UPDATE ON THE POST-PANDEMIC ECONOMY:

WHERE ARE WE?
HOW DID WE GET HERE?
WHERE ARE WE GOING?

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Status Update: Real GDP and Employment

- The economy is in recovery, but real GDP is still ~5% lower than it would have been had we remained on our pre-pandemic trajectory.
- Employment is still ~3 million jobs below pre-pandemic level, and much further below where it would have been had we remained on trajectory.
 - And yet, the unemployment rate is only 3.9%?
- Add to this conundrum the following:
 - The "Quit Rate" is higher than we have ever seen.
 - There are more job openings than we have ever seen.

Status Update: Inflation

- Inflation has reached levels not seen since the early 1980s and no longer appears to be the transient phenomenon we thought it was.
 - There is debate among economists and policymakers on the causes of high inflation, but it seems clear to most of us that it is driven both by the demand side and the supply side.
- Wage inflation has also increased, but remains below price inflation.
- In response, the Fed is expected to act more aggressively over the next year. What will be the impact?

Status Update: the Fed and Interest Rates

- In response to higher inflation, the Fed will act more aggressively to remove support for the economy.
- Two tools
 - Federal funds target short rates
 - Size of balance sheet long rates
- Fed is now expected to increase target range for the fed funds rate 3 – 4 times next year.
- At the same time, they will be reducing the size of their balance sheet ("Quantitative Tightening").
- This is uncharted territory. There is lots of uncertainty about how this will go and the effects that it will have.

