

Robert Fry Economics LLC

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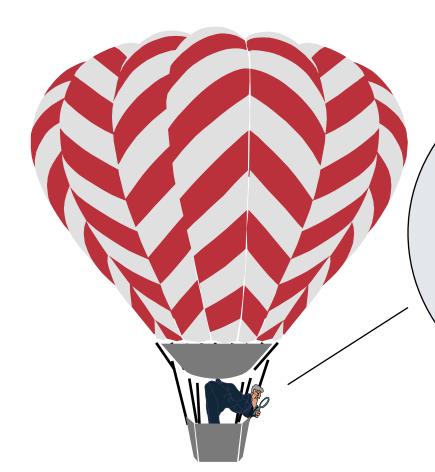


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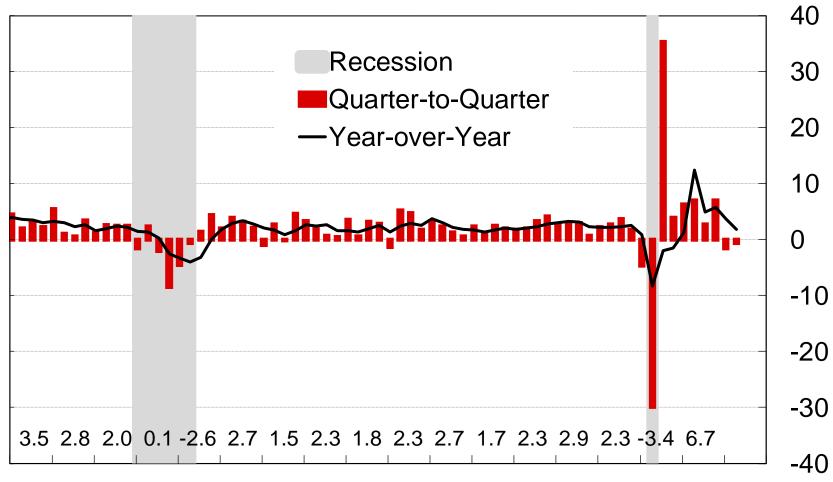
You must be an economist. Your answer is perfectly correct and totally useless.

You must be a manager. You have a great view, but don't know where you are.



US Real Gross Domestic Product

Annualized Growth Rates



05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22

Real GDP has declined two straight quarters

Real GDP declined at a 1.6% annual rate in the first quarter.

Real GDP declined at a 0.6% annual rate in the second quarter.

Two straight declines meet commonly (mis)used definition of recession.

Recession:

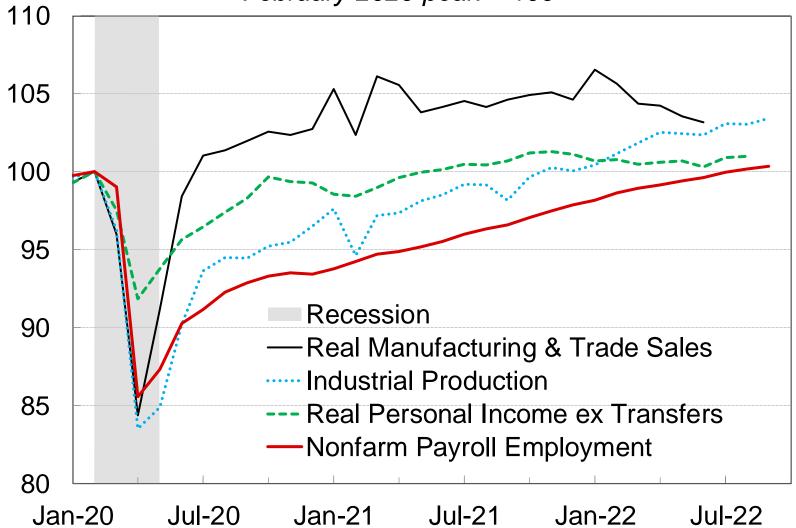
A period when money is returned to its rightful owner.

Recession:

a significant decline in economic activity that is spread across the economy and lasts more than a few months . . . based on a range of **monthly** measures of aggregate real economic activity published by the federal statistical agencies. – nber.org

