Economic Outlook:

The Fed's Dilemma: Inflation vs. Recession

September 2022



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For Institutional Use Only

315k Payrolls Added in August

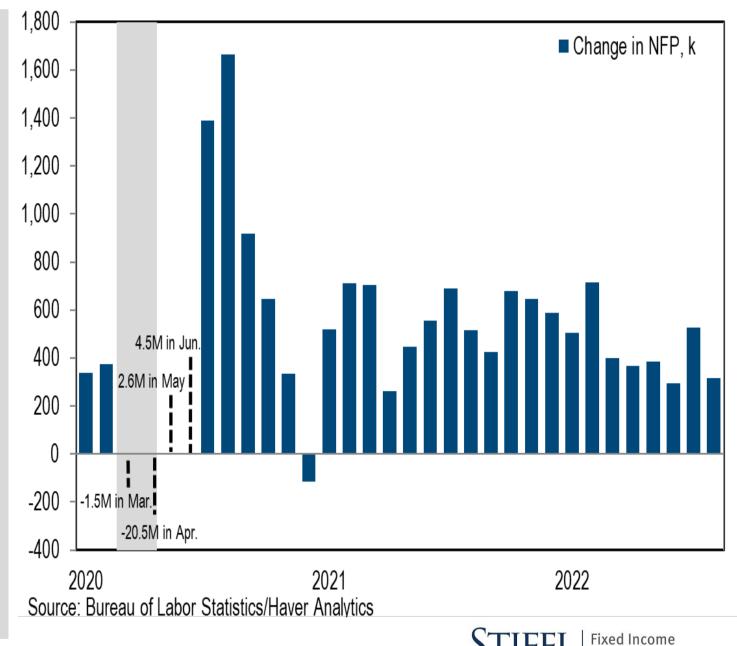
Other sectors of the economy are more clearly showing indications of wanning momentum or slower growth, the labor market is not among them

Nonfarm payrolls rose **315k** in August 2022, a two-month low

With earlier revisions to June and July, the overall change (August data + net revisions) was 208k, the lowest since December 2020

Nonfarm payrolls fell 1.5M in March and 20.5M in April of 2020, the largest monthly decline on record

For the full year of 2021, payrolls rose 6.7M, a record high, but following a 9.3M drop in 2020, the largest decline on record, and more than the combined decline in 2008 and 2009



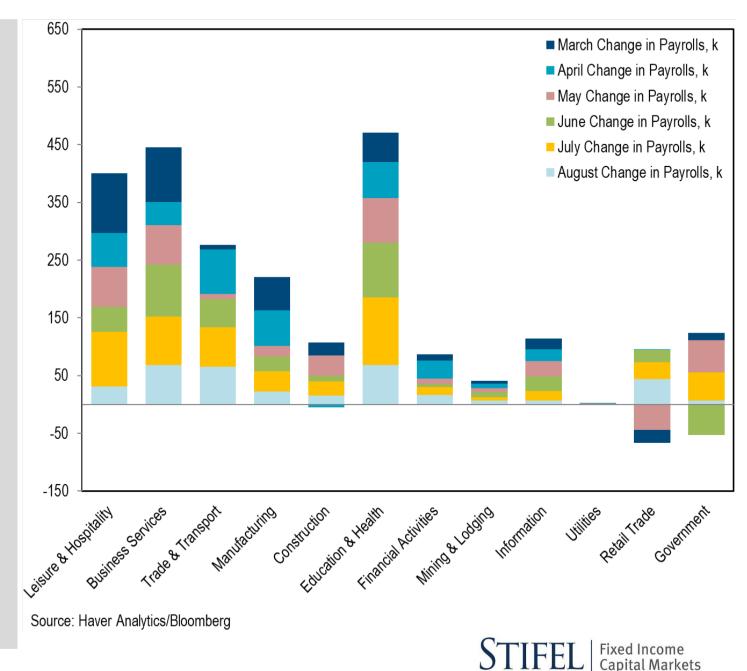
Capital Markets

Payrolls by Category

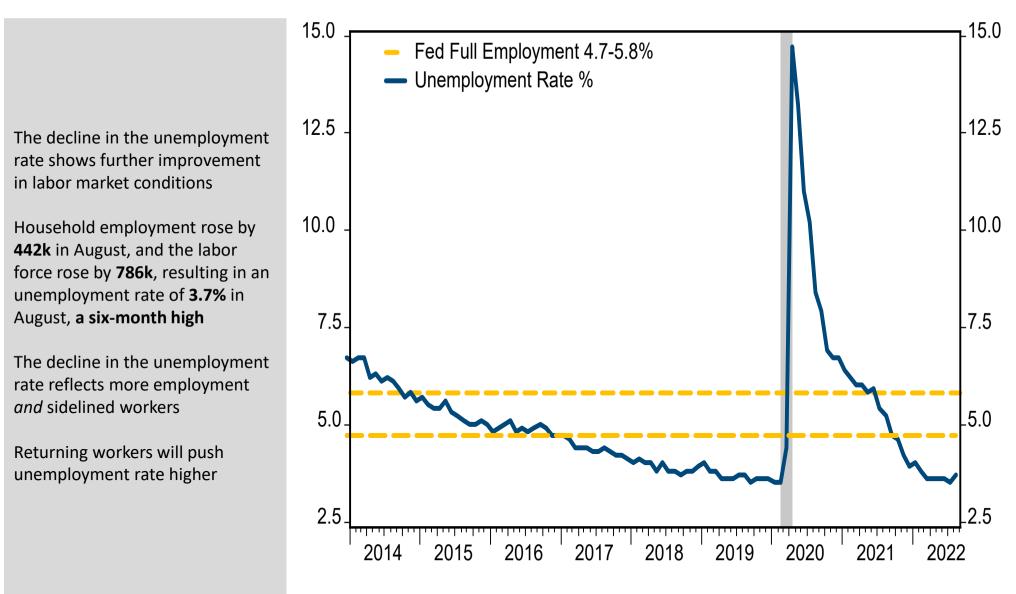
Education & health payrolls and business services payrolls led the gain in payrolls in August with both payrolls rising **68k**

Trade & transport payrolls rose 65k, and retail trade payrolls rose 44k, and leisure & hospitality payrolls rose 31k,

Additionally, information payrolls increased **7k** in August



3.7% U.S. Unemployment Rate



Source: Bureau of Labor Statistics/Haver Analytics



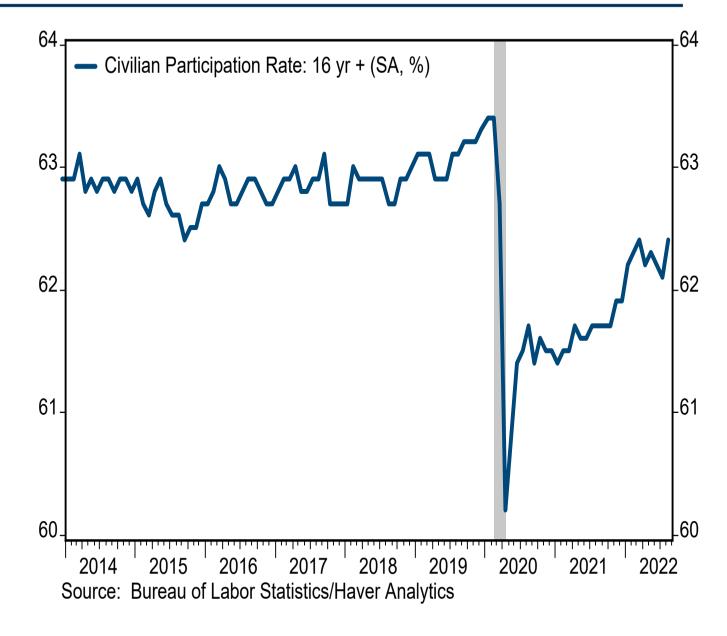
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Participation Rate Stubbornly Low