The Post-Pandemic Economy

The Real Economy: GDP and Employment Inflation
Fed Policy

The Post-Pandemic Economy

The Real Economy: GDP and Employment

Inflation

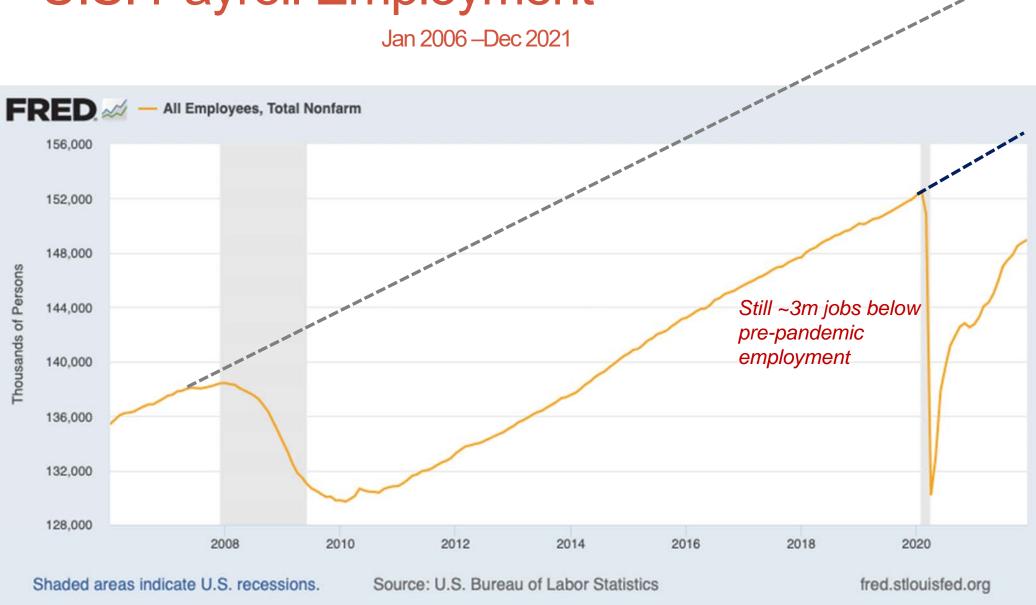
Fed Policy

U.S. Real GDP

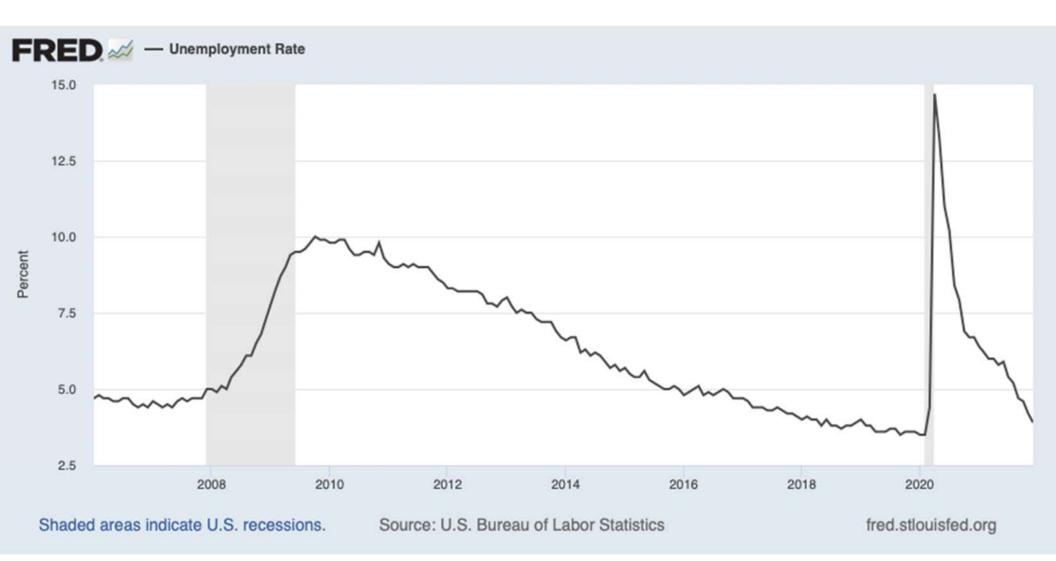
Q 1 2006 - Q3 2021



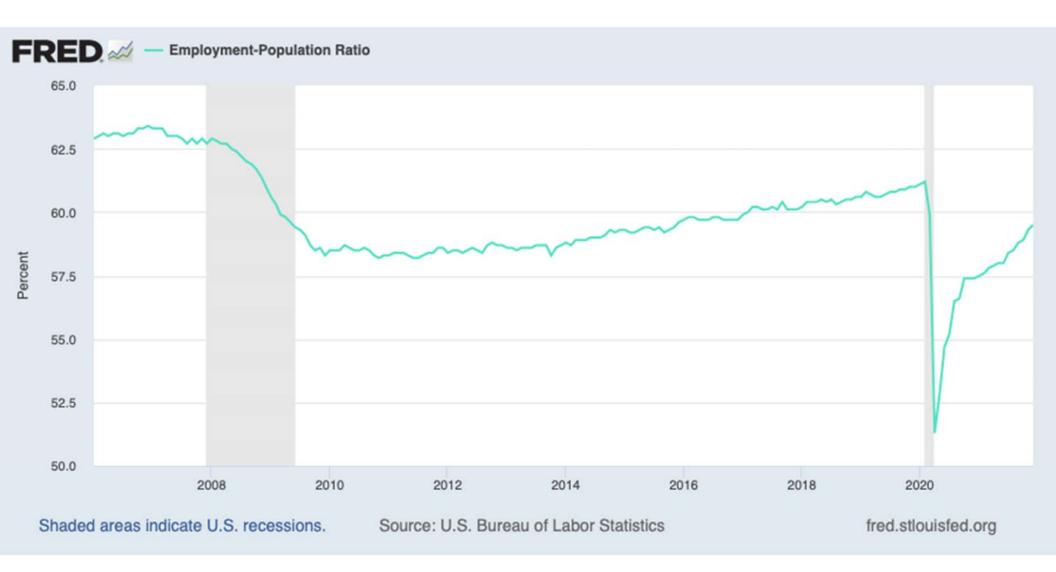




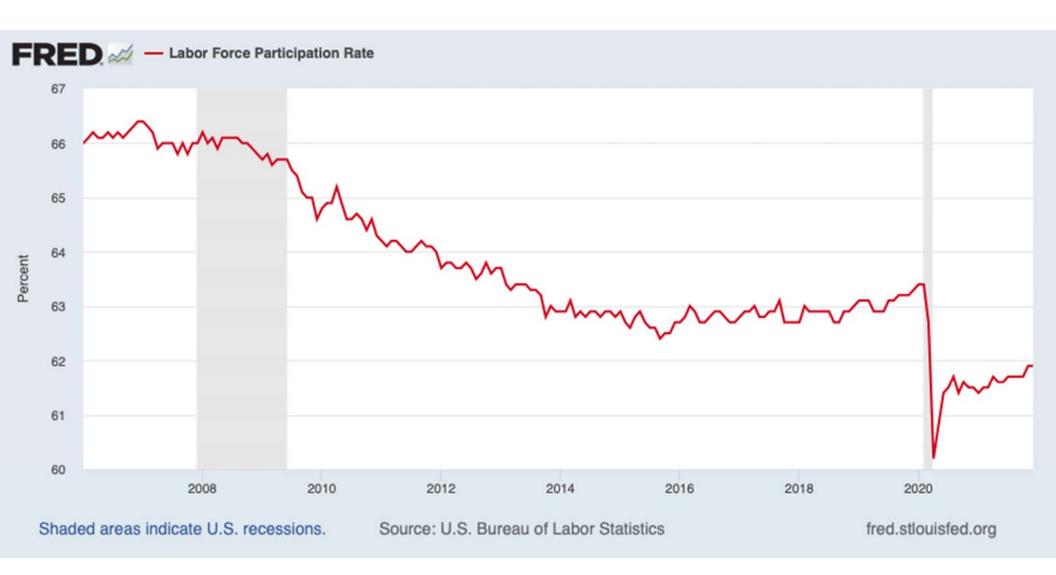
The U.S. Unemployment Rate



The U.S. Employment-Population Ratio



The U.S. Labor Force Participation Rate



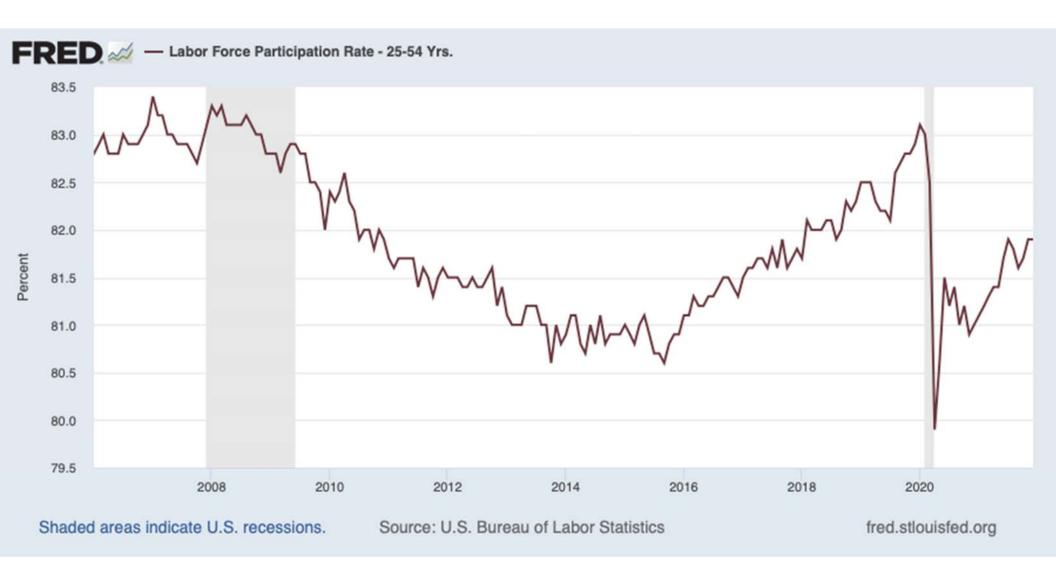
U.S. "Non-Employment" Rate

	E/Pop	LF/Pop	u
Feb-20	61.2%	63.4%	3.5%
Dec-21	59.5%	61.9%	3.9%
Non-employment Dec 21	59.5%	63.4%	6.2 %

The unemployment rate can be decomposed into its two determinants

- The unemployment rate is increasing in the employment-population ratio and decreasing in the the labor force participation rate.
- Increases in labor force participation, holding the employment-population ratio fixed, will increase the unemployment rate
- Both have fallen, but if the labor force participation rate actually fell more than the employment-population ratio, the unemployment rate during the pandemic would have gone UP!
- If the U.S. economy had the same participation rate as it did prior to the pandemic, i.e., if so many people had not dropped out of the labor force (stopped looking for work), then the current unemployment rate would be 6.2%.

