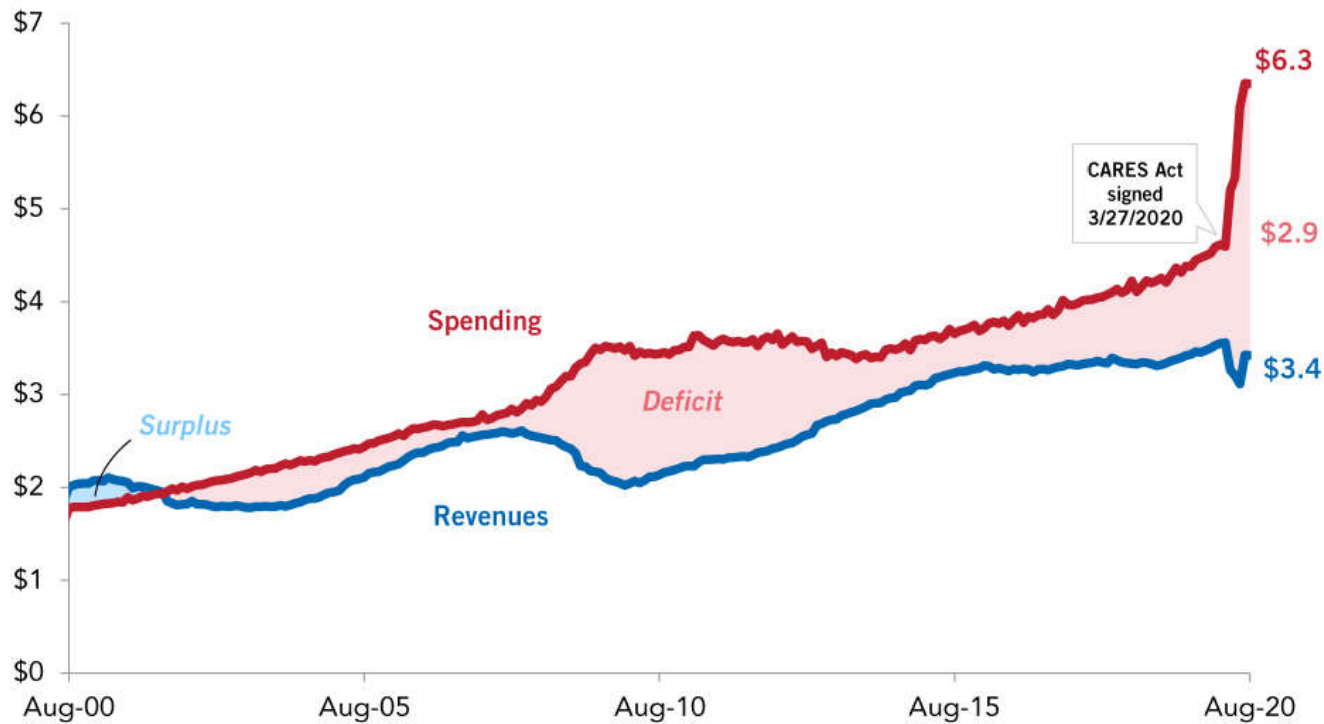
SOURCE: U.S. Bureau of Labor Statistics

# The War Caused Inflation?



The gap between federal spending and revenues has grown substantially during the pandemic