The labor force rose by **786k** in August

The labor force participation rate rose from 62.1% to **62.4%** in August, a **five-month high** but well-below the pre-crisis peak of 63.4%

Fewer workers is far from the ideal scenario particularly as businesses remain desperate for workers



Average Hourly Earnings Remain Solid

As businesses search for workers, compensation is elevated, although the trend appears to be moderating as businesses struggle to absorb costs

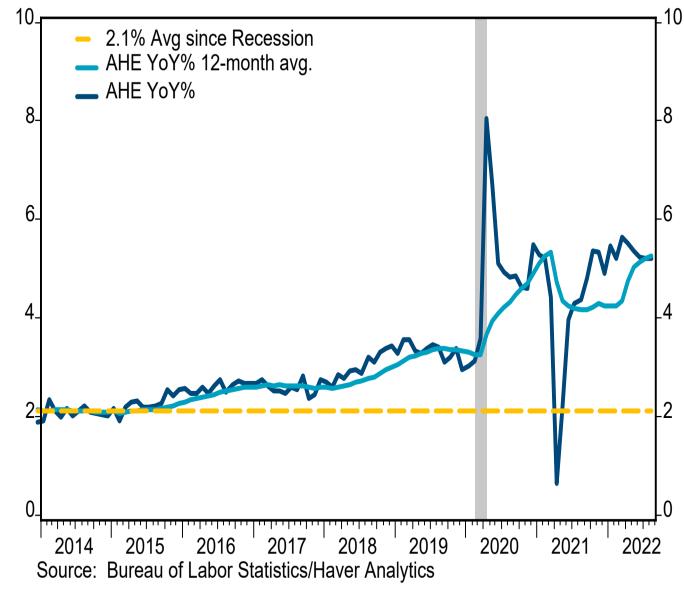
Average hourly earnings rose **0.3%** in August, following a 0.5% increase in July

Year-over-year, wages rose **5.2%** in August for the third consecutive month, below a recent peak of 8.2% in April 2020

Longer-term, businesses may turn to technology or close doors

For now, costs are likely to remain elevated as long as labor remains scarce

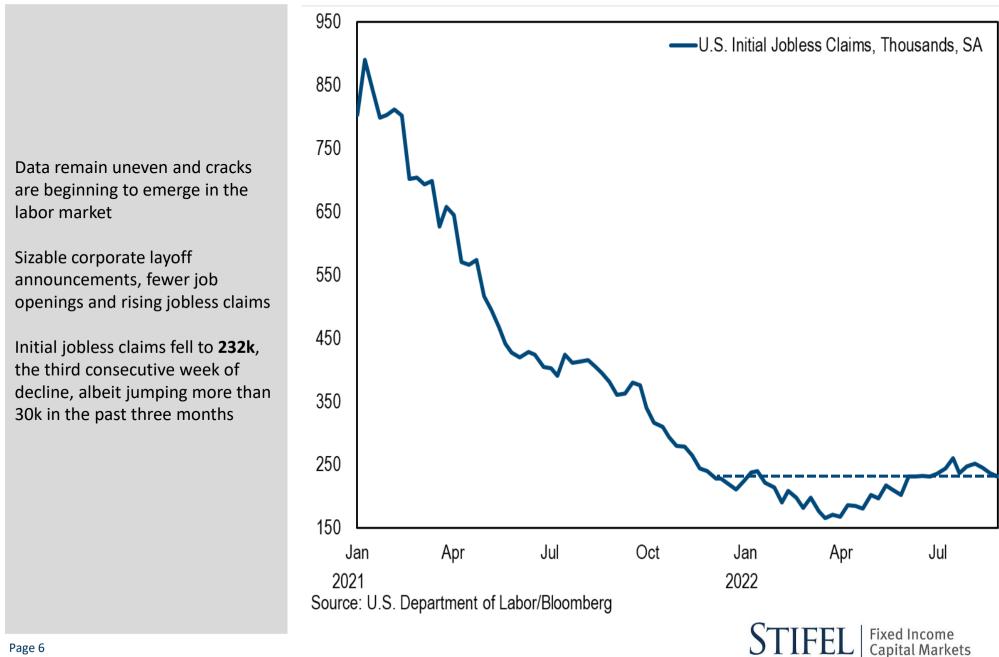
Average earnings increased early on during the pandemic as lowerwage workers dropped out of the workforce