US Coincident Indicators

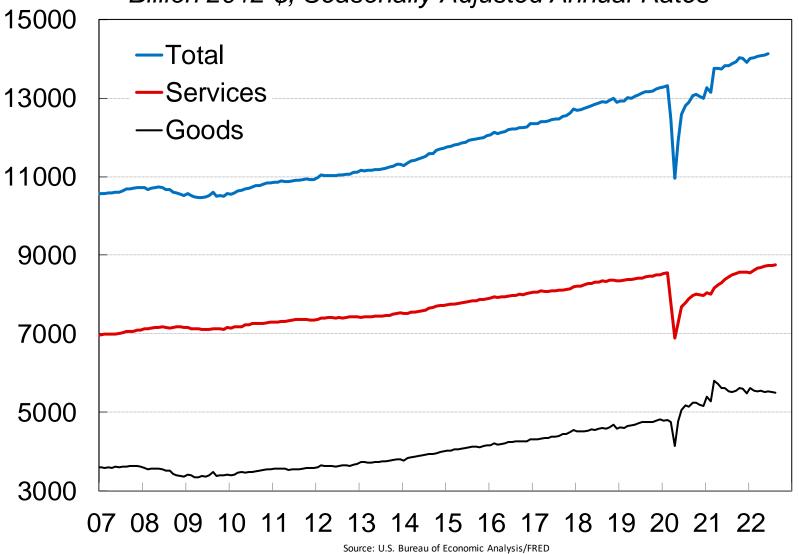
February 2020 peak = 100

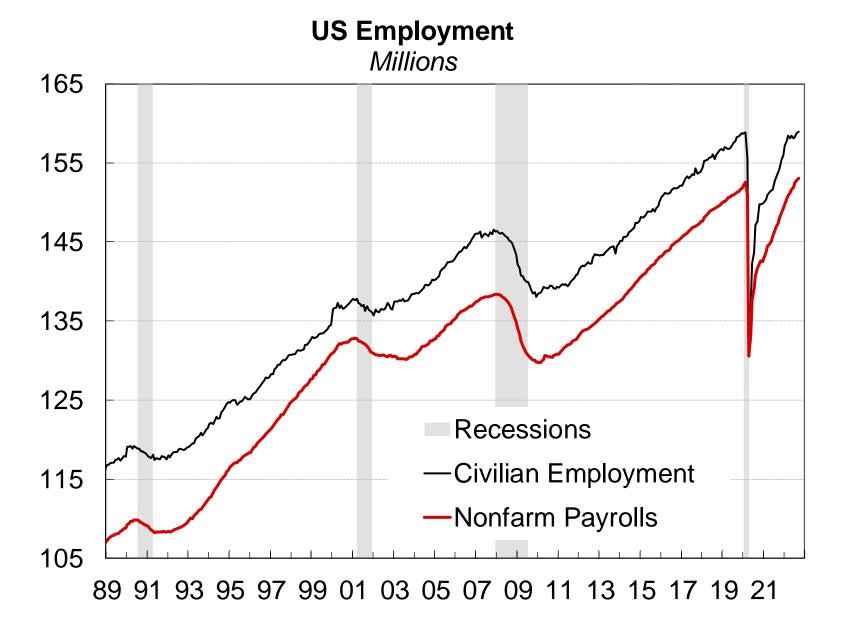


Source: U.S. Bureau of Labor Statistics/FRED

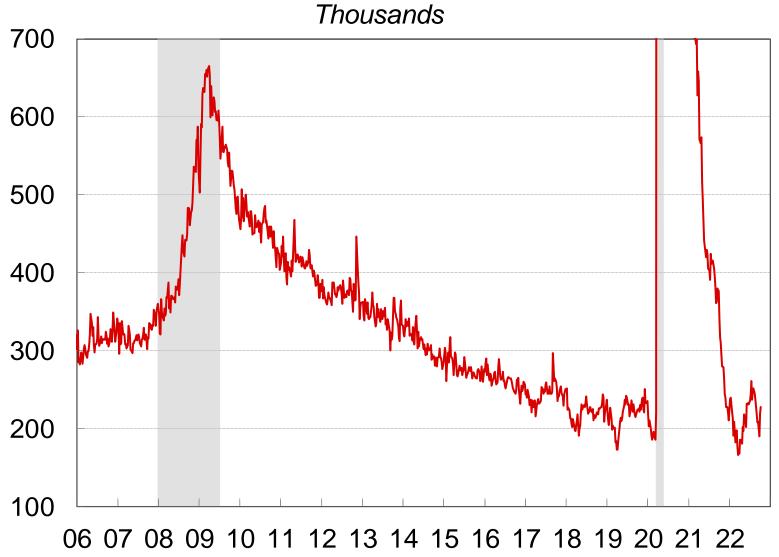
US Real Personal Consumption Expenditures

Billion 2012 \$, Seasonally Adjusted Annual Rates





Initial Claims for Unemployment Insurance



Source: U.S. Employment and Training Administration/FRED

If we're in a recession, it just started.

Payroll employment still rising (strongly) through September.

Civilian employment still rising through September.

Industrial production still rising through September.

Personal income excluding transfers still rising through August.

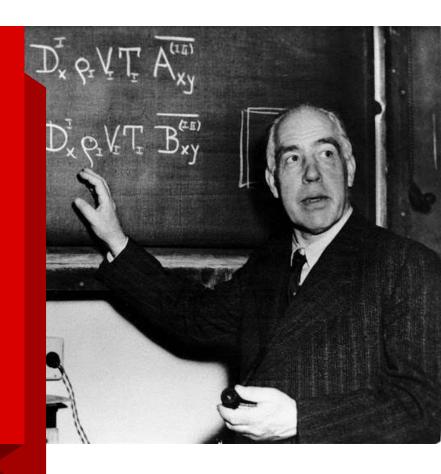
Real personal consumption expenditures still rising through August.

Real manufacturing & trade sales peaked in March 2021, then in January.

ALL DATA ARE SUBJECT TO REVISION!

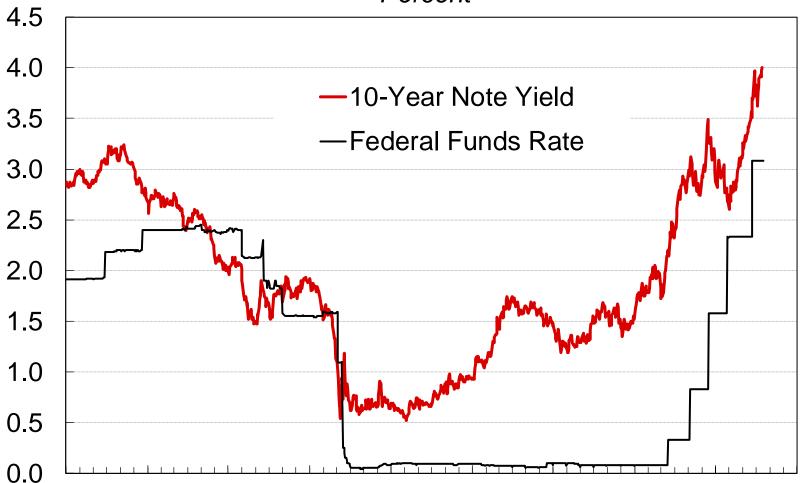
"Prediction is very difficult, especially about the future."

Niels Bohr, 1885-1962 Nobel Laureate, 1922



US Interest Rates

Percent

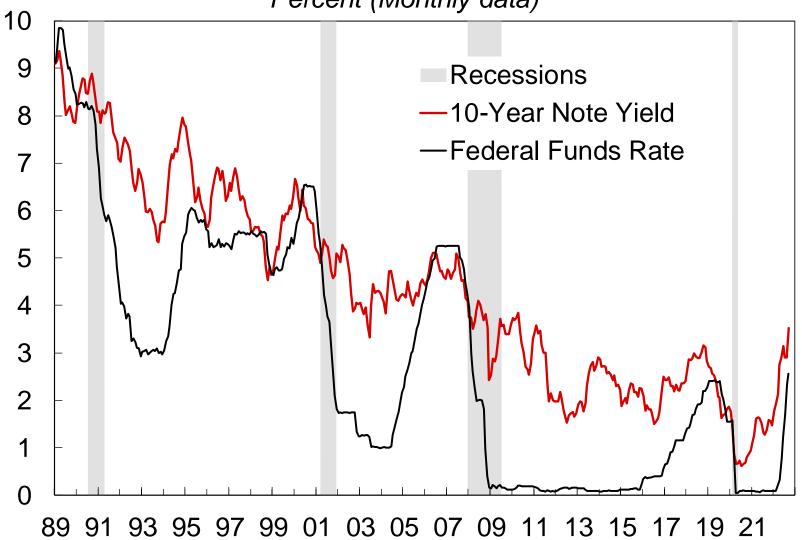


Jul18 Jan19 Jul19 Jan20 Jul20 Jan21 Jul21 Jan22 Jul22

Source: Board of Governors of the Federal Reserve System (US)/Federal Reserve Bank of New York/FRED

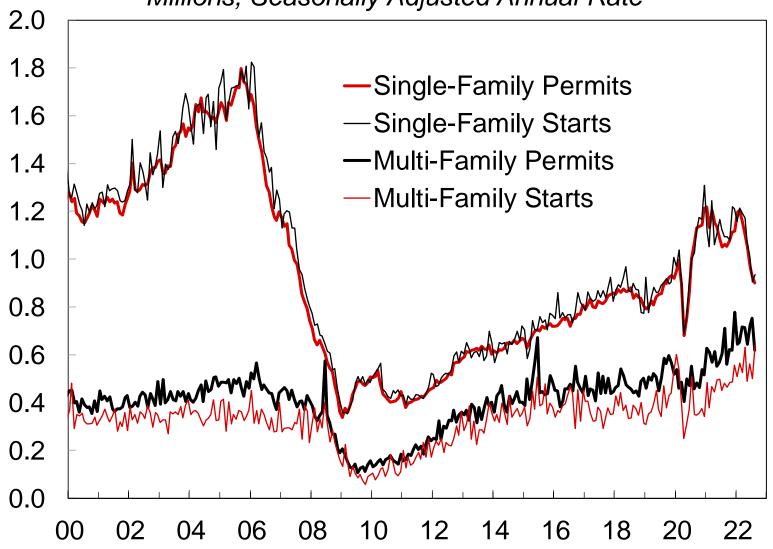
US Interest Rates

Percent (Monthly data)