"Prime Age" Labor Force Participation Rate



The Post-Pandemic Economy

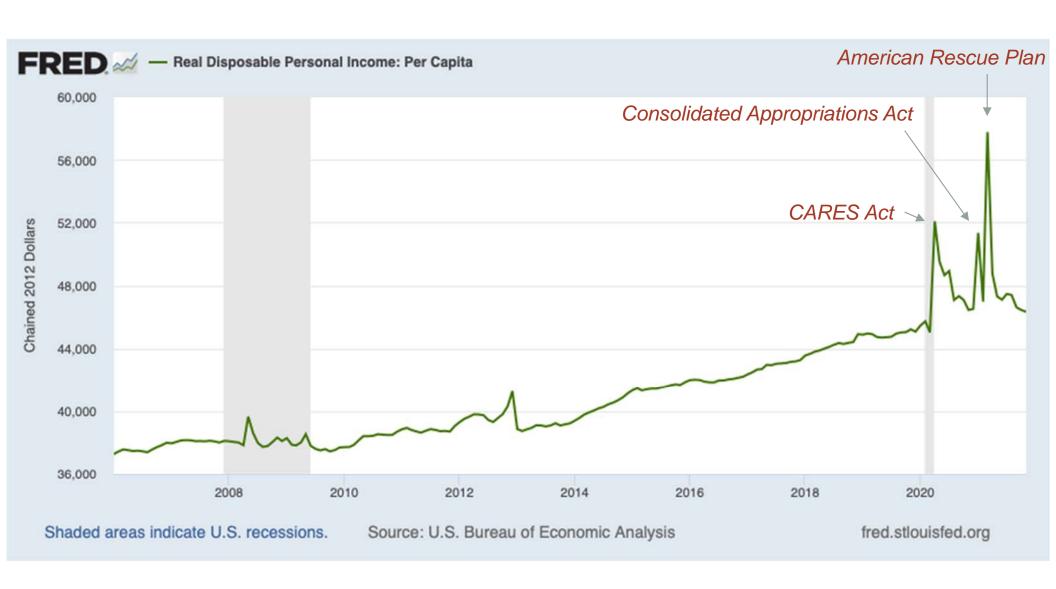
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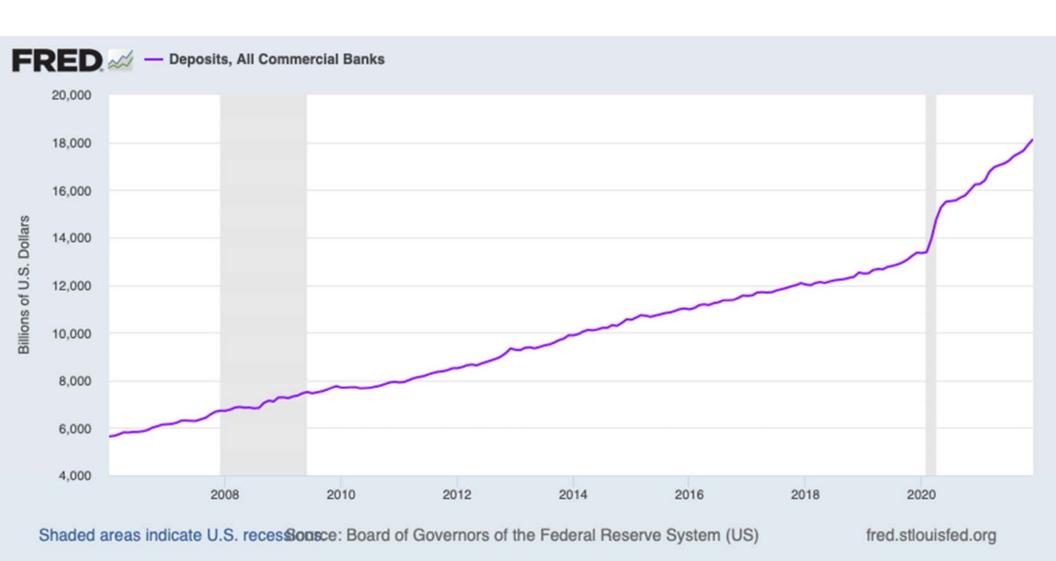
Inflation