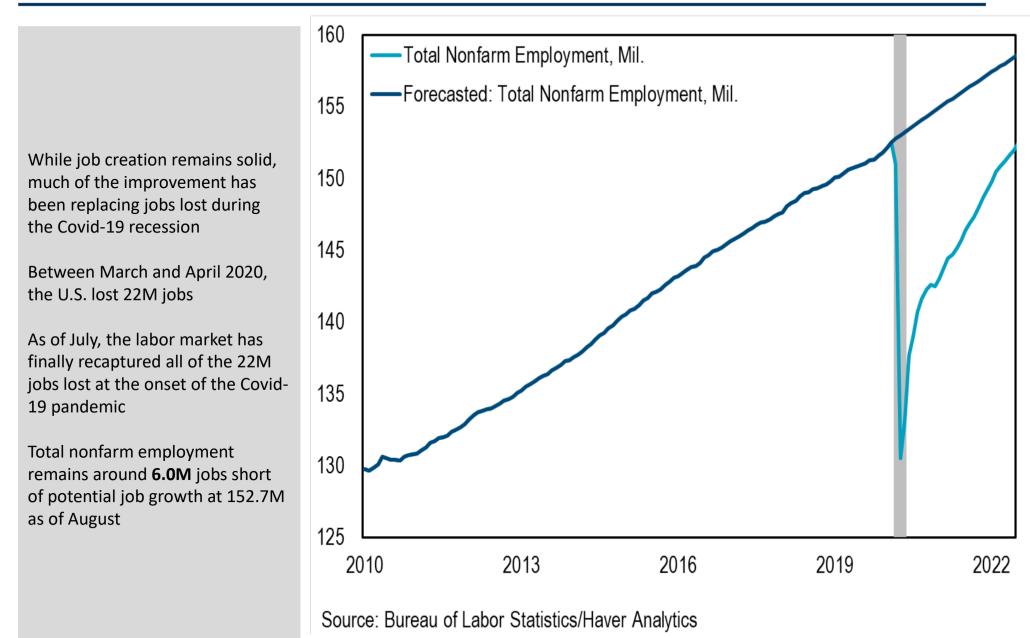
*Does not include government assistance



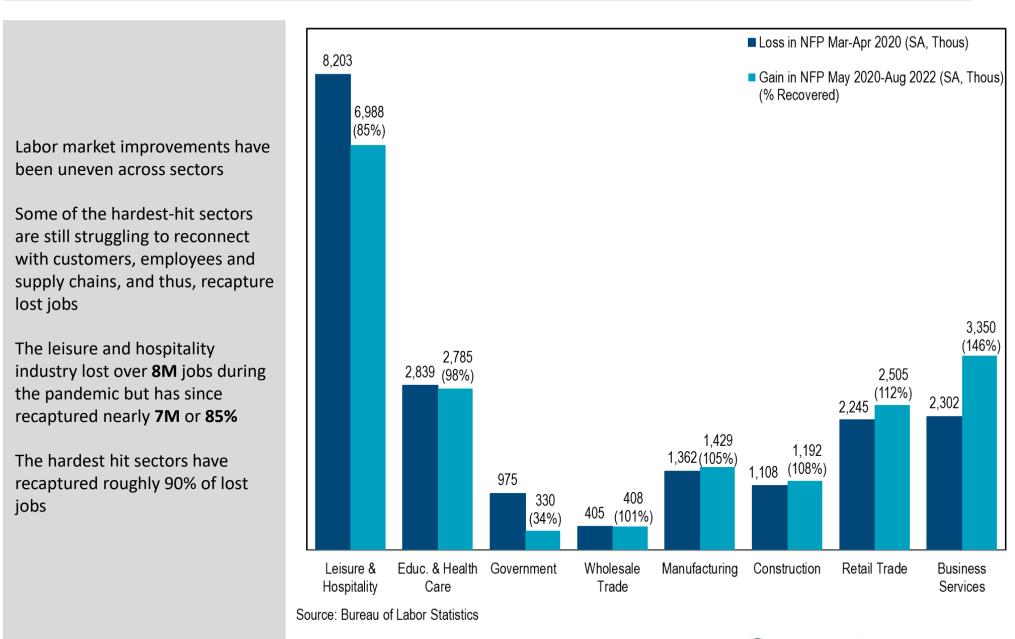
Jobless Claims on the Rise



Total Employment Still Behind Pre-Covid Levels



Hardest Hit Industries Still Struggle to Recapture Jobs



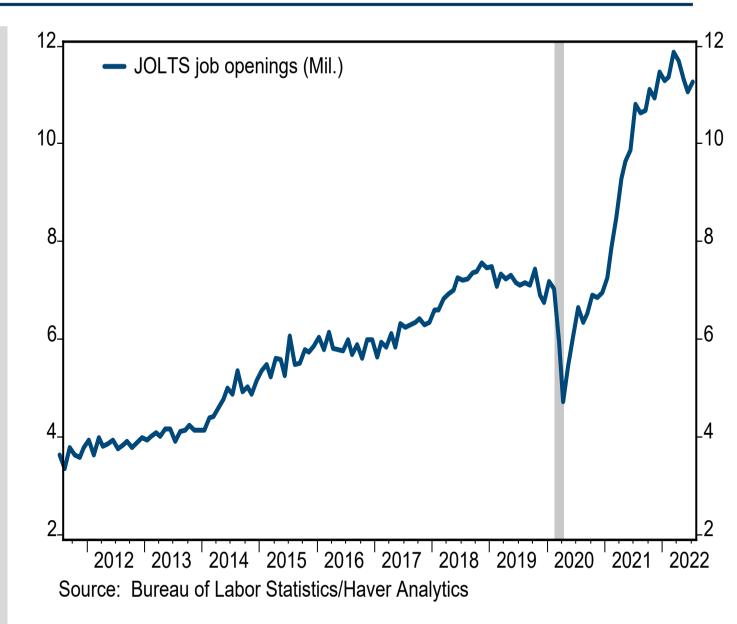
Labor Demand Outpaces Labor Supply

Hiring limited by supply, with demand far outpacing available workers

The number of job openings, according to JOLTS – the Job Openings and Labor Turnover Survey – rose from 11.0M to **11.2M** in July

Still, the thirteenth straight month above 10M, suggesting producers remain desperate for workers to increase output and meet a stillheightened level of demand for goods and services

There are roughly two vacant positions for every one person seeking a job



Where Have All the Workers Gone?

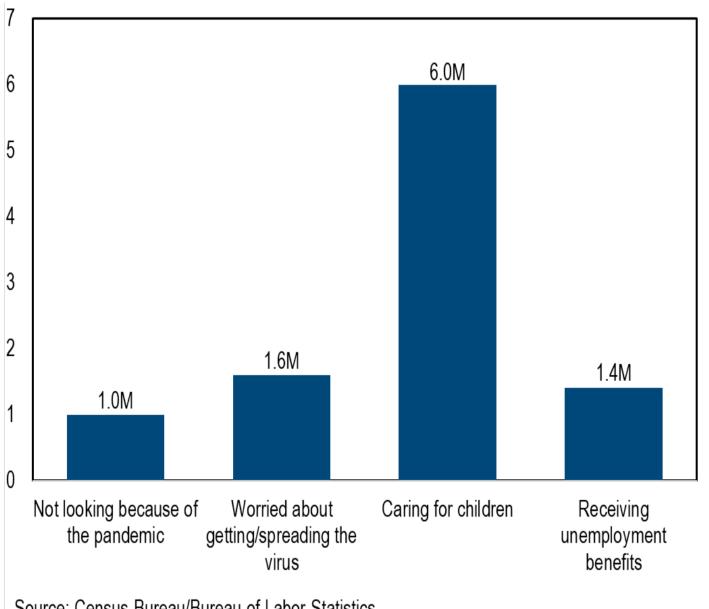
Some workers have lingering health concerns or ongoing health impacts resulting from the virus

Some face lingering childcare or elder care issues

Labor supply gap will be improved with schools reopen, higher vaccination rates and an end to federal benefits, but It will take time to entice workers back into the labor market

According to the Bureau of Labor Statistics, as of August, **1.6M** Americans report they remained sidelined due to *"worries about getting or spreading the virus"*

The Census Bureau reports that **6.0M** people are out of work because they were *"caring for children not in school or daycare"*



Fixed Income Capital Markets

Source: Census Bureau/Bureau of Labor Statistics

Trillions in Accumulated Savings Dwindle

35 35. Personal Saving Rate (SA, %) The U.S. consumer remains solid 30-_30 with \$932B in savings and a savings rate of 5.0% as of July 25. _25 Additional savings, higher wages and additional federal spending will help supplement the .20 20 consumer and mitigate the fiscal cliff resulting from an end of pandemic stimulus 15_ _15 Savings won't support potential workers indefinitely – already the savings rate has slowed, and that 10_ _10 stockpile of savings has dwindled markedly as spending adjusts back to pre-pandemic patterns, fiscal support wanes and prices 5 rise 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 Source: Bureau of Economic Analysis/Haver Analytics

> Fixed Income Capital Markets

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At the same time, consumers are increasingly turning to credit cards and additional sources of debt to perpetuate their spending habits as fiscal support fades and savings dwindle

Most households are better positioned to take on at least some additional debt burden

Debt as a percent of disposable income rose from 9.3% to **9.5%** in Q1, still near the lowest on record



Stimulus Support to Consumption Wanes

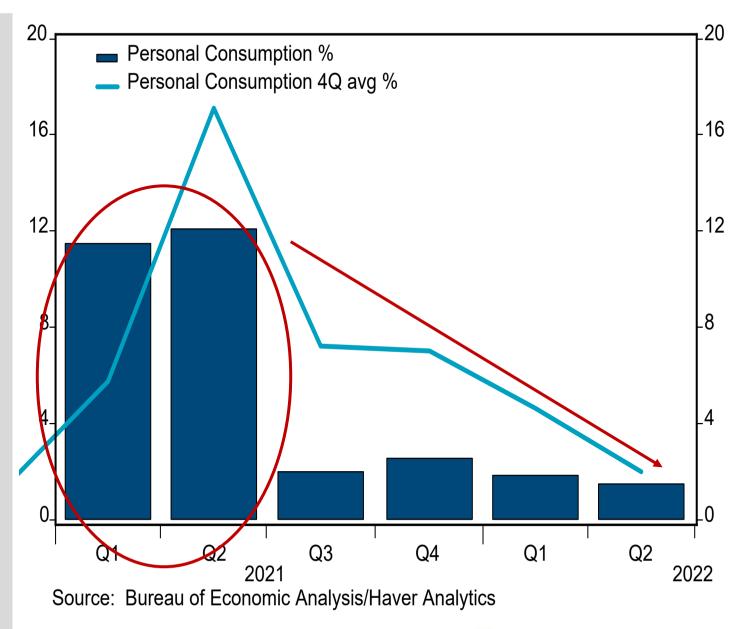
For some, the notion of a reduced or evaporated wealth cushion is causing an outright shift or reduction in spending habits