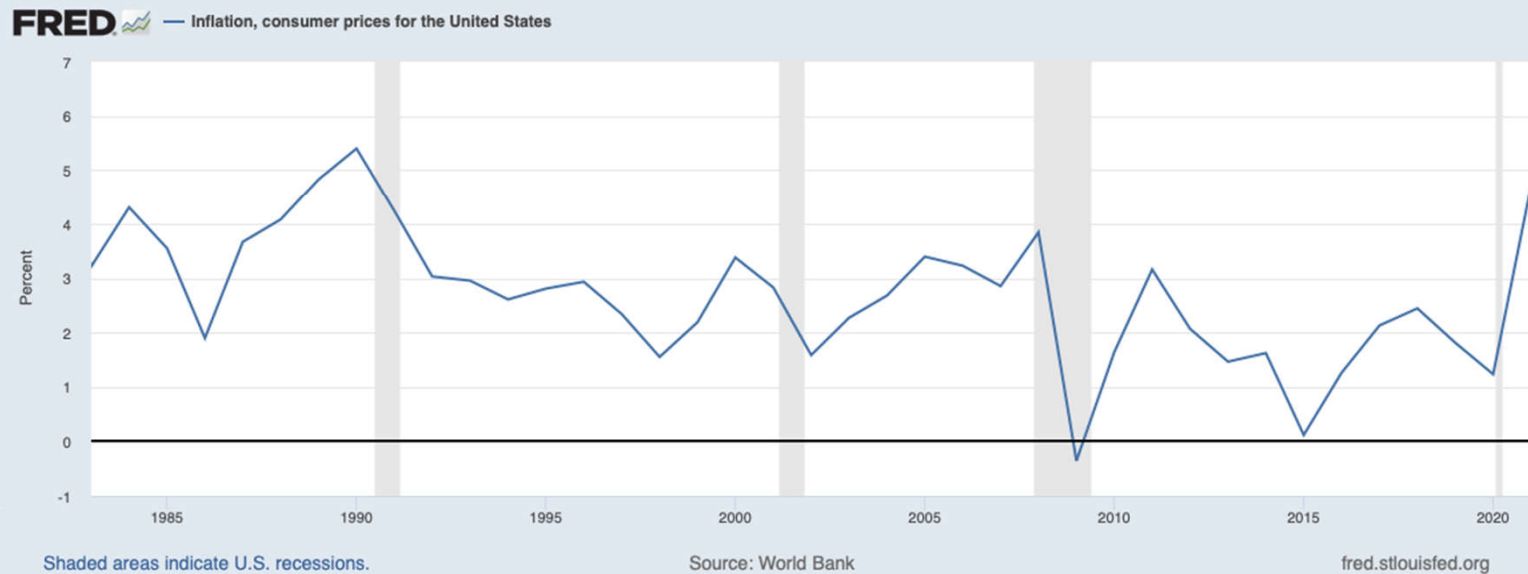
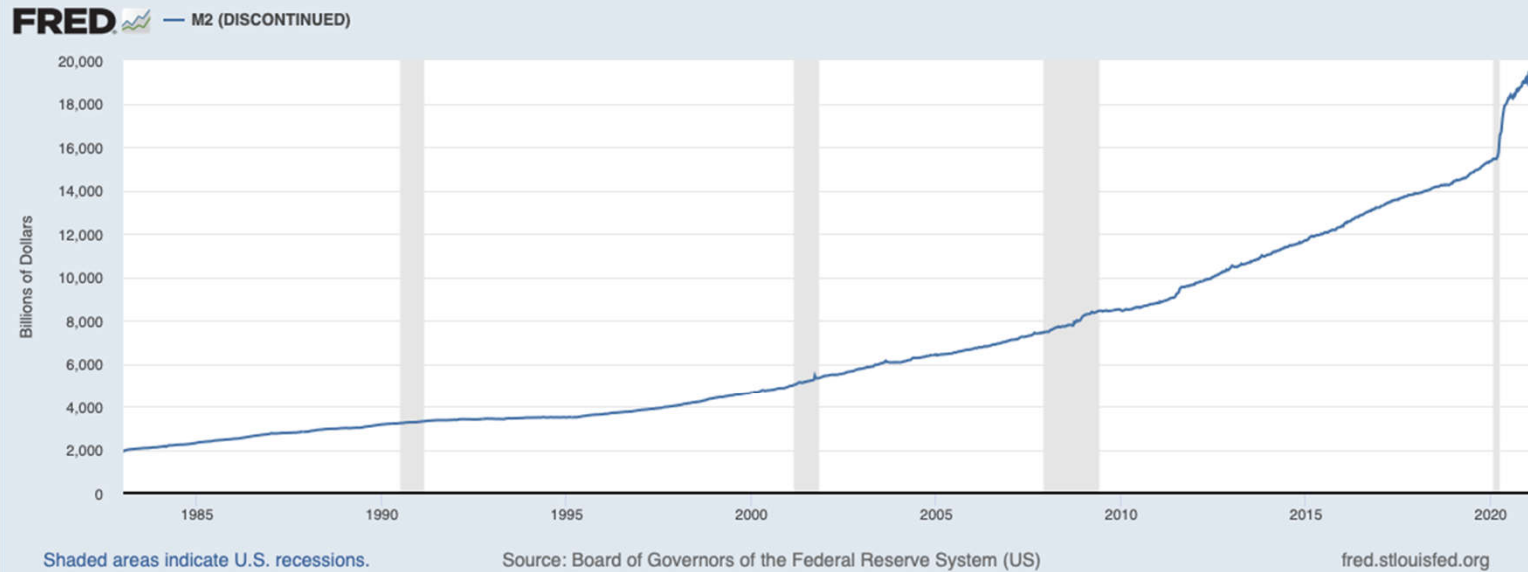
12-MONTH ROLLING SUM OF SPENDING AND REVENUES (TRILLIONS OF DOLLARS)



SOURCE: U.S. Department of the Treasury, *Monthly Treasury Statement*, issue for August 2020.  
© 2020 Peter G. Peterson Foundation