- Aggregate Demand: total spending on final goods and services in an economy.
- Aggregate Supply: the productive capacity of the economy (workers, skills, technology, capital, etc.)
- <u>Inflation</u> occurs when aggregate demand exceeds aggregate supply.
 - We have seen that household consumption has been maintained during the pandemic, driven by the dramatic increase in demand for durable goods.
 - At the same time, we have seen "supply chain disruptions" and worker shortages that have limited the productive capacity of the economy.
- Despite the heated rhetoric among disagreeing economists and policy-makers, it seems clear that the high on persistent inflation that we see today is due to both factors.
 - In the face of the continuing pandemic, we just don't have the productive capacity to meet the demand increases, especially given the changing nature of the consumption patterns (more durable goods).
 - Increased concentration of industries has almost certainly contributed to the supply chain disruptions, a phenomenon that was predicted by Matt Stoller.

Real Disposable Personal Income



Deposits at Commercial Banks

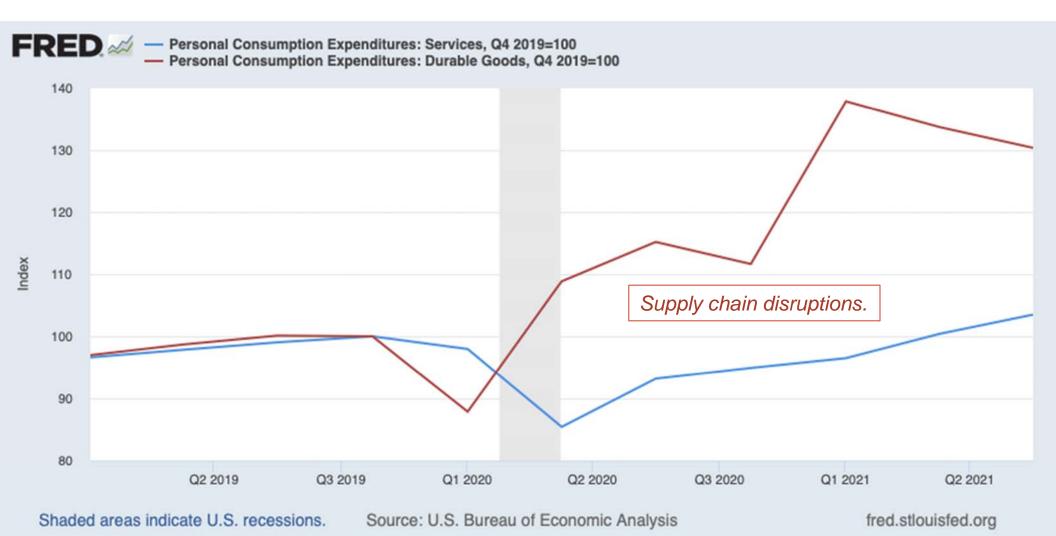


Personal Consumption Expenditures

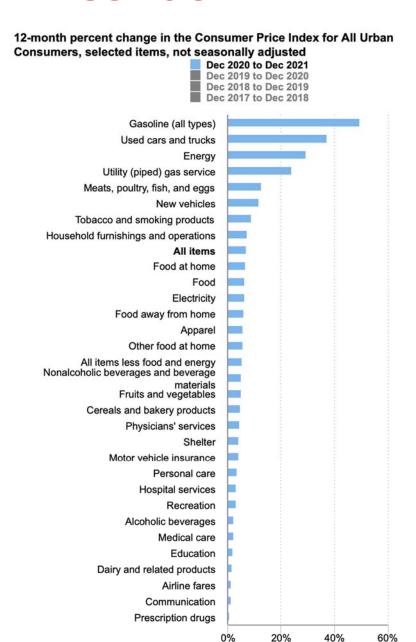


Personal Consumption Expenditures

Q4 2019 - Q3 2021 (Q4 2019 = 100.0)