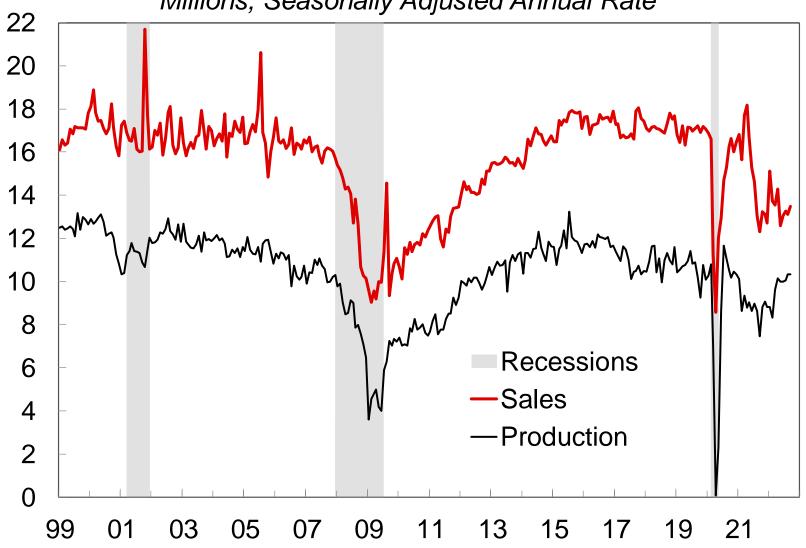
US Housing Starts & Building Permits

Millions, Seasonally Adjusted Annual Rate



US Light Vehicle Sales & Production





S&P 500 Stock Price Index

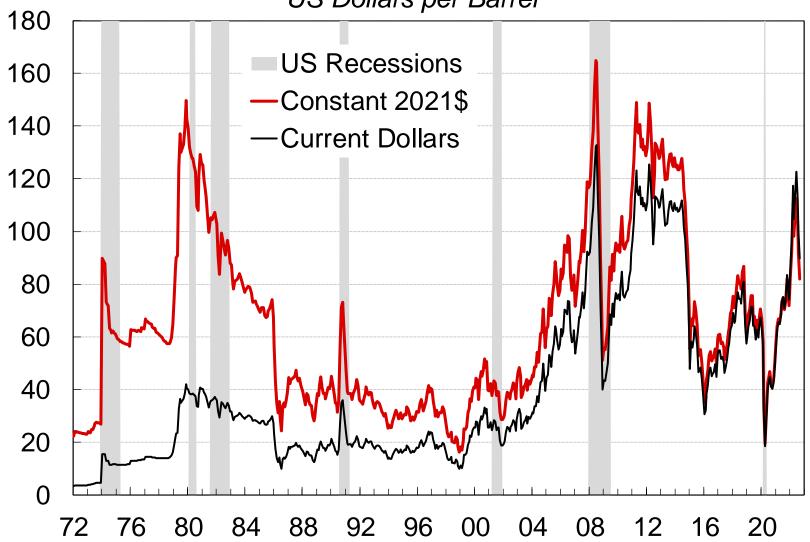


Jul18 Jan19 Jul19 Jan20 Jul20 Jan21 Jul21 Jan22 Jul22

Source: S&P Dow Jones Indices LLC/FRED

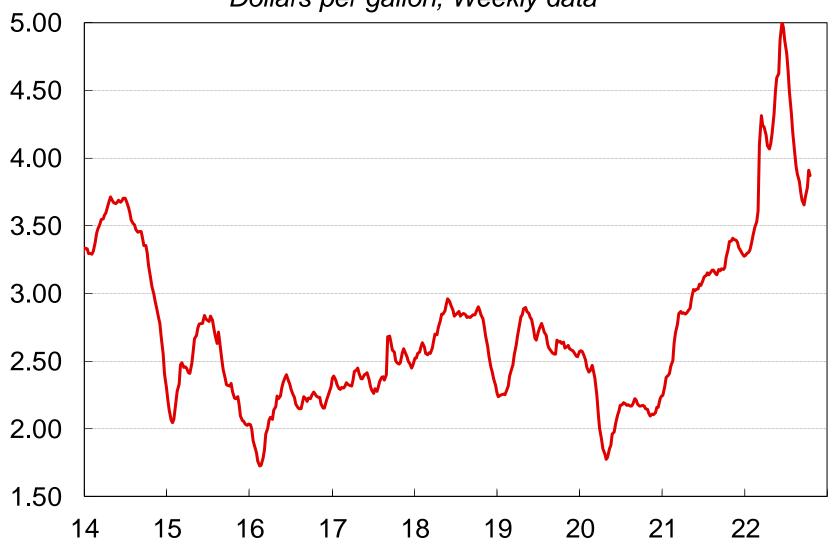
Brent Blend Oil Price

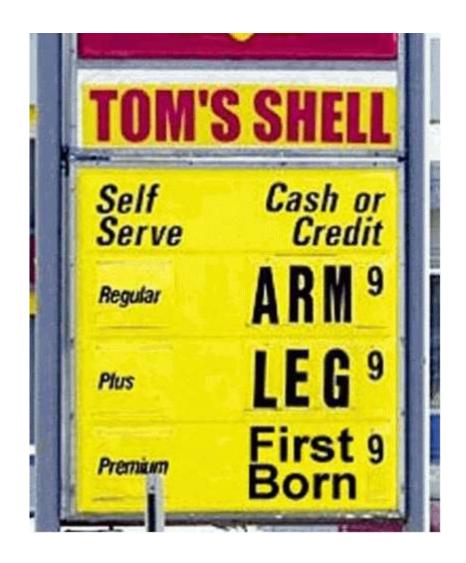
US Dollars per Barrel



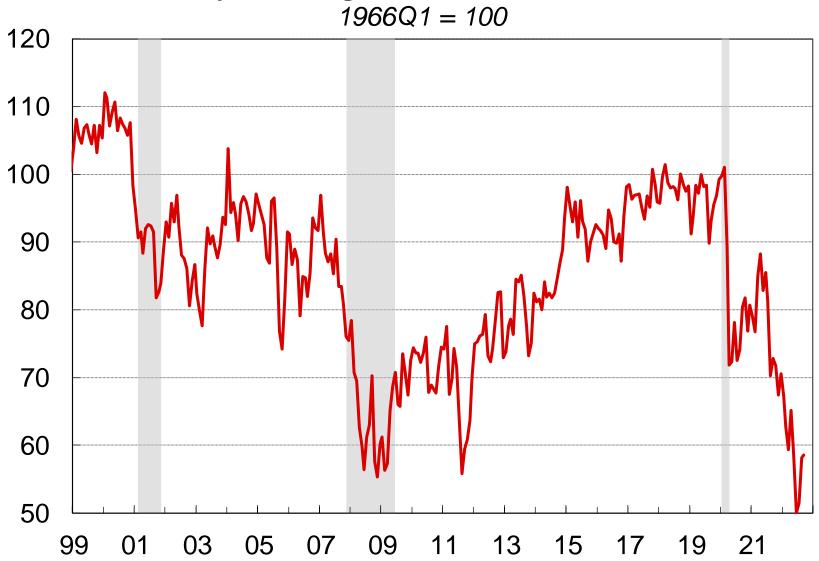
US Regular Gasoline Price

Dollars per gallon, Weekly data

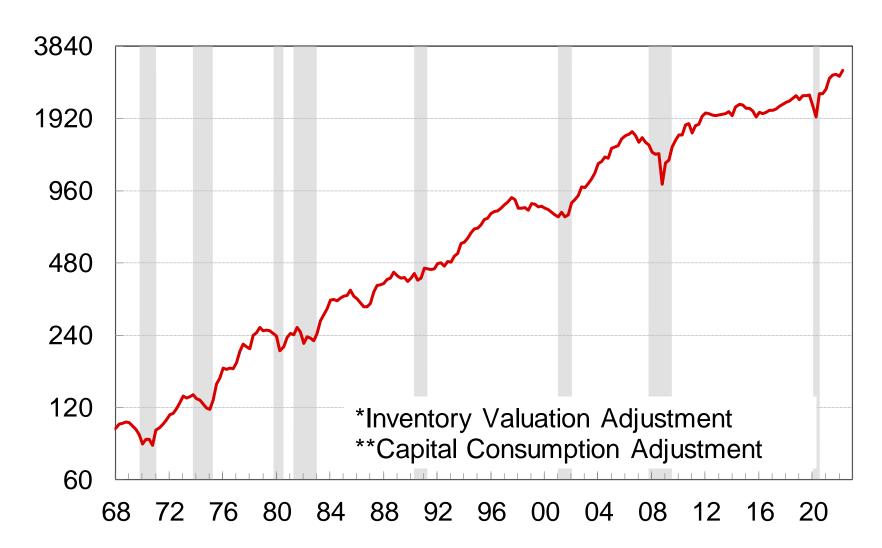




University of Michigan Consumer Sentiment Index

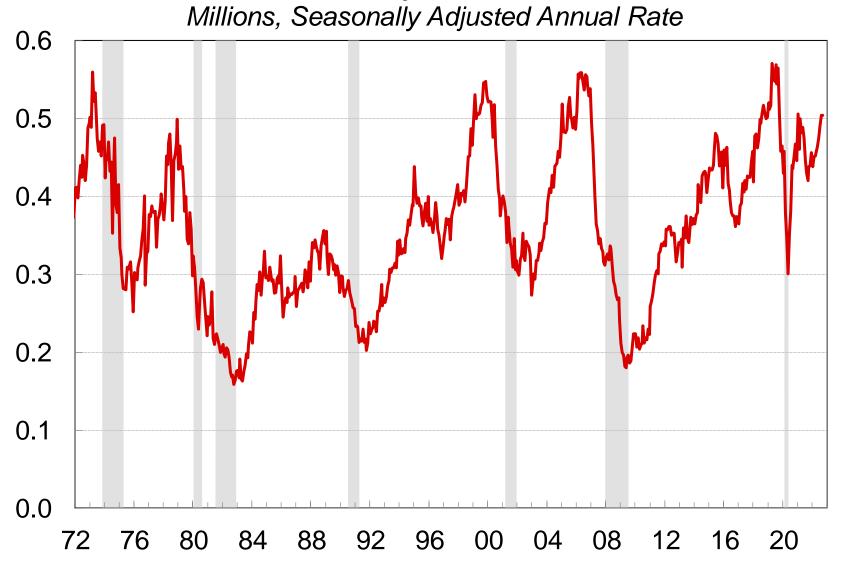


US Corporate Profits with IVA* and CCAdj** Billion \$

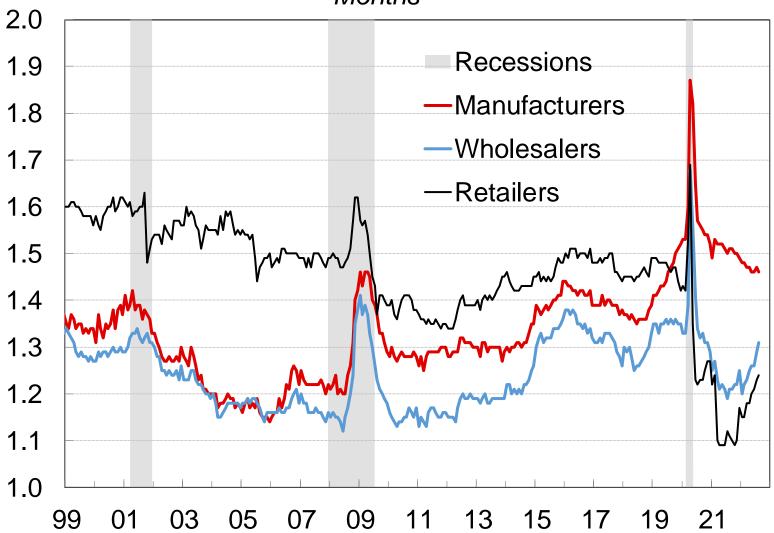


Source: U.S. Bureau of Economic Analysis/FRED

US Heavy Truck Sales

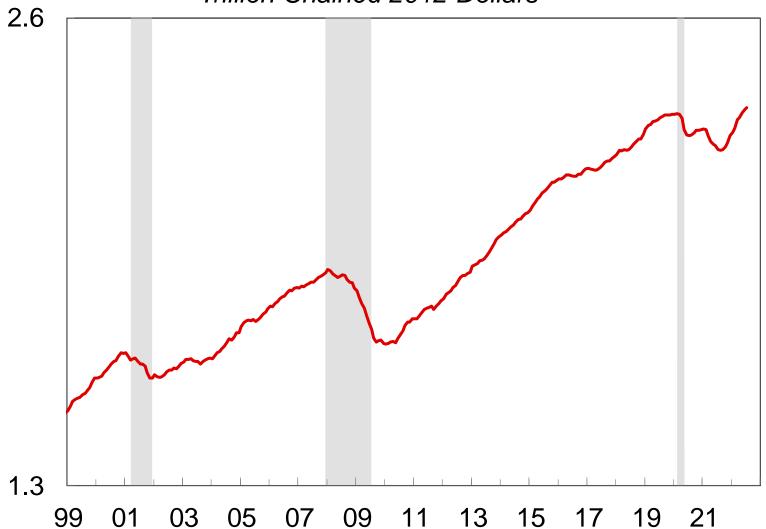


US Business Inventories to Sales Ratio Months



Real Manufacturing and Trade Inventories

