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Type them into questions box!

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Thank you and enjoy the show.

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ChemIDP
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Making Sense of the Global Economy: U.S. Manufacturing, the Chemical Industry, and You

Robert Fry
Chief Economist,
Robert Fry Economics LLC

Keith Wing
Founder,
Keith Wing Consulting

Presentation slides are available now! The edited recording will be made available as soon as possible.

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This ACS Webinar is co-produced with the Science History Institute and Chemical & Engineering News.
Making Sense of the Global Economy: U.S. Manufacturing, the Chemical Industry, and You

April 8, 2021

Robert Fry
Chief Economist, Robert Fry Economics LLC

Keith Wing
Consultant- Industrial Biochemistry
Joseph Priestley Society Committee Member
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Excuse me. Can you tell me where I am?

You’re in a balloon.

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.
Where the US economy stood on February 19, 2020:

Real GDP growing at a 2.1% annual rate, showing signs of acceleration.
- Grew at 3.1% rate from 2017Q2 through 2018Q3. (Tax cuts, deregulation.)
- Growth fell back to 2.1% in 2018Q4. (Fed tightening, tariffs, slowing in rest of world.)

Unemployment rate at a 50-year low.
Employment growing rapidly. (Unsustainably so.)
Manufacturing stabilizing after decline from December 2018.
Housing sector at cyclical highs after weakness in 2018 and early 2019.
Oil production at record highs and surging.
Stock market at all-time high.
Recession:

A period when money is returned to its rightful owners.

-- Anonymous
US Real Consumer Spending & Disposable Income
Percent Change from Year Ago, Chained 2012 Dollars

- Personal Consumption Expenditures
- Disposable Personal Income

US Real Personal Consumption Expenditures
Billion 2012 $, Seasonally Adjusted Annual Rates

- Services
- Goods

Source: U.S. Bureau of Economic Analysis/FRED
US Industrial Production: Manufacturing

Index, 2012=100

US Light Vehicle Sales & Production

Millions, Seasonally Adjusted Annual Rate

Recessions
Sales
Production

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27

28
COVID-19 caused worst recession since Great Depression

2020 Q2 decline in real GDP was, by far, the biggest ever.
- April declines in employment, retail sales, industrial production were worst ever.
- Annual decline in GDP was worst since 1946.

Unemployment soared to highest levels since Great Depression.

Despite strong rebound, economy remains below pre-recession peak.

Unlike most recessions, where all industries contract, this recession and recovery have been marked by extreme losers and big winners:
- Goods have done much better than services
- Winners: online retailers, tech companies, grocery stores (and shareholders)
- Losers: restaurants, travel, entertainment (and their employees), landlords

Technically, the recession is over.

“Prediction is very difficult, especially about the future.”

Niels Bohr, 1885-1962
Nobel Laureate, 1922
US Real Gross Domestic Product

Annualized Growth Rates

- Recessions
- Quarter-to-Quarter
- Year-over-Year

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

US Real Gross Domestic Product

Trillion 2012$
What this recovery looks like: a script V

2020 Q3 GDP growth was the strongest ever.
Growth slowed in 2020Q4.
Growth accelerated in January.
  • First vaccines given December 14, 2020.
  • New COVID-19 cases peaked week ending January 12.
  • February was down because of fiscal lull and extreme cold in Texas.

GDP will surpass its pre-recession level in 2021Q3.
  • Employment will take longer to recover.

Pace of recovery has been boosted by:
  • Shifting resources to activities that can be done safely.
  • Rapid rollout of fiscal/monetary policy.

---

US Interest Rates

*Percent*

- 10-Year Note Yield
- Federal Funds Rate

Source: Board of Governors of the Federal Reserve System (US)/Federal Reserve Bank of New York/FRED
S&P 500 Stock Price Index

Source: S&P Dow Jones Indices LLC/FRED

US Housing Starts & Building Permits

Millions, Seasonally Adjusted Annual Rate

- Single-Family Permits
- Single-Family Starts
- Multi-Family Permits
- Multi-Family Starts
What has been your experience during the pandemic?

- I could not satisfy demand because of an inability to hire enough workers
- I could not satisfy demand because of insufficient supplies of materials
- Both of the above
- I have not suffered any negative demand experiences
- Other (Tell us more in the chat)

*If your answer differs greatly from the choices above tell us in the chat!
As bad as things have been, growth has exceeded expectations

Possible explanations:
- Stimulus worked better than in past (and better than expected). (Keynes)
- Workers have shifted to higher-productivity jobs. (Schumpeter)

Implications:
- GDP will exceed CBO estimate of potential GDP earlier than we thought.
- **Unless CBO is wrong about potential GDP**, inflation will accelerate unless growth slows sharply in 2022.

**Accelerating inflation wouldn’t mean stimulus was wrong; it would mean that policy-makers didn’t undo stimulus quickly enough.**
- Many oppose fiscal and monetary stimulus because they (consciously or subconsciously) believe that government spending programs will never go away and the Fed won’t take away the punchbowl quickly enough.
Global Overview
Value Added of Industry (Industrial Production): China

Percent Change from Year Ago

Official Data
Median of 100 Products

Industrial Production, Manufacturing: European Union

Index, 2015 = 100
Industrial Production, Manufacturing: Japan
Index, 2015 = 100

Industrial Production, Manufacturing: Mexico
Index, 2013 = 100
Industrial Production, Manufacturing: Brazil
Index, 2012 = 100

Real GDP
(Annual % Change)

<table>
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<th>Region</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<td>C &amp; E Europe</td>
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<td>-4.2</td>
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</table>
Key Takeaways

COVID-19 caused the deepest recession since the Great Depression. To economists, the recession is over, making it the shortest ever. To non-economists, the recession lasts until we fully recover.

• For GDP and industrial production, that will probably be in 2021Q3.
• For employment, that won’t be until well into 2022.

Growth will be extremely strong in 2021. Unless CBO is wrong about potential GDP, growth will slow sharply in 2022 or inflation will accelerate (or both).

• Can the economy handle all the stimulus? Can supply meet the demand?

In most recessions, everybody loses. In this recession and recovery, there have been big winners and big losers.

For a copy of my slides and free sample of my Current Economic Conditions newsletter, email:

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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_73ba8ec98666a4c5c859d79effe7c60e1.pdf

• 10 Things To Look For In A Fed Governor:

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September 2021
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