PGPF.ORG

# The War Caused Inflation?



## There's no Asian in inflation

Consumer prices, 2022

% increase on a year earlier

● February ● May or latest available



Source: Refinitiv Datastream

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# Questions

**Luis A. Ribera**

**Professor and Extension Economist**

**Texas A&M AgriLife Extension Service**

**[lribera@tamu.edu](mailto:lribera@tamu.edu)**

**Phone: 979-845-3070**

 **@cnastamu1**

**TEXAS A&M**  
**AGRI LIFE**  
**EXTENSION**

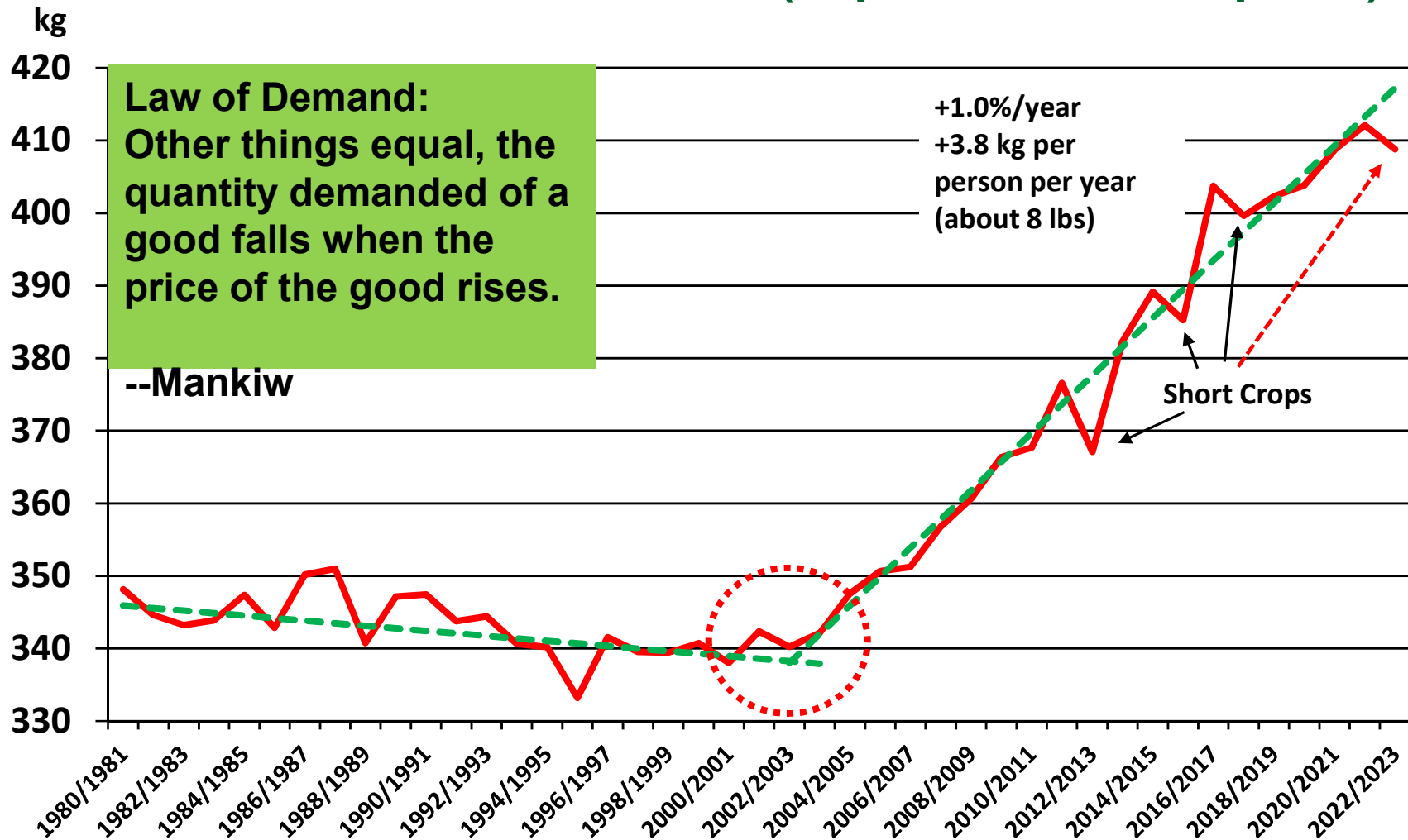


<http://cnas.tamu.edu/>

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# World Per Capita Grain Use

Total use = domestic use + (exports minus imports)

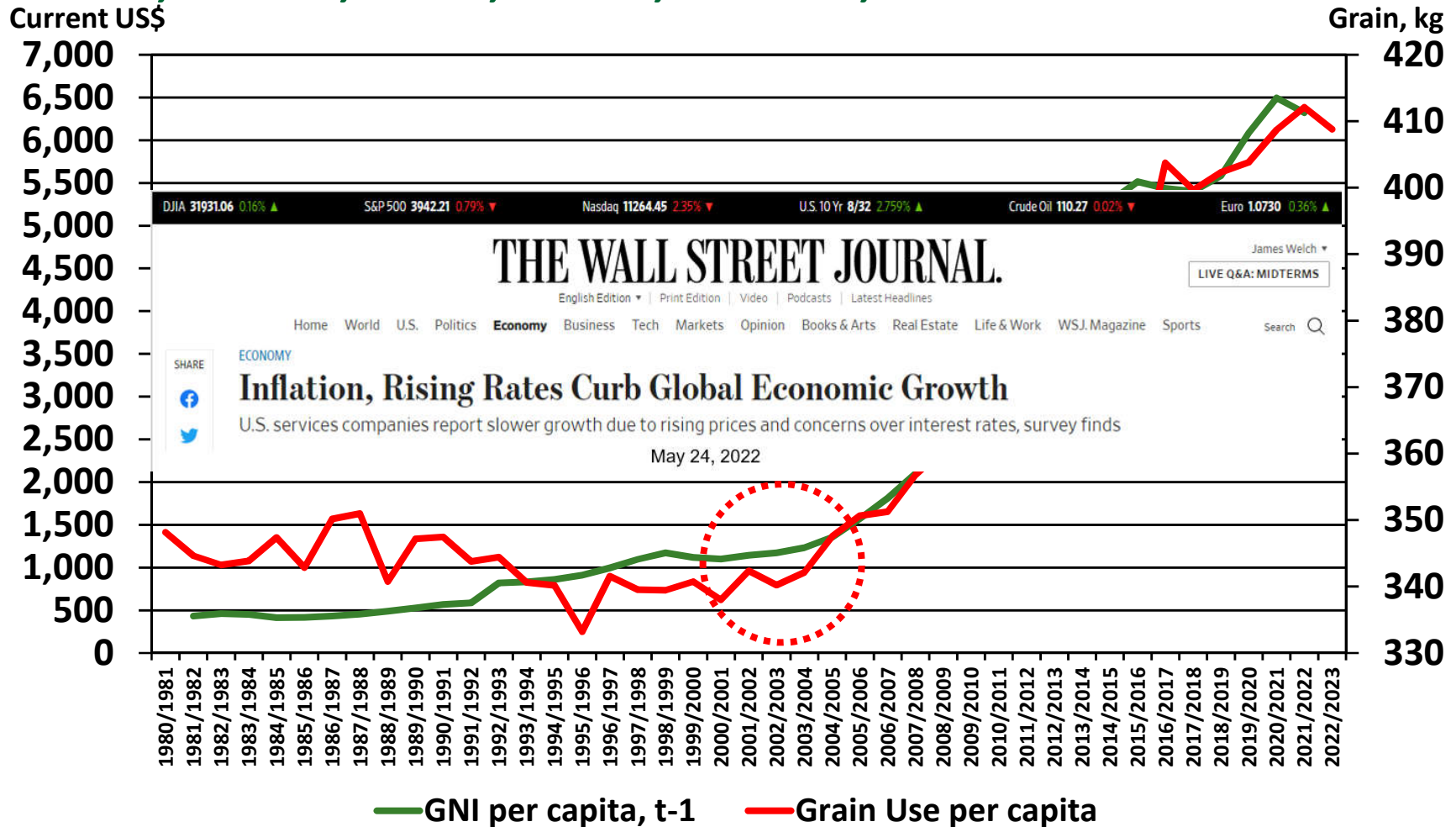


barley, corn, millet, mixed grains, oats, rice, rye, sorghum, soybeans, and wheat