Trillion Chained 2012 Dollars



Source: Federal Reserve Bank of St. Louis/FRED

Leading indicators point to a recession.

Every recession since 1973 has been preceded by an inverted yield curve and at least a doubling in oil prices.

- Yield curve is not yet inverted, but likely will be in November.
- With normal lags, that would mean recession starting in or after mid-2023.
- Near-term recession would imply that either bond markets have done the Fed's work for them, or energy prices are causing a recession.

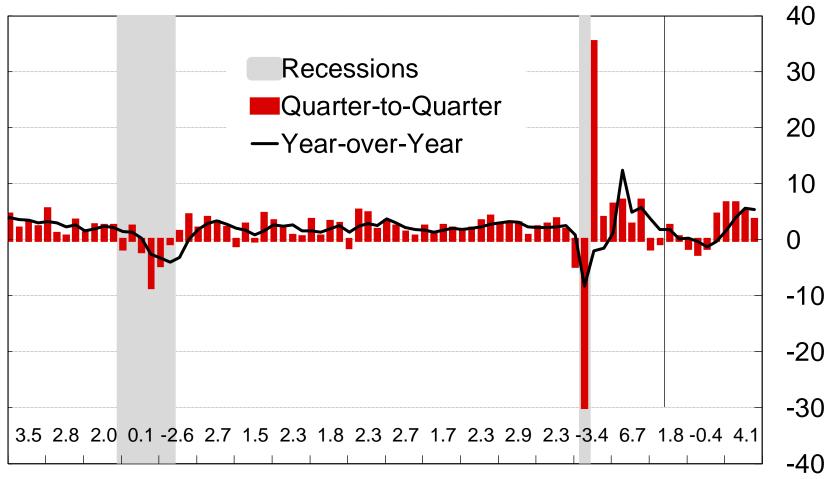
Many leading indicators (e.g., stock prices, housing starts/permits, LEI, my own leading index) are pointing to a recession sooner than mid-2023.

Arguments against recession becoming arguments for mild recession.

- Household and corporate balance sheets are still in good shape.
- There is still plenty of pent-up demand for houses and motor vehicles.
- Services, especially travel & entertainment, are still recovering from pandemic.