Consumer spending was robust at the start of the year reflecting pent-up demand and ample fiscal stimulus

Since then, however consumption has slowed, somewhat expected as fiscal support wanes

Personal consumption expenditures rose **1.5%** in Q2 2022, down from the 1.8% pace the quarter prior, and further below the 12% pace in Q2 2021

On a four-quarter average basis, consumption fell from 4.6% to 2.0%, further below the record 17.1% pace in Q2 2021





Retail Sales Trending Lower

Retail sales were robust at the start of the year

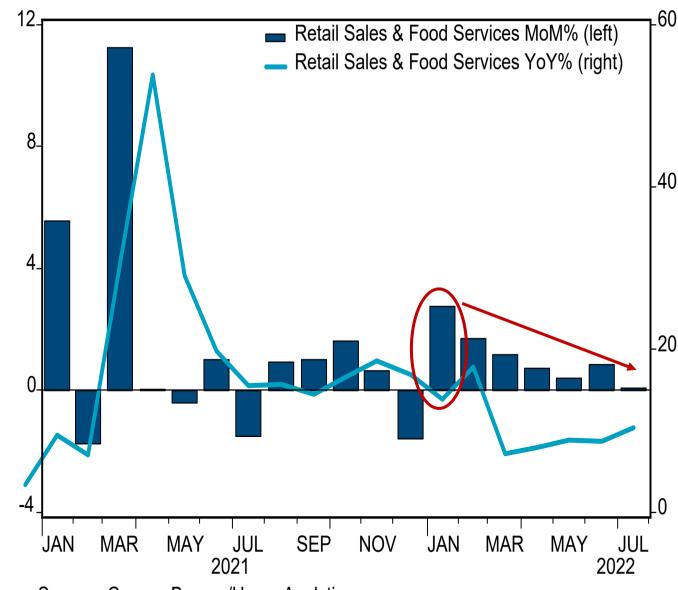
Sales rose **2.7%** in January, the strongest pace since March 2021 and following a 1.6% decline in December

Trillions in savings and upward momentum in wages has helped consumers to weather different variants and to offset a loss of fiscal support, but inflation is complicating the picture

Large retailers report customers are cutting back as the balance sheet is becoming increasingly fragile amid rising costs and rates

Sales were flat in July, following a 0.8% increase in June and a 0.4% increase in May

Year-over-year, retail sales rose **10.3%** in July, following an 8.5% gain in June



Source: Census Bureau/Haver Analytics

Real Consumption and Income Weak

Despite *nominal* wage growth, taking inflation into account, real income has remained in the red since March, **down 1.6%** as of July

Consumption remains positive – for now – but real spending is already trending lower

July real consumption rose **2.2%** over the past 12 months, a twomonth high, but down from a trend pace of **7.3%** in 2021



Manufacturing Activity Slowing

Even with a *relative* decline in spending, positive nominal spending is keeping pressure on producers

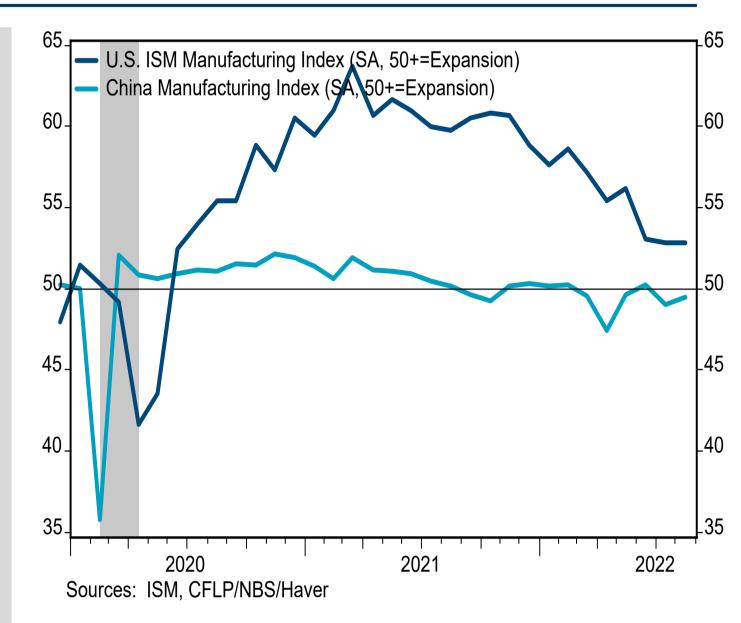
Producers face labor shortages and lingering supply chain disruptions which have improved but remain historically high

Shortages reported for lumber, tires, wire, etc. leading to extended wait times, higher prices and inventory complications

The ISM declined from a near-term peak of 60.8 in October 2021 to **52.8** as of August

The China Manufacturing PMI fell to **49.4** in August, bouncing along breakeven since June 2021

Solution to supply chain disruptions will depend on global policy, trade relations and geo-response to the virus – even domestic producers are impacted resulting in price pressures



Wanning Demand for Housing

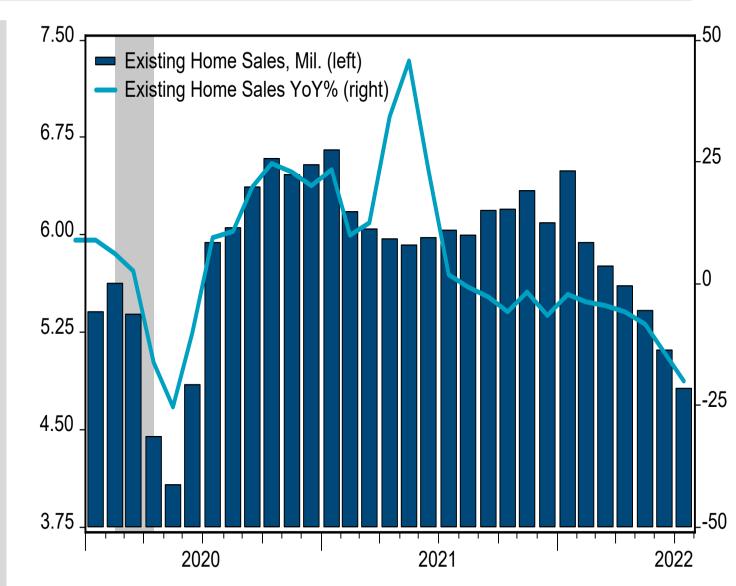
Americans view their home as a workplace, school and refuge

Home sales surged during the pandemic and immediate aftermath

Sales rose 6.6% at the start of the year, reaching a peak pace of 6.49M units

Rising interest rates, rising costs of materials and declining real income is already taking a toll on some would-be buyers and prompting many more potential sellers anxious to offload in a stillhot market

Existing home sales dropped 5.9% in July to a **4.81M** unit pace, down 26% from a recent January peak



Source: National Association of Realtors/Haver Analytics



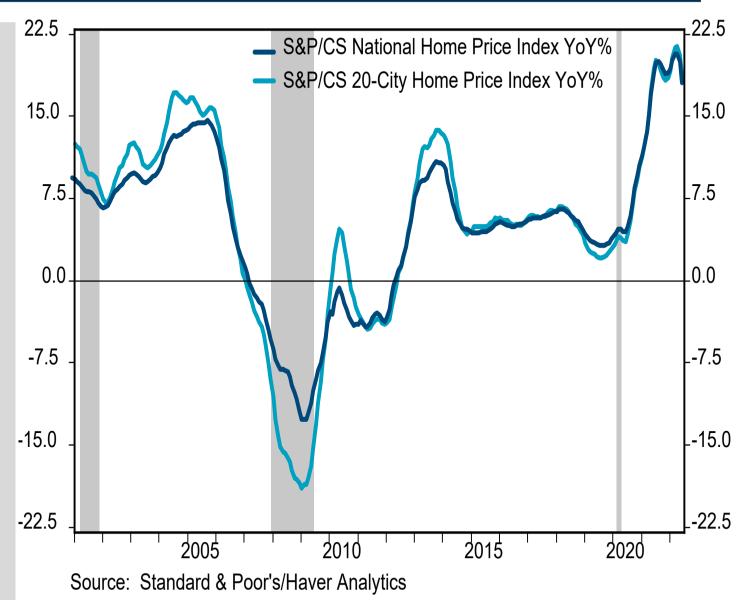
Home Prices Still Elevated

Demand is still *relatively* solid, supply is still *relatively* limited, keeping pressure on prices

