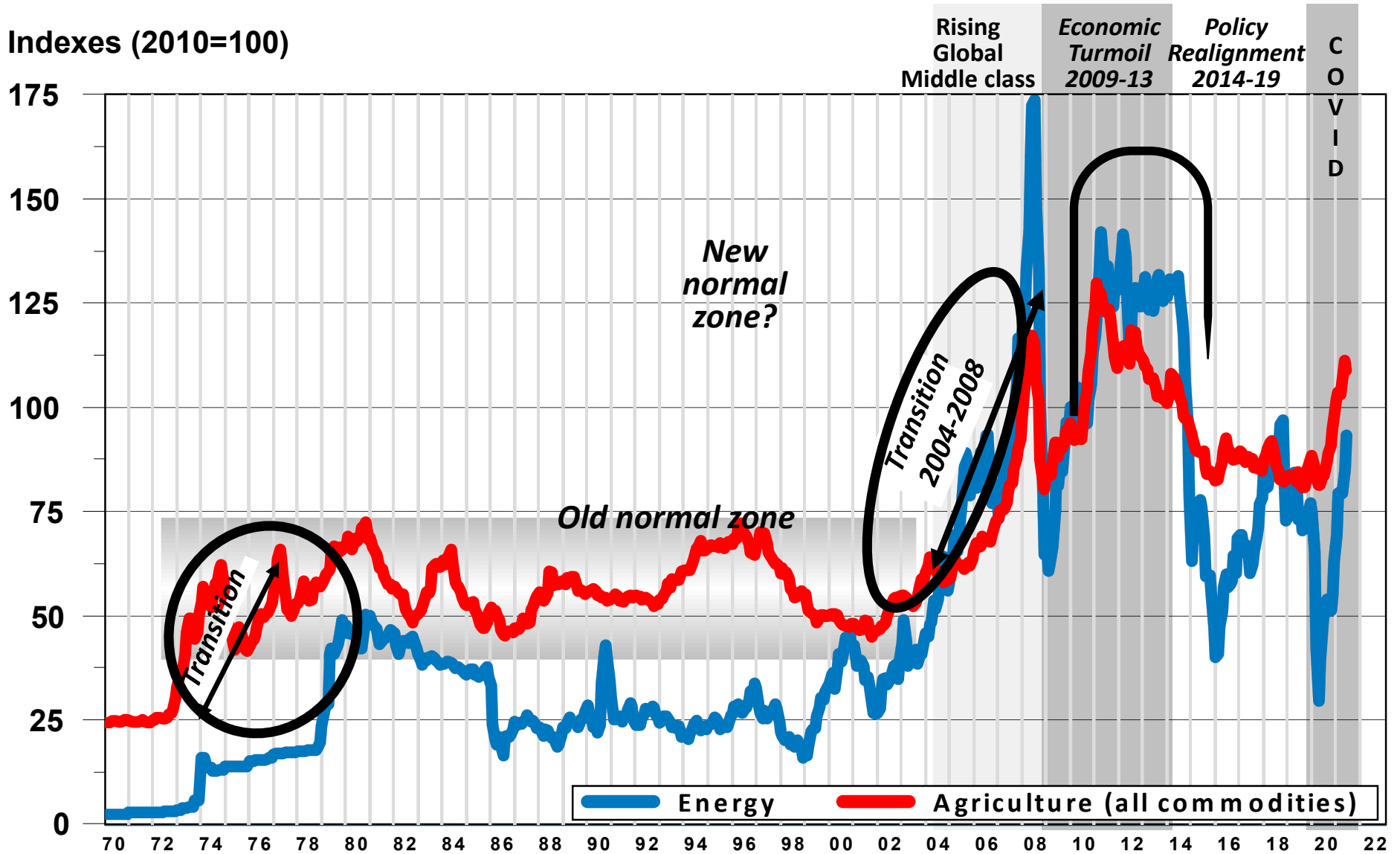


***“Rising Interest Rates, Ukraine War,
Supply Chain Disruptions, Inflation, Covid
and Recession Make for Volatile Markets”***

**Leadership Conference
Georgia Poultry Federation
July 20-22, 2022**

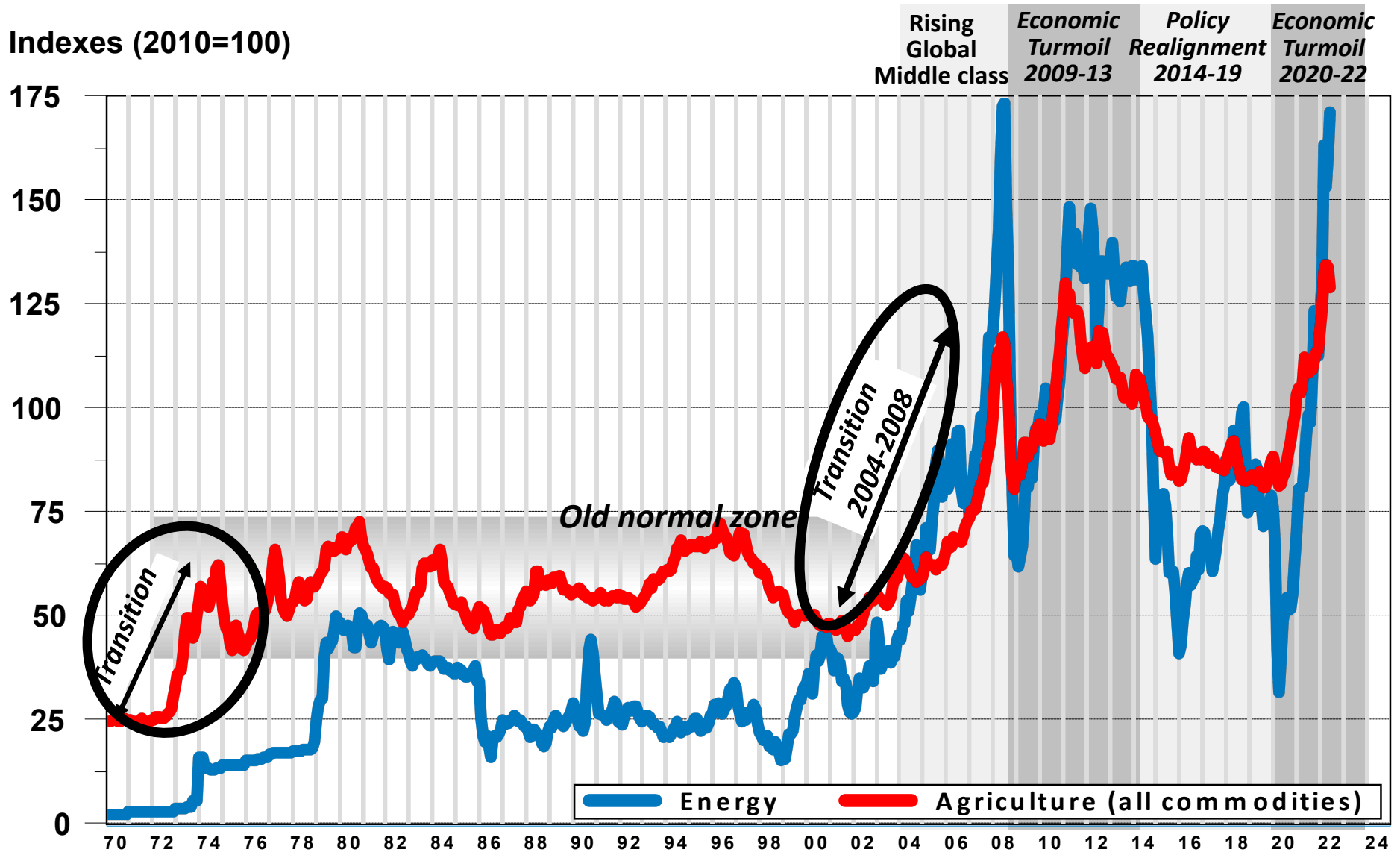
**Terry N. Barr
Economic Insights LLC
tbarrbackup@gmail.com
301-775-3443**

Last Year Commodity Markets Were Rising Amid Covid Pandemic



Data source: World bank

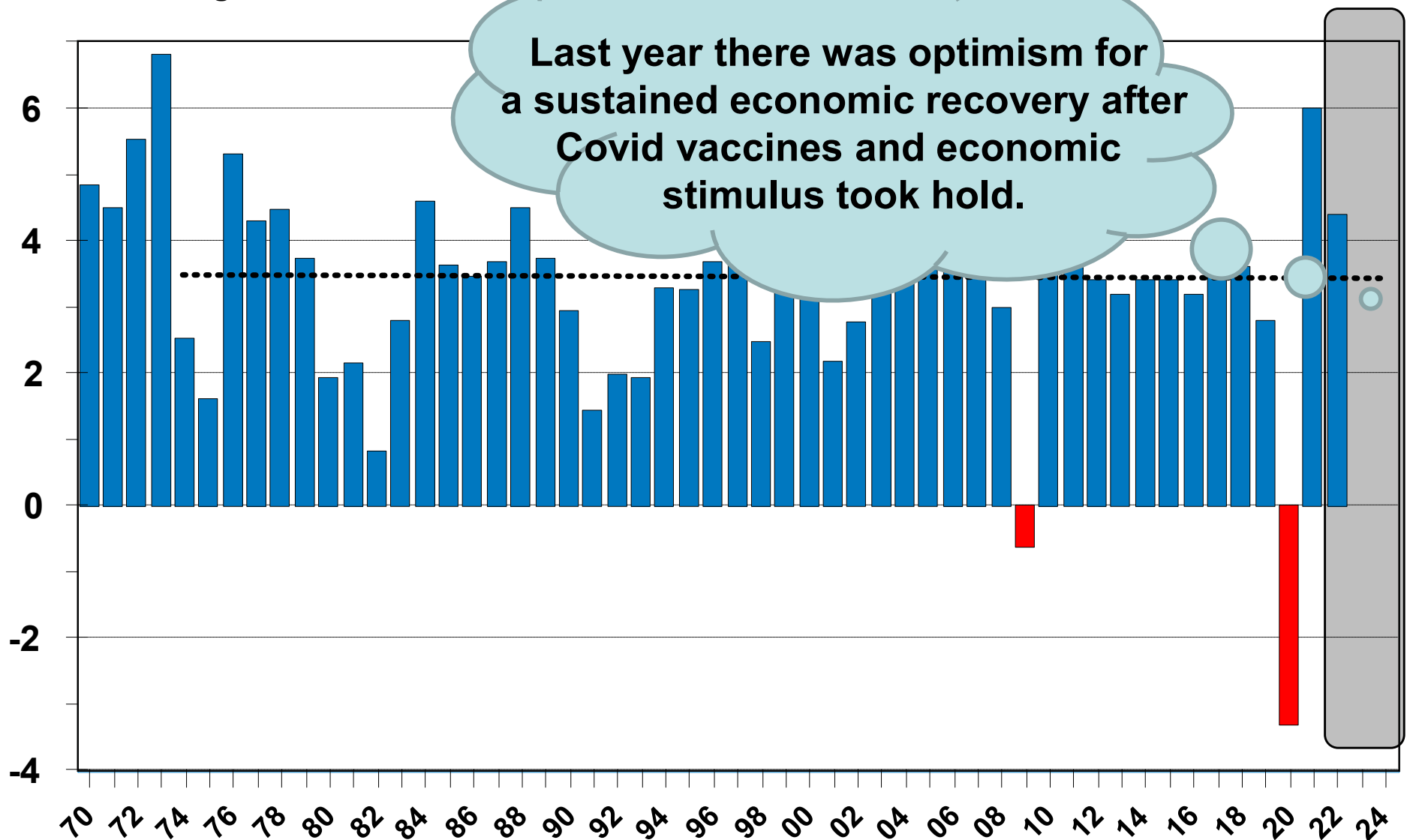
Additional Fiscal Stimulus and War in Ukraine Spiked Markets Higher Amid Rising Uncertainty



Data source: World bank

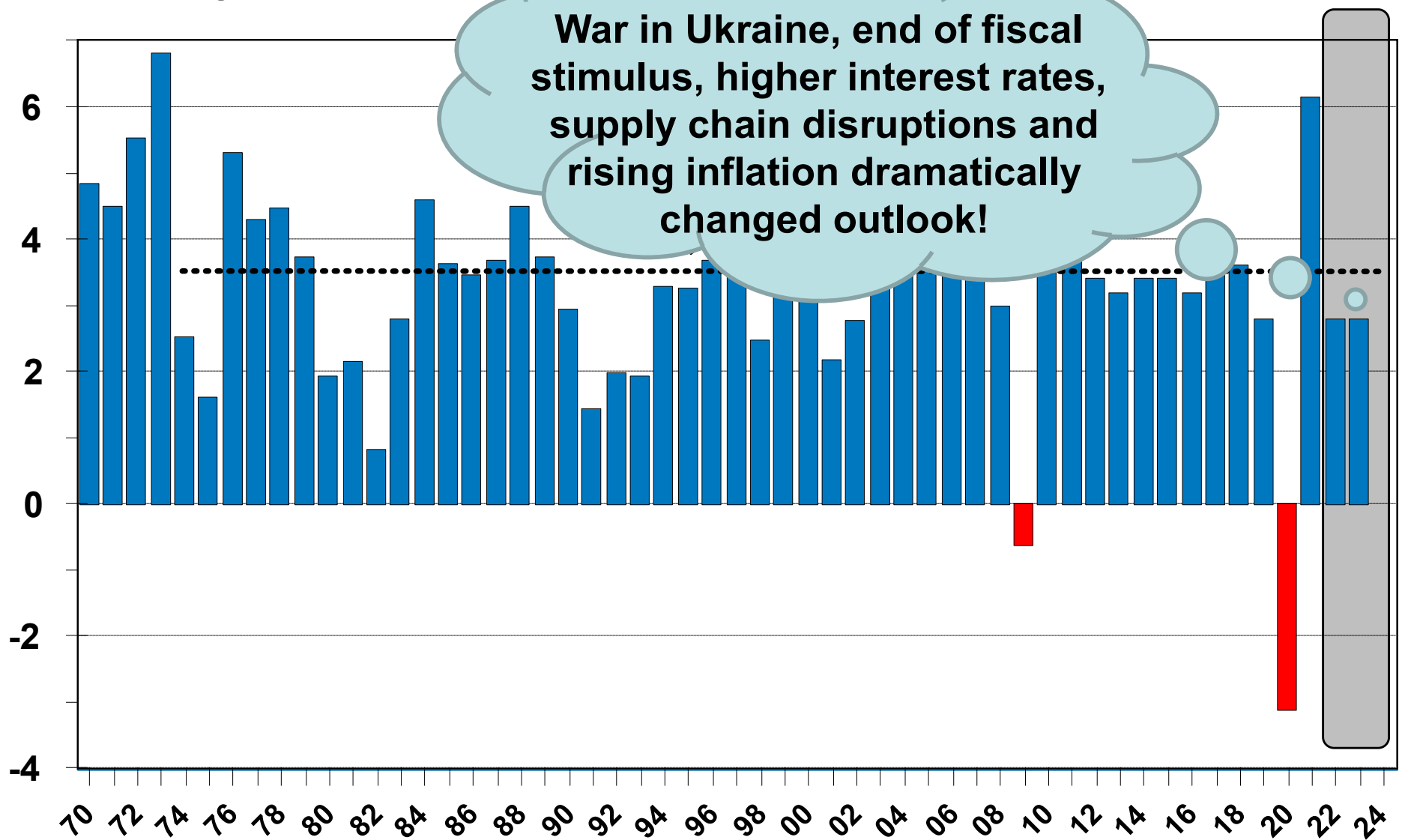
Global Growth Recession Driven by Covid-19 Led to Sharp Rebound Expected in 2021-22

Percent change in annual world growth (annualized)



The World Faces a Significantly Different Outlook as a New Set of Challenges Has Emerged

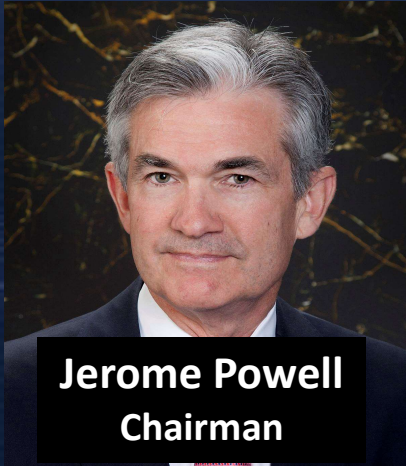
Percent change in annual world growth (annualized quarterly rates)



U.S. and World Economy Face Significant Challenges Over Next 12-18 Months

- ❖ **Fiscal stimulus has ended and unlikely to be revived.**
- ❖ **U.S. economic growth rates will be low and volatile; Consumer has used up stimulus booster and inflation is eroding purchasing power.**
- ❖ **Global growth will remain weak as inflation pressures mount. China remains a significant driver of global growth but covid shutdowns could threaten supply chain reliability. Commodity and energy markets will face downward bias.**
- ❖ **Central banks are employing restrictive monetary policies to combat inflation and will be slow to change course again!**
- ❖ **Europe faces strongest recessionary pressures as war in Ukraine threatens energy supplies.**
- ❖ **Geopolitical wildcards: Russia, China, N. Korea, Middle East!**

Central Banks Shifting From Covid Related Stimulus To Tightening to Combat Inflation



U.S. Federal Reserve Bank



Bank of England

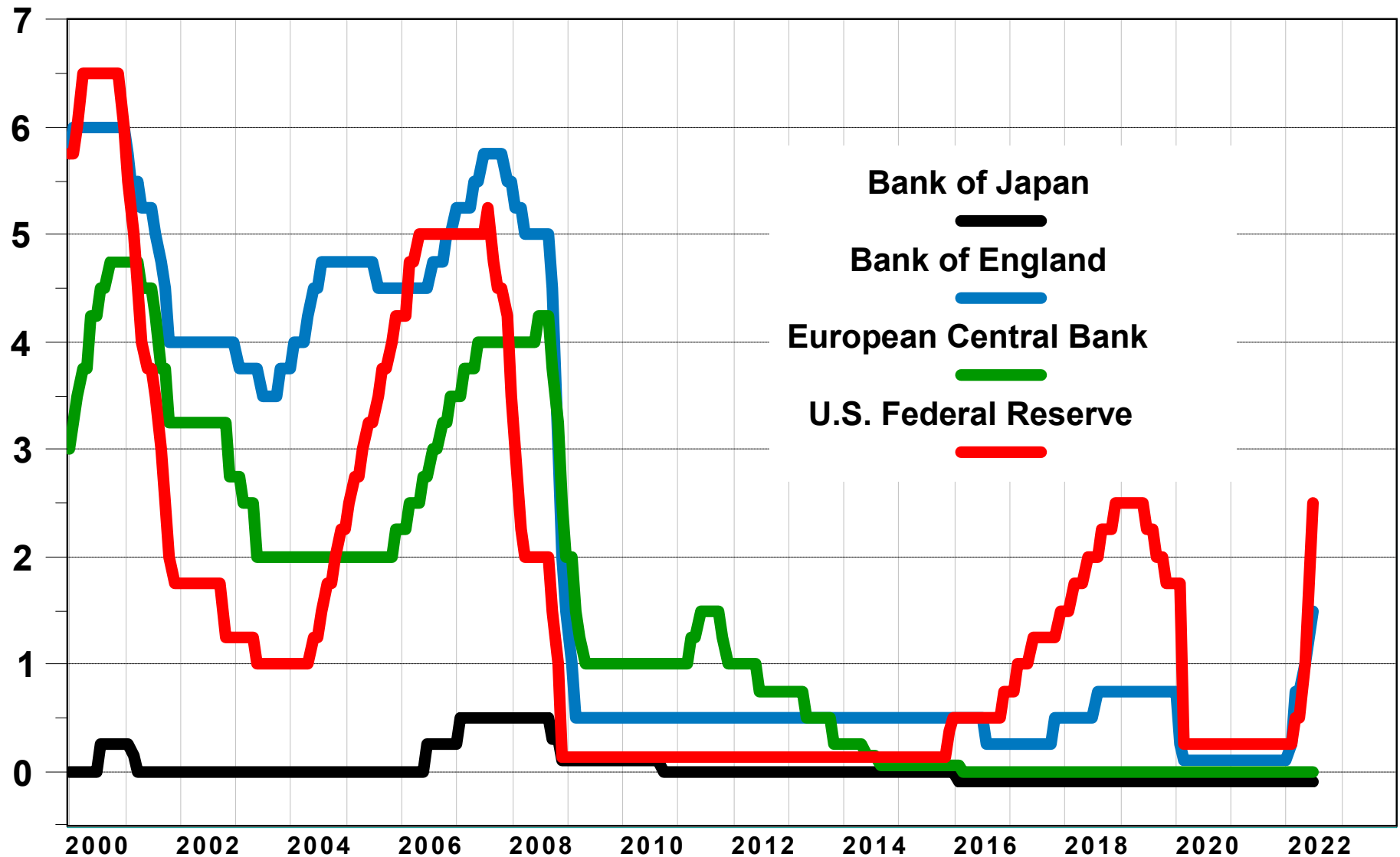
Bank of Japan

European Central Bank



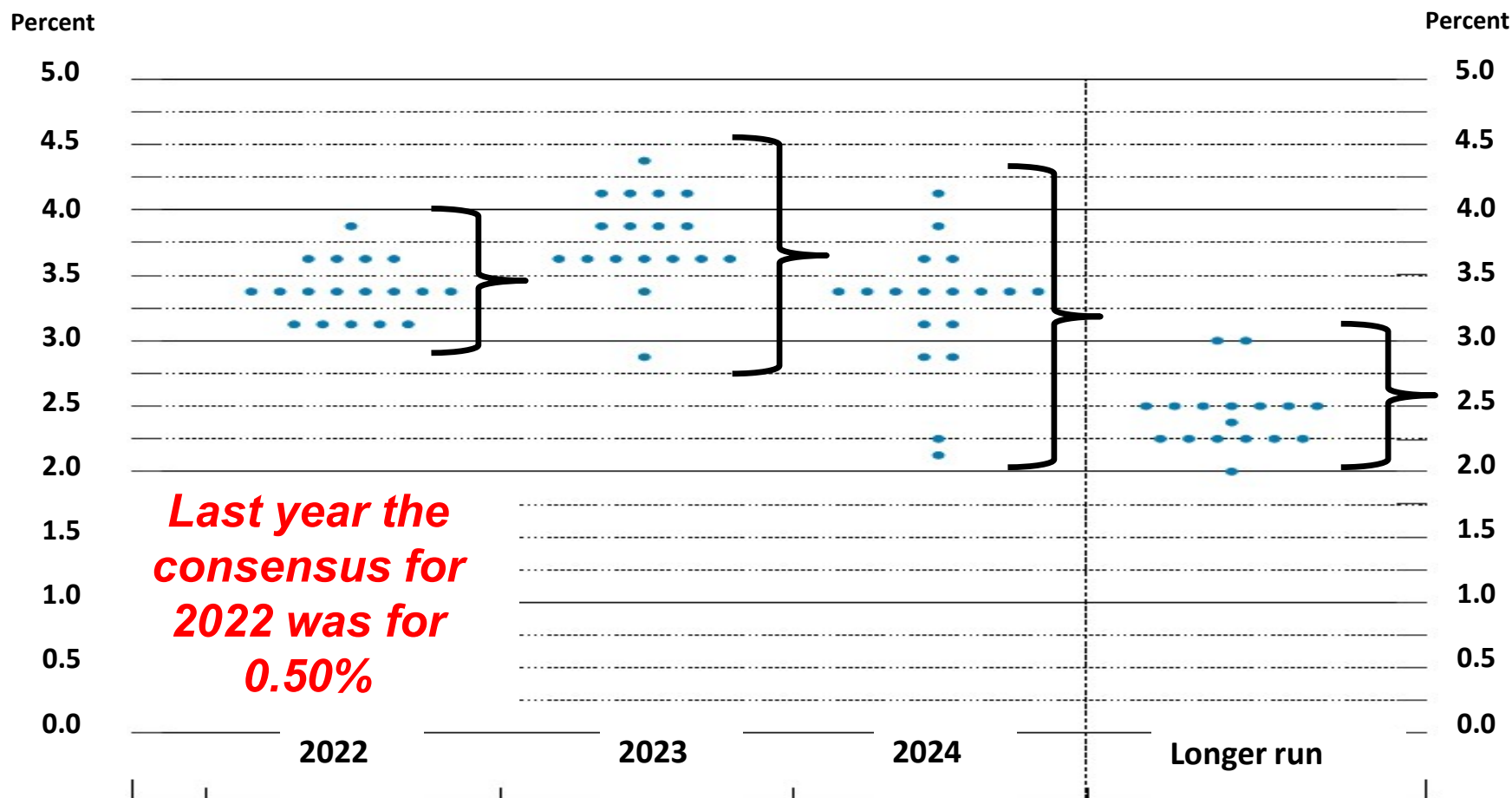
U.S. Fed and Bank of England Moving Rates Higher; ECB and Bank of Japan Next