US Real Gross Domestic Product

Annualized Growth Rates



05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

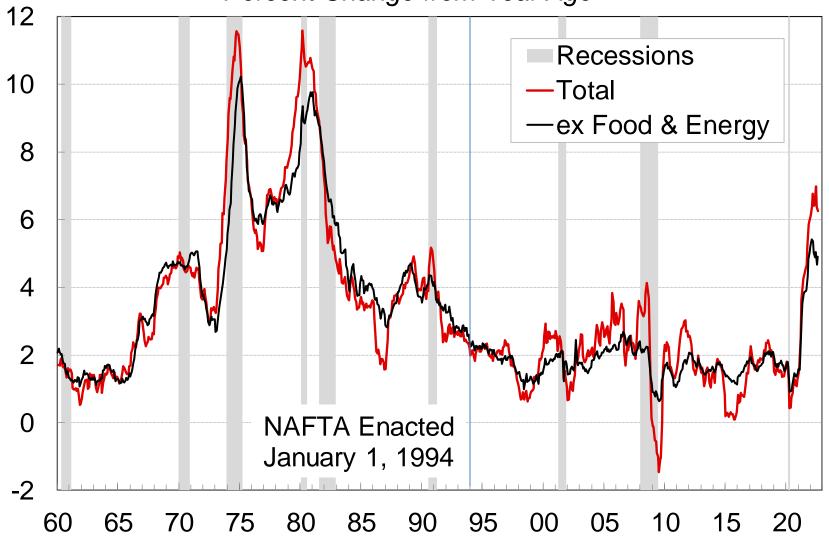
"The crisis takes a much longer time coming than you think and then it happens much faster than you would have thought."

Rudiger Dornbusch 1942-2002



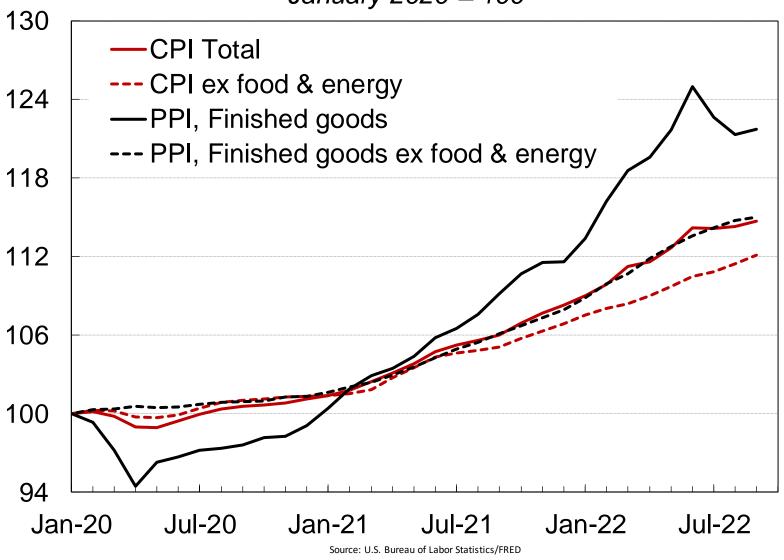
US Personal Consumption Expenditures Price Index