Year-over-year, the 20-city home price index rose **18.7%** in June, down from the 21.3% peak in April, the largest gain on record

Nationally, home prices rose **18.0%**, following a 19.9% rise the month prior, and down from the 20.6% peak reached in April, the largest gain in the history of the index dating back to 1987

Price growth is not limited to downtown, urban markets

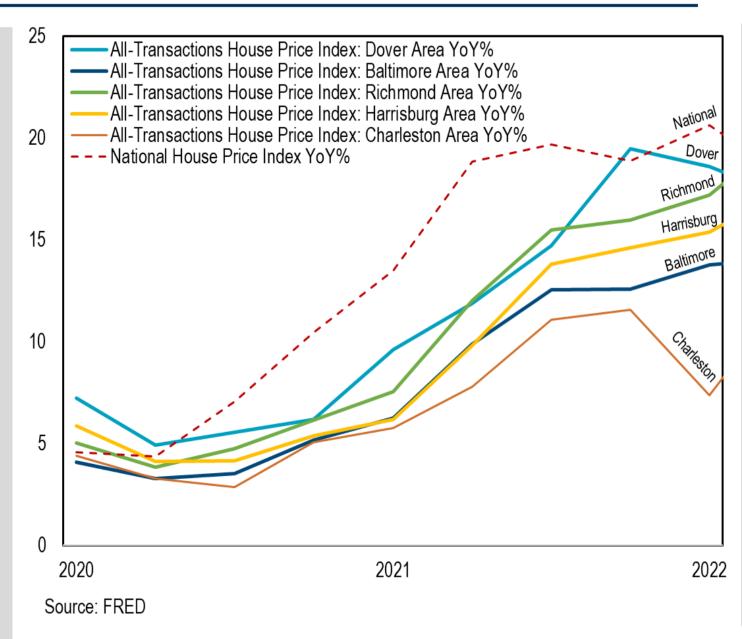


Home Prices Still Elevated... But Slowing

House prices in the Dover are up 17.0% in Q2 2022, down from 18.6% in Q1 and further below a near-term peak of 19.5% in Q4 2021

In the Harrisburg area, house prices are up 17.5%, while house prices in the Richmond area are 20.4% more expensive

Home prices in the Charleston, WV area, meanwhile, are up 12.5% in Q2 2022, and Baltimore area house prices are up 14.1% as of Q2 2022





\$1.2T Infrastructure Plan

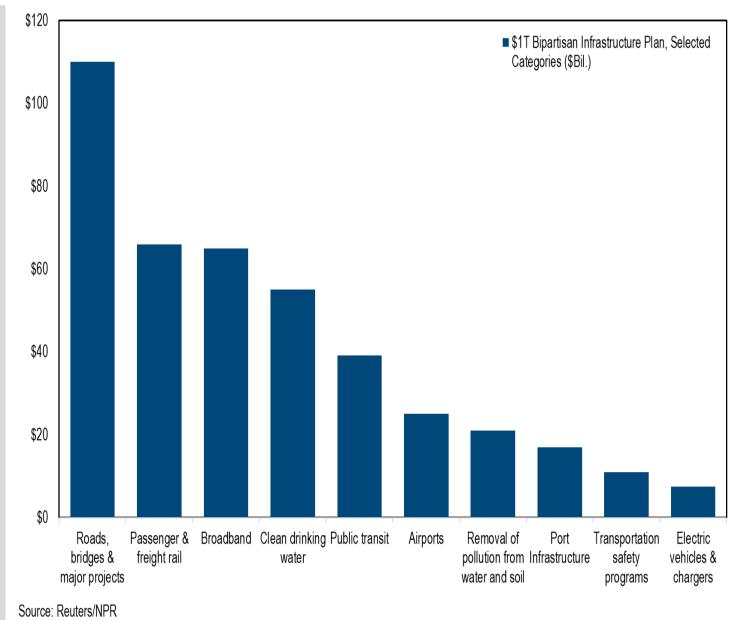
Continued uncertainty creates an opportunity for officials in Washington to ramp up spending in the name of economic growth, job creation and taming inflation – despite further inflationary implications

After months of negotiations and a standoff between progressive and moderate Democrats, the **\$1.2T** package of road, broadband, and other *"hard"* infrastructure improvements passed in November

Key items include: \$110B for roads & bridges \$66B for passenger & freight rail \$55B for clean drinking water

The five-year spending initiative will have a limited impact on growth in near-term

In the SOTU, President Biden continued to push for BBB at \$1.75T





Advocates Argue

- The package will serve to reduce the deficit by limiting tax fraud and increasing tax revenues from corporate America
- Increase spending to combat climate change
- Allow the government to negotiate certain drug prices

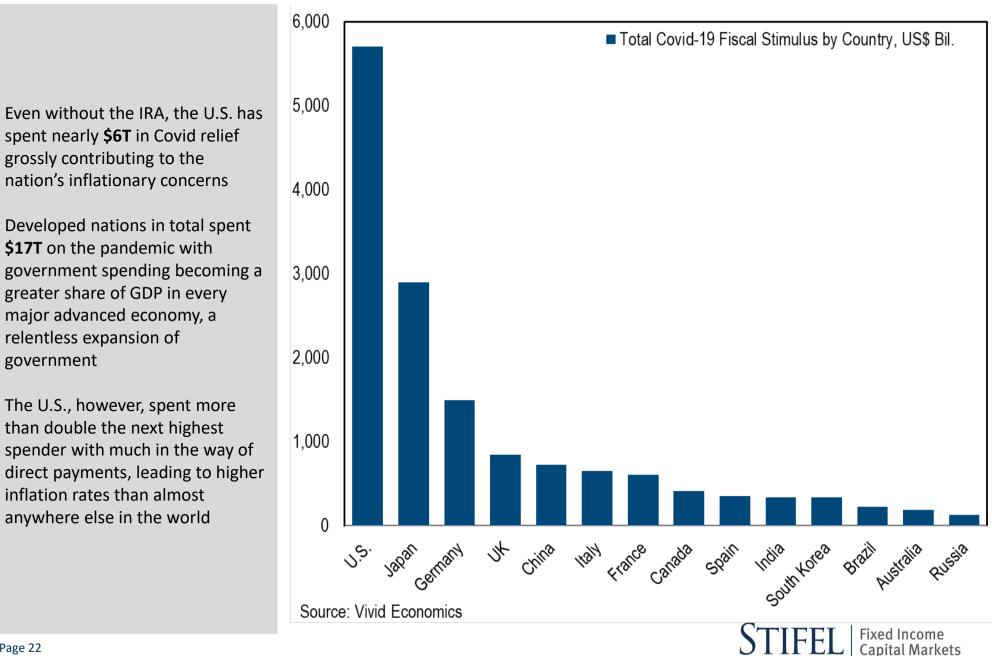
Opposition Suggests

- The legislation will simply result in tax increases on most households
- The legislation would fail to bring down inflation with some arguing the legislation may exacerbate inflation pressures by handing out more federal dollars to American households resulting from elevated tax collection from the private sector