Percent



Policy Makers Set Track for Federal Funds Rate: Consensus for Near Term Action

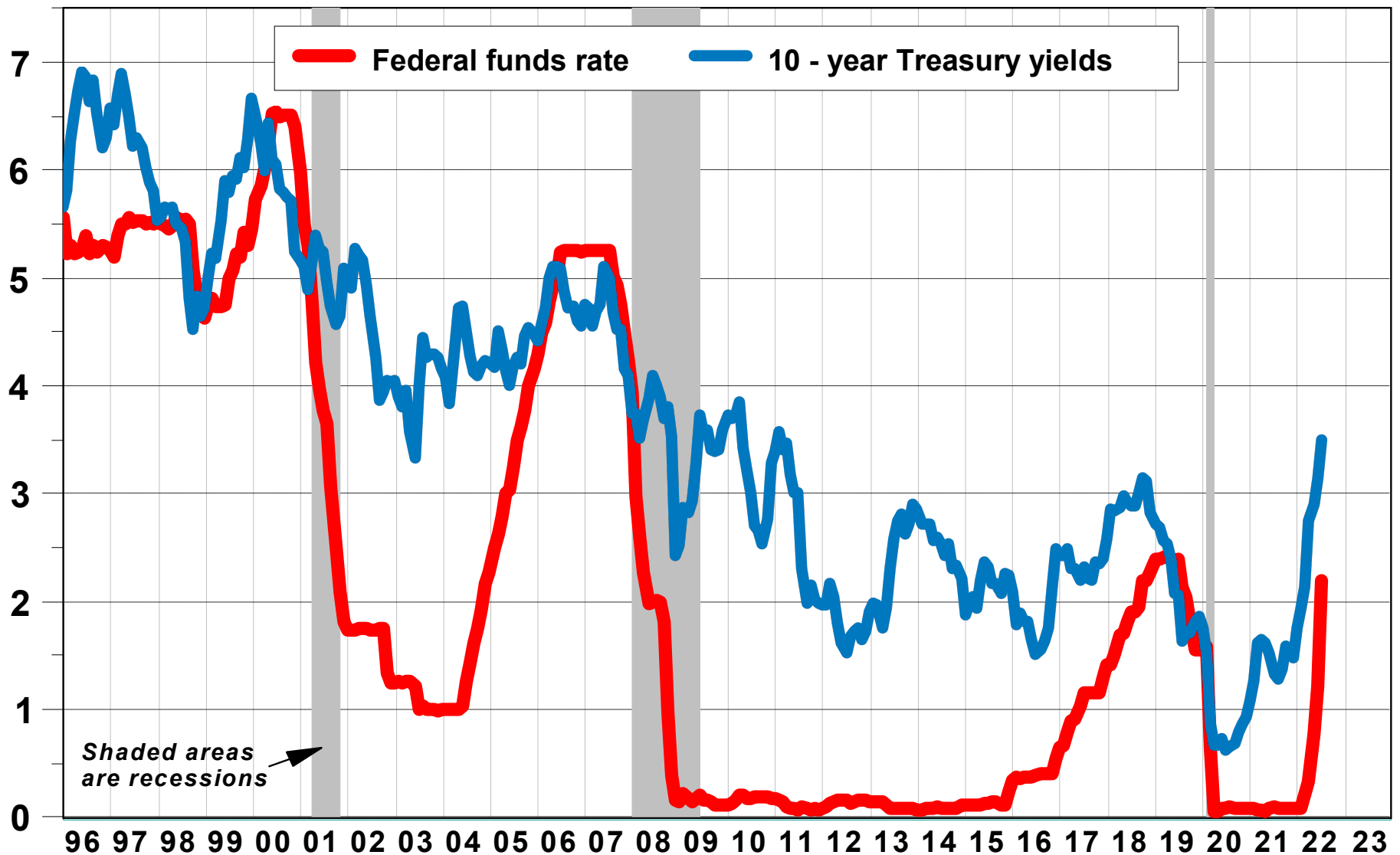
Appropriate pace of policy firming: midpoint of target range or target level estimates of FOMC participants for federal funds rate at end of respective year (June 2022)



The FOMC consists of twelve members--seven members of the Board of Governors,; the president of the Federal Reserve Bank of New York; and four of the remaining eleven Reserve Bank presidents, who serve one-year terms on a rotating basis. The additional possible dots are for seven presidents not on FOMC.

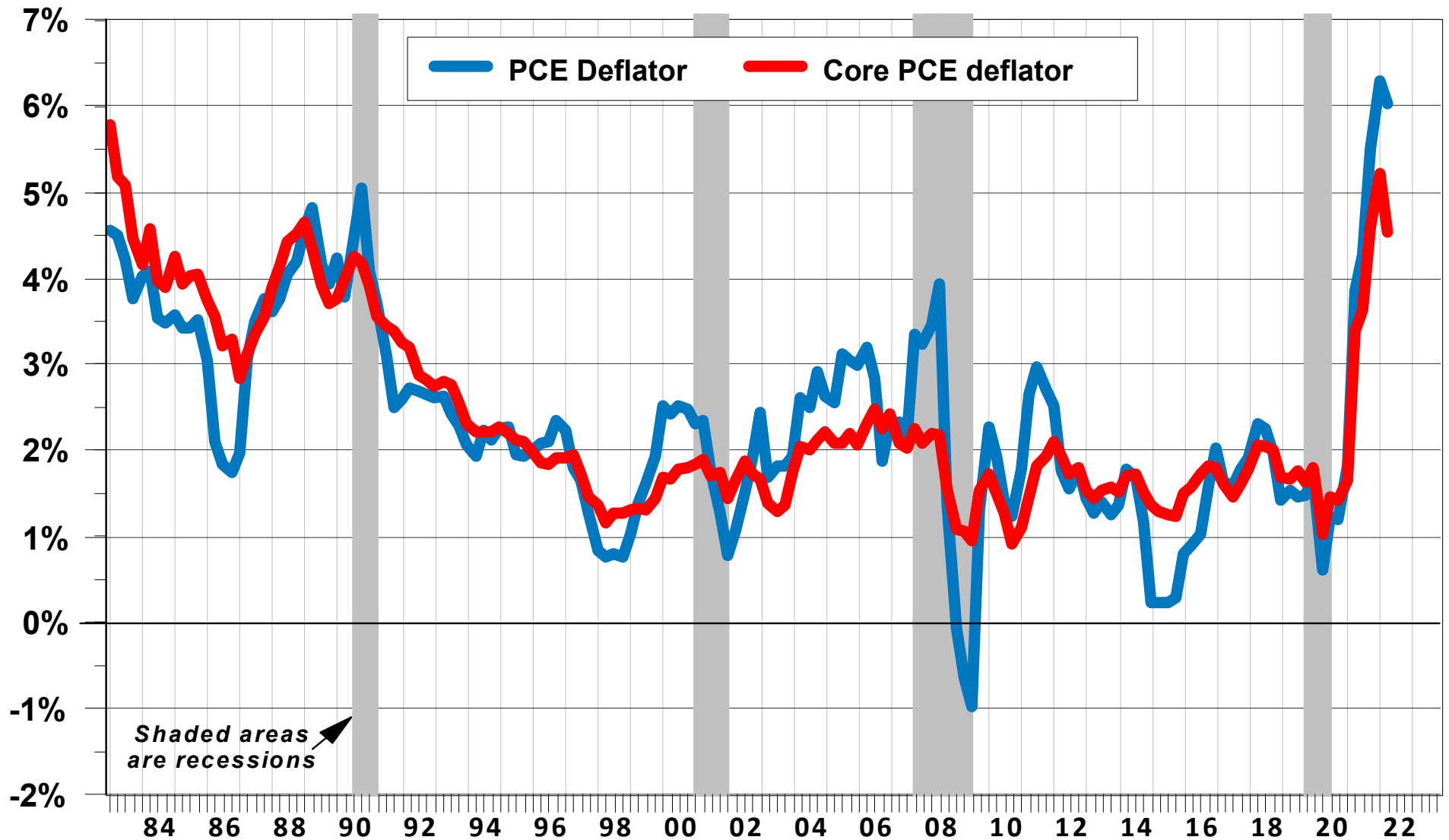
Fed Will Continue to Move Short Term Rates Higher; Long Term Rates Moving With Inflation

Percent

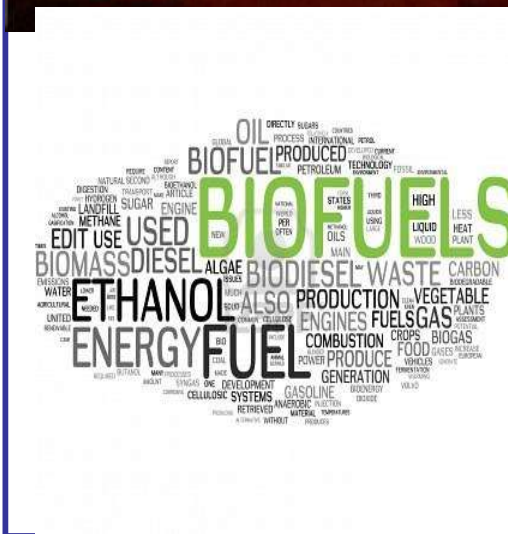


Inflation Expectations Are On the Rise But FED Expects Moderation by 2023

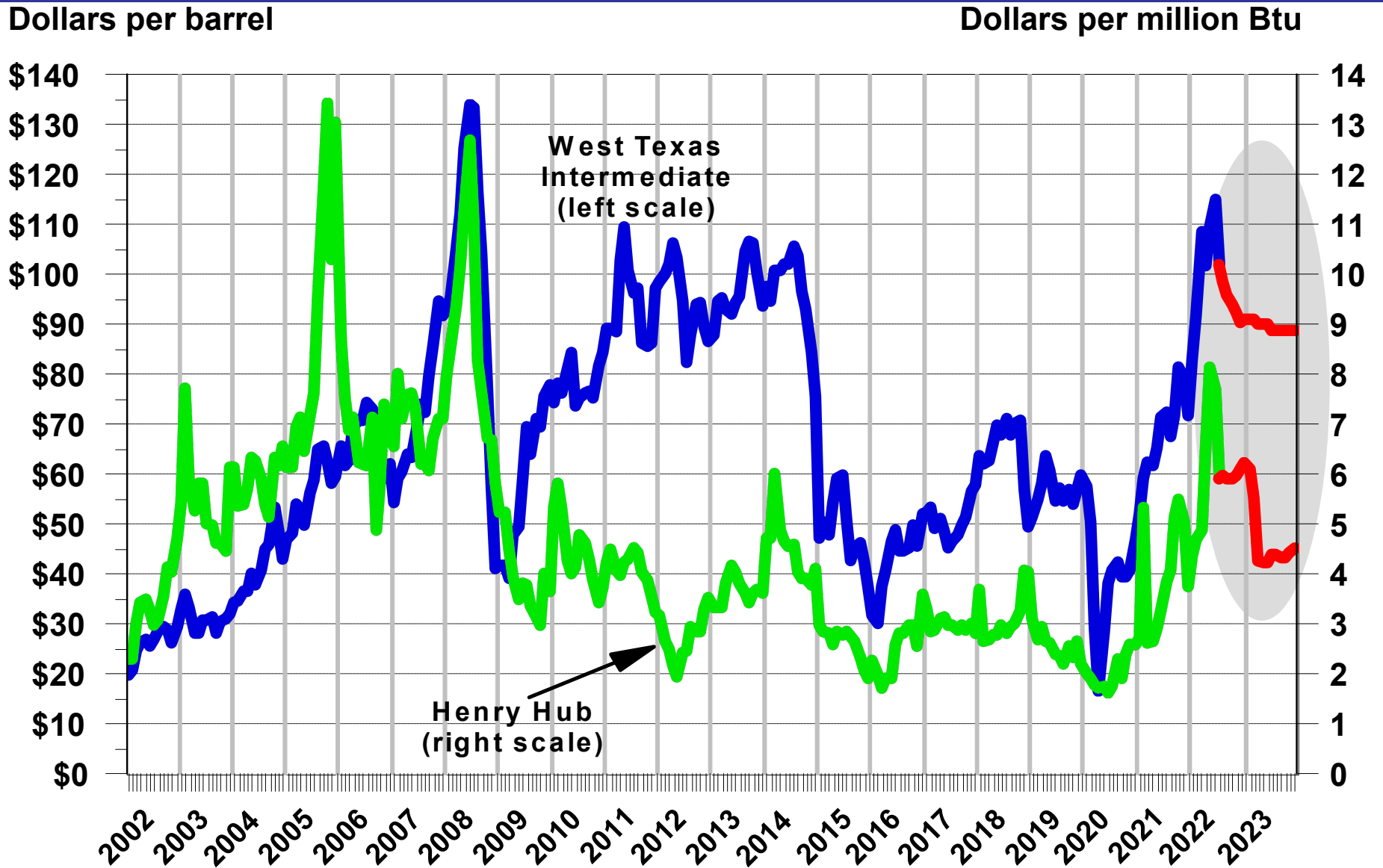
Percent change year over year (quarterly)



Energy Sector Disrupted by War in Ukraine and Sanctions on Russia



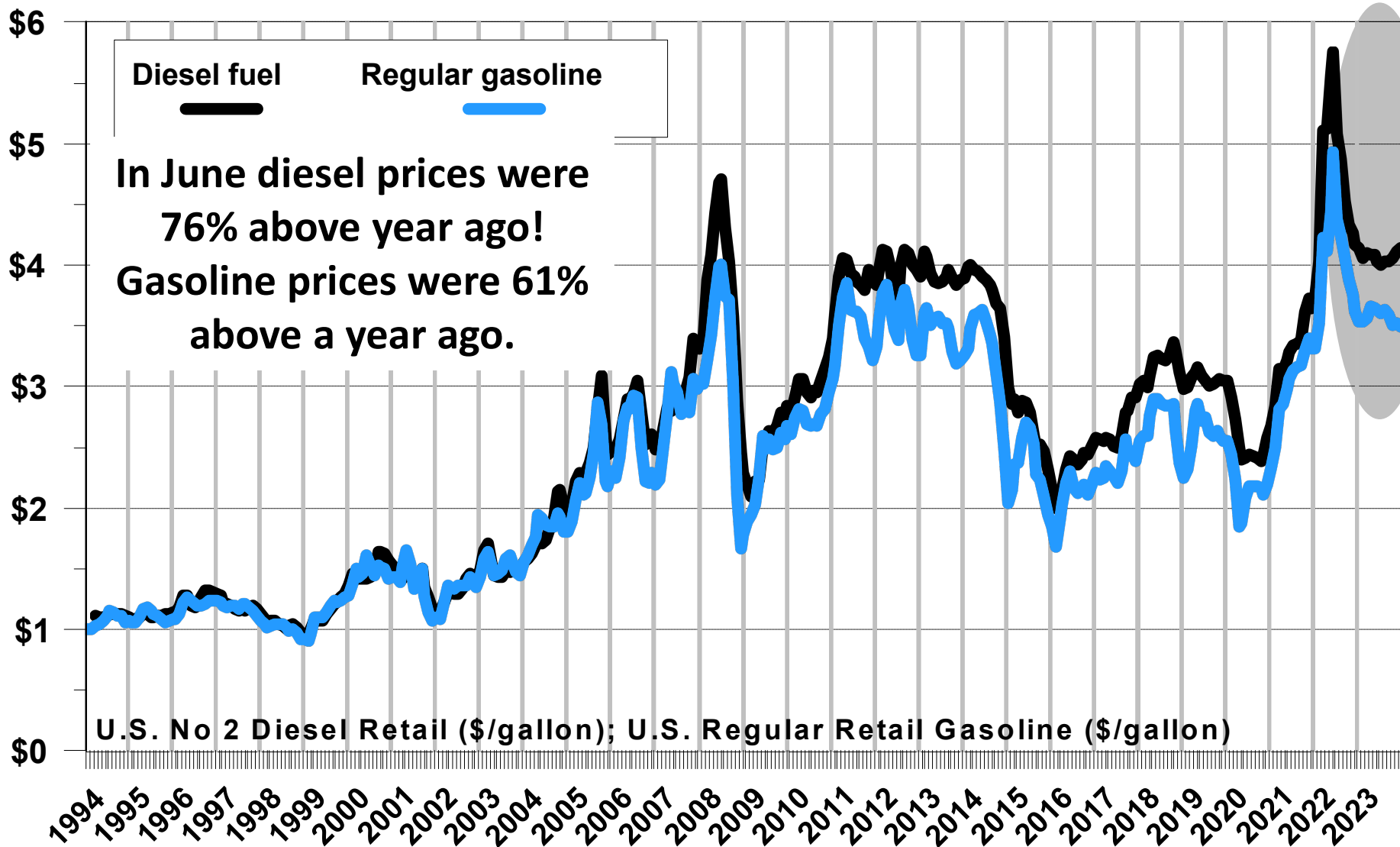
Oil Prices Will Remain Elevated Until Ukrainian Uncertainties are Resolved



Data source: U.S. Energy Information Administration

Diesel and Gasoline Prices Have Risen Sharply and Will Ease But Remain Elevated

Dollars per barrel

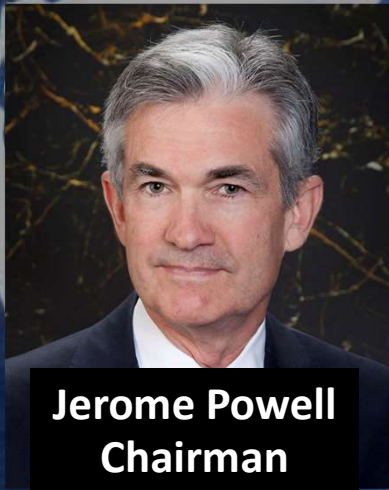


Data source: U.S. Energy Information Administration

U.S. Economy in Transition in an Election Year



Joseph R. Biden
U.S. President



Jerome Powell
Chairman



Nancy Pelosi (D)
House Speaker



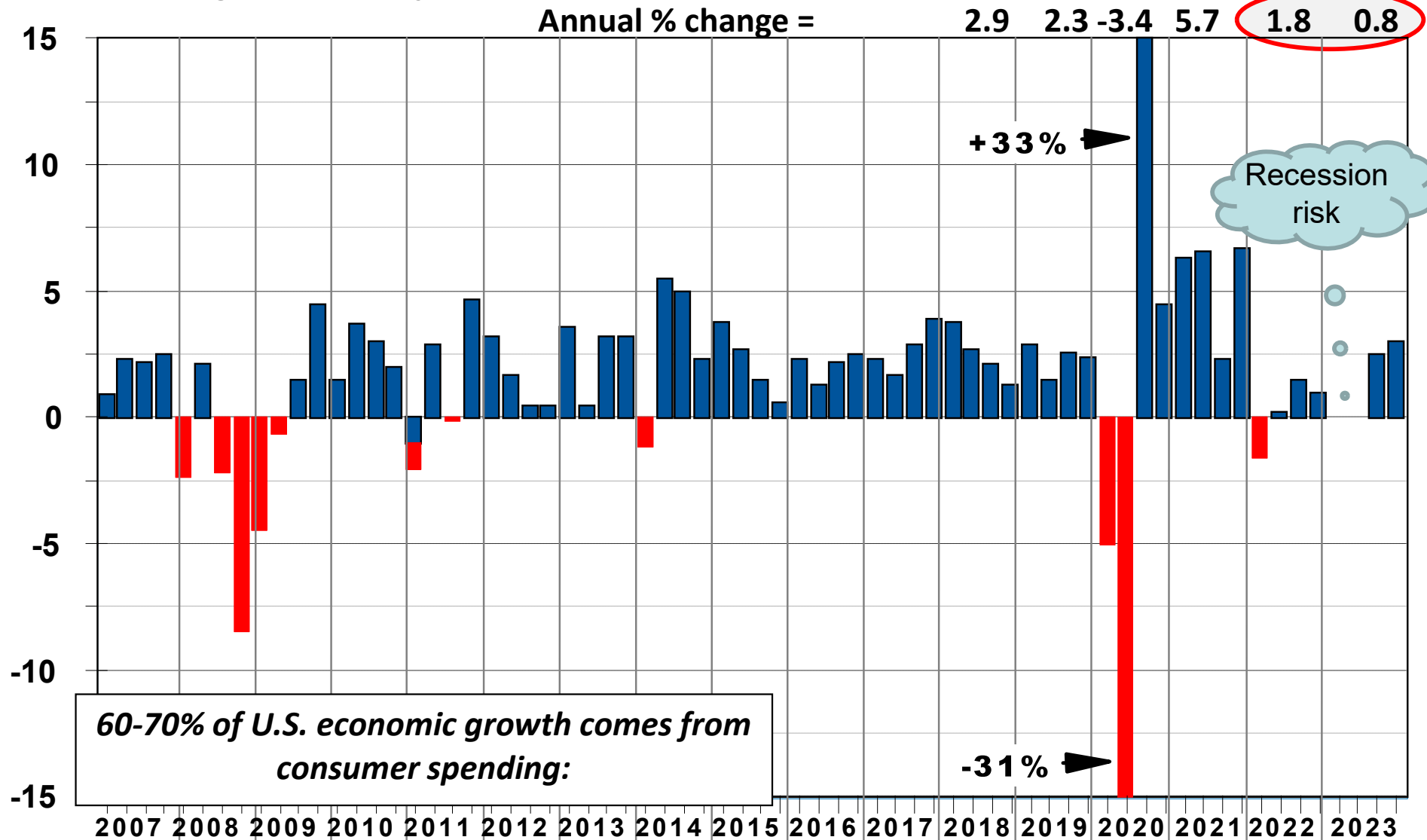
Charles Schumer (D)
Senate Majority Leader

FOMC committed to halting inflation despite recession risks!

117th Congress will be focused on 2022 elections with little progress on major issues.