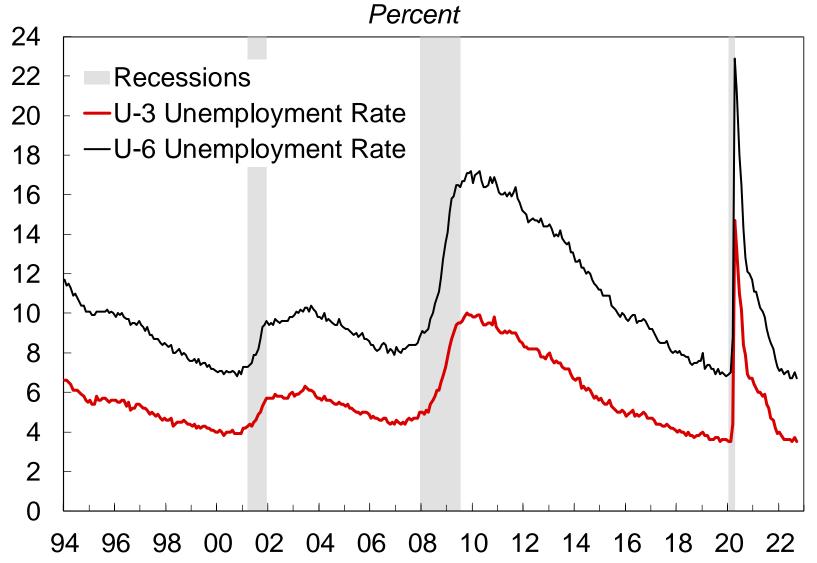


US Consumer & Producer Price Indexes

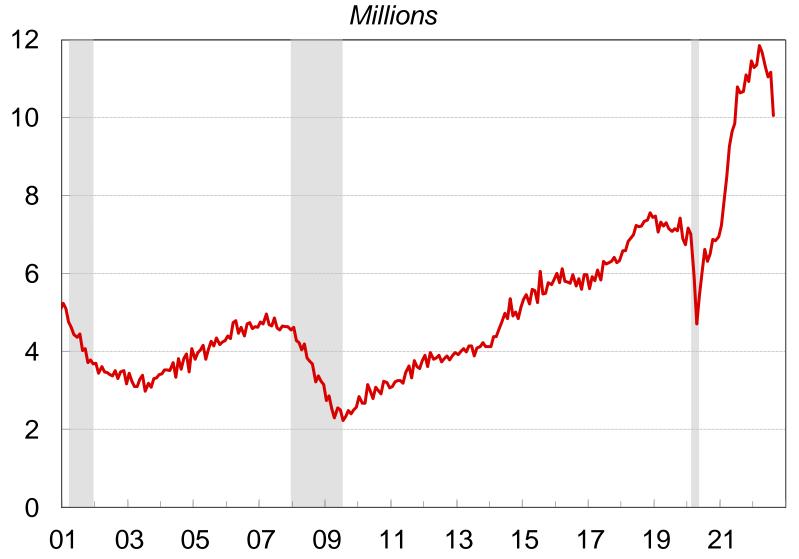
January 2020 = 100



US Civilian Unemployment Rate

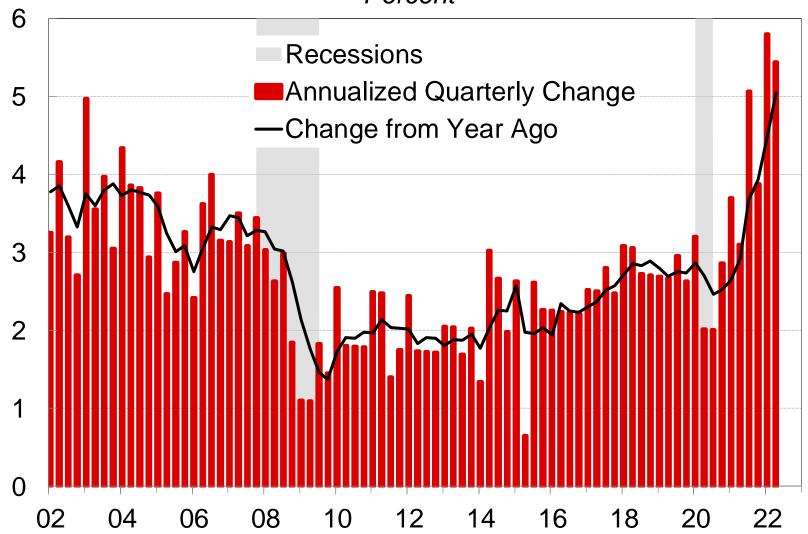


US Job Openings: Total Nonfarm



Source: U.S. Bureau of Labor Statistics/FRED

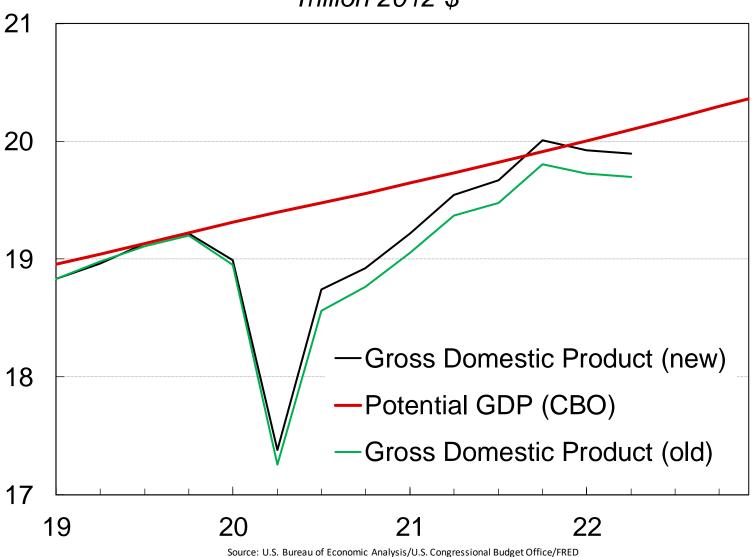
US Employment Cost Index: Total compensation Percent



Source: U.S. Bureau of Labor Statistics/FRED

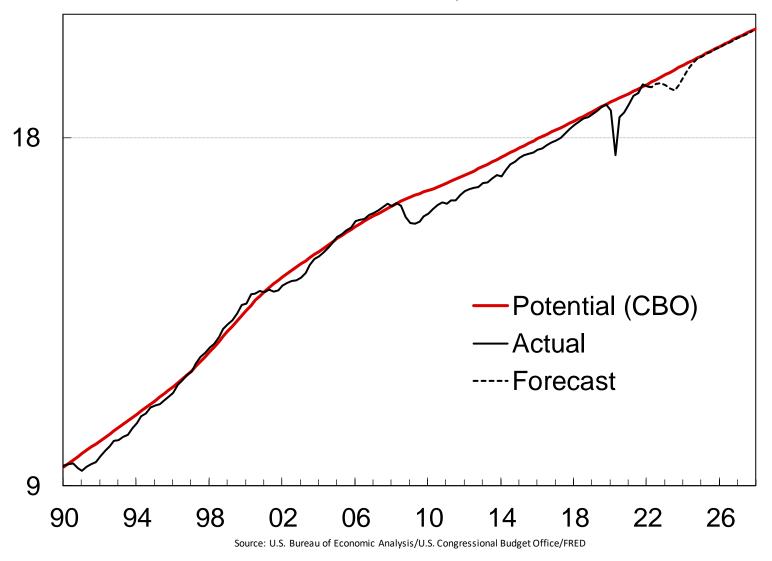
US Real Gross Domestic Product

Trillion 2012 \$



US Real Gross Domestic Product

Trillion 2012 \$



Rise in inflation has been bigger and more persistent than Fed expected.

Labor market has been tighter than employment data suggested.

GDP rose above Congressional Budget Office estimate of potential.

Supply CONSTRAINTS have boosted prices.

- Supply **constraints** are due mostly to strong demand, not to supply **disruptions**. Imports and semiconductor shipments have hit record highs.
- "Shortages" (workers, semiconductors, containers) have boosted prices.
- Fed thought rise in measured inflation would be "transitory."
- Fed was wrong. Will have to raise rates more than it had planned.

Inflation unlikely to fall to Fed's 2% target without a recession.

Fed will raise rates until something breaks.

Is this like the 1970s?

Similarities to 1970s

Higher energy prices

Higher food prices

High inflation BEFORE food and energy prices spiked

Policymakers blame supply shocks for consequences of THEIR (demand) policies.

It will probably take a recession to get inflation down to an acceptable level.

Differences from 1970s

Demographics

 Young adults are inflationary; create huge demand for housing and motor vehicles. Old adults are more willing to defer spending.

Globalization

- Free trade reduces inflation.
- We've backtracked under Trump & Biden & Putin & Xi.

Fed got serious after one year of high inflation rather than after 13 years of high inflation.