CPI Inflation Breakdown



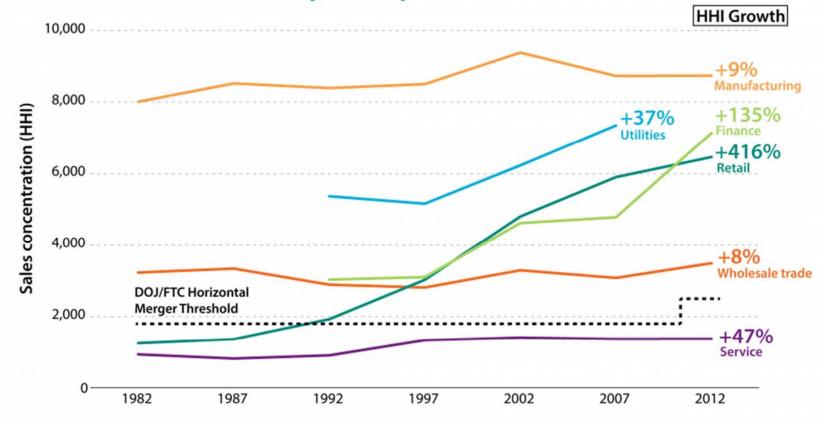


U.S. Wage Inflation



Increasing Concentration

Market Concentration and Growth by Industry, 1982–2012



Source: Autor et al. 2017.

Note: Market concentration refers to the Herfindahl-Hirschman Index (HHI; sales). After defining the boundaries of a market and calculating each firm's share (e.g., of total sales), HHI is calculated by summing the squared market shares of all firms, then multiplying the sum by 10,000. HHI growth is for the date range available (1982–2012 for all series except Utilities and Finance, which show 1992–2007 and 1992–2012, respectively). The dashed line indicates the threshold market concentration established by the U.S. Department of Justice (DOJ) and Federal Trade Commission's (FTC's) Horizontal Merger Guidelines above which a proposed merger would trigger enhanced scrutiny.



Source: The Hamilton Project, Firm Concentration is Rising, Particularly in Retail and Finance (https://www.hamiltonproject.org/charts/firm concentration is rising particularly in retail and finance), June 13, 2018

Increasing Concentration

WIRED



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Covid-19 Will Mark the End of Affluence Politics

The possibility of a global pandemic will reveal our inability to make and distribute the things people need—just in time for a presidential election.

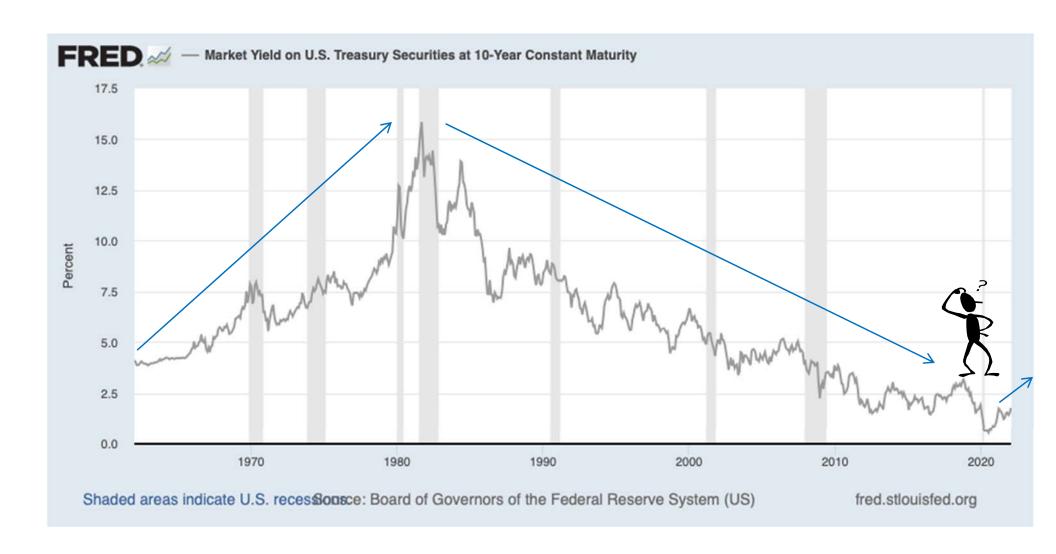
More concentrated industries

- Ventilators
- Plastic bags for vaccine manufacture
- Hospitals
- Railroads
- Trucks
- Ocean shipping
- Semiconductors
- The "Great Ammunition Shortage"