U.S. Economy Has Lost Momentum and Rising Interest Rates and Inflation Will Slow Growth

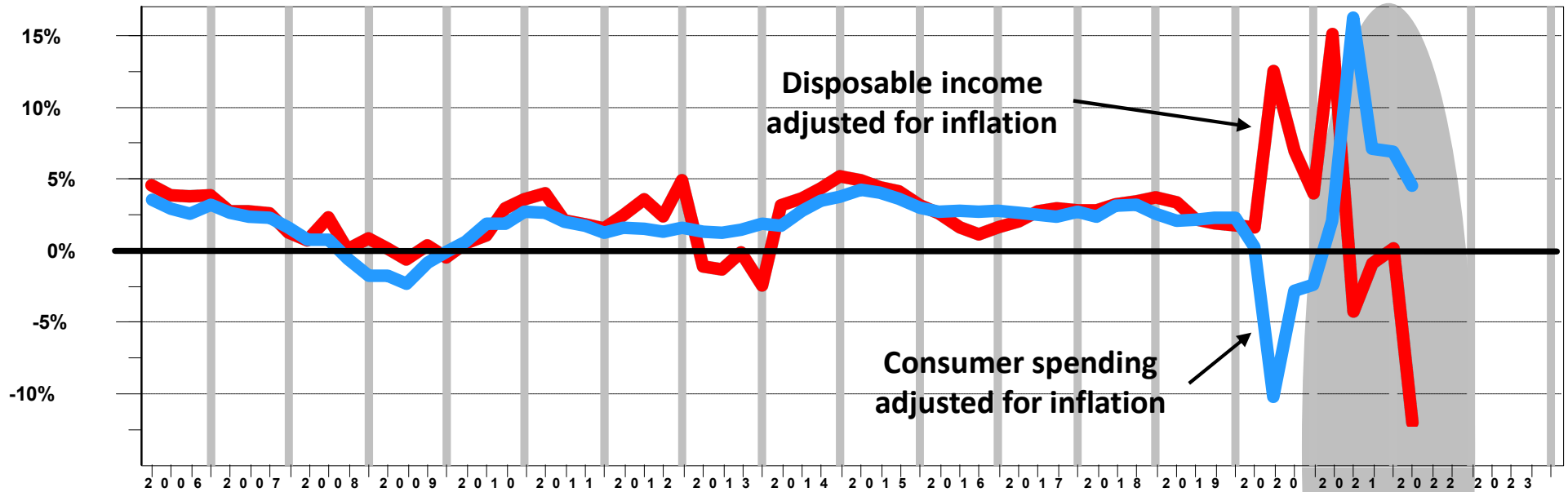
Percent change in quarterly Gross Domestic Product (Chained 2012\$)*



* Seasonally adjusted at annual rate

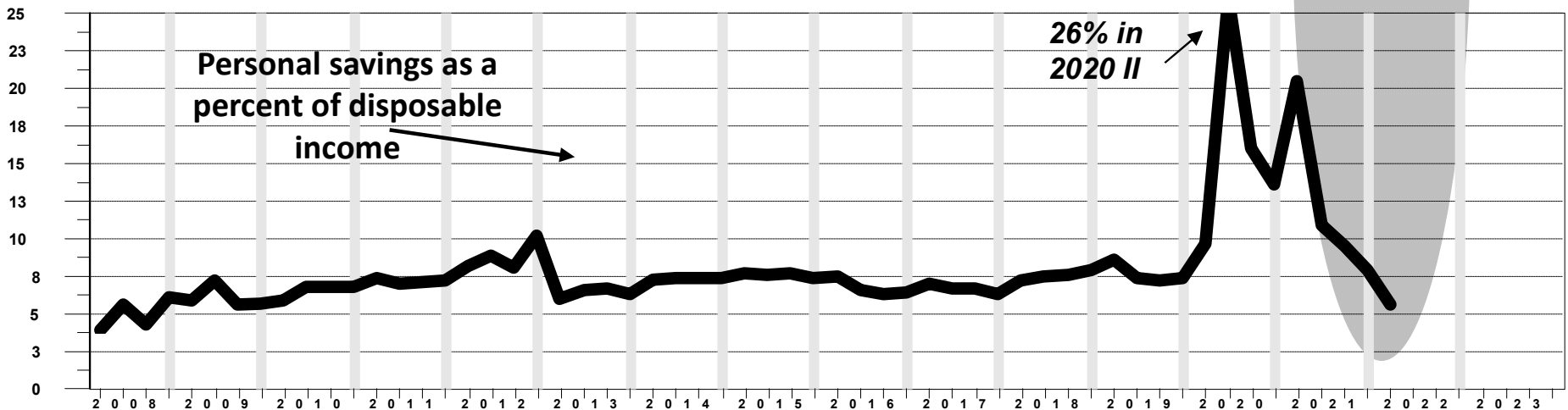
Consumers Spending is Slowing as Stimulus Checks End and Savings are Being Drawn Down

Percent change from year earlier



* chained 2012\$

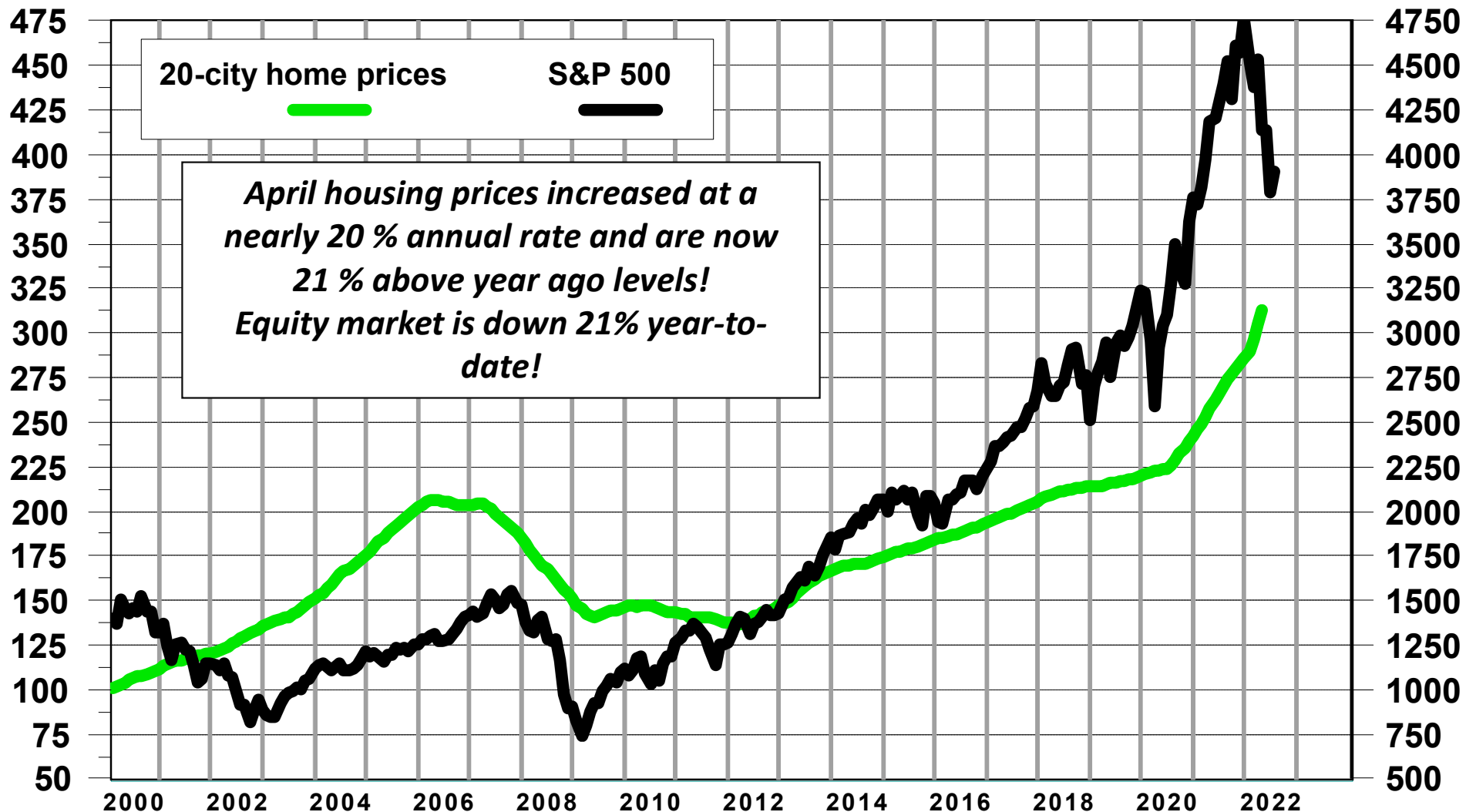
Saving as percent of real disposable income



Stock Market Correction Well Underway; Housing Market Correction Still Ahead

Home Price Index (Jan 2000=100)

S & P 500 Index

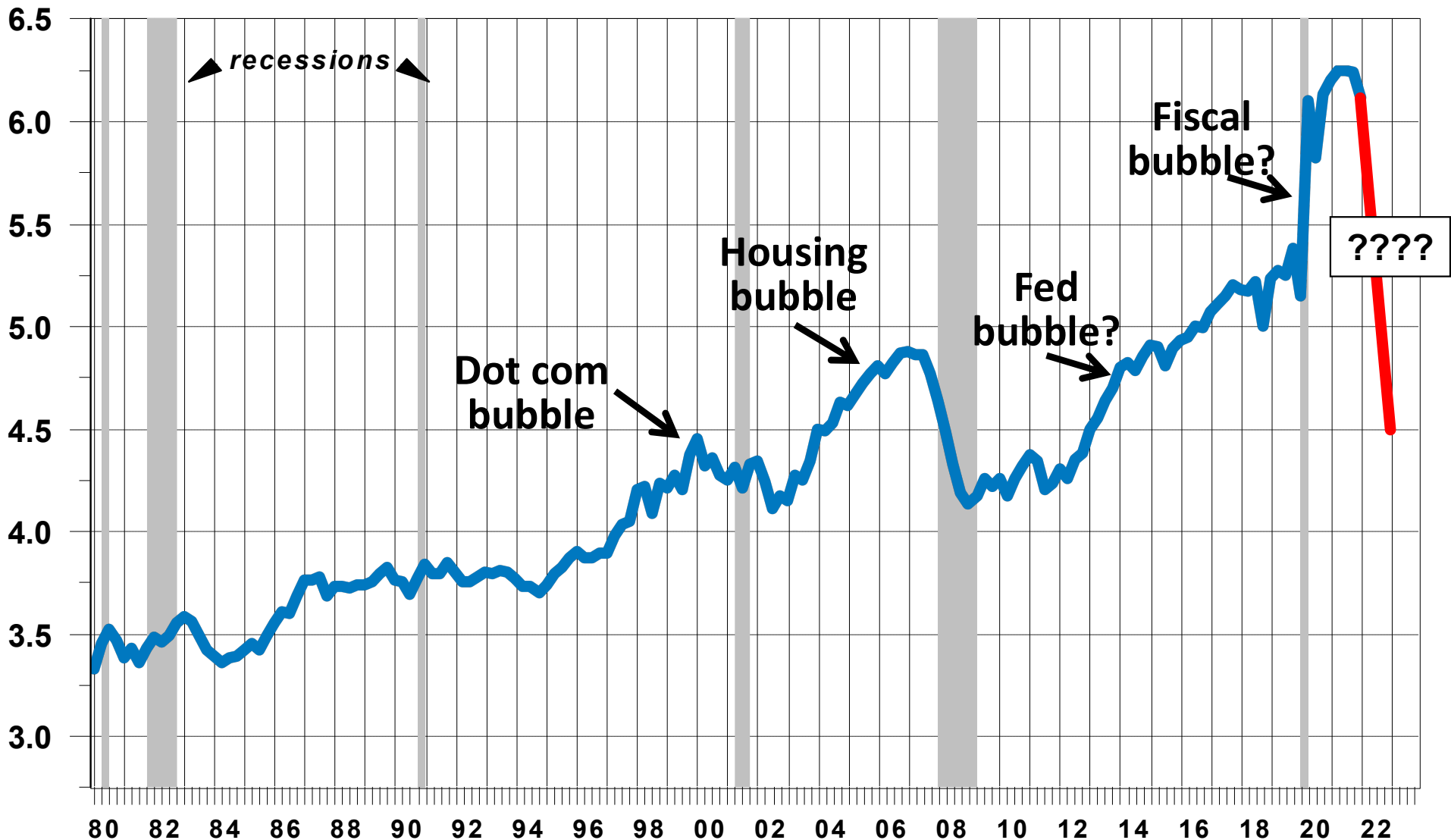


*April housing prices increased at a nearly 20 % annual rate and are now 21 % above year ago levels!
Equity market is down 21% year-to-date!*

Monthly S&P/Case-Shiller 20-City Home Price Index (Jan 2000=100)

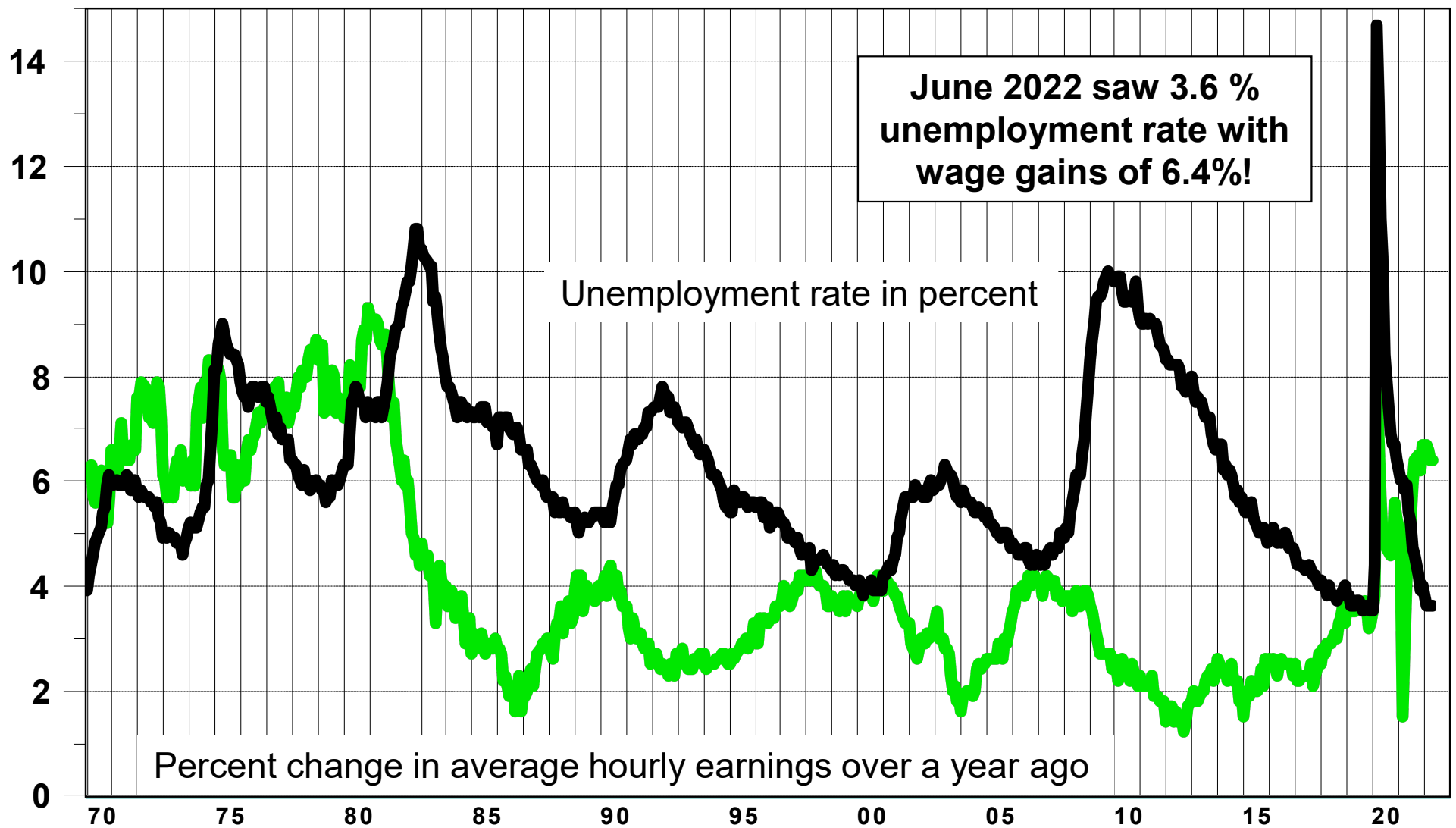
Consumer Net Worth Relative to GDP Is Beginning to Slip and Question is How Far!

Percent (consumer net worth-to-GDP)



Unemployment Rate Remains Low With Wage Gains Peaking

Percent



The 2022 Elections Are Likely to Shift The Political Balance to Republican Majorities



Democrats +9



No majority in Senate

222 Democrats 213 Republicans

All 435 seats in the House of Representatives are in play in 2022. Democrats would need to gain 5 seats to reach majority.

While Democrats hold majority control the margins are razor thin! Current polling suggests major gains for Republicans with President Biden entering a lame duck environment in 2023-24.

50 Republicans 50 Democrats*

** two Independents caucusing with Democrats*

At this time 34 seats in the Senate are in play in 2022 with Republicans **currently holding 20 of those seats (3 retiring incumbents)**. Democrats hold the remaining 10 seats.

Agriculture Markets Remain Volatile as Major Uncertainties Remain



Commodity Markets Remain Volatile With Major Domestic and Global Uncertainties

- ✓ **War in Ukraine and resulting sanctions have significantly disrupted grain and oilseed supply chains and available exportable supplies. Global buyers are building inventories and seeking commitments as a hedge and adding volatility.**
- ✓ **Rising input costs and availability of strategic inputs such as nitrogen have altered 2022 & potentially 2023 plantings.**
- ✓ **Uncertain 2022/23 grain and oilseed harvests have further complicated market assessments and added volatility.**
- ✓ **Animal protein/dairy sectors are realigning to significantly higher input costs and potentially weaker global demand.**
- ✓ **Farm sector financial conditions remain robust despite lower government payments. Production expenses remain major concern.**
- ✓ **Food price inflation has accelerated with supply chain uncertainties and rising labor costs.**

War in Ukraine Has Created Major Issues for Ukraine, Russia and Europe

Ukraine's issues are:

- Reduced crops may only be available to domestic users.
- Blocked Black Sea ports limit exports. Rail can only move 10% of port export capacity.
- Lack of capacity to store 2022/23 wheat & corn crops.
- If ports remain blocked into early 2023, a large share of corn crop may never be harvested.

Russia's issues relate to sanctions and limits on Black Sea shipping lanes :

- Trade financing not available to private exporters.
- Vessels cannot find affordable ocean insurance.
- Black Sea shipping lane limits may impede Russian exports.

European buyers of Ukraine crops are attempting to develop some rail and barge capacity.

Over 80% of Ukraine Grain and Oilseed Exports Move Through These Ports

Russia does not control these ports but their Navy is blockading them. Ukraine destroyed rail heads to these ports and mined the harbors prior to Russian invasion



War in Ukraine Has Created Major Issues for Ukraine, Russia and Europe

Ukraine: Wheat Production



War in Ukraine Has Created Major Issues for Ukraine, Russia and Europe

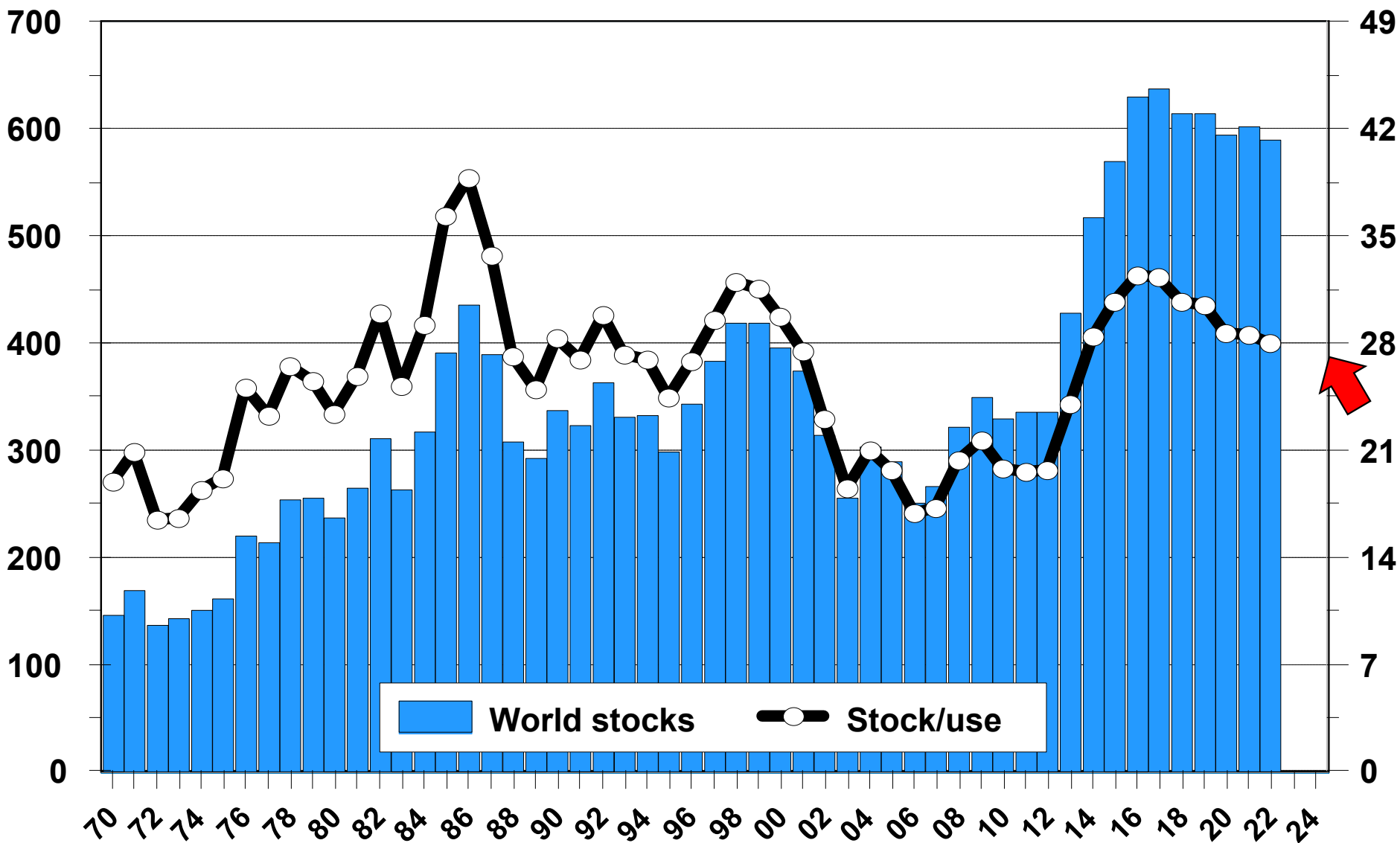
Ukraine: Corn Production



Total Global Grain Stocks and Stocks-to-Use Likely to Steady in Year Ahead

Million metric tons of wheat & coarse grains

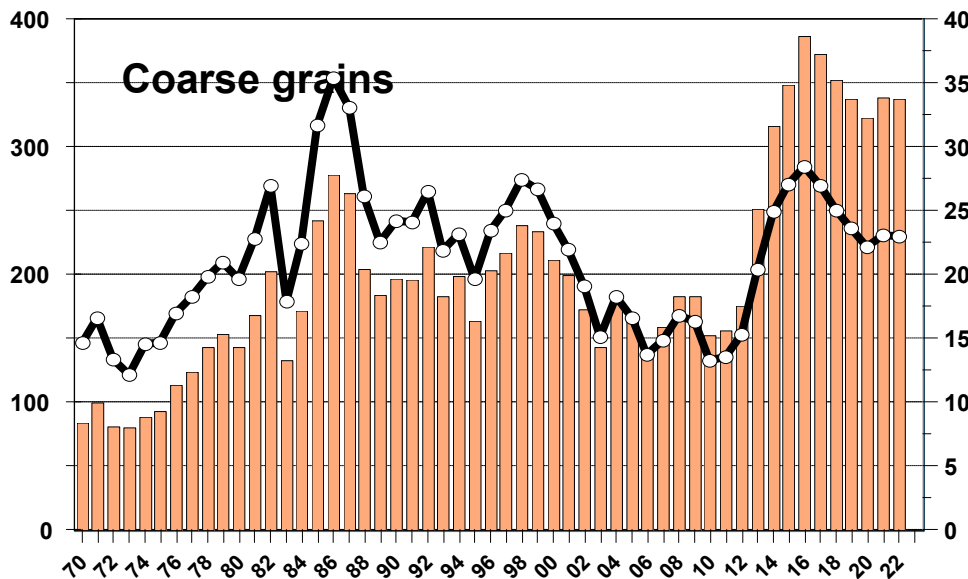
Stocks-to-use percentage



Global Carryover Stocks Remain Firm But Trade Uncertainties Cloud Available Supply