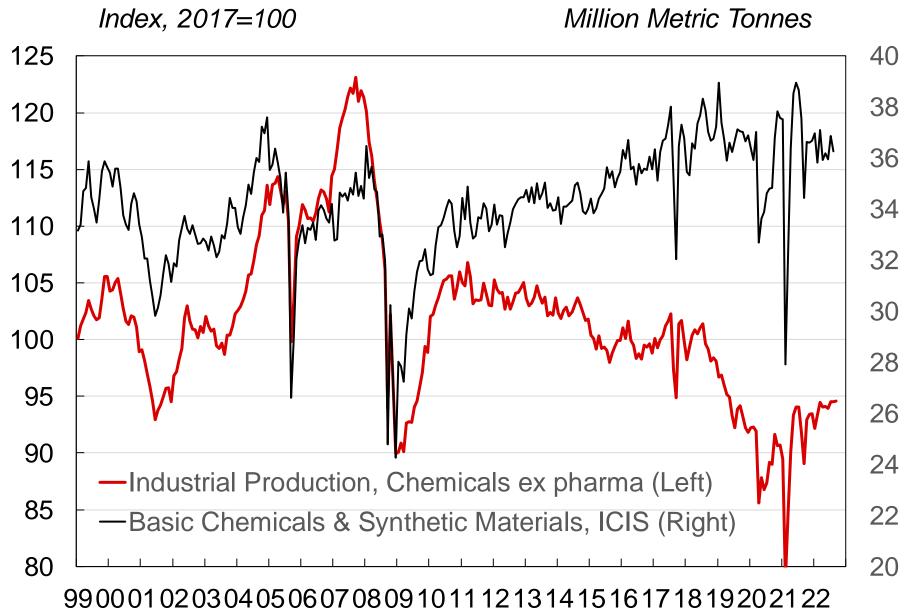
Industry Detail

US Industrial Production: Chemicals ex pharma

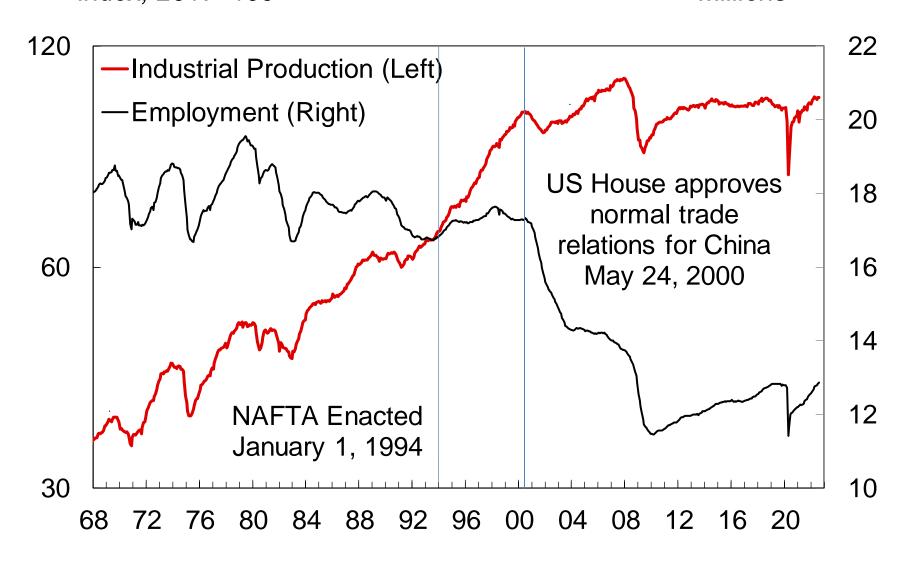
Index, 2017=100



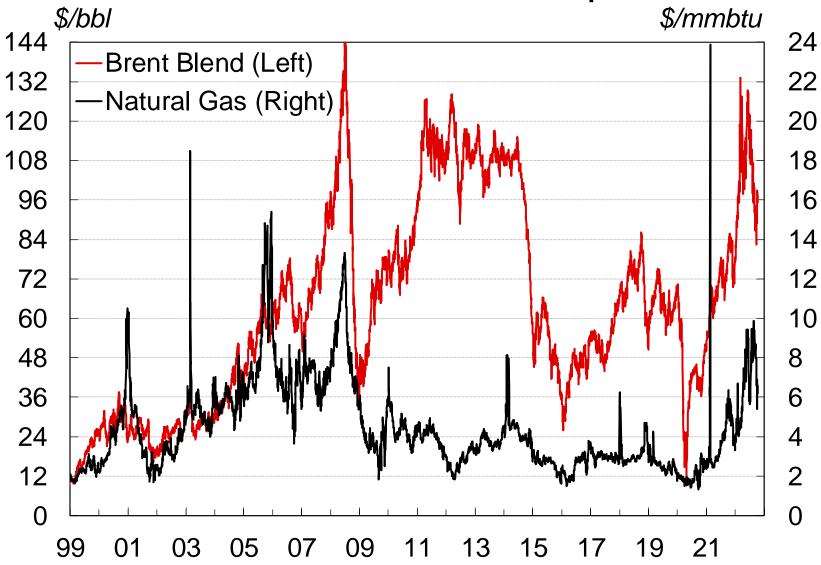
Chemical Production: Federal Reserve vs ICIS



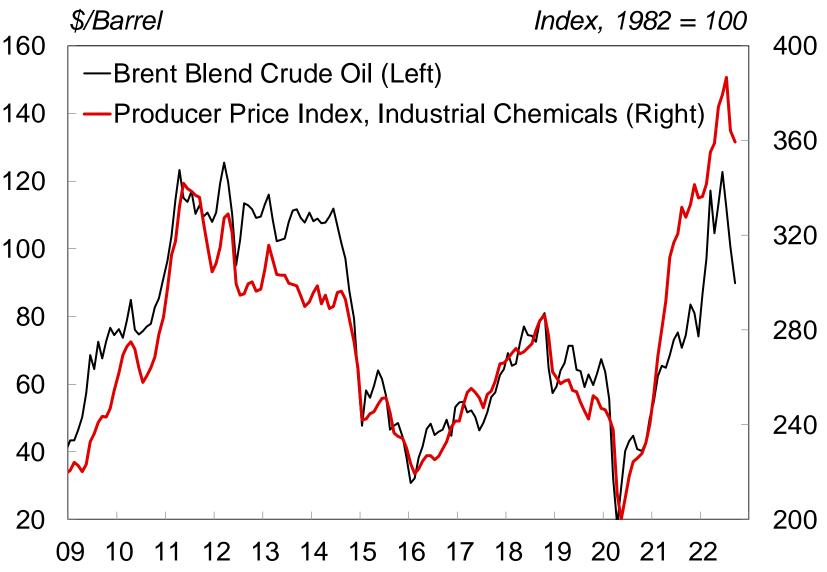
US Industrial Production & Employment: Manufacturing Index, 2017=100 Millions



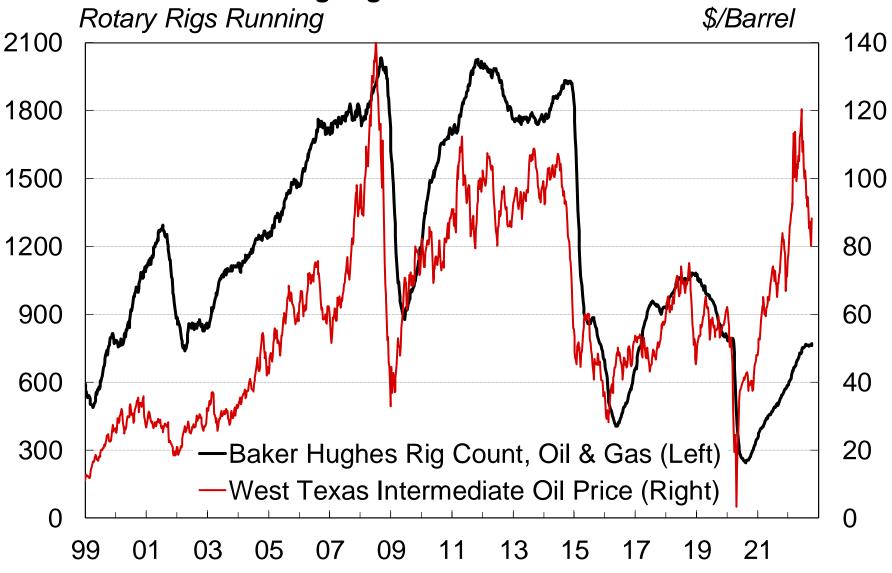
Global Crude Oil and US Natural Gas Spot Prices



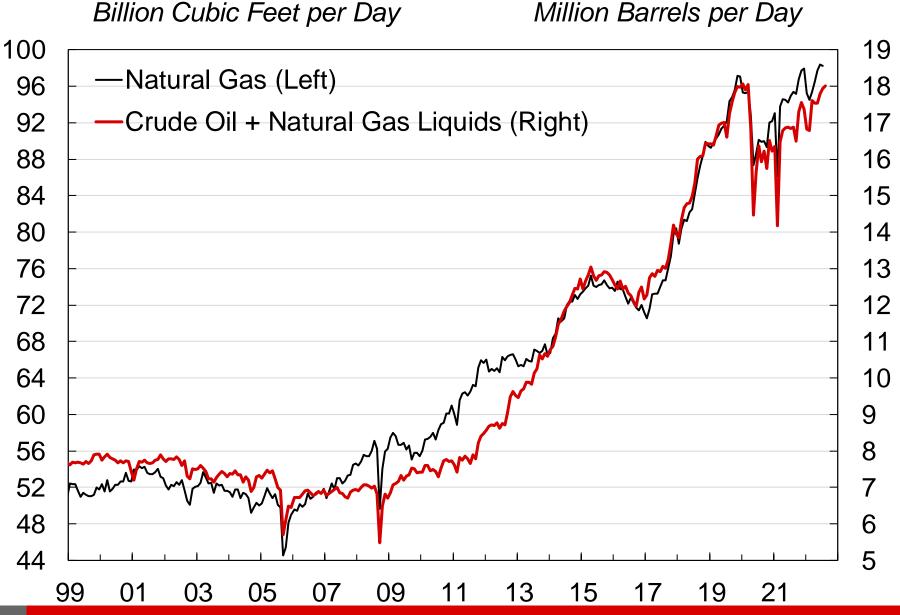
Brent Oil Price vs Industrial Chemical Prices