USDA, Foreign Agricultural Service, PSD, 6/10/2022



# Emerging Economies Weighted Average Income, t-1, and World Per Capita Grain Consumption Brazil, Russia, India, China, Mexico, Other SE Asia\*



\*Other Southeast Asia: Indonesia, Vietnam, Philippines, Thailand, Malaysia

World Bank, GNI per capita, 9/20/2021; Grain Use USDA, FAS, PSD 6/10/2022

<http://data.worldbank.org/indicator/>

**Law of Supply:**  
**Other things equal, the quantity supplied of a good rises when the price of the good rises.**

**--Mankiw**

**Stats Canada 3/18/22**

<b>All Wheat</b>	<b>%Δ</b>
<b>Area Harvested</b>	<b>6%</b>
<b>Yield</b>	<b>35%</b>
<b>Production</b>	<b>44%</b>
<b>Total Exports</b>	<b>39%</b>

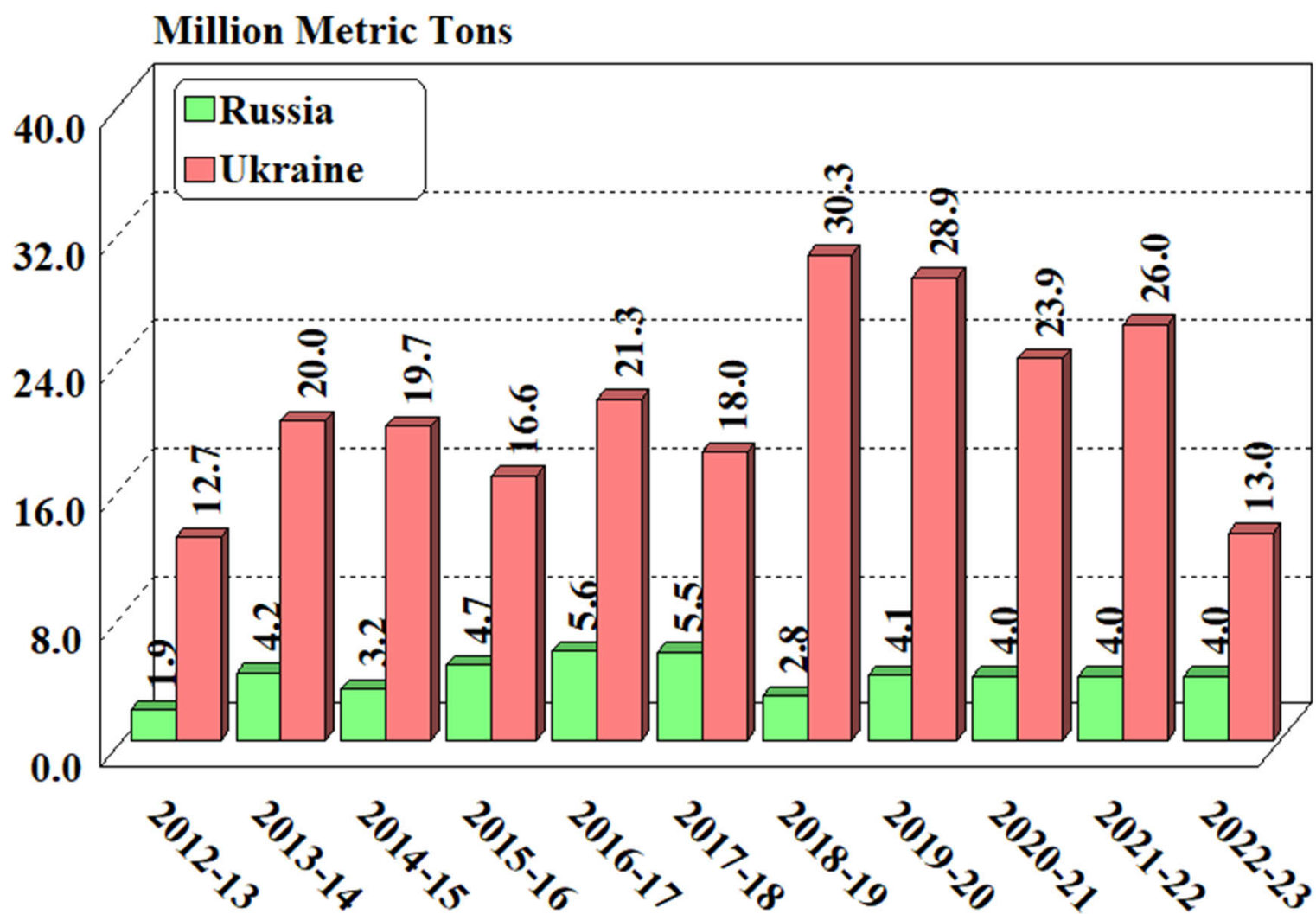


**Area Harvested, million hectares**

	<b>World</b>
<b>2019/20</b>	<b>835.6</b>
<b>2020/21</b>	<b>858.3</b>
<b>2021/22</b>	<b>864.0</b>
<b>2022/23</b>	<b>863.3</b>
<b>Since 2019/20</b>	<b>27.7</b>

**Coarse grain (barley, corn, millet, mixed grain, oats, rye, sorghum)**  
**Food grain (rice, wheat)**  
**Oilseed (soybeans)**