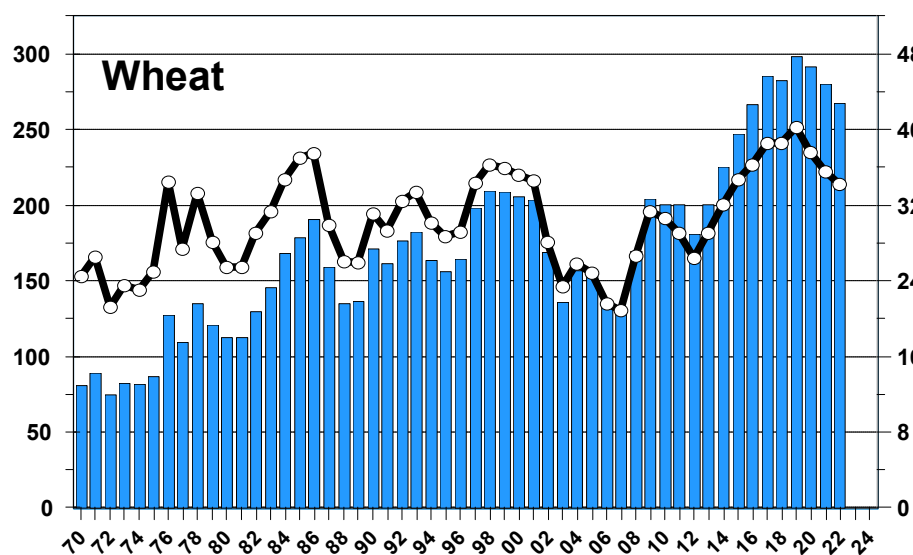
Million metric tons of coarse grains

Stocks as percent of use



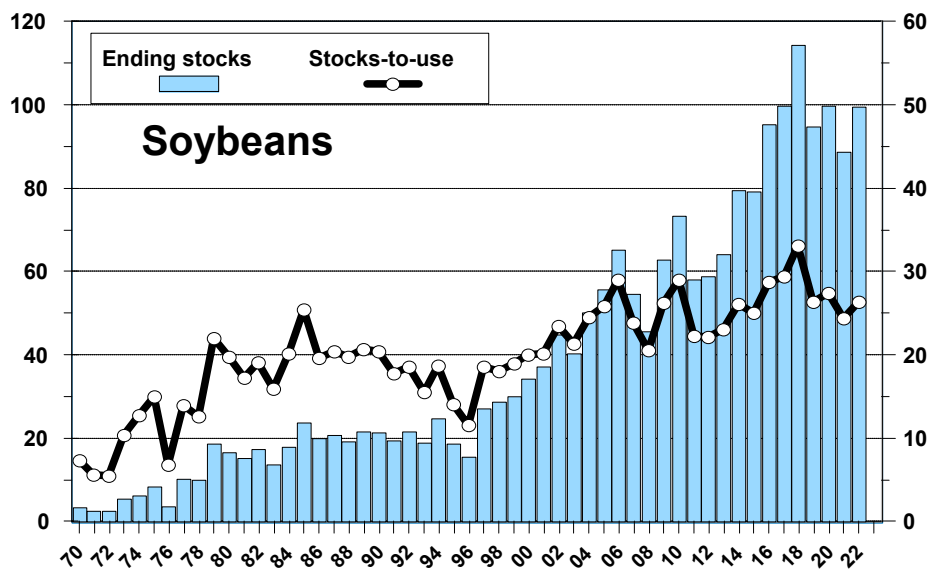
Million metric tons of wheat

Stocks as percent of use



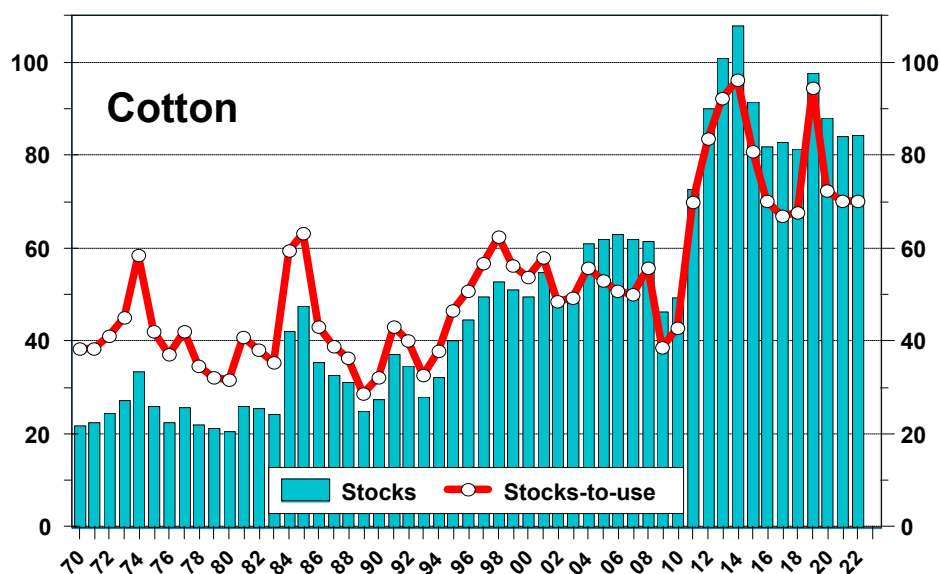
Million metric tons of soybeans

Stocks-to-use percentage



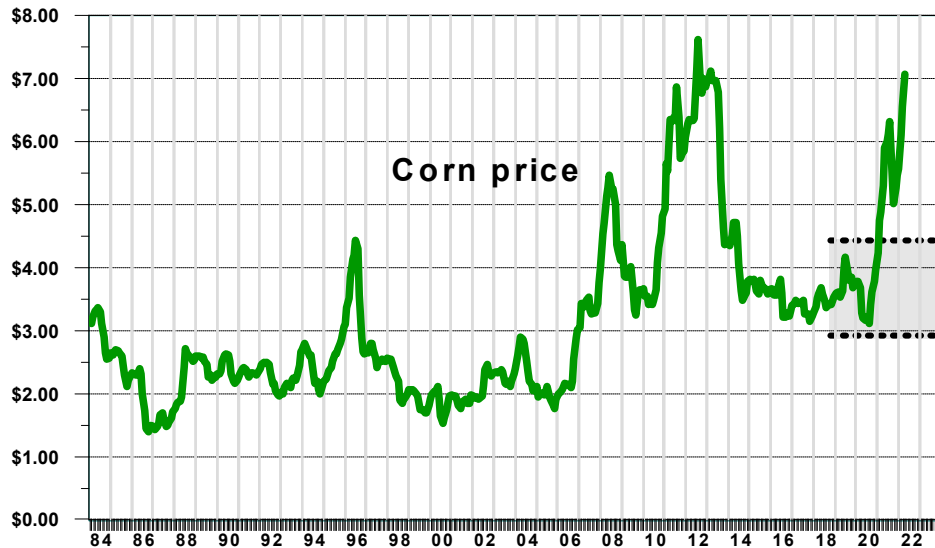
Million 480-pound bales of cotton

Stocks-to-use percent

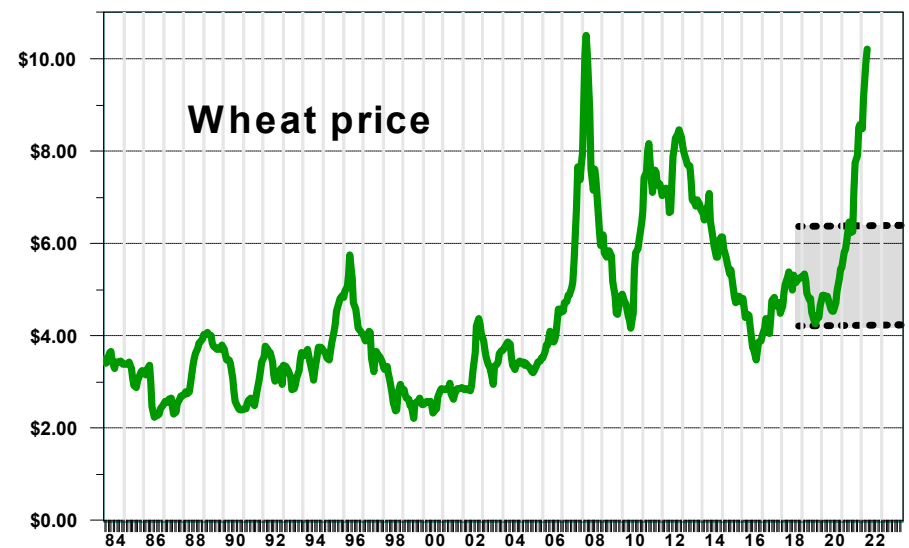


Most Crop Prices Remain Elevated in Uncertain Environment

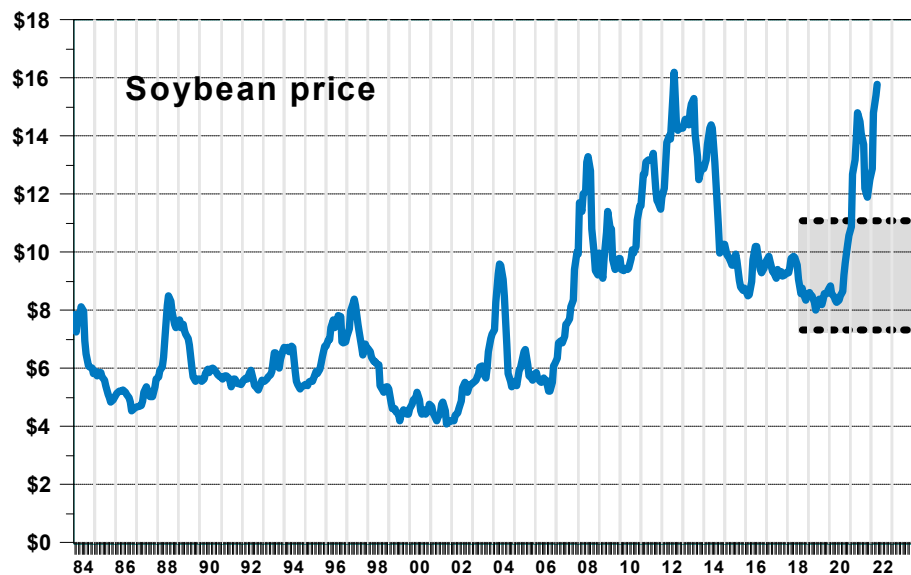
Dollars per bushel (monthly prices received by farmers, USDA)



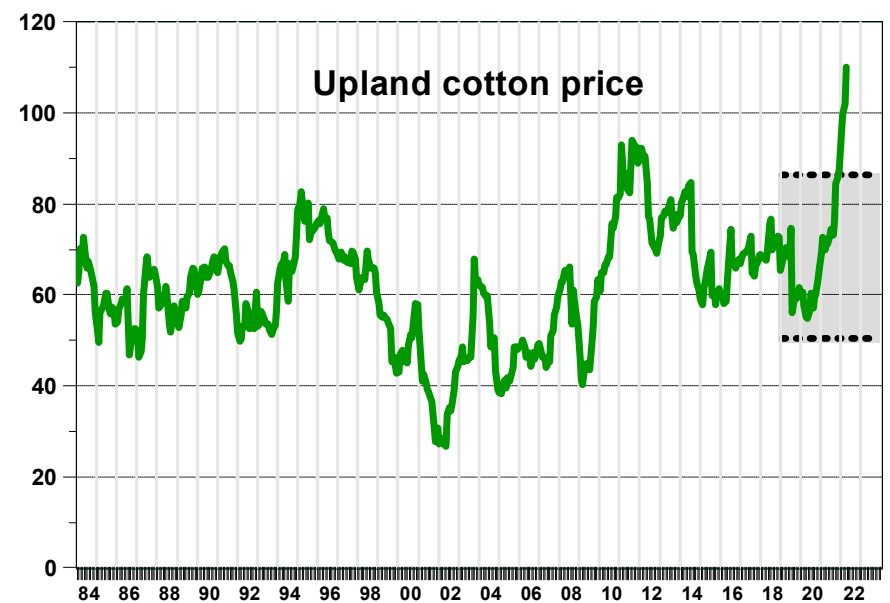
Dollars per bushel (monthly prices received by farmers, USDA)



Dollars per bushel (monthly prices received by farmers, USDA)

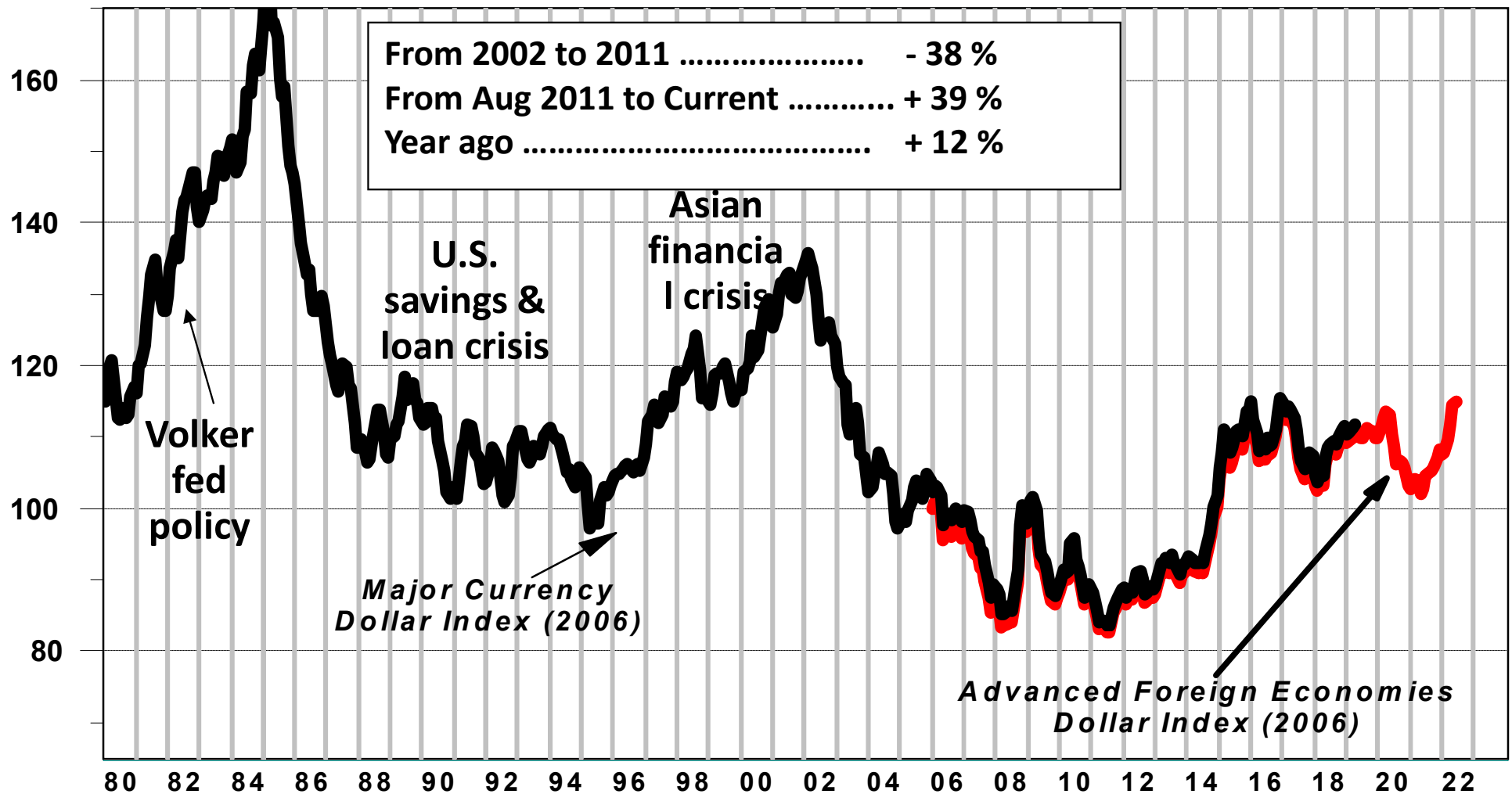


Cents per pound (monthly prices received by farmers, USDA)



U.S. Dollar Has Moved Sharply Higher as U.S. Economy Has Recovered More Rapidly

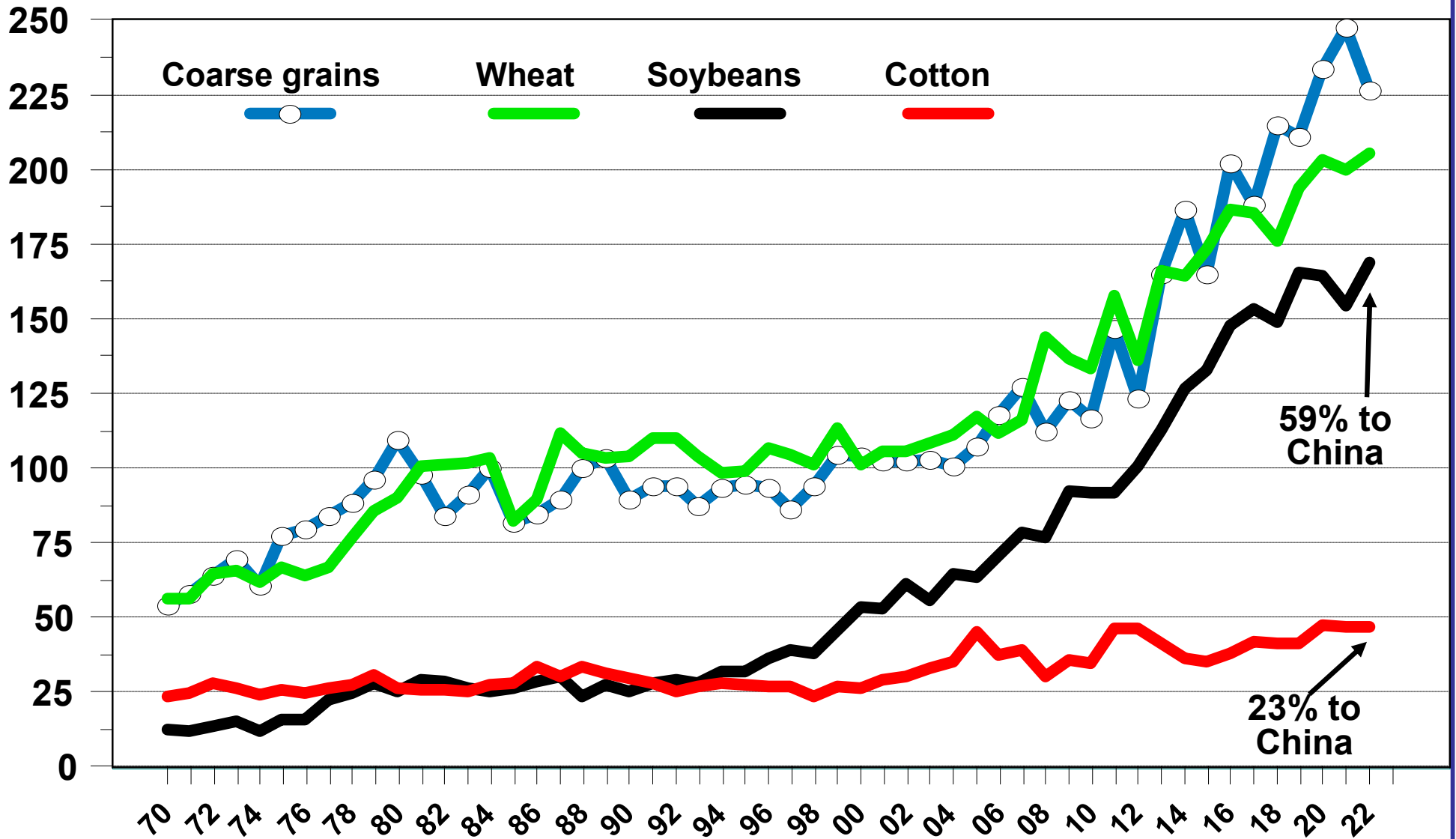
Index ((January 2006=100))



* Currencies weighted by relative market importance to total U.S. trade.

Export Markets Firm But Slowing Global Growth May Limit Future Gains

Million metric tons or bales



2022/23 Crop Developments and Trade Turmoil Will Continue to Reshape Market Outlook



Crop Acreage Shifted to Soybeans in 2022 as Rising Input Costs Challenged Profitability

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>Change 21 to 22</u>
	----- <i>million acres</i> -----					
Corn	88.9	89.7	90.7	93.4	89.9	-3.5
Soybeans	89.2	76.1	83.4	87.2	88.3	+1.1
Corn & soybeans	178.1	165.8	174.1	180.6	178.2	-2.4
Grain sorghum	5.7	5.3	5.9	7.3	6.3	-1.0
Wheat	47.8	45.2	44.3	46.7	47.1	+0.4
All Cotton	14.1	13.7	12.1	11.2	12.5	+1.3
6 other crops*	13.0	13.0	13.3	12.6	13.0	+0.4
Hay harvested	52.8	52.4	52.2	51.7	50.5	-1.2
Above crops	311.5	295.4	301.9	310.1	307.6	-2.5
CRP	22.6	22.3	21.9	20.5	22.0	+1.5
Total acreage	334.1	317.7	323.8	330.6	329.6	-0.4

* *Barley, oats, rice, sunflowers, peanuts and canola*

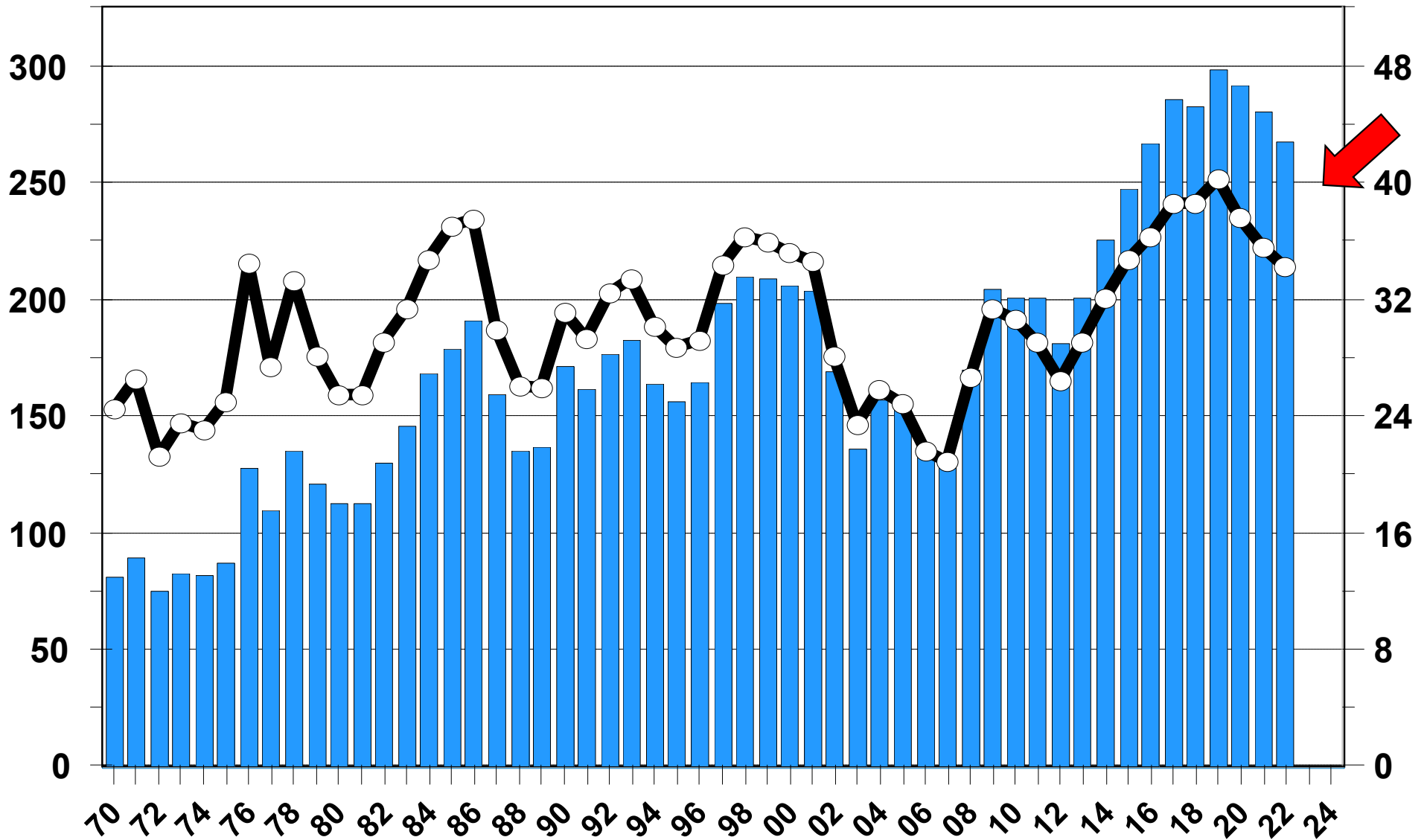
Russia/Ukraine War Creates Major Supply Uncertainties for Global Markets



World Wheat Stocks and Stocks-to-Use Projected to Continue Lower

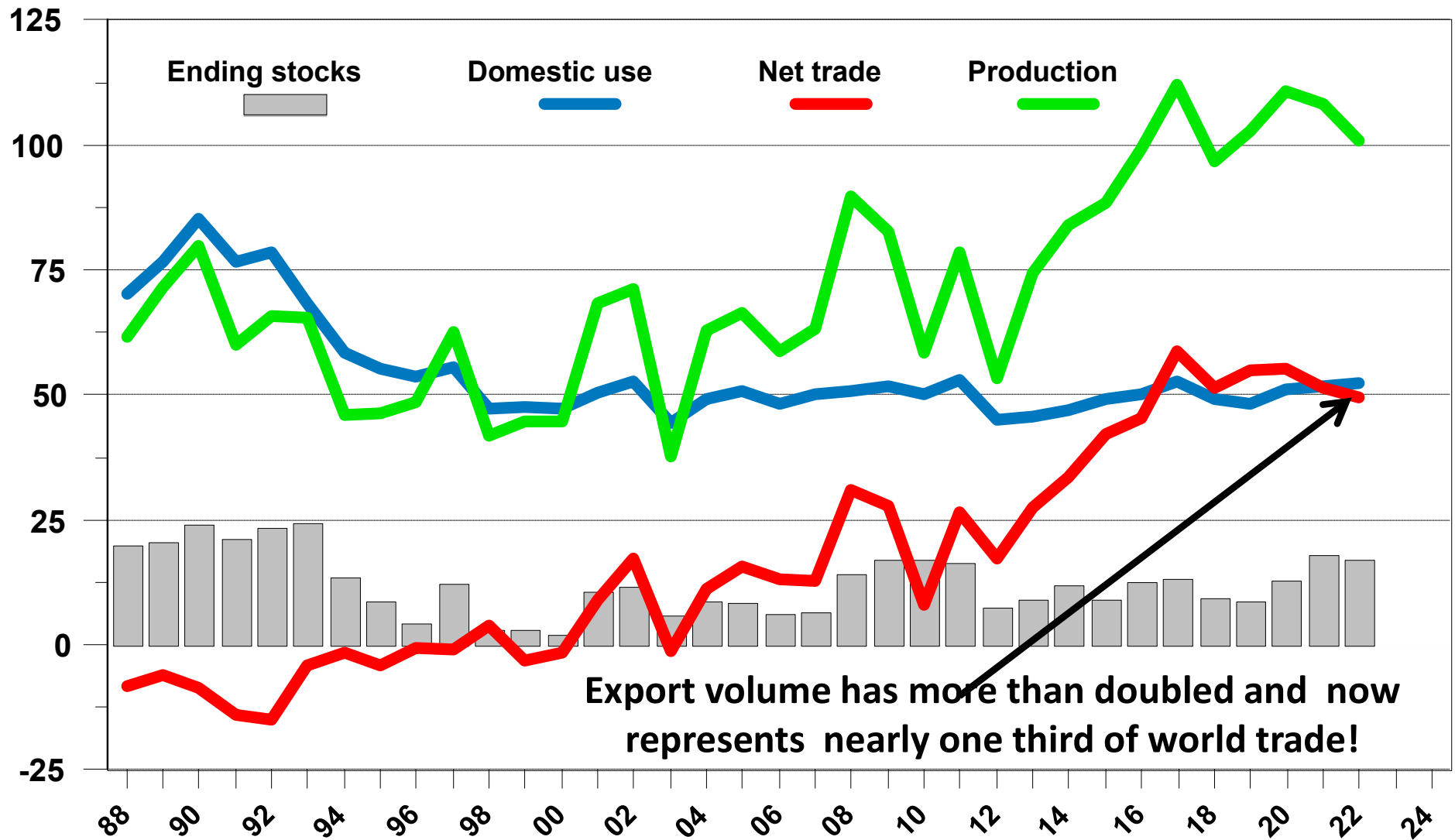
Million metric tons of wheat

Stocks as percent of use



Russia/Ukraine Account for One-Third of Total World Wheat Trade and 2022-23 Uncertain