US Drilling Rig Count versus Oil Price



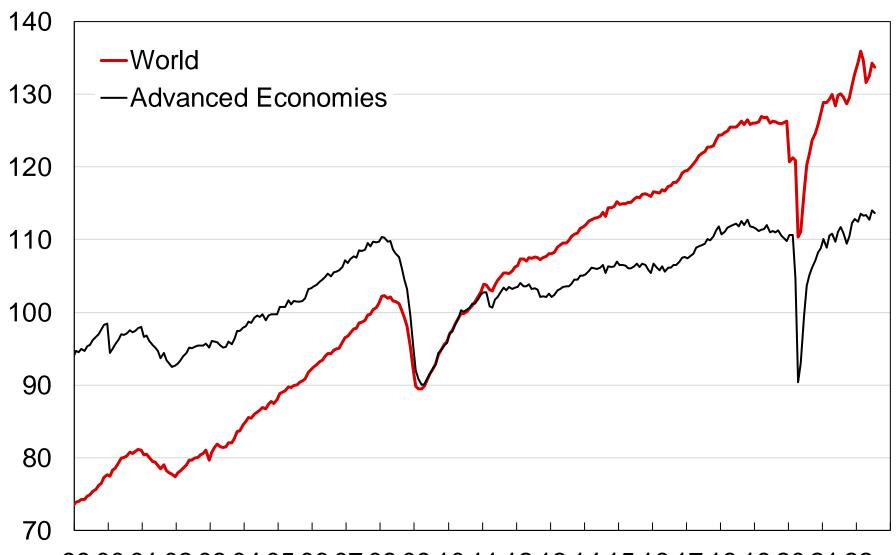
US Oil & Gas Production



Global Overview

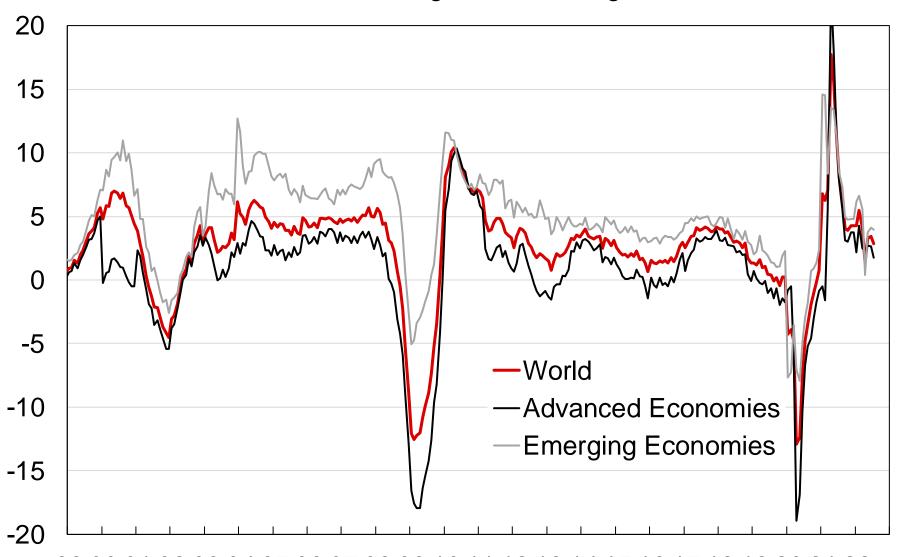
Industrial Production ex Construction

Index, 2010 = 100



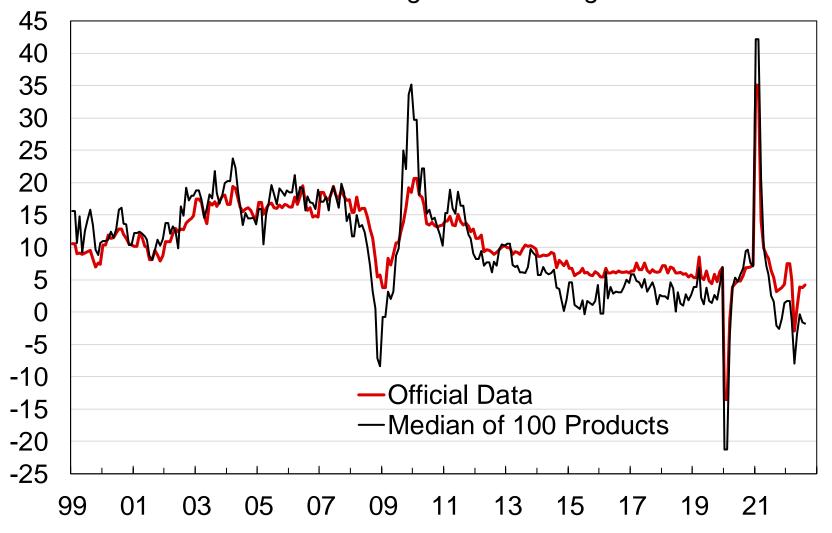
Industrial Production ex Construction

Percent Change from Year Ago



99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22

Value Added of Industry (Industrial Production): China Percent Change from Year Ago



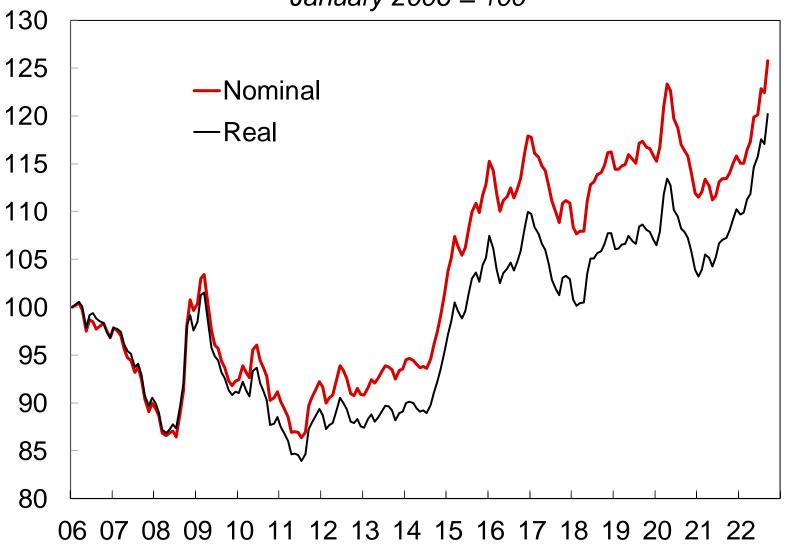
Industrial Production, Manufacturing: European Union

Index, 2015 = 100



Federal Reserve Broad Dollar Index

January 2006 = 100



Key takeaways

US economy likely to fall into recession in 2023.

Recession is necessary to bring inflation down to 2%.

The faster inflation comes down, the milder the recession.

Impact of Russian invasion of Ukraine on energy and food prices affects Europe, Middle East, and Africa more than US.

Chinese growth at risk from pandemic, population, and policy.

Longer term

Labor is likely to remain the scarce factor of production.

- Labor shortage is demographics, not just COVID fears and bad policies.
- Seven highest years for US births were 1956-62.

Reshoring looks increasingly attractive but will be limited.

- Pandemic, geopolitics, port/shipping constraints argue for moving supply chains out of China and to North America.
- Capital-intensive business can move to US. Labor-intensive business can't.

Fed has probably learned to go big, but to reverse course sooner.

Fiscal policy will be constrained by size of debt/deficit.

Politicians less likely to admit/learn from mistakes than Fed.

Robert Fry Economics LLC

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Publications by Robert Fry

Low Interest Rates Are Hurting Growth:

https://www.forbes.com/sites/realspin/2016/10/04/low-interest-rates-are-hurting-growth/#58cff2edb605

Put An Economist on Your Board:

http://media.wix.com/ugd/d2d439_73ba8ec9866a4c5c859d79effe7 c60e1.pdf

10 Things To Look For In A Fed Governor:

https://www.forbes.com/sites/realspin/2017/01/20/10-things-to-look-for-in-a-fed-governor/#17c4c41b27ee