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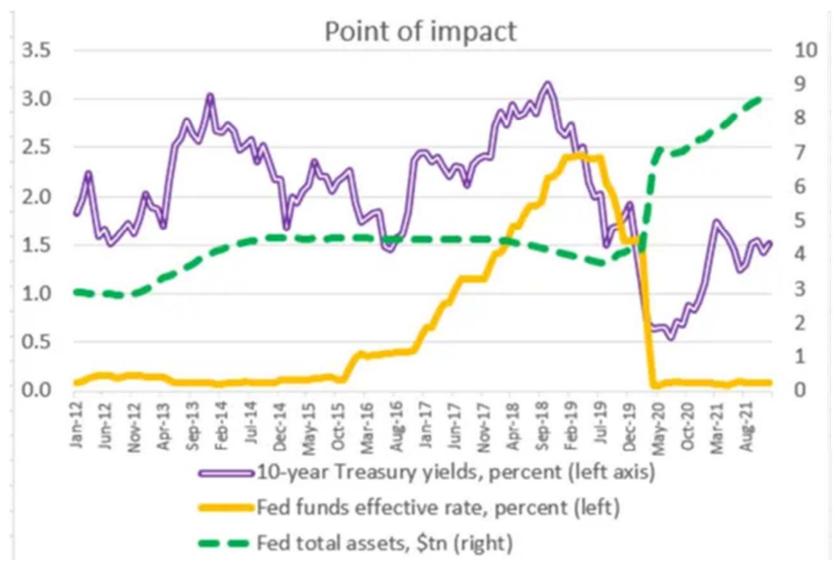
10- Year Treasury Yield



Fed Monetary Policy Procedures

- In the past (pre-QE), the Fed targeted the fed funds rate as its primary objective. The fed funds rate is an overnight rate, so this will clearly have a more direct impact on the "short end" of the yield curve.
- According to conventional theory in finance, long rates depend on expected short term rates, so when the Fed acts to increase short term rates, long-term rates should follow.
 - Unfortunately, this pattern has not held up historically.
 - This lack of correlation between long and short terms rates became known as the "bond market conundrum," a phrase coined by Alan Greenspan.
- To control long-term interest rates, the Fed introduced QE, which involves purchases of longer-term securities (Treasuries and MBS).
- So, now that the Fed (and other central banks) have devised new procedures to directly control longer term rates, the entire yield curve will now depend largely on Fed policy.

Quantitative Tightening



Source: Robert Armstrong, :What happens when the Fed balance sheet shrinks?", *Financial Times* (Jan 19, 2022).

Fed Monetary Policy Procedures

- Due to the vagaries of Fed procedures and Treasury debt management as they have been developed in the world of excess liquidity there is quite a bit of uncertainty about the impact on financial markets of QT.
 - For various reasons, much of the Fed balance sheet is actually held in the Treasury account. That account was bloated by debt ceiling shenanigans as well as projections of increased spending that have not materialized.
 - Those amounts will be drawn down and will enter the market via the banking system, just as they would under the normal conduct of monetary policy.
 - At the same time, QT will be drawing down bank reserves, reducing available liquidity.
- This has the prospect of being tumultuous. We could see another spike in yields as we did in 2019.
 - The Fed has implemented new facilities (such the the Standing Repo Facility) that are intended to address many of the potential issues that could arise. But they don't always get it right ...

Takeaways

- I have given up on giving forecasts. Frankly, your guess is as good as mine.
- My previous presentations have emphasized the long-term trend in developing economies toward secular stagnation.
 - The pandemic has not changed our demographic or other fundamentals, has it?
 - Should we expect a return to a world of low interest rates, low inflation, low growth and low productivity in the long run?
- At the same time, economic policy-making will (hopefully) forever be informed by the pandemic experience.
 - We have seen the power of fiscal policy, and especially those emphasizing direct payments, in supporting the economy.
 - Sustainability of government debt not likely to be an issue.
 - Coordinated monetary and fiscal policy may be the new reality.
 - This was considered *verboten* by economists. And yet, it is the only viable explanation for the "shortest recession in history."