Million metric tons

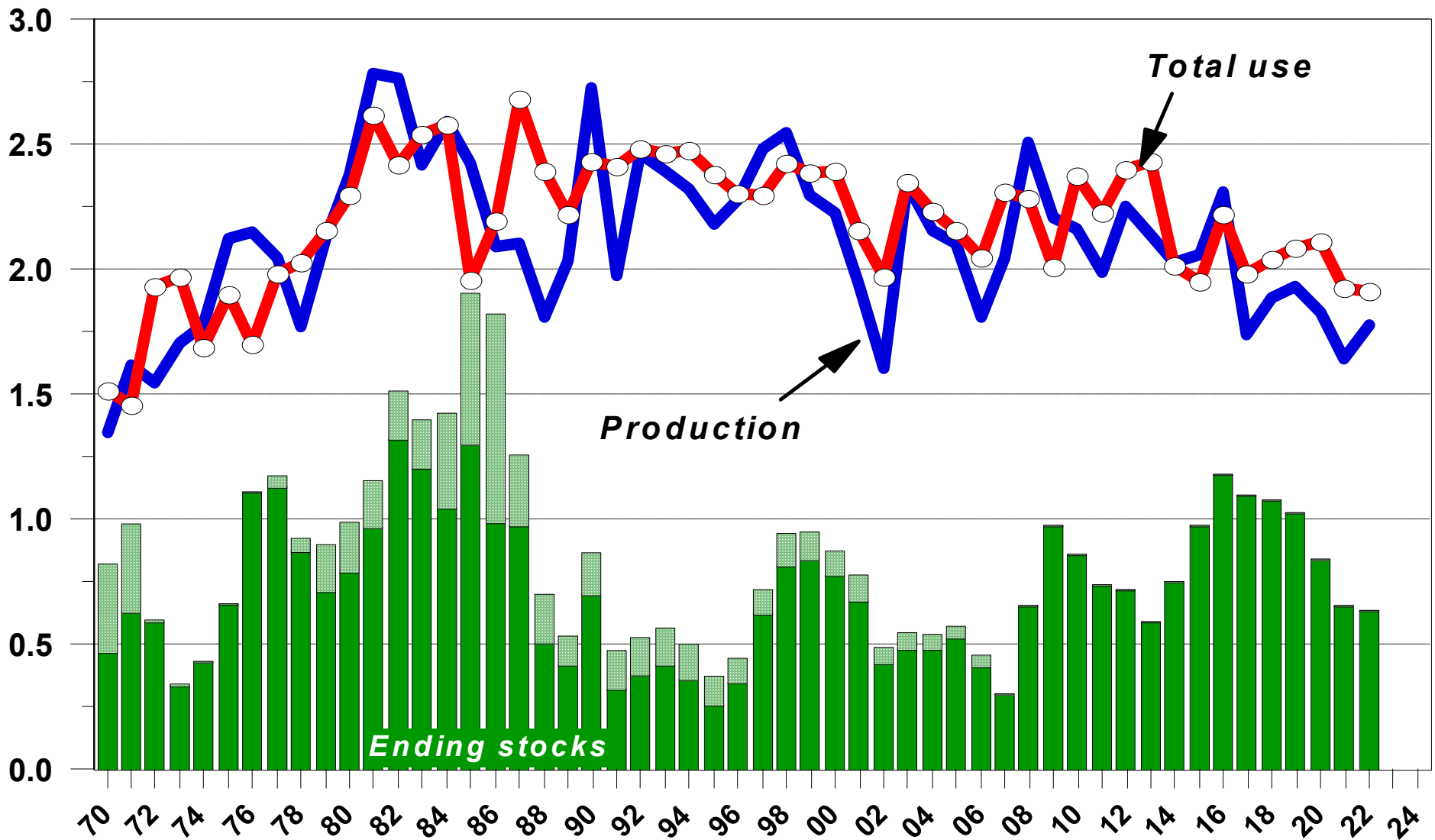


Export volume has more than doubled and now represents nearly one third of world trade!

(Russia/Ukraine is major export group)

U.S. Wheat Stocks Continue Decline; Strong Demand and Limited Output Boost Prices

Billion bushels



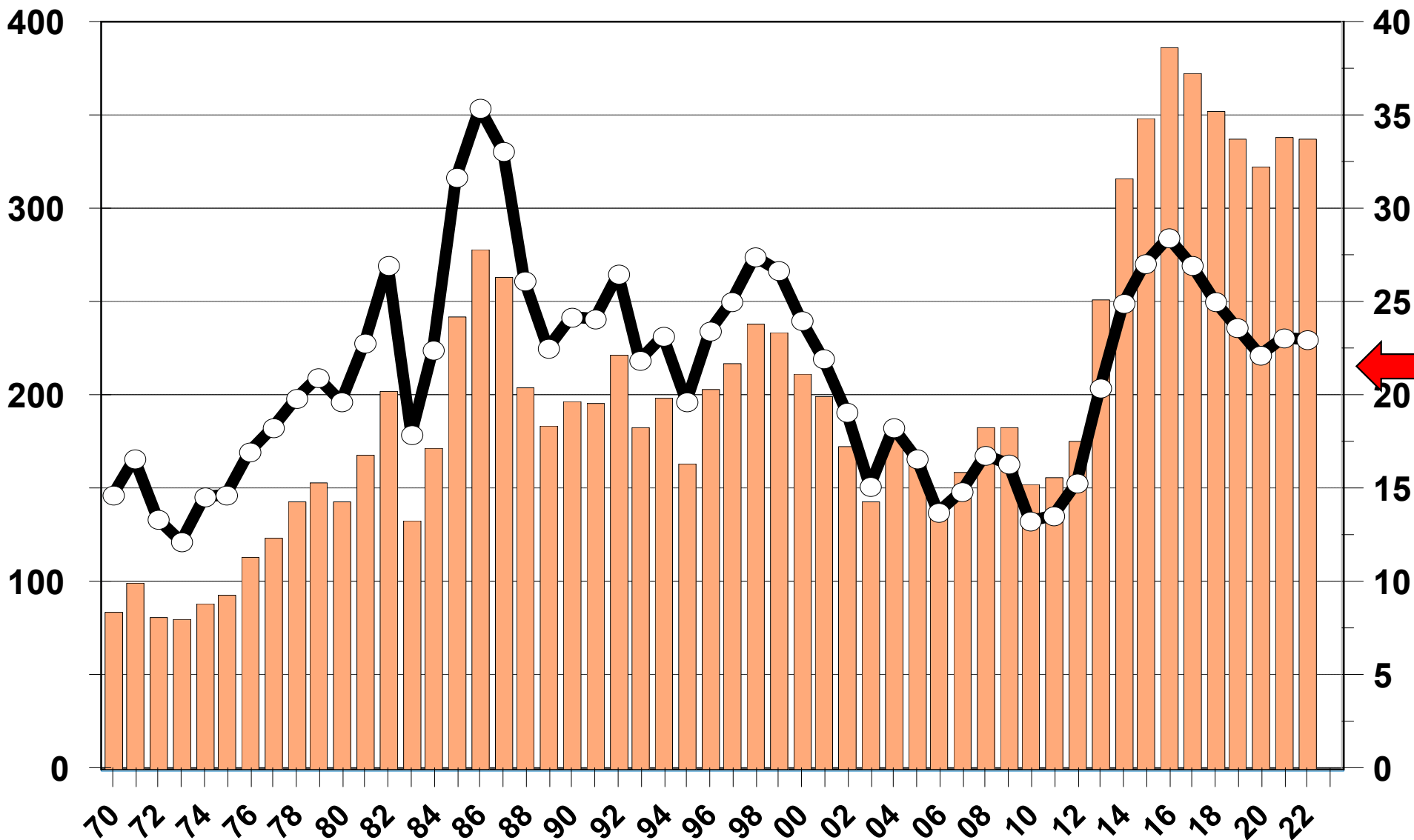
Russia/Ukraine War Creates Major Supply Uncertainties for Global Markets



Global Coarse Grain Stocks Steady But Major Uncertainties Surround Export Availability

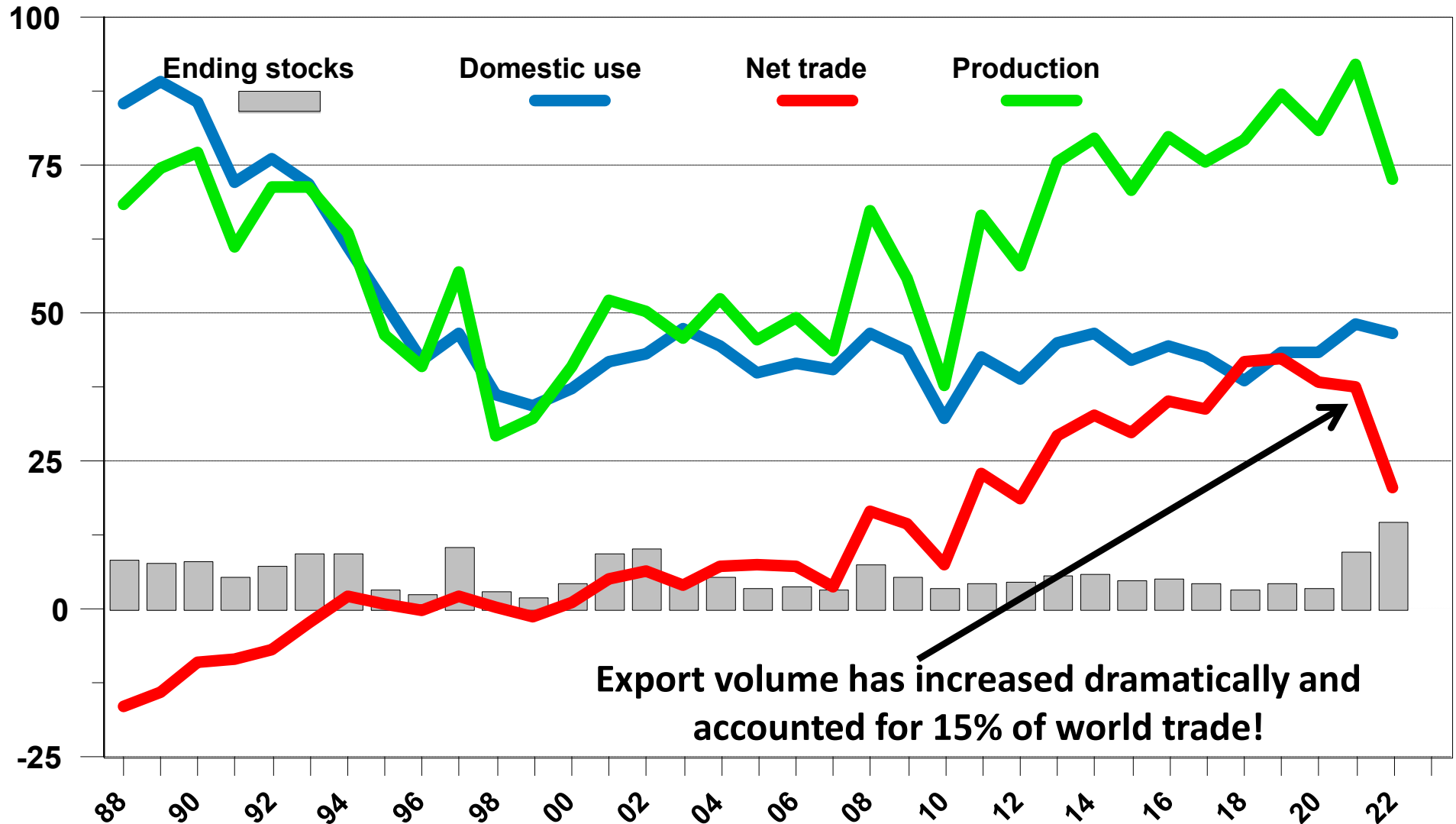
Million metric tons of coarse grains

Stocks as percent of use



Russia/Ukraine Coarse Grain Production Will Decline and Trade Disruptions Will Limit Exports

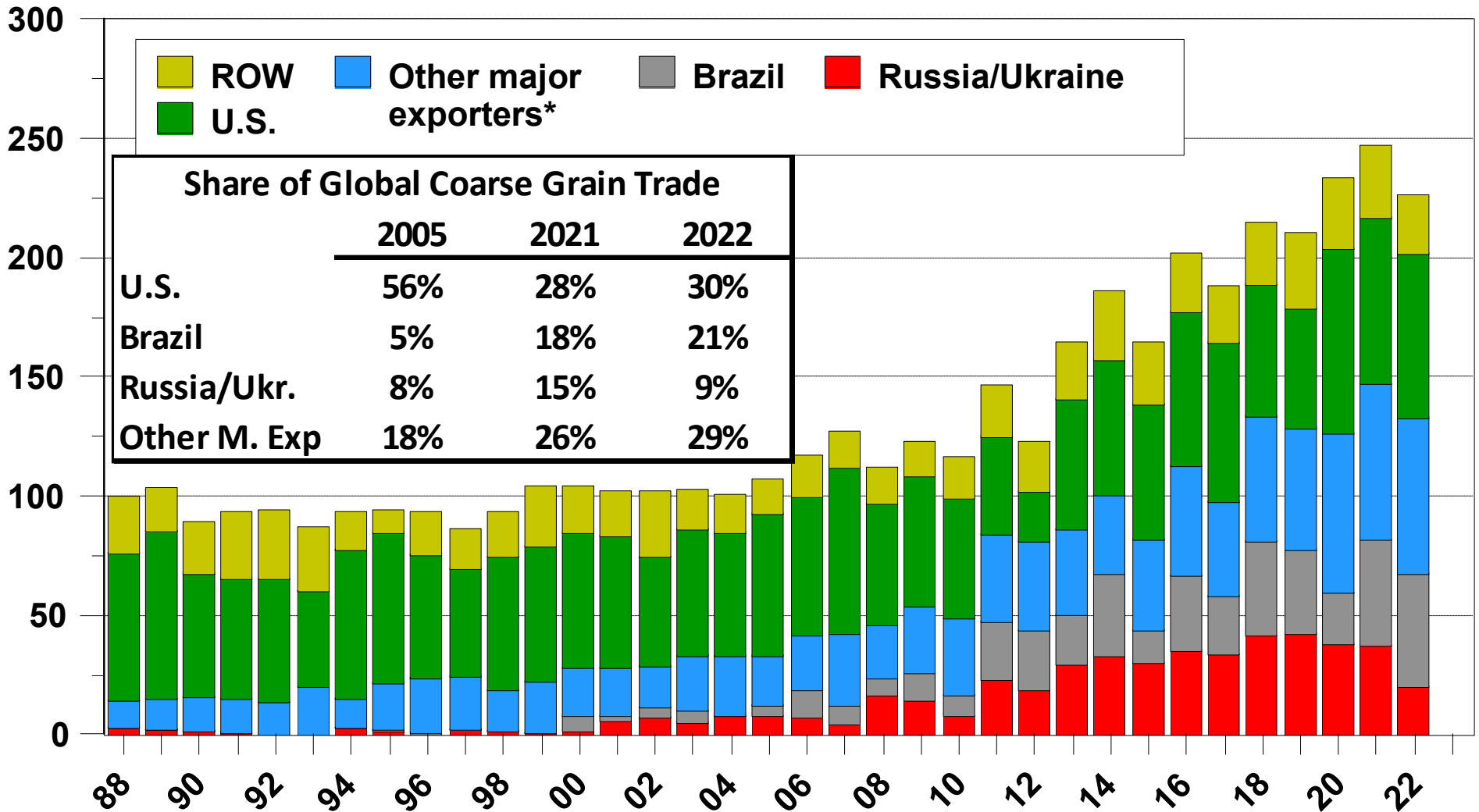
Million metric tons



(Russia/Ukraine is major export group)

Disrupted Trade Flows Distort Market Patterns

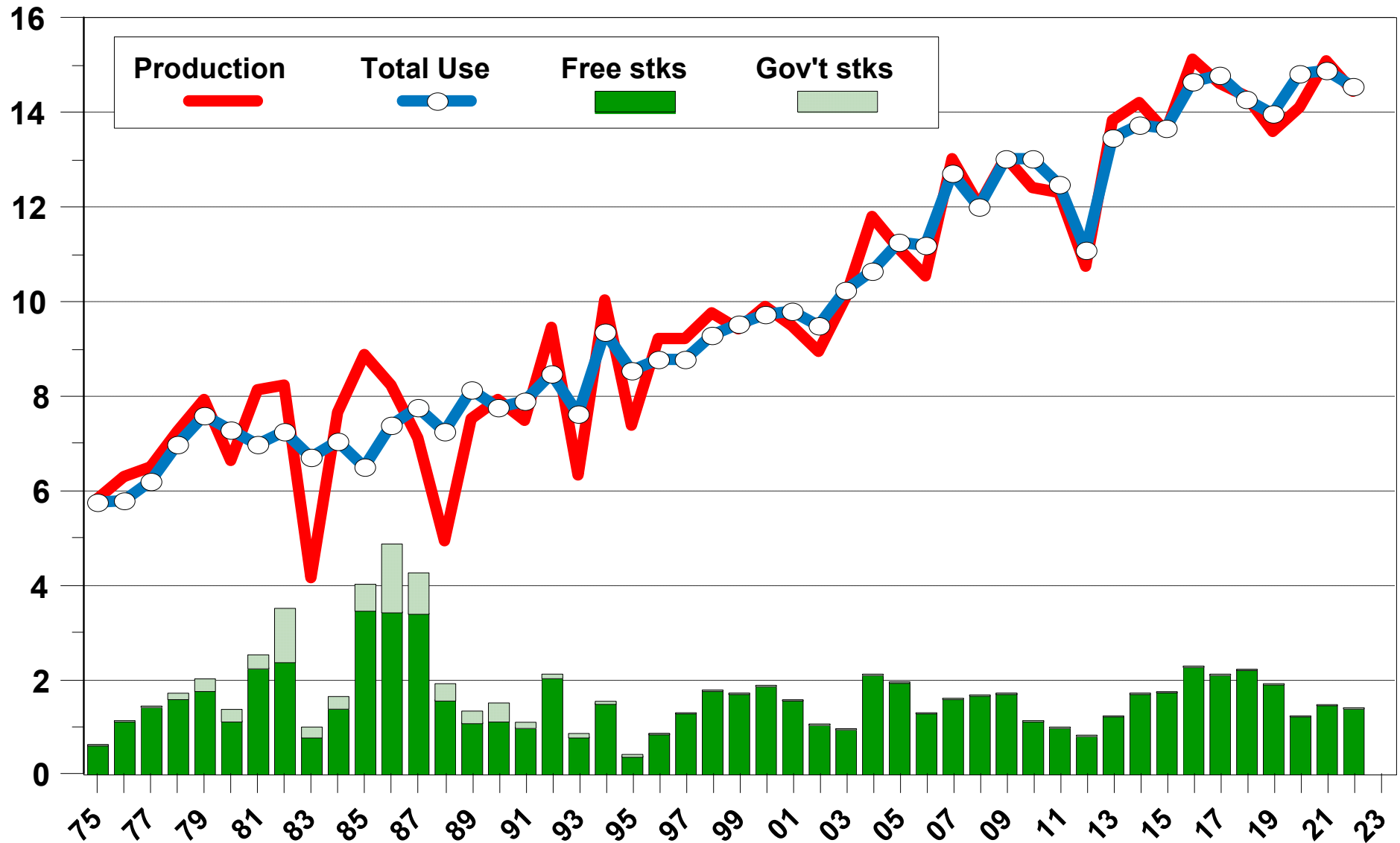
Million metric tons of coarse grains



* Argentina, Australia and Canada

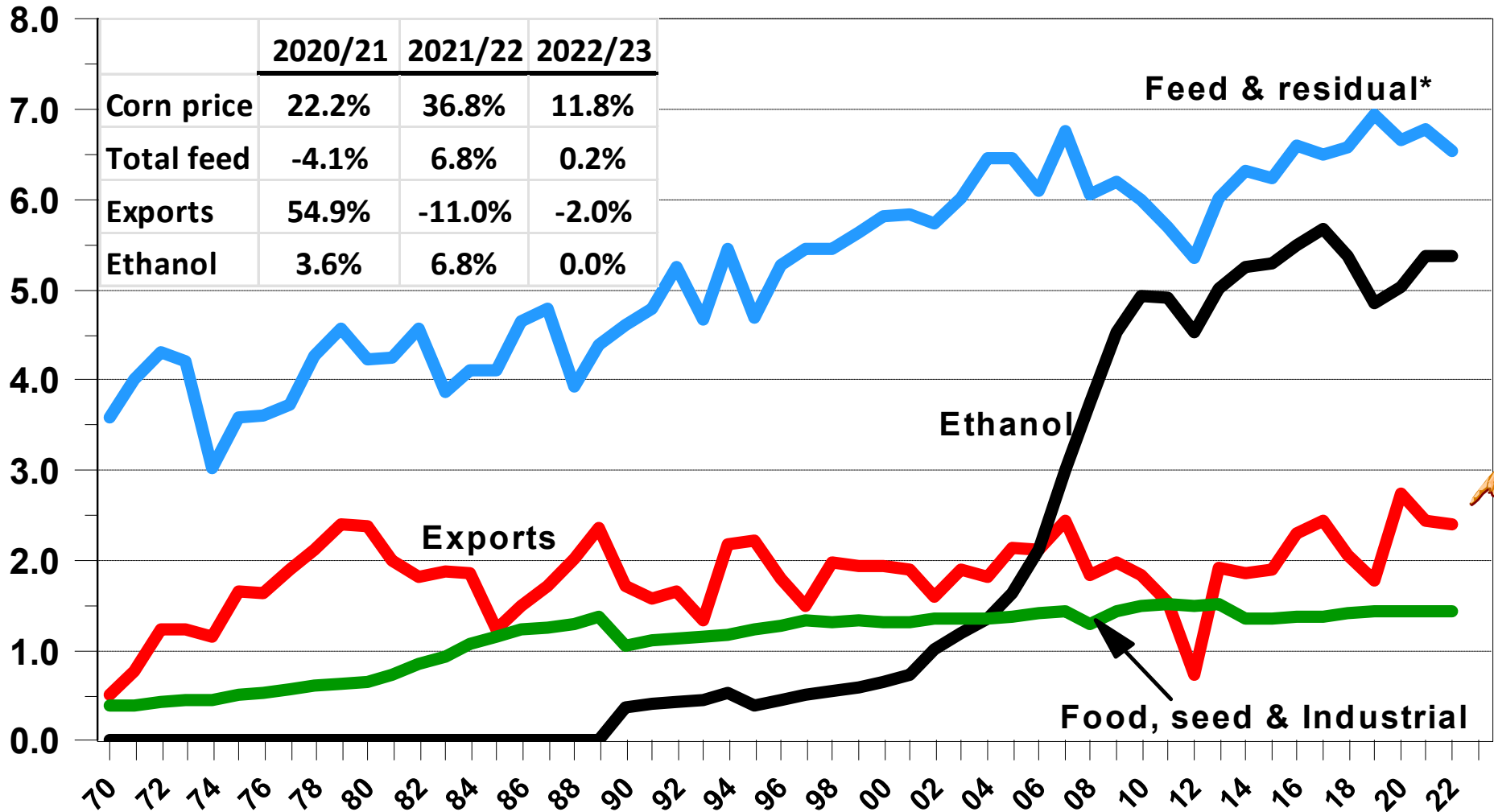
U.S. Corn Carryover Steadies But Strong Demand Boosts Prices