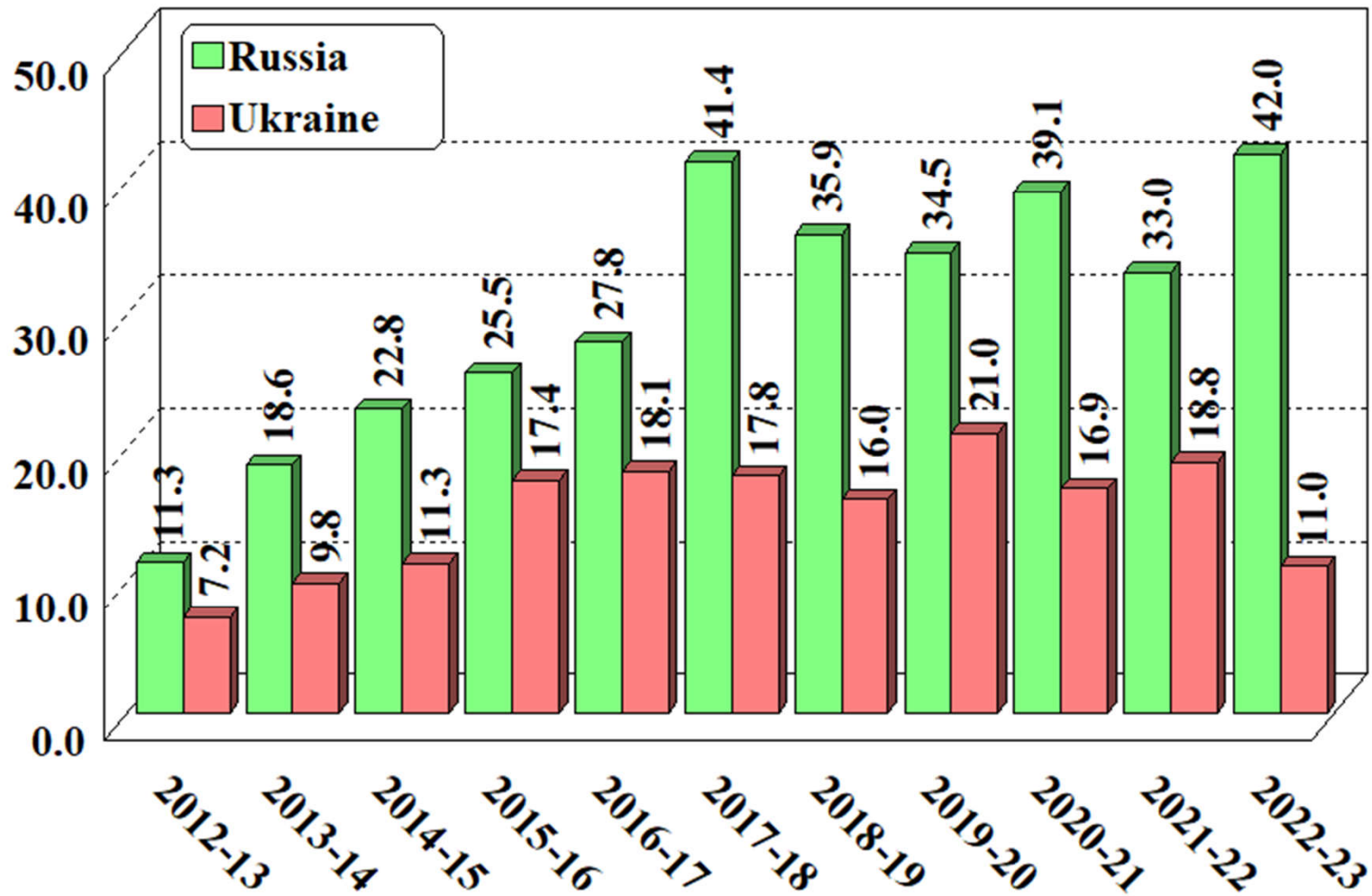
## Corn Exports from Russia and Ukraine, MY2012-2022



Source: Production, Supply, and Distribution (PS&D), USDA/FAS

## Wheat Exports from Russia and Ukraine, MY2012-2022

Million Metric Tons



Source: Production, Supply, and Distribution (PS&D), USDA/FAS

# Interest Rates?

## Aggressive Action

More than 50 central banks around the world have raised interest rates by at least a half point in one go this year