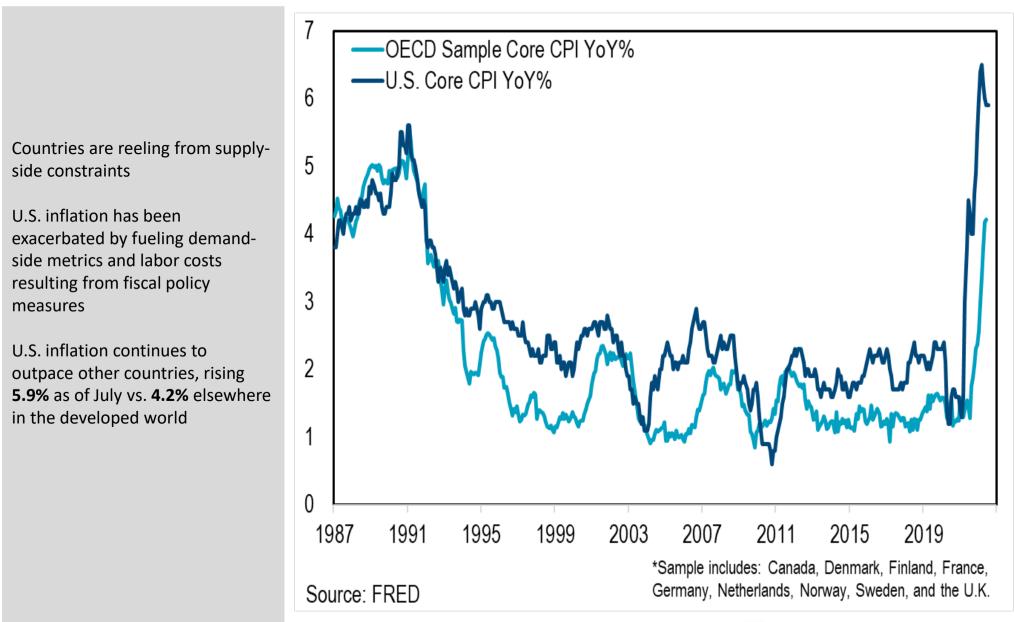
Bipartisan Analysis Concludes

- According to initial estimates, the measure could reduce the deficit by about \$102B over the next 10 years
- Although, other analysis suggests the act would slightly increase inflation until 2024
- The bill passed in the Senate on August 7 and passed in the House on Friday, August 12