Billion bushels



U.S. Corn Demand and Limited Supply Increases Are Boosting Prices

Billion bushels of corn



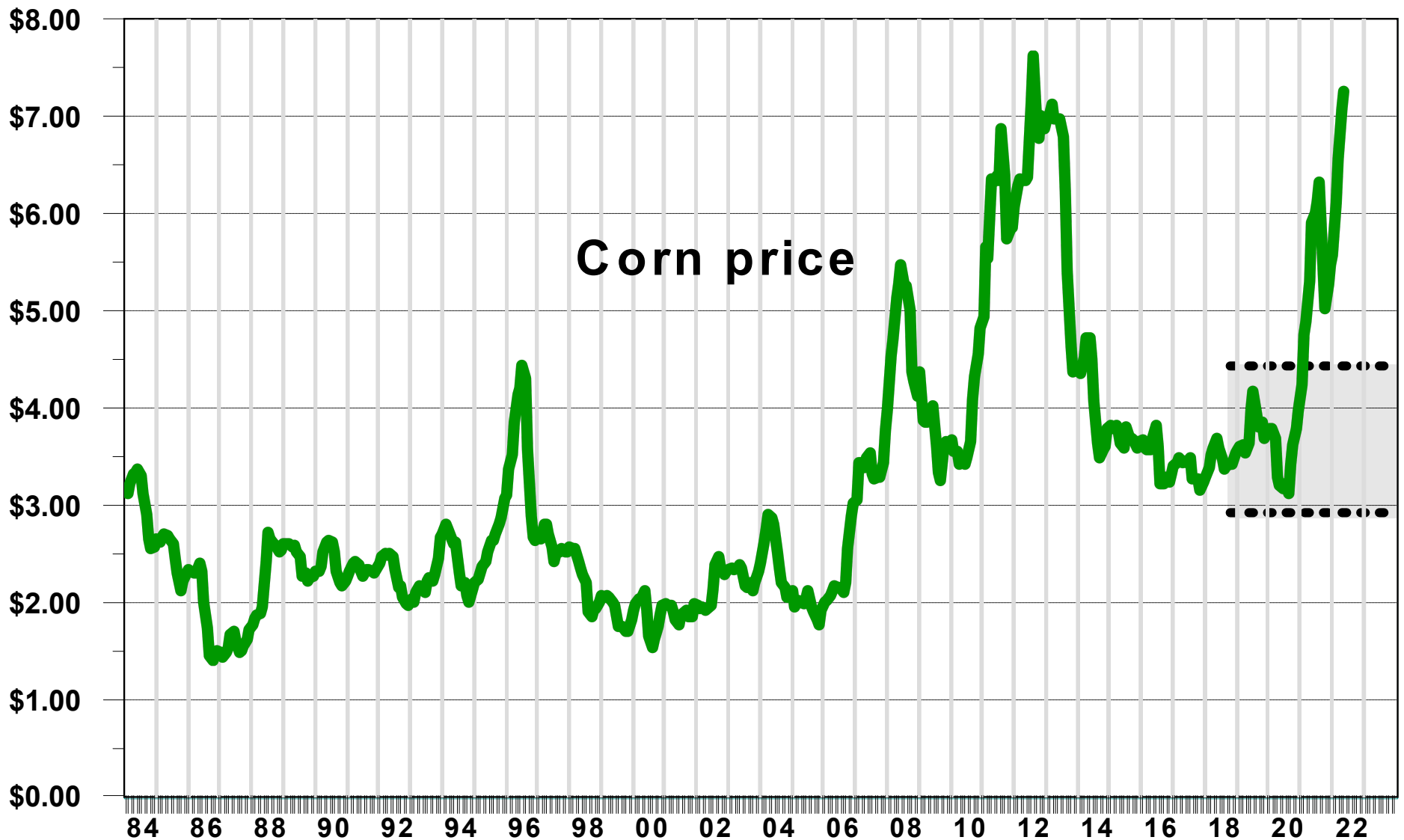
* Feed use includes corn displaced by DDG/CDGs.

Output Uncertainties and Disrupted Trade Flows Boost Price Volatility and Expectations

	2018/19	2019/20	2020/21	2021/22	2022/23
Planted acreage (mil. acres)	88.9	89.7	90.8	93.4	89.9
Harv. Acreage (mil. acres)	81.3	81.3	82.3	85.4	81.9
Yield (bu. / acre)	176.4	167.5	171.4	177.0	177.0
	----- million bushels -----				
Beginning stocks	2,140	2,221	1,919	1,235	1,510
Production	14,340	13,620	14,112	15,115	14,505
Total supply	16,509	15,883	16,055	16,375	16,040
Feed & residual	5,427	5,900	5,598	5,600	5,350
Food, seed & Ind.	1,414	1,429	1,438	1,440	1,445
Ethanol	5,378	4,857	5,033	5,375	5,375
Exports	2,068	1,777	2,753	2,450	2,400
Total use	14,288	13,963	14,821	14,865	14,570
Ending stocks	2,221	1,919	1,235	1,510	1,470
Stocks/use ratio (percent)	15.5	13.7	8.3	10.2	10.1
Avg. farm price (\$/bushel)	\$3.61	\$3.56	\$4.35	\$5.95	\$6.65
Loan rate (\$/bushel)	\$1.95	\$2.20	\$2.20	\$2.20	\$2.20

Global Demand, Competitiveness and Weather Drive Corn Prices Higher

Dollars per bushel (monthly prices received by farmers, USDA)

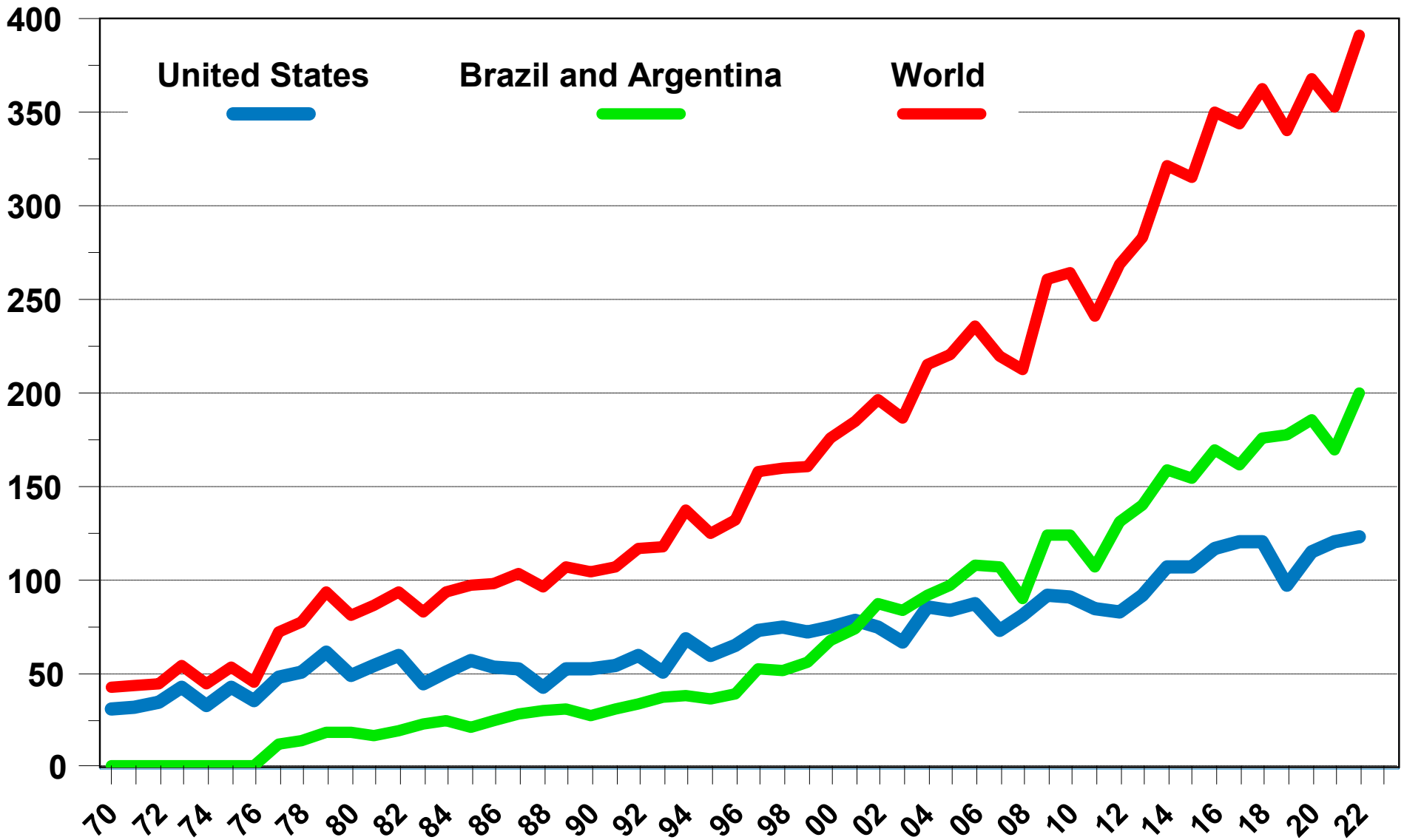


Global Production Responding to Higher Prices Input Costs & Trade Uncertainties Drive Prices



World Soybean Production Rebounding Sharply in Response to Higher Prices

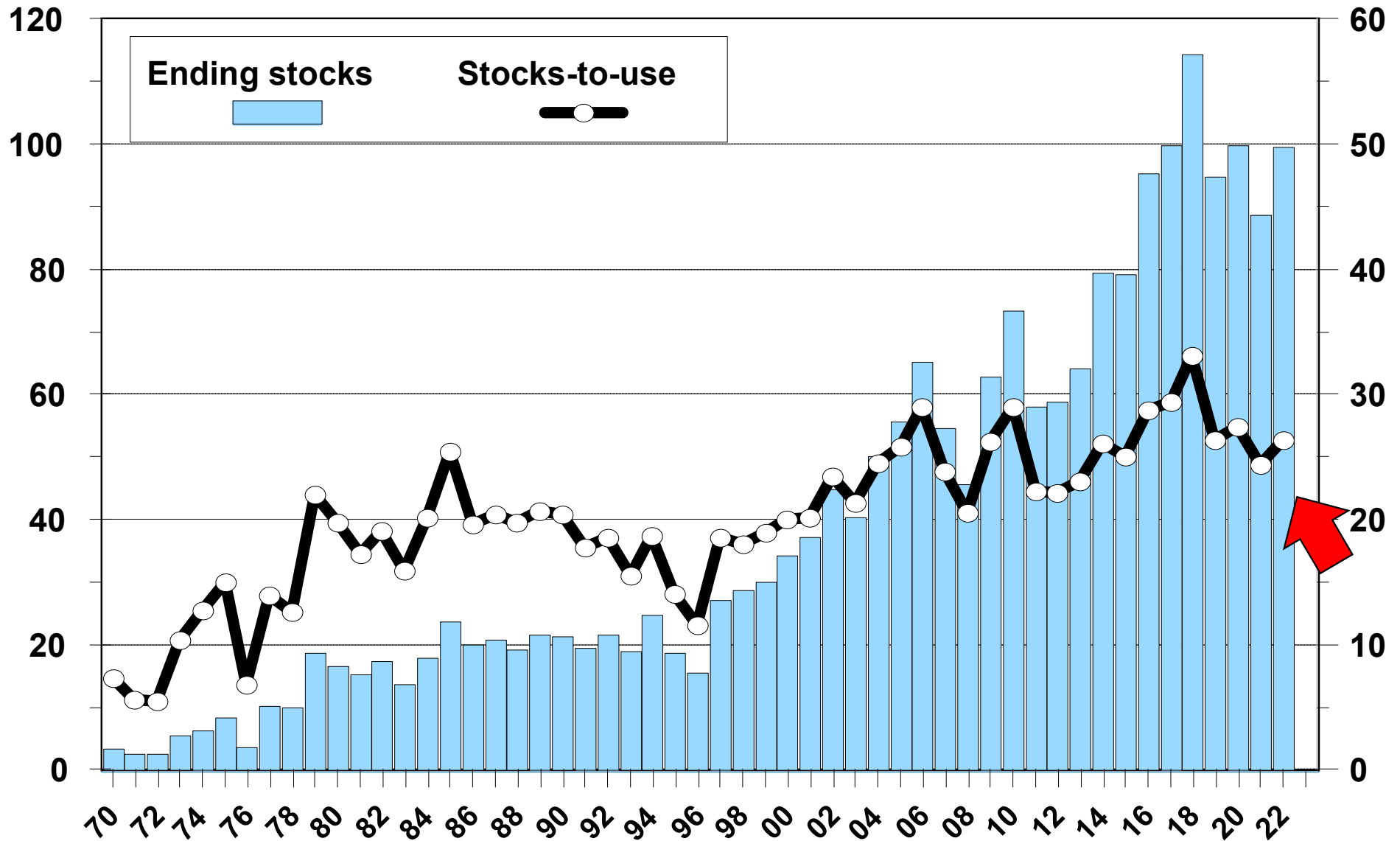
Million metric tons



Some Rebound in Stocks as High Prices Limit Demand

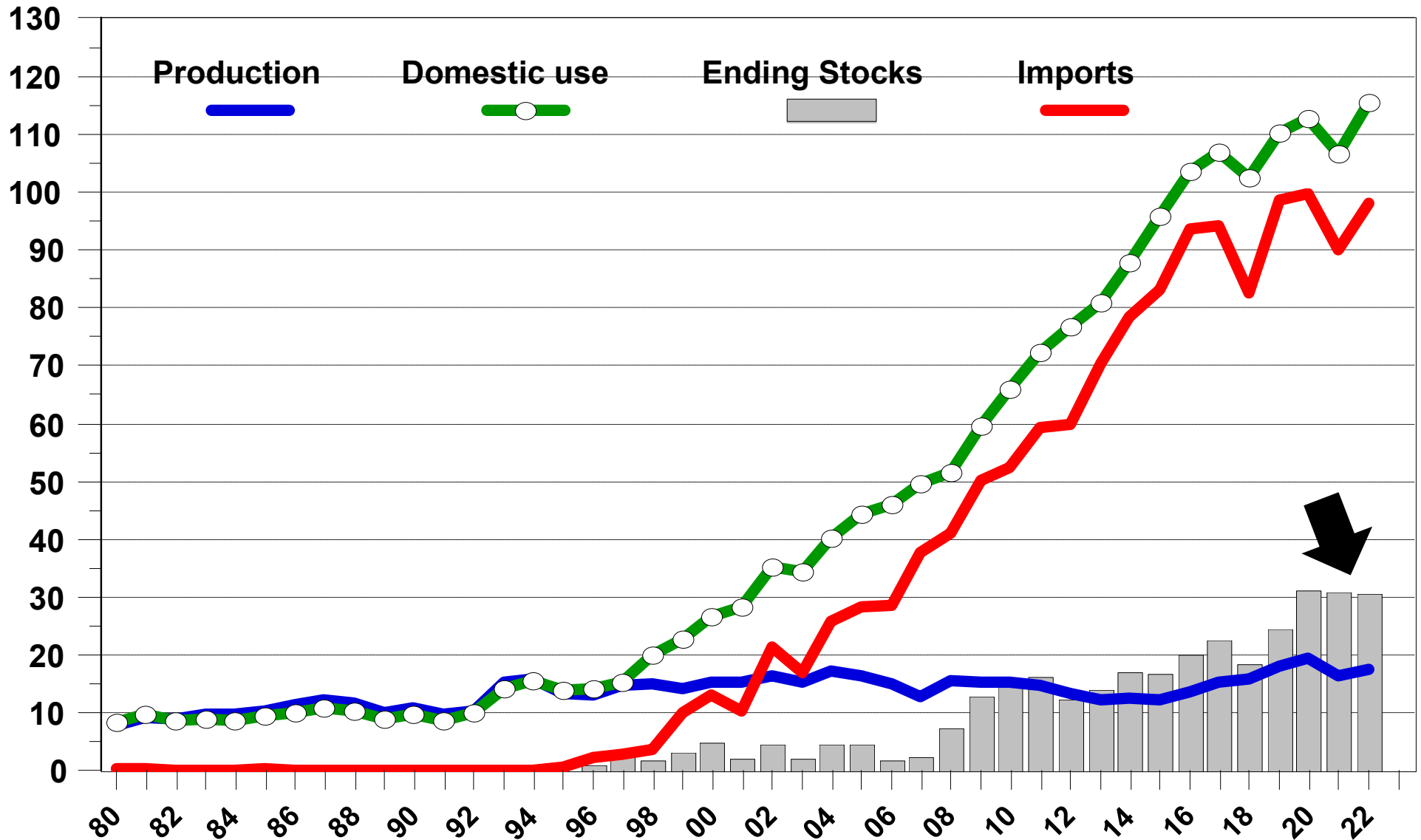
Million metric tons of soybeans

Stocks-to-use percentage



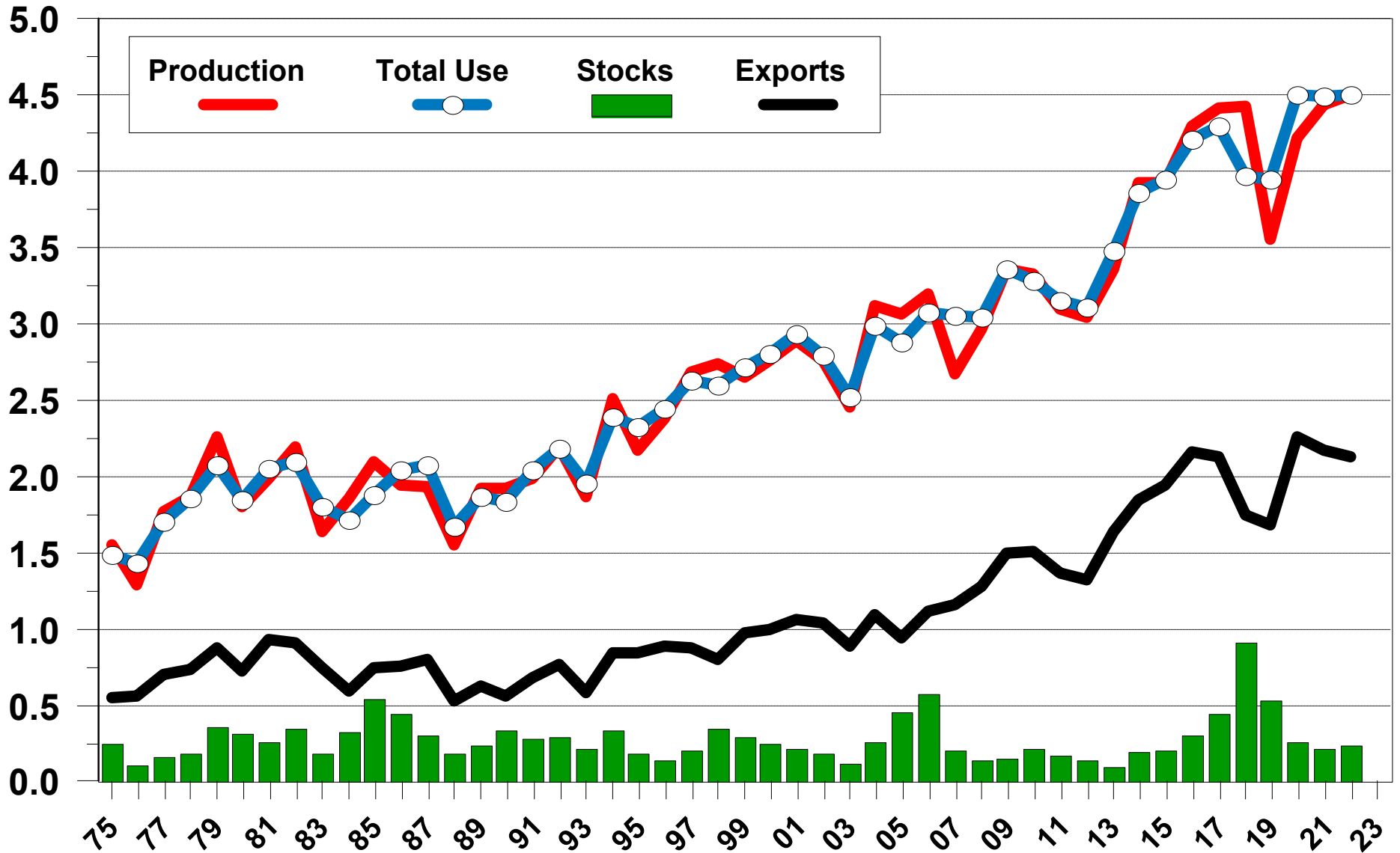
China's Appetite for Soybeans Has Steadied Boosting Stocks But Trade Uncertainties Remain