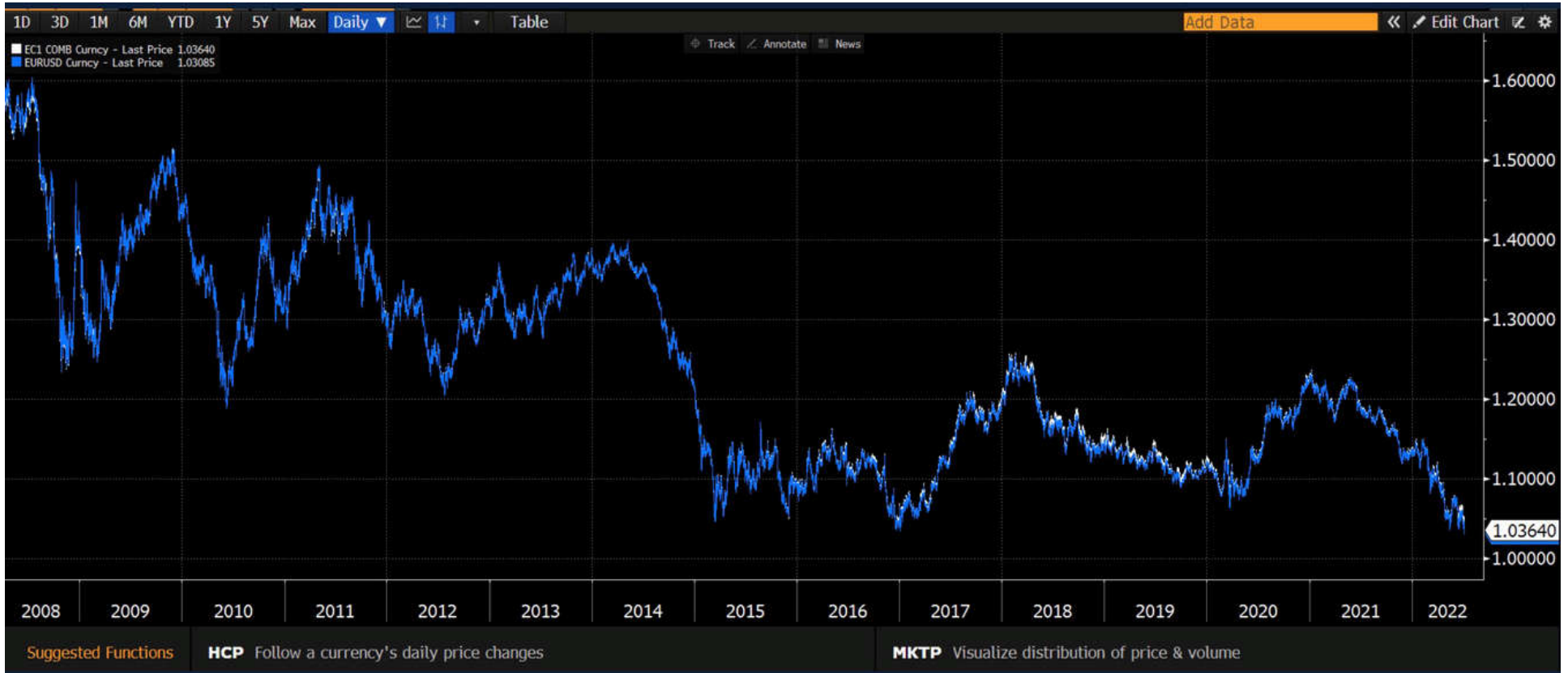
■ Hiked rates by 50 basis points in one move this year