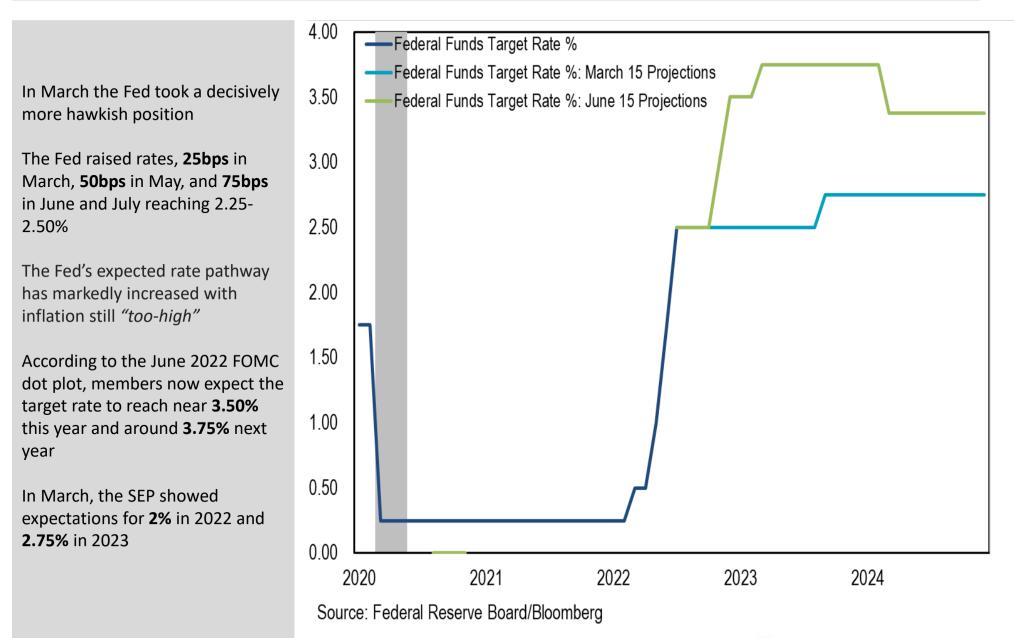
Global Covid-19 Spending



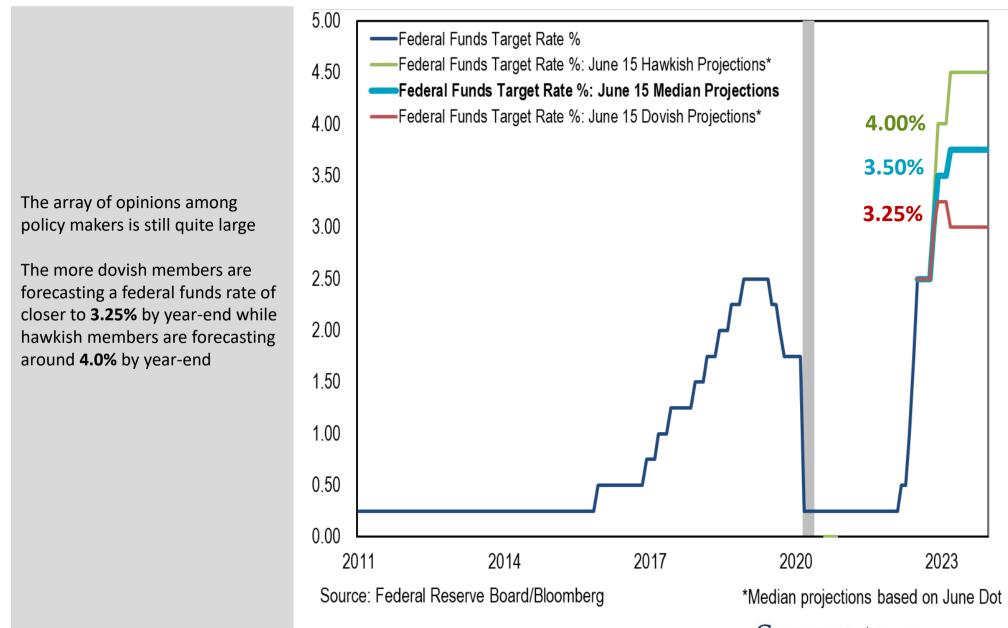
U.S. Inflation Higher than Abroad



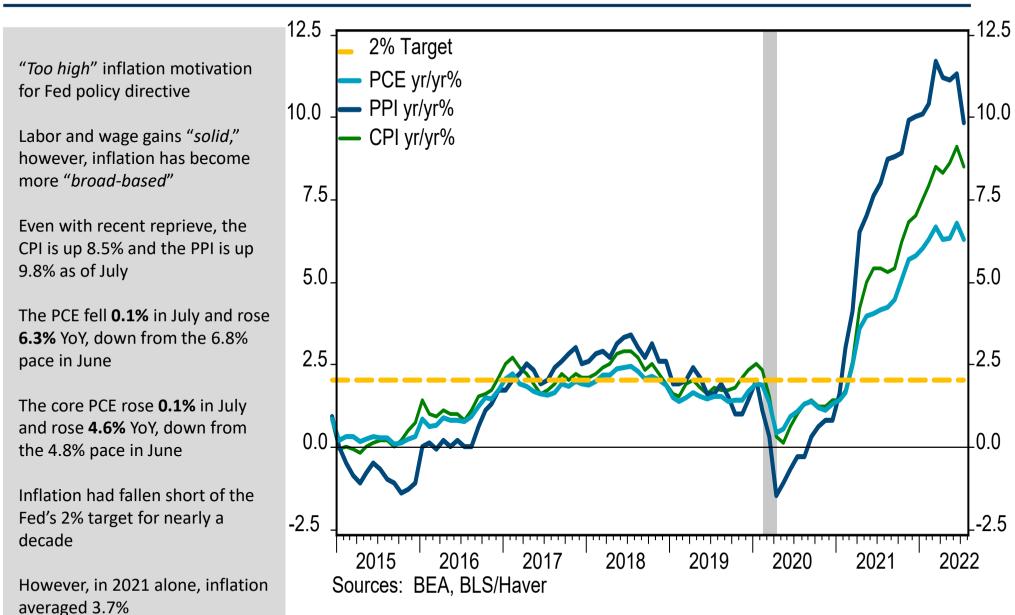
Rate Expectations Materially Increased



An Array of Policy Opinions Among Fed Members



"Too High" Inflation Motivation for Hawkish Fed



Inflation by Category

	MoM%	YoY%
СЫ	0.0%	8.5%
Core CPI	0.3%	5.9%
PPI	-0.5%	9.8%
Core PPI	0.2%	7.6%



Gasoline: 44.0% YoY



Used Cars & Trucks: 6.6% YoY%



Asphalt: 73.8% YoY

The cost of gasoline continues to rise, up **44%** over the past 12 months, with other housing materials such as lumber and heating equipment up **5%** and **17%** over the past 12 months, respectively

The cost of animal feed and certain foods has also increased with animal feeds up **13%**, eggs up **38%**, and pork prices up **8%** from a year ago in July



Prepared Paint: 25.8% YoY



Animal Feeds: 12.8% YoY



Mixed Fertilizer: **18.2%** YoY Source: Haver Analytics



Lumber: 5.3% YoY



Pork: 7.6% YoY



Cereal: 16.8% YoY



Heating Equip.: 17.3% YoY



Eggs: **38%** YoY



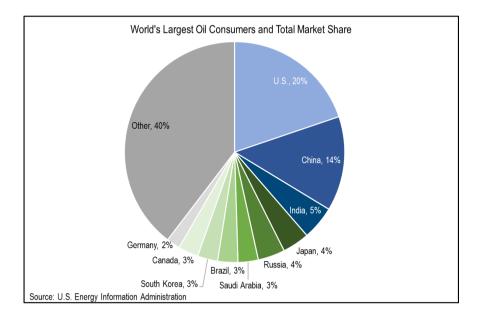
Corn: 9.3% YoY

Oil Prices Impacted by International Factors

Russia is the world's **third largest oil producer** behind only the U.S. and Saudi Arabia

While Russia accounts for 3% of U.S. crude oil imports and roughly 1% of total crude oil processed by U.S. refineries, **Russian exports** account for nearly 25% of the European Union's crude, 40% of its natural gas, and 46% of its coal imports

Oil prices are at \$83.29 a barrel as of September 8, down from a near-term high of \$123.70 on March 8







Agricultural Impact of Russia-Ukraine War

Ukraine is considered the breadbasket of Europe with 70% of land agricultural

Ukraine is the **fourth-largest exporter of maize** globally – behind only the U.S., Argentina and Brazil – accounting for 13% of the world's total maize exports

Ukraine is the **fourth-largest exporter of barley**, accounting for 12% of total world exports, and **the fifth-largest exporter of wheat and meslin**

Ukraine is the **largest exporter globally of sunflower seeds and sunflower oil**, which is the fourth most-consumed vegetable oil in the world

Russia is a **leading exporter of wheat and meslin**, exporting \$7.9 billion worth in 2020, or roughly 18% of global exports

Russia is **the sixth-largest producer of corn**, accounting for 2.3% of the world's exports

39% Sunflower seed, safflower or cottonseed oil 18% 18% Wheat & meslin 8% 12% Barlev 12% 23% Linseed 1% 1% Corn 13% 12% Sunflower seed 1% Russia 13% Fertilizers Ukraine 1% Source: International Trade Centre *Exports shown are those with a combined share over 10% of 2020 export

Russia & Ukraine Share of Total Global Exports in 2020, %*



Cost of Staples Elevated

Prices were already on the rise after Covid-19, international conflict is adding pressure

Commodity prices have cooled amid fears of slowing global growth but prices are still elevated

Wheat costs are up 5% since the start of the year and oil is up 11%

The cost of staples – bread, pasta, and flour – remains elevated as the world faces uncertain grain stockpiles, although shipments have resumed

Gas prices are down from a peak of \$5.02 to **\$3.75** a gallon as of September 6, up 18% from this time last year

The fastest way to derail consumer is heightened energy prices, but there is no alternative for food supply

Oil prices are at **\$83.29** a barrel as of September 8, down from a \$123.70 peak in March



U.S. Economy Showing Signs of Weakness

The Fed has vowed to raise rates enough to root out inflation but will it work?

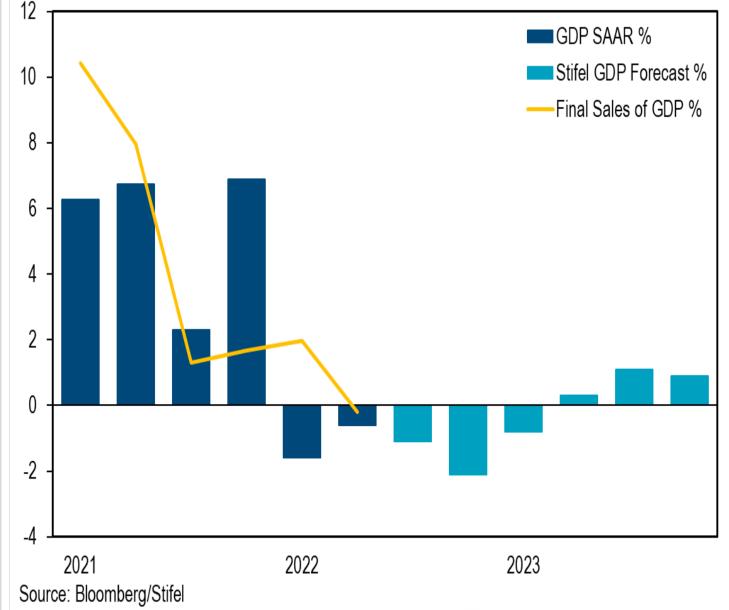
Typically, the Fed raises rates when the economy is overheating versus struggling to gain legs post-pandemic

The majority of price pressures stem from supply side constraints, limiting impact of Fed rate hikes

With an aggressive rate path, growth is likely to slow further into recession

GDP fell **0.6%** in Q2 2022, the second consecutive quarter of decline

Excluding trade and inventories, final sales to domestic purchasers fell **0.2%**





- National Bureau of Economic Research (NBER) Business Cycle Dating Committee *officially* determines recession
- Eight committee members accepted as experts in macroeconomics and business cycle research
- An official recession involves a significant decline in economic activity that is spread across the economy
- Weakness typically lasts for a modest period of time
- The Committee emphasizes "economy-wide" measures of economic activity

Yes:

- Negative Q2 GDP, following a 1.6% drop in Q1
- Manufacturing is slowing from a recent peak of 60.8 to 52.8 in August
- Real retail sales have slowed to 1.7% in July from a peak of 9.1% in February
- Real income growth is negative, down 1.6% in July
- Hiring slowed from 526k to 315k
 Unemployment rate rose from in August and the unemployment rate ticked up from 3.5% to 3.7%

No:

- Excluding inventories and trade, Q2 GDP dropped just 0.3% after a 2.0% rise in Q1
- Manufacturing remains above breakeven
- Real consumption still positive, up 2.2% in July
- Real income growth improved from a recent low of -16.9% to -1.6% in July

3.5% to 3.7%, still near the lowest level in the last 50 years

Does the Fed Have the Resolve to Raise Rates in Recession: Fed Officials Posture Hawkish Tone



"We're going to do everything we can to avoid a recession, but **we are committed to bringing inflation down**, and we are going to do what we need to do."