Million metric tons



U.S. Soybean Carryover Remains Low and Limits Export Movement

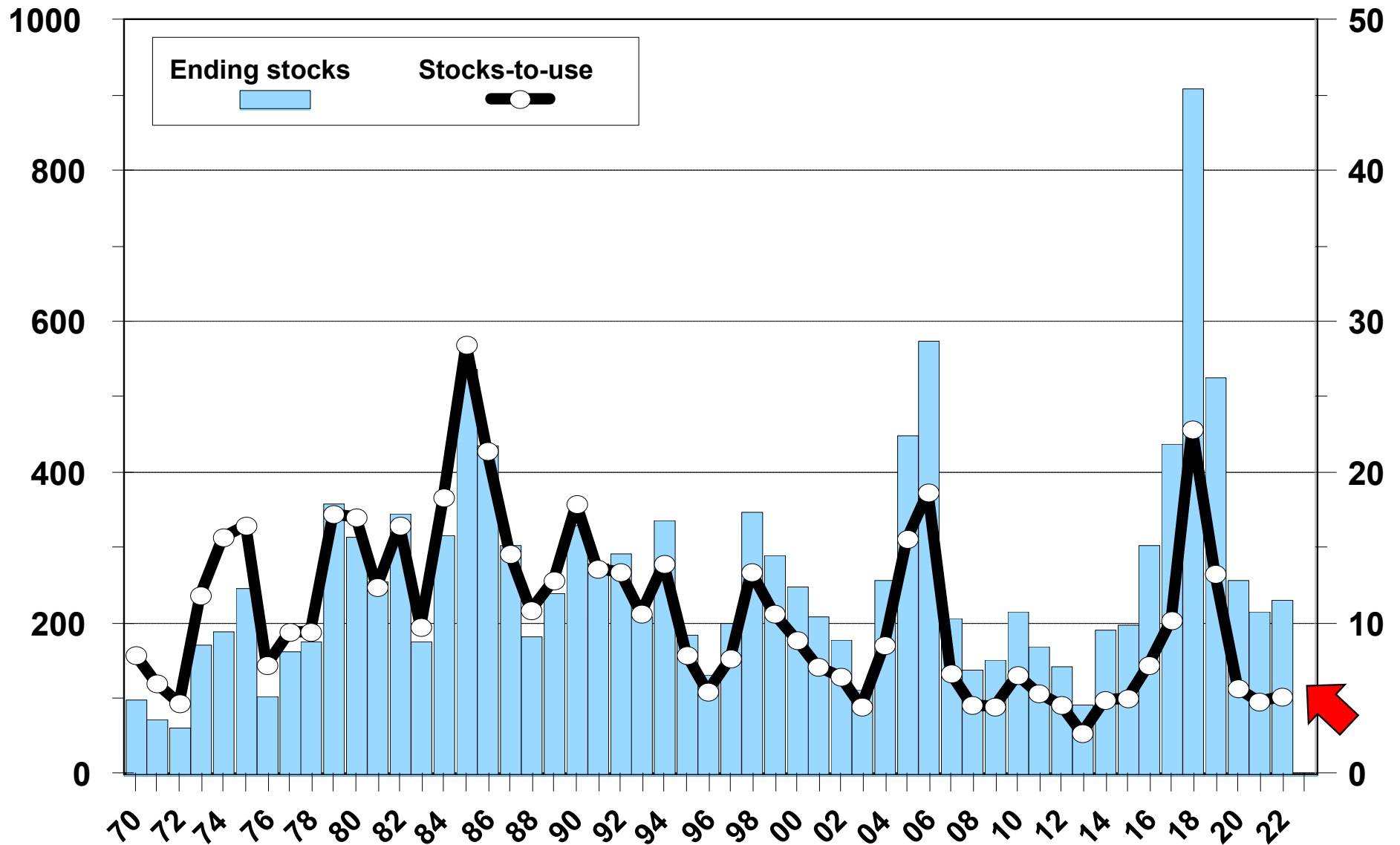
Billion bushels



U.S. Stocks-to-Use Remain Low

Million bushels of soybeans

Stocks-to-use percentage

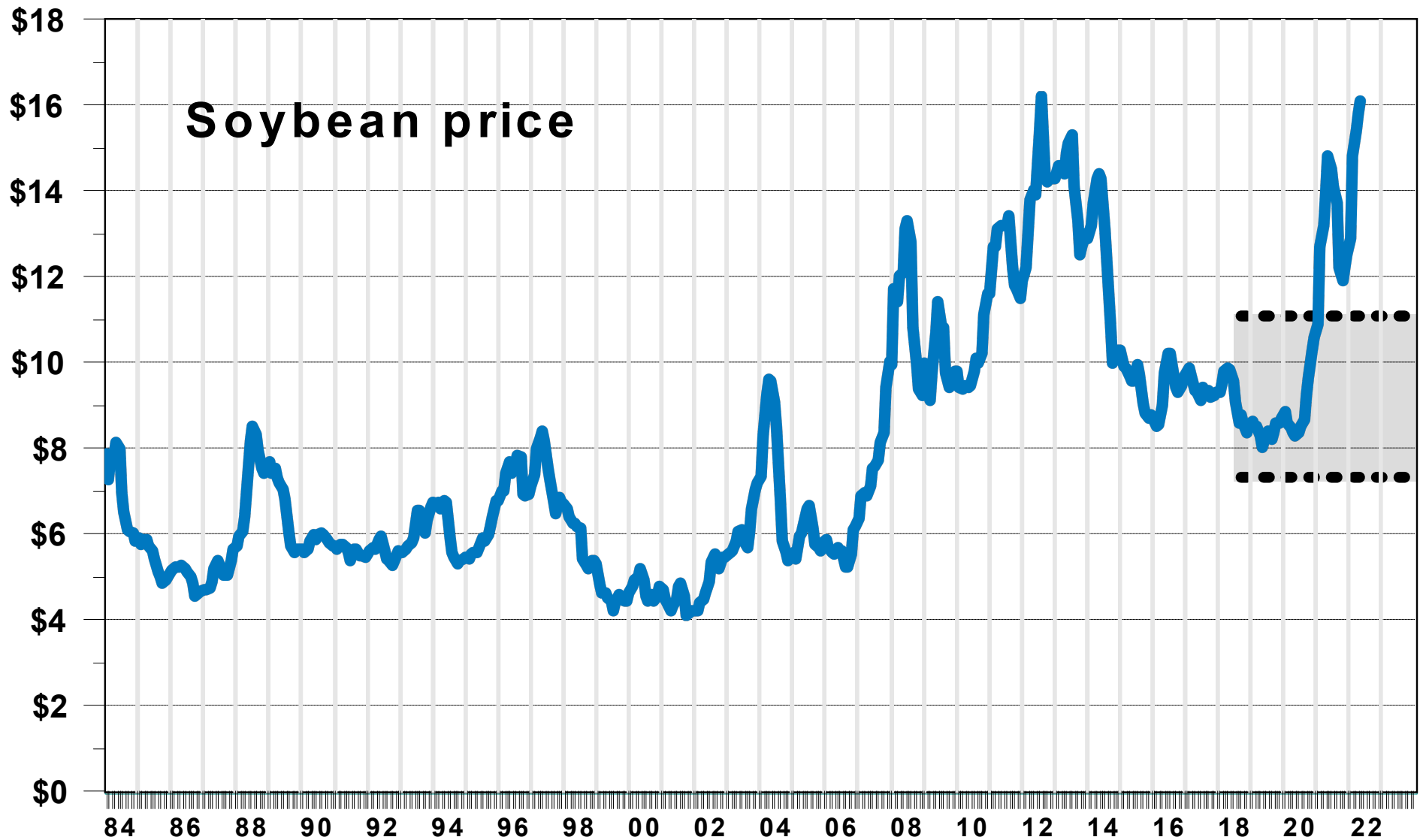


Tight Supplies and Trade Uncertainties Boost Prices

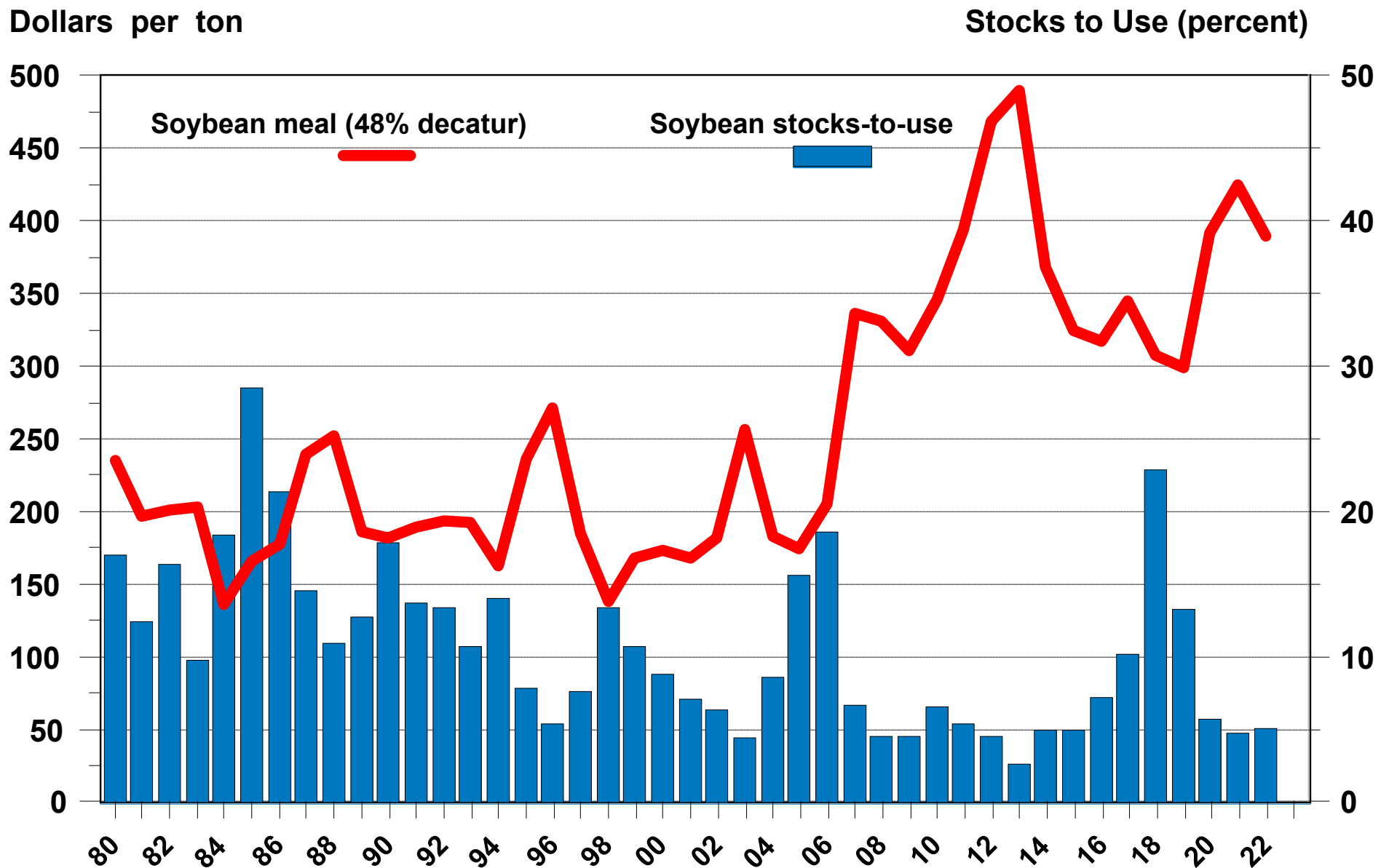
	2018/19	2019/20	2020/21	2021/22	2022/23
Planted acreage (mil. acres)	89.2	76.1	83.4	87.2	88.3
Harvest acreage (mil. acres)	87.6	74.9	82.6	86.3	87.5
Yield (bu./acre)	50.6	47.4	51.0	51.4	51.5
	----- million bushels -----				
Carryin stocks	438	909	525	257	230
Production	4,428	3,552	4,216	4,435	4,505
Imports	14	15	20	15	15
 Total supply	4,880	4,476	4,761	4,707	4,750
Domestic use	3,971	3,952	4,504	4,492	4,505
Exports	1,753	1,679	2,261	2,170	2,135
 Total use	5,725	5,631	6,764	6,662	6,640
Ending stocks	909	525	257	215	230
Stock / use ratio (percent)	22.89	13.27	5.71	4.78	5.11
Avg. farm price (\$/bushel)	8.48	8.57	10.8	13.35	14.40
Loan rate (\$/bushel)	\$5.00	\$5.00	\$6.20	\$6.20	\$6.20
Soybean meal (\$/metric to	\$308	\$300	\$392	\$425	\$390

China Demand and Global Uncertainties Drive Soybean Prices

Dollars per bushel (monthly prices received by farmers, USDA)



Soybean Meal Prices Likely to Remain Elevated Until Market Uncertainties Abate

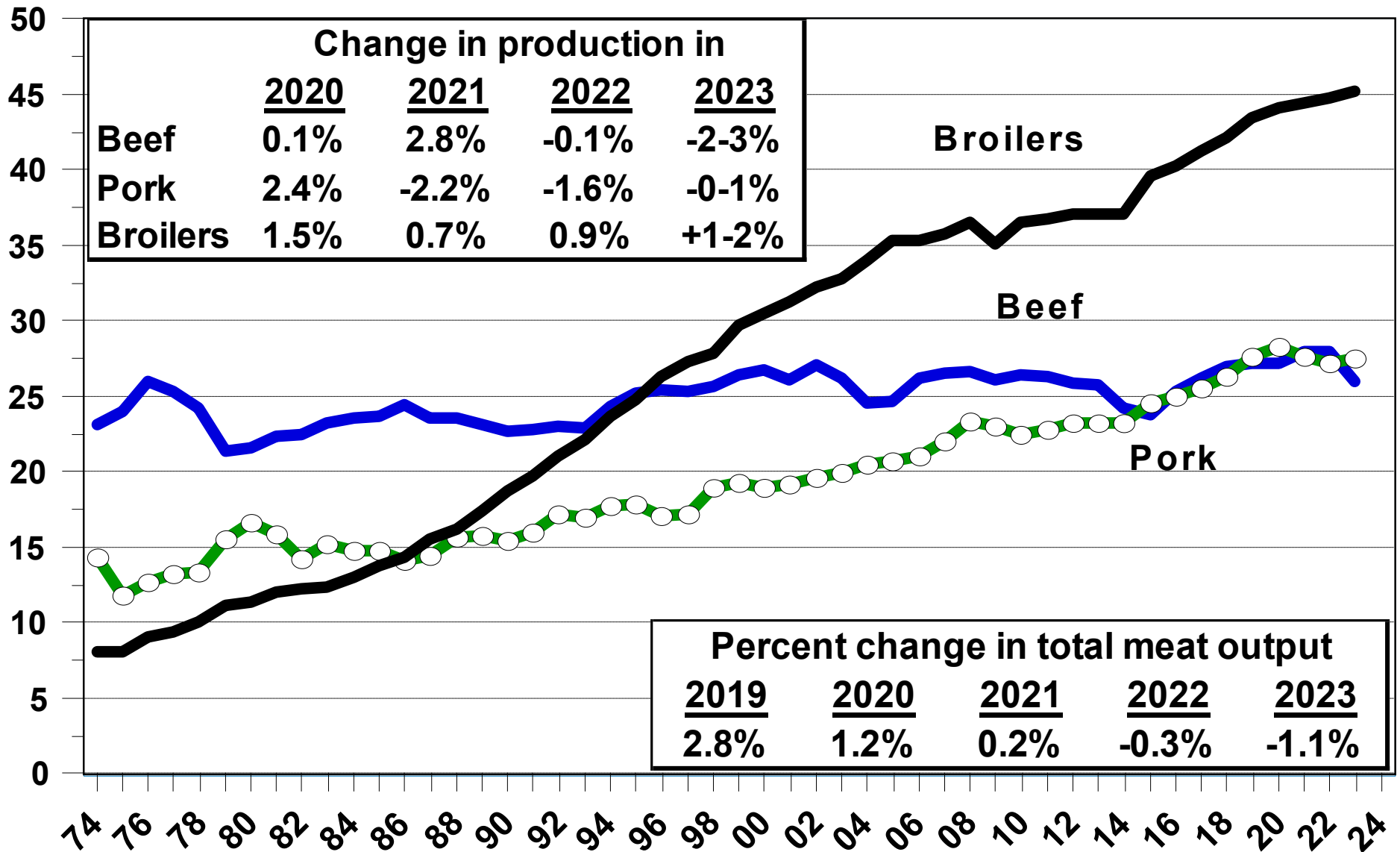


Reduced Total Meat Supplies Supporting Prices Despite Lower Exports But Recession Looms



Red Meat Output Likely to Continue Decline as Rising Costs and Trade Uncertainties Prevail

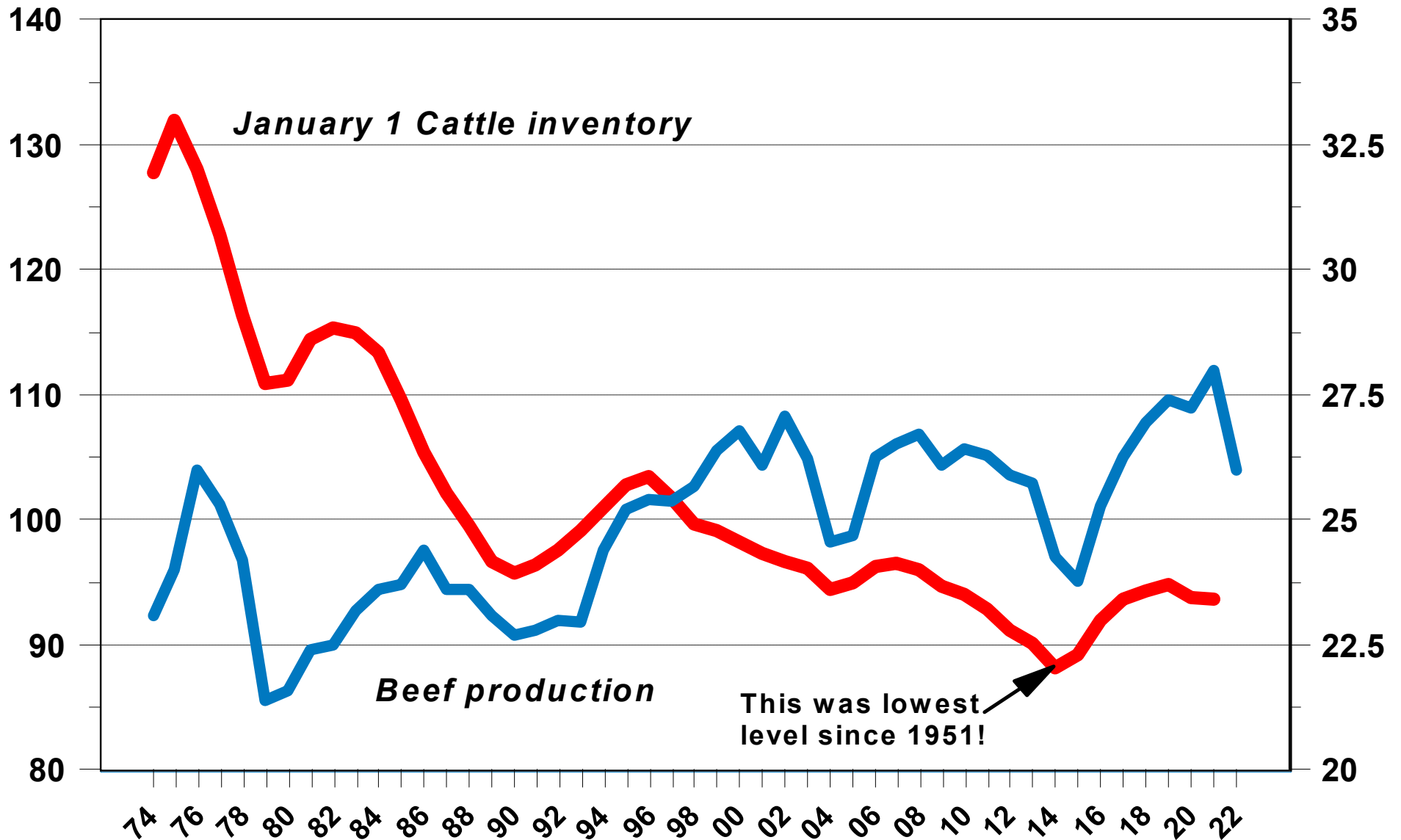
Billion pounds



Beef Production Continues Declines But Cattle Inventory Holds Steady

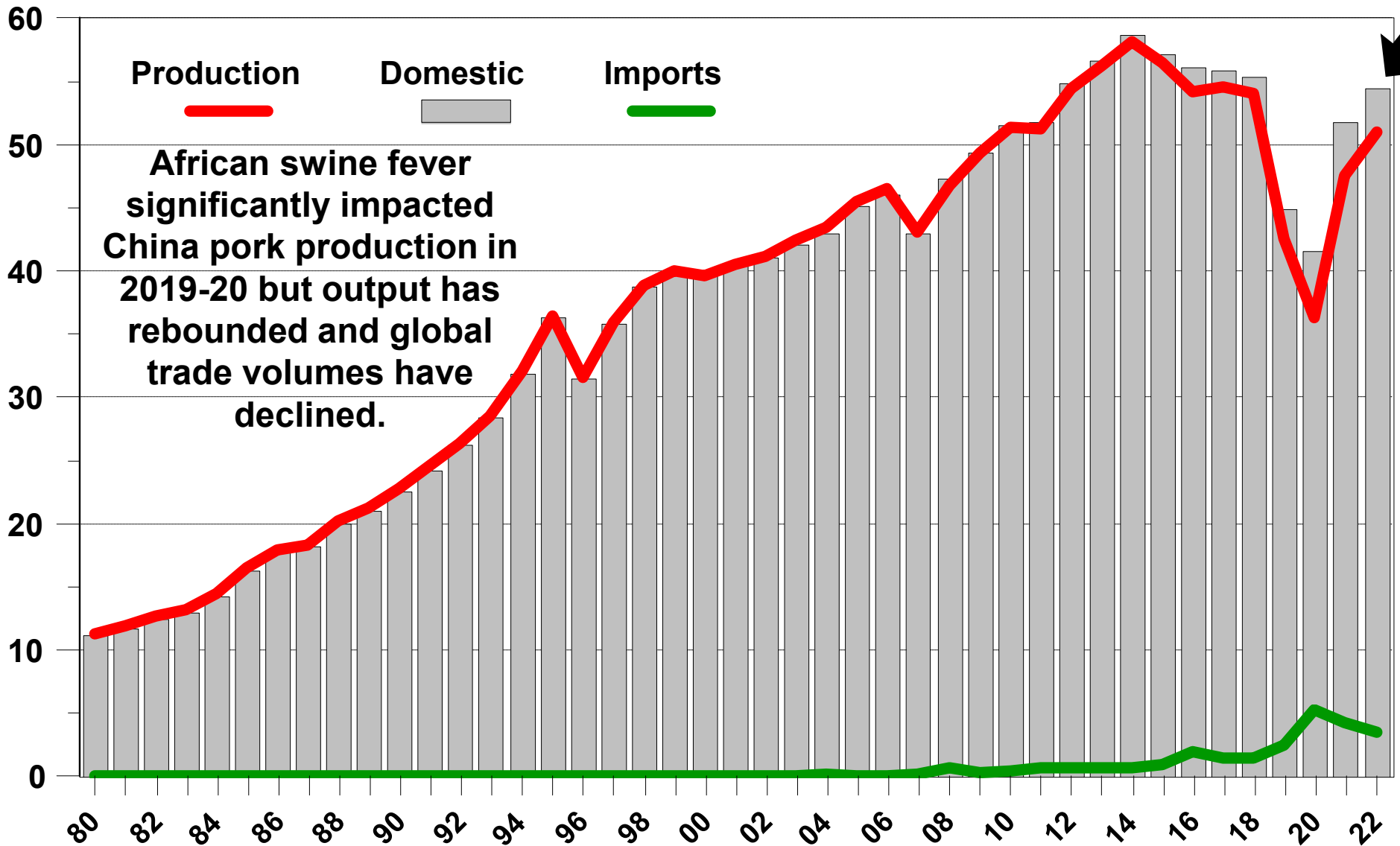
Million head of inventory

Billion pounds



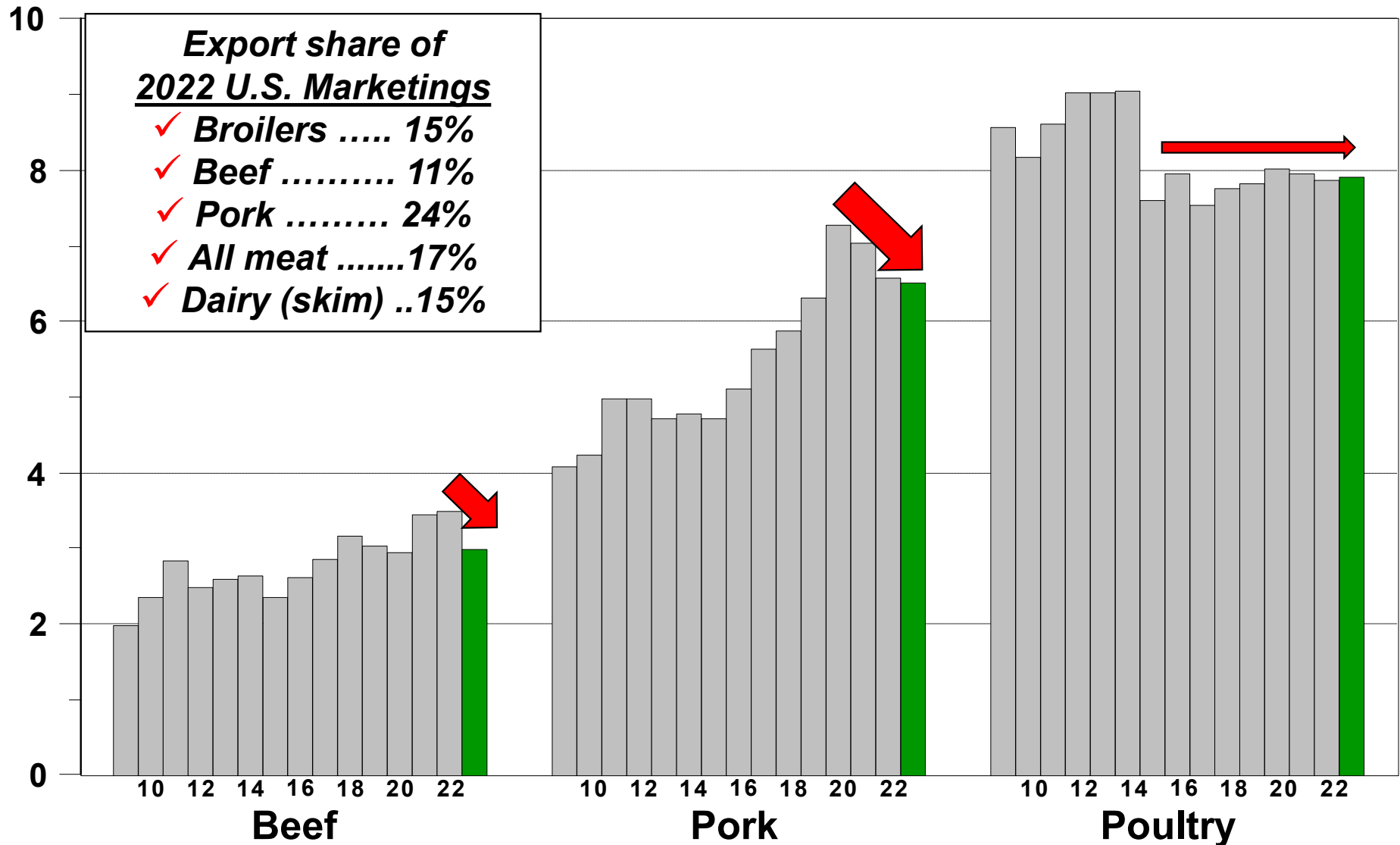
China: World's Largest Producer and Consumer of Pork Has Sharply Increased Output

Million metric tons



Red Meat Exports Likely to Continue Declining into 2023; Poultry Exports Steady

Billion pounds (2009-2023)