Source: Bloomberg

Bloomberg

# Value of Euro vs US Dollar





# Inflation by Country | Consumer Prices, % | 1960 - 2022

Source:WB/IMF



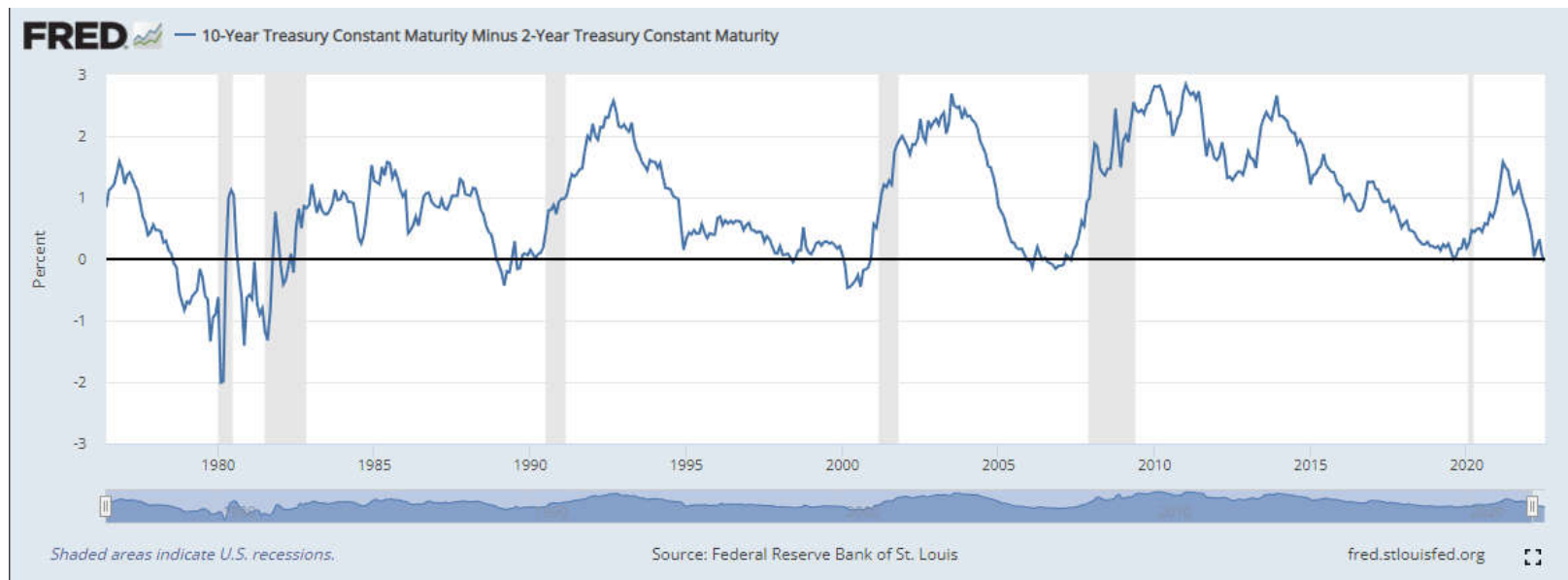
# HIGHEST INFLATION IN THE WORLD



Feb. 2022



# Recession in the Future?

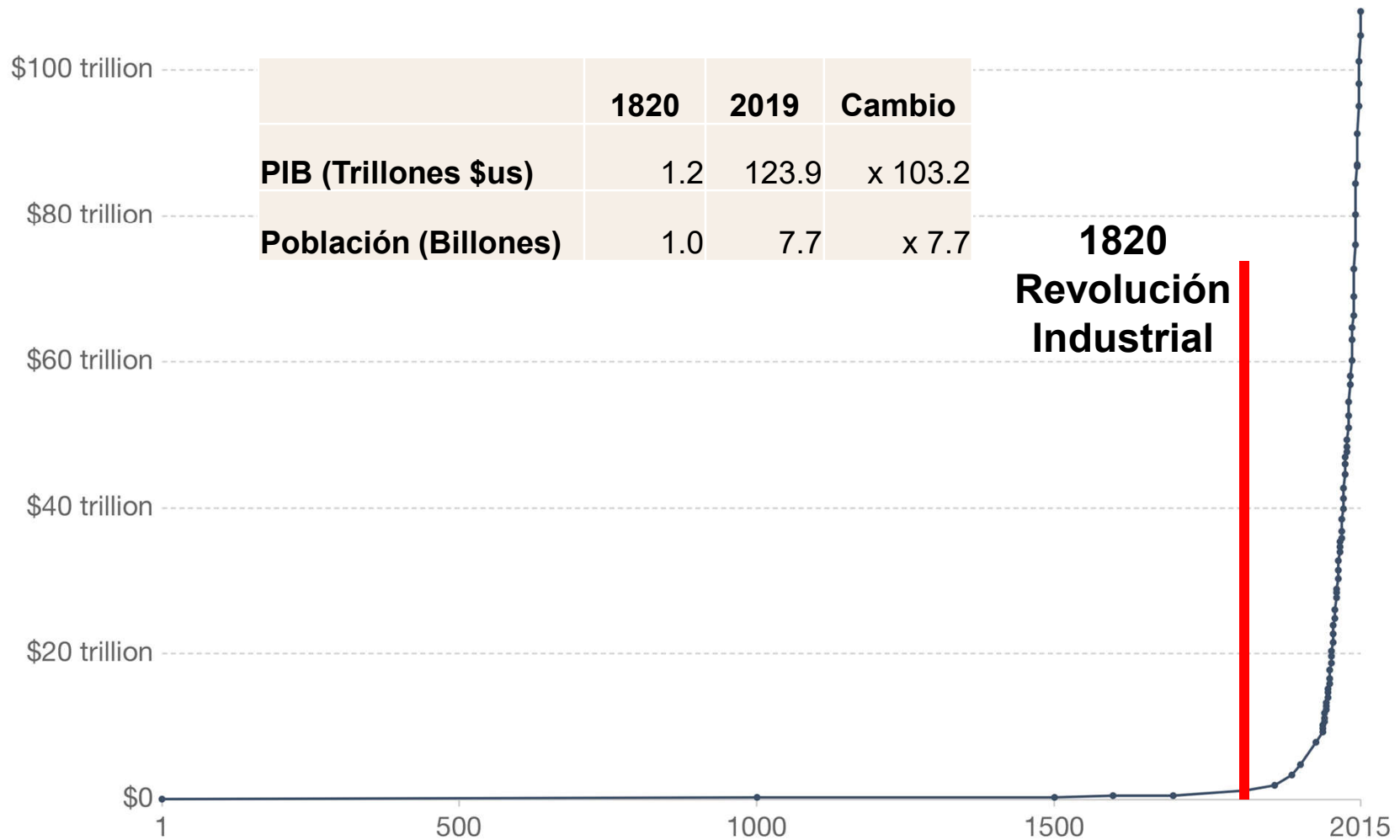


# World GDP

## World GDP over the last two millennia

Total output of the world economy; adjusted for inflation and expressed in international-\$ in 2011 prices.

Our World  
in Data



Source: World GDP - Our World In Data based on World Bank & Maddison (2017)

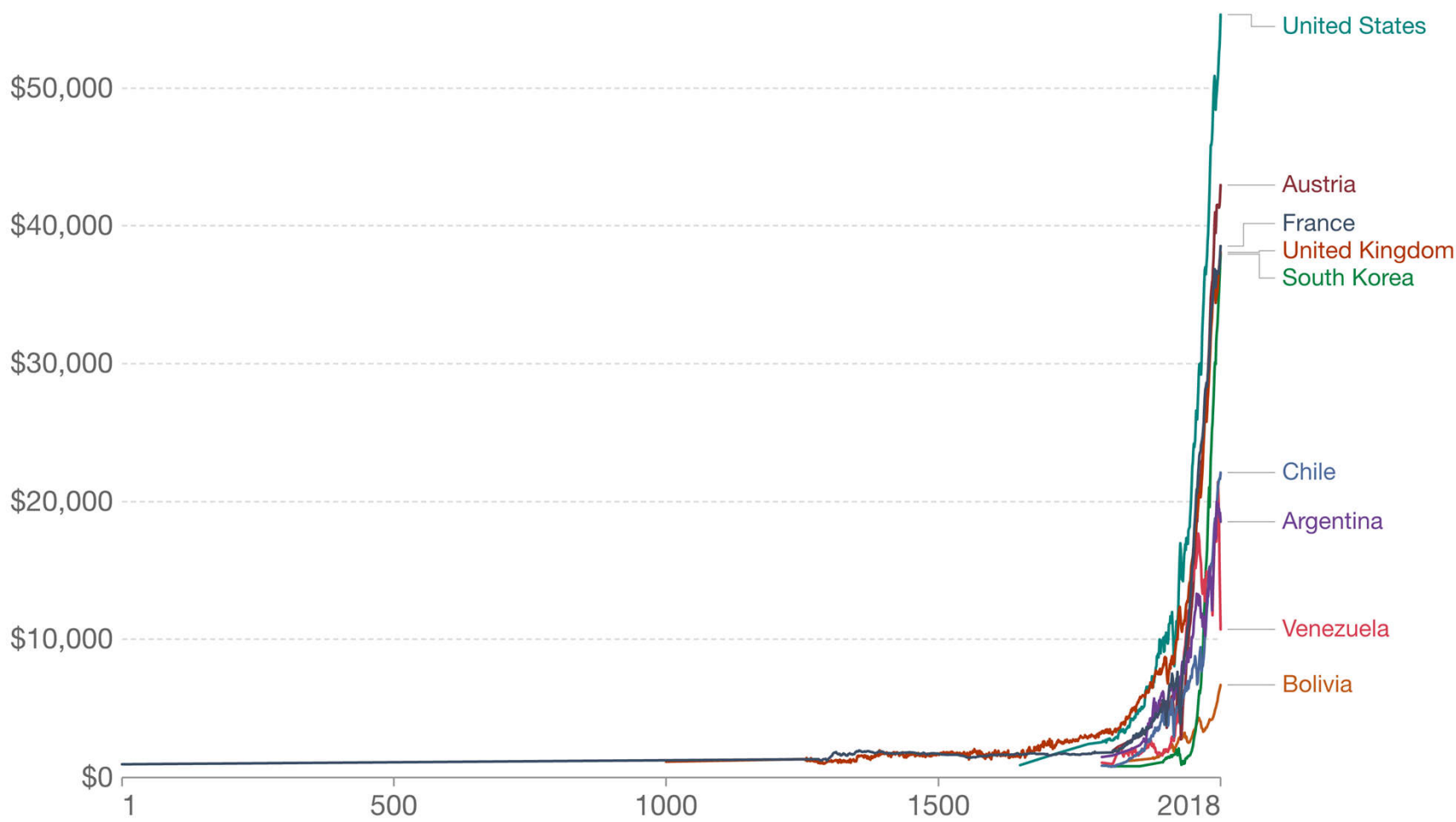
OurWorldInData.org/economic-growth • CC BY