-Minneapolis Fed President Neel Kashkari, CBS's Face the Nation,

July 31, 2022



"Inflation remains far too high and not near our price stability goal...This is why we don't want to declare victory on inflation coming down. We're not near done yet."

-San Francisco Fed President Mary Daly, Financial Times Interview, August 11, 2022



"We have more work to do because we have not seen that turn in inflation. It's got to be a sustained, several months of evidence that inflation has first peaked – we haven't even seen that yet – and that it's moving down."

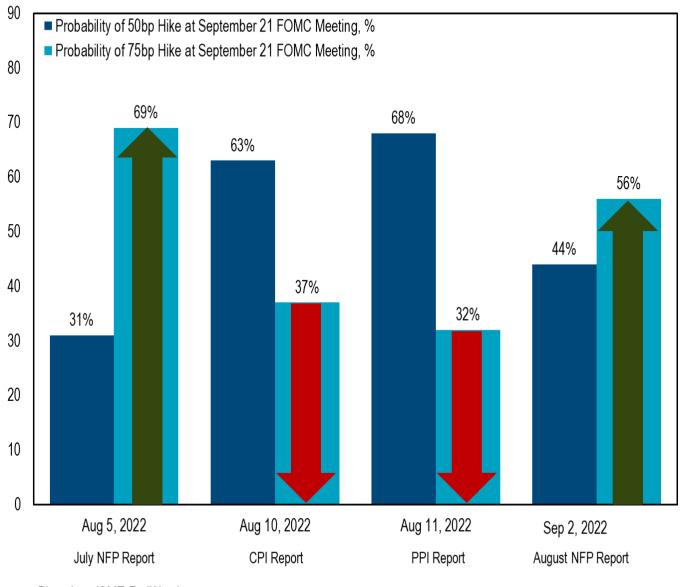
-Cleveland Fed President Loretta Mester, Washington Post Interview, August 2, 2022

The Market Says, "No" with Reduced Expectations for Rate Hikes into Year-End

Market participants continue to ping pong between a **50bp** and **75bp** hike come September 21 with the expectation for at least two more **25bp** hikes into yearend

Following a stronger-thanexpected July employment report, investors anticipated a **75bps** increase

Following a weaker-thanexpected July inflation report, investors reduced expectations to **50bps** come September



Source: Bloomberg/CME FedWatch

Price Stability is the "Bedrock" of the Economy



"The Federal Open Market Committee's (FOMC) overarching focus right now is to bring inflation back down to our 2 percent goal. **Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy**. Without price stability, the economy does not work for anyone."

"Restoring price stability will take some time and requires using our tools forcefully to bring demand and supply into better balance. Reducing inflation is likely to require a sustained period of belowtrend growth."

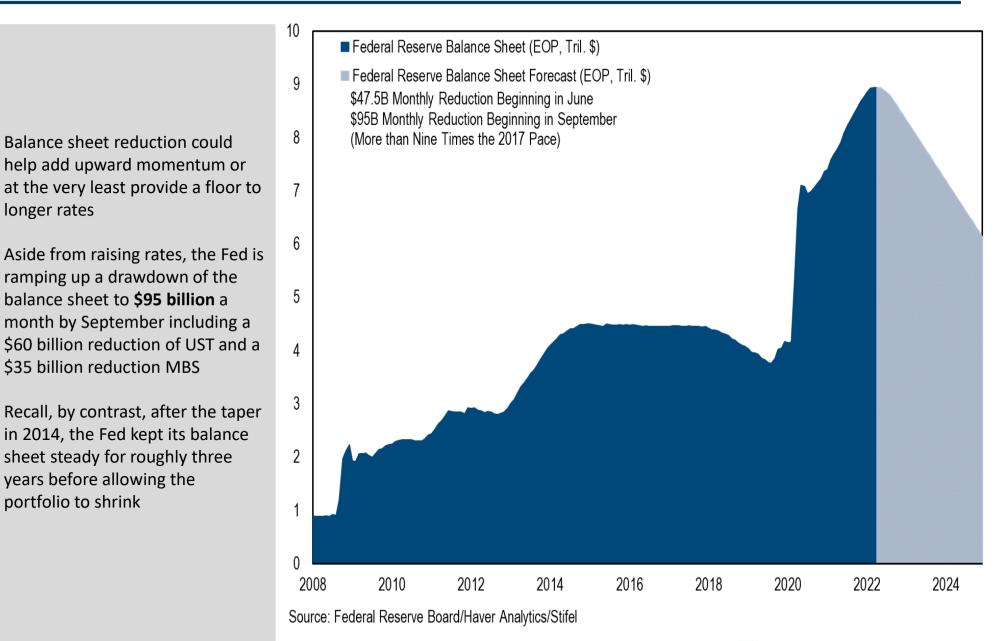
"While higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will also bring **some pain to households and businesses**. These are the unfortunate costs of reducing inflation. But a failure to restore price stability would mean far greater pain."

"In current circumstances, with inflation running far above 2 percent and the labor market extremely tight, **estimates of longerrun neutral are not a place to stop or pause**."

-Federal Reserve Chairman Jerome Powell, Jackson Hole Policy Summit, August 26, 2022

Inflation	FF Pathway	GDP Expectations	10-Year UST Yield Near Term	10-Year UST Yield Medium Term
	Dovish	Minimal Contraction/Modest Recovery		
	Dovish	Modest Contraction/Minimal Recovery		
1	Hawkish	Deeper Contraction/Robust Recovery		

- As the Fed moves, the short end will presumably move along with the Fed
- The long end will struggle to keep up with the Fed as policy intentionally slows domestic activity risking persistent inversion

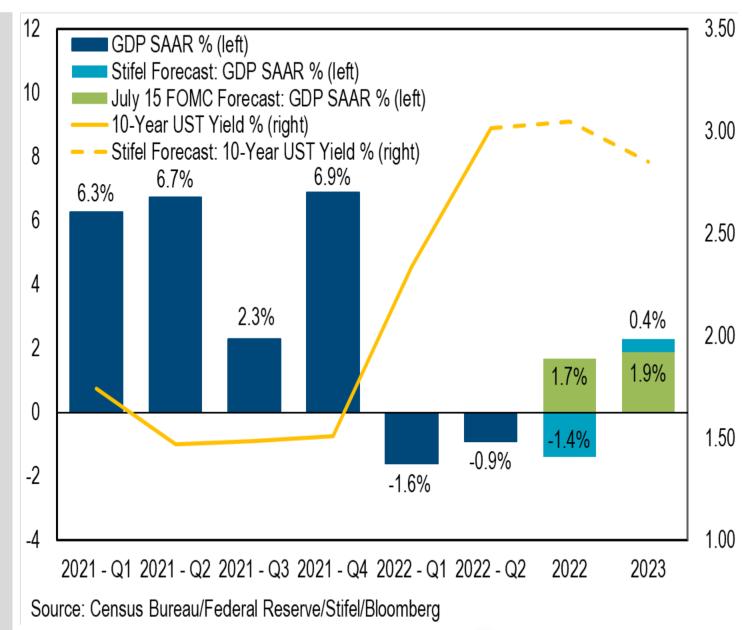


Amid increased economic uncertainty and volatility in the market, the economy is likely to slow into the second half of the year with growth dropping further into negative territory and the Fed struggling to raise rates enough to tamp down inflation

Of course, the only certainty is uncertainty

From a forecasting perspective, understanding the directional momentum and potential factors driving that pressure in one direction or the other

Economic forces not alone in driving the market: fiscal policy, international conflict, and geopolitics



Fixed Income Capital Markets

Thank you

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