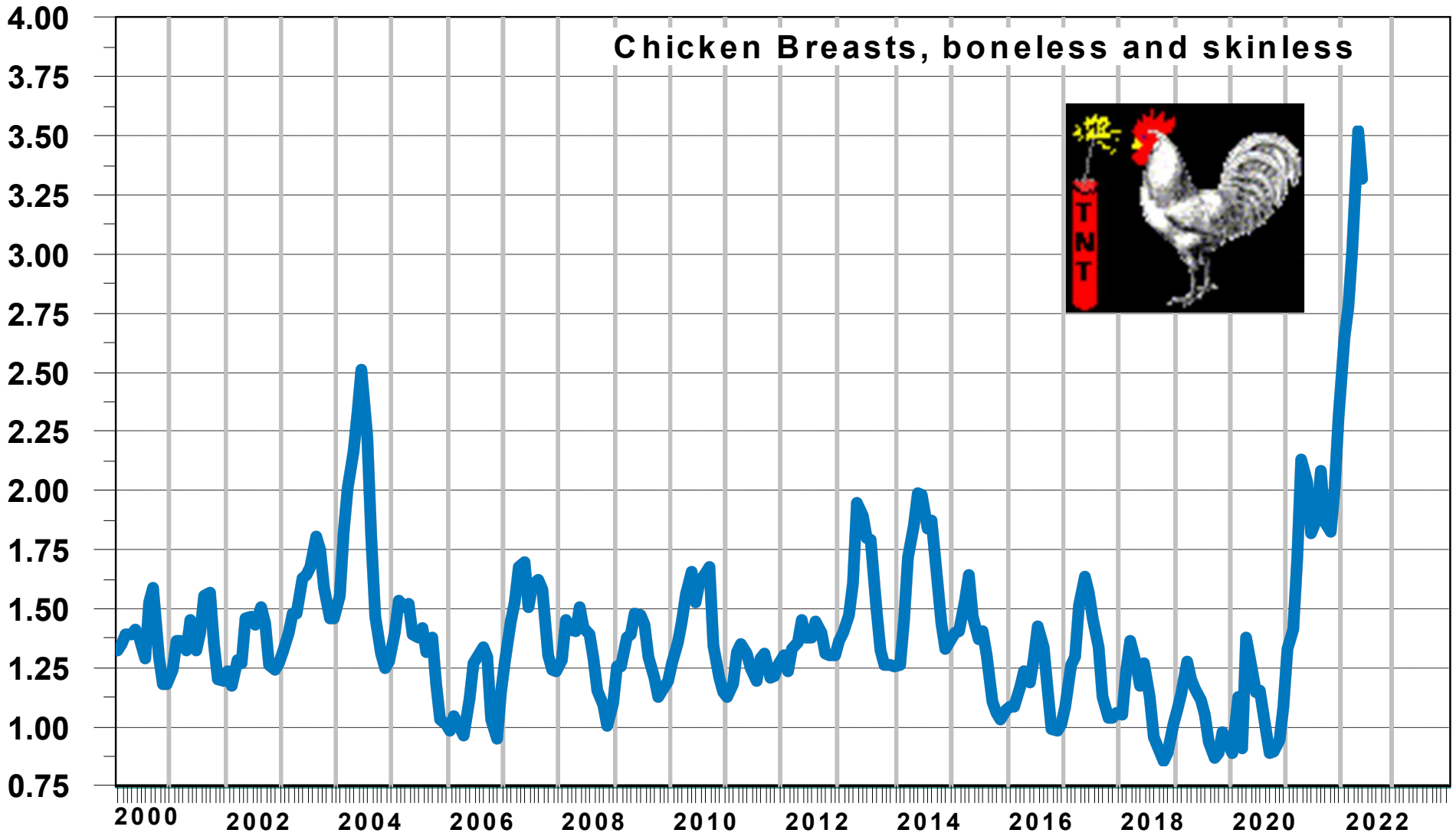
Animal Protein Prices Likely to Remain Strong But Potential Recession Signals Caution in 2023

	2019	2020	2021	2022	2023
	----- dollars per hundredweight -----				
Cattle 1/	117.12	116.78	122.40	141.30	153.00
Hogs 2/	45.93	47.95	67.29	70.80	70.00
	----- cents per pound -----				
Broilers 3/	97.8	88.6	101.2	152.9	149.0
Turkeys 4/	80.2	89.2	122.8	147.8	143.0
	----- dollars per hundredweight -----				
Milk 5/	16.18	18.63	18.53	26.15	24.15
	----- cents per dozen -----				
Eggs 6/	137.6	94.0	118.5	210.6	151.0

USDA; June 2021 WASDE Simple average of months. 1/ 5-Area, Direct, Total all grades. 2/ National Base, Live equiv 51-52% lean. 3/ Wholesale, National Composite Weighted Average. 4/ 8-16 lbs, hens National. 5/ Prices received by farmers for all milk. 6/ Grade A large, New York, volume buyers.

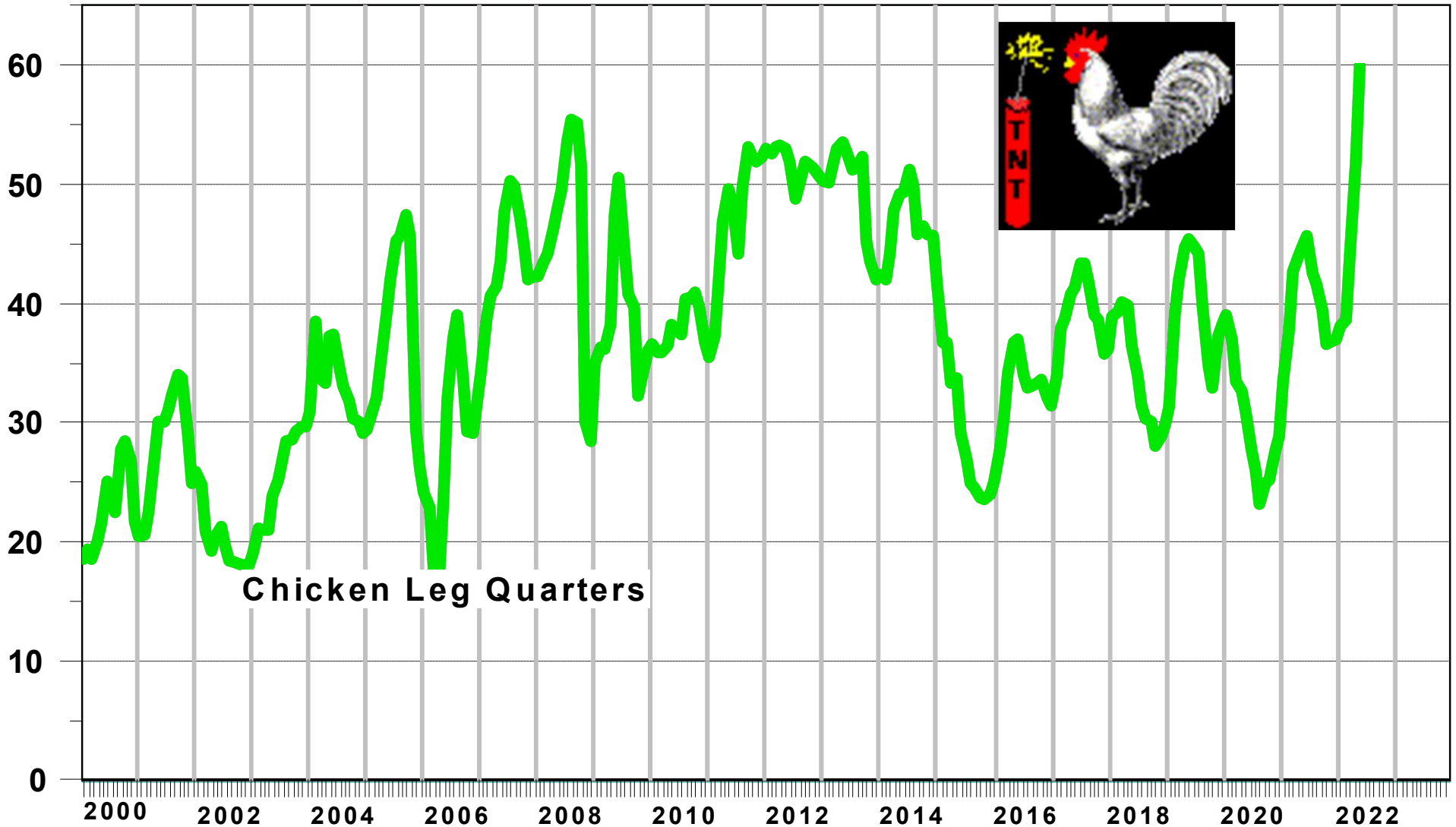
Chicken Breast Meat Prices Have Move Sharply Higher as Total Meat Supplies Decline

Dollars per pound monthly weighted average Northeast (delivered)



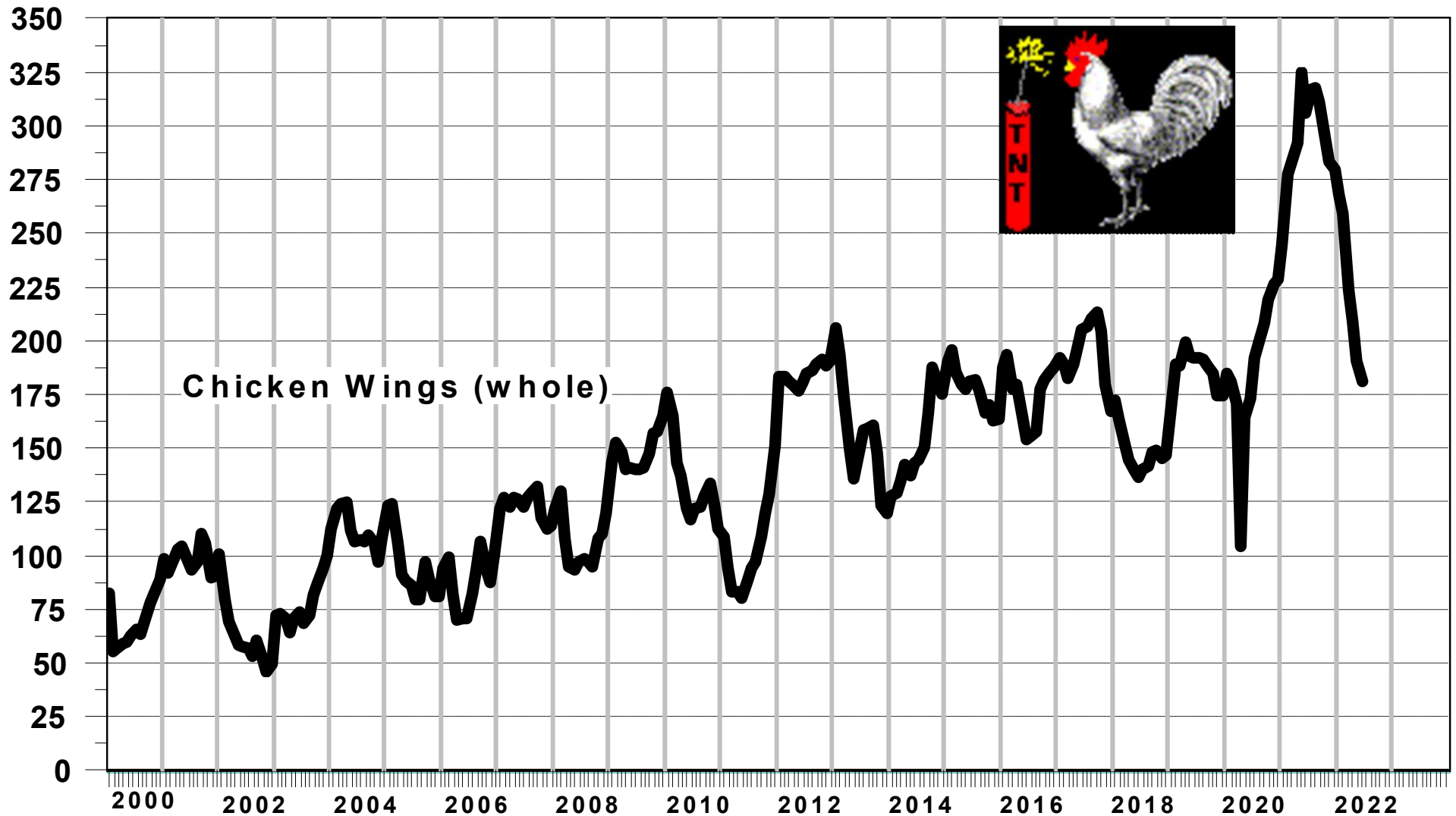
Steady Export Markets and Strong Domestic Demand Have Supported Leg Quarter Prices

Cents per pound monthly weighted average Northeast (delivered)



Wing Price Volatility Reflects Trade and Economic Uncertainties

Cents per pound monthly weighted average Northeast (delivered)

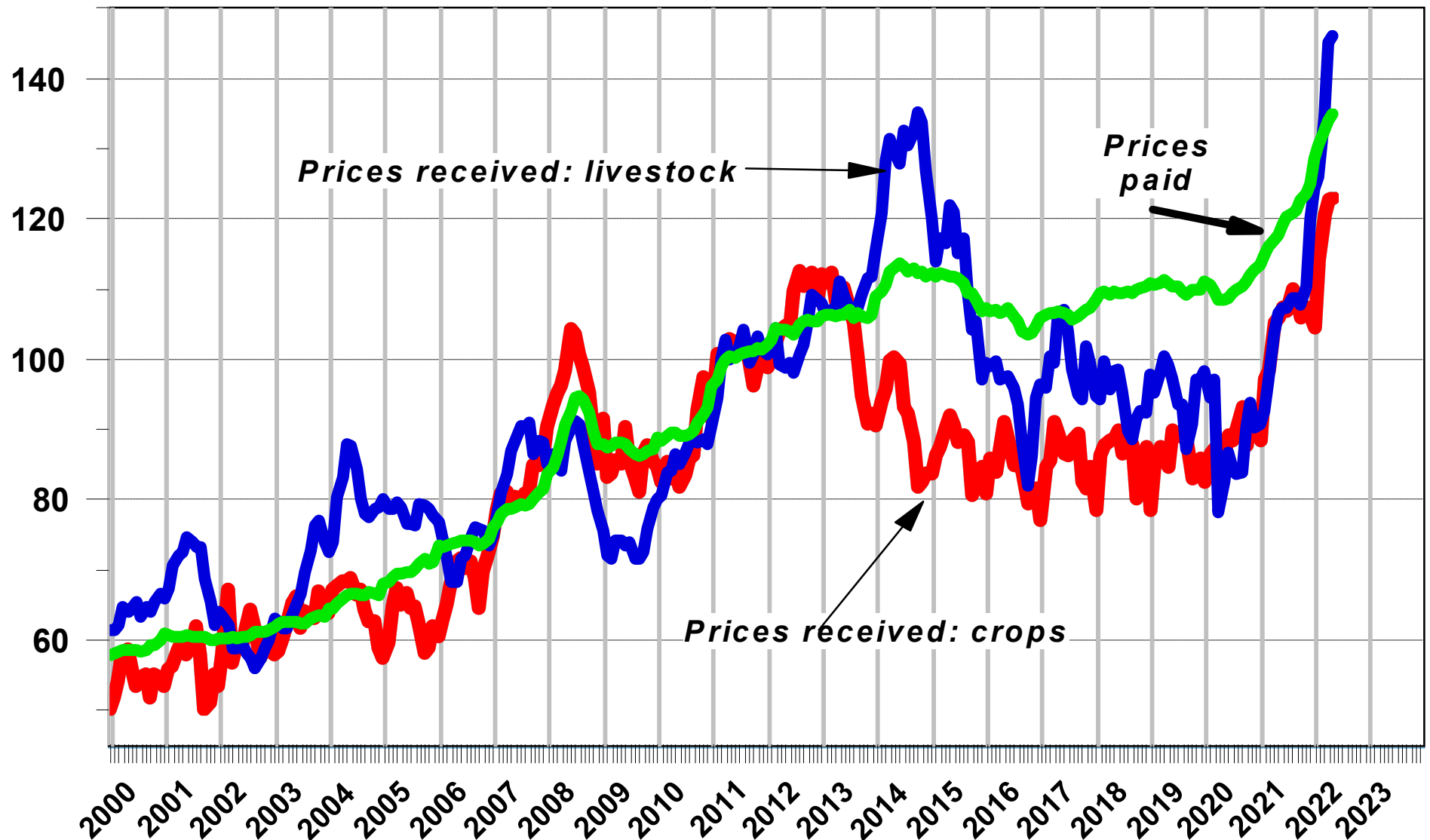


Market Volatility Continues: Managing Input Costs and Marketing are Strategic Factor



U.S. Commodity Prices and Costs Are Rising Sharply

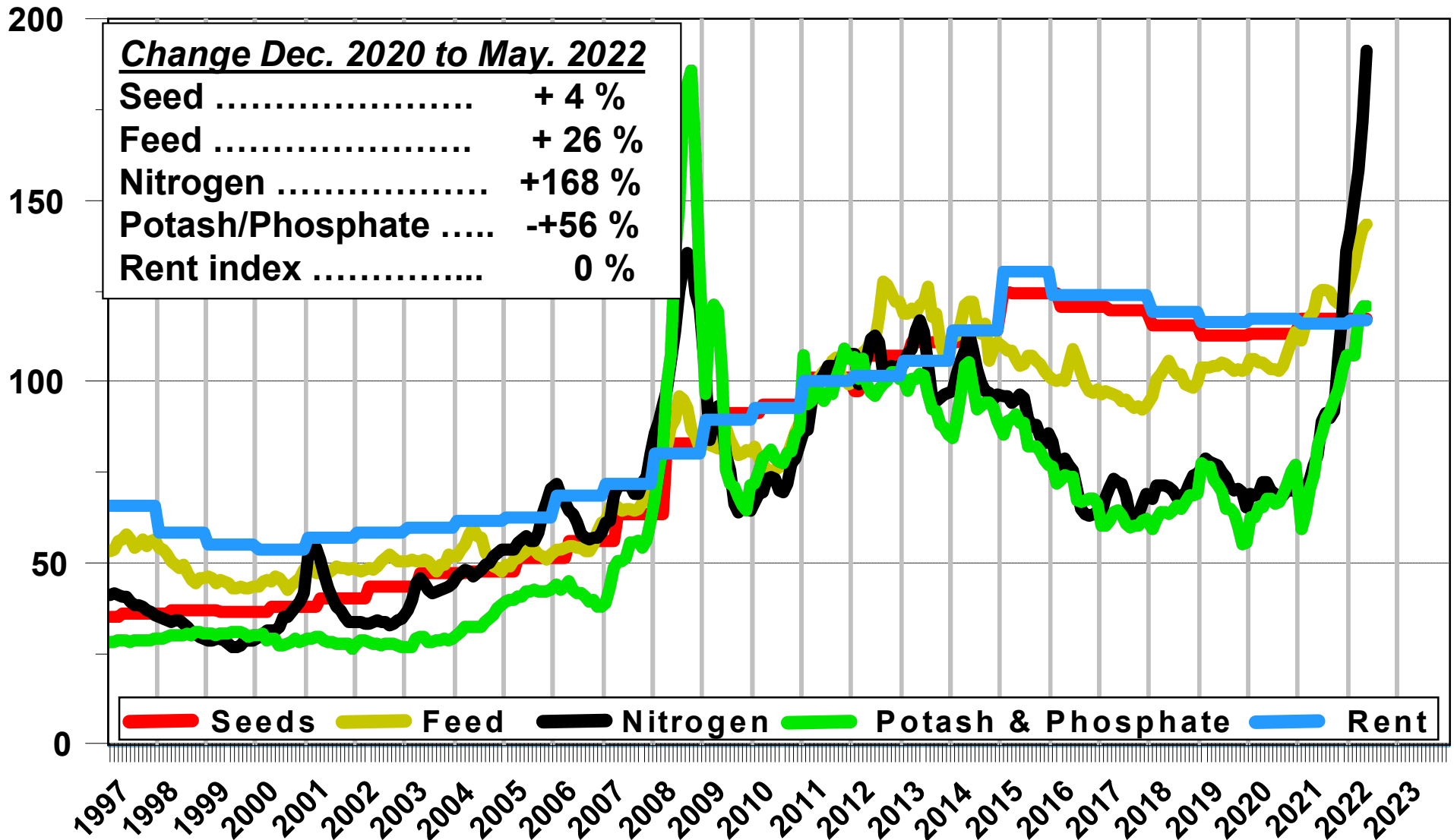
Index (2011=100)



*Prices paid commodities & services, interest, taxes and wage rates

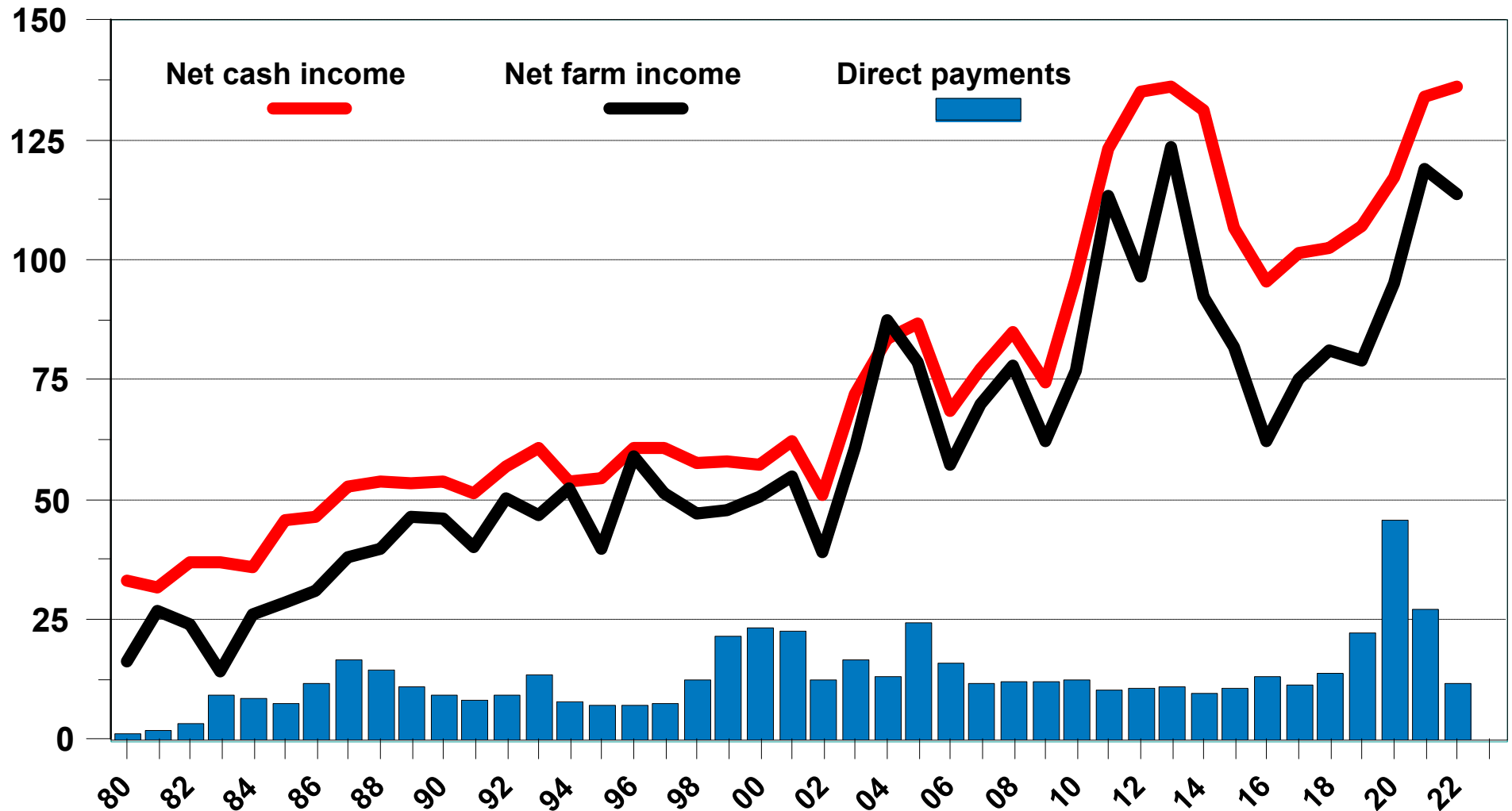
Input Prices and Availability Have Impacted Returns and Planting Decisions

USDA Prices Paid Index (2011=100)



Farm Income Appears Strong Through 2022 Despite Decline in Government Payments

Billion dollars



Source: USDA, February 2022

Questions and Thoughts?????

**Leadership Conference
Georgia Poultry Federation
July 20-22, 2022**

**Terry N. Barr
Economic Insights LLC
tbarrbackup@gmail.com
301-775-3443**