# GDP Per Capita

## GDP per capita, 1 to 2018

GDP per capita adjusted for price changes over time (inflation) and price differences between countries – it is measured in international-\$ in 2011 prices.

Our World  
in Data



Source: Maddison Project Database 2020 (Bolt and van Zanden (2020))

OurWorldInData.org/economic-growth • CC BY

# Consumer Expenditures Spent on Food, 2019

	Country/Territory	Share of consumer expenditures		Consumer expenditures <sup>3</sup>	Expenditure on food <sup>2</sup>
		Food <sup>2</sup>	Alcoholic beverages and		
		<i>Percent</i>		<i>U.S. dollars per person</i>	
1	USA	6.4	1.7	41,311	2,626
2	Singapore	6.9	1.9	21,907	1,503
3	United Kingdom	8.1	3.2	26,770	2,168
4	Ireland	9.0	5.8	23,267	2,099
5	Canada	9.1	3.3	25,961	2,351
27	Panama	15.7	1.7	8,949	1,406
28	Brazil	15.7	1.5	5,515	866
30	Chile	16.0	2.9	10,073	1,614
39	Uruguay	18.6	1.3	11,882	2,212
41	Colombia	19.2	3.0	4,523	869
55	Mexico	23.4	2.8	6,406	1,500
58	Costa Rica	25.7	1.2	8,332	2,143
59	Ecuador	26.2	0.8	3,874	1,016
60	Peru	26.3	2.4	4,530	1,190
61	El Salvador	26.5	0.5	3,475	922
62	Dominican Republic	26.8	3.8	5,623	1,509
68	Argentina	28.3	1.9	7,566	2,140
69	Bolivia	29.1	2.1	2,390	696
76	Paraguay	31.7	4.2	3,815	1,208
80	Honduras	32.8	4.7	1,969	646
90	Guatemala	41.2	1.6	4,033	1,663
103	Ethiopia	56.6	3.8	455	257
104	Nigeria	59.0	1.0	1,723	1,017

Source: USDA-ERS

# Brazil & U.S. Food Price Comparison

Table 2. Prices for a Similar Basket of Groceries, Brazil and U.S., Spring–Summer 2017

<u>Products</u>	<u>Brazil</u> <u>(Avg \$ Price)</u>	<u>Louisiana/Texas</u> <u>(Avg \$ Price)</u>
White Rice	\$0.51	\$0.85
Pinto Beans	\$0.75	\$1.11
Beef	\$5.23	\$6.35
Whole Chicken, Fresh	\$1.02	\$1.17
Coca Cola (2 L Bottle)	\$2.07	\$1.74
White Bread Loaf	\$1.71	\$1.17
Spaghetti	\$1.65	\$1.36
Heinz Ketchup (397 G)	\$2.58	\$1.40
Heinz/Hunt's Yellow Mustard (255 G)	\$3.55	\$1.41
Hellman's Regular Mayonnaise (340 ML)	\$2.11	\$2.62
Kellogg's Corn Flakes (200G)	\$2.37	\$1.70
Whole Milk, Refrigerated (1 L)	\$1.70	\$0.90
Whole Milk, Shelf Stable (1 L)	\$1.30	\$2.03
Papaya	\$0.69	\$0.67
Loose White Potatoes	\$0.50	\$0.85
Pineapple (Each)	\$2.56	\$2.50
Loose Yellow Onions	\$0.52	\$0.71
Loose Roma Tomatoes	\$0.85	\$1.12
White Eggs (Dozen)	\$2.20	\$0.98
Snickers (Bar)	\$0.81	\$0.92
Campbell's Soup (Can)	\$5.84	\$1.36
<b>Total Price for One Item or Lb. Purchased</b>	<b>\$40.51</b>	<b>\$32.92</b>
<b><i>Total w/o Campbell's Soup</i></b>	<b><i>\$34.67</i></b>	<b><i>\$31.56</i></b>

Unless noted, prices converted to per/lb. basis. Brazilian prices were converted to U.S. dollars using the daily exchange rate.