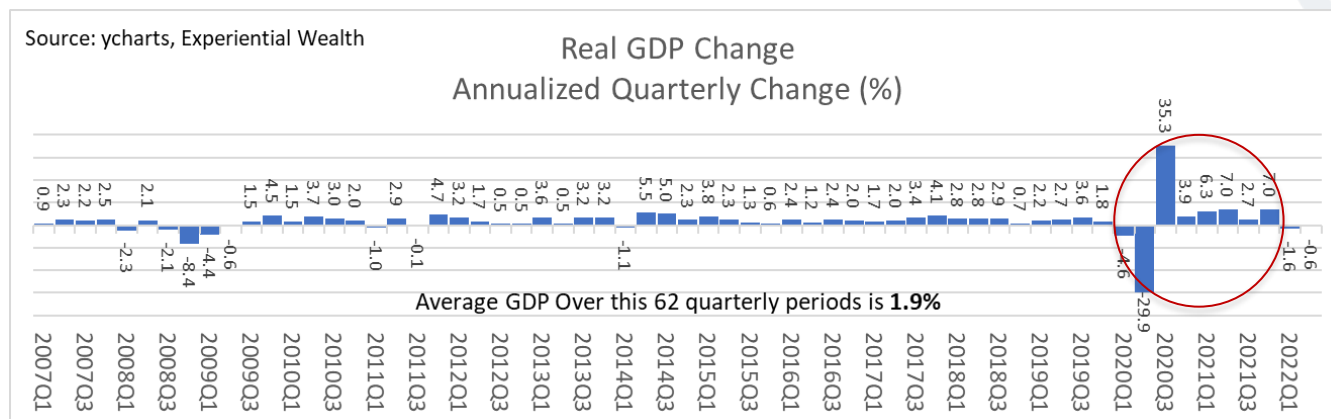


End of The Great Moderation

- During the 2008-09 Global Financial Crisis (GFC), the Federal Reserve unleashed unconventional monetary policies to restore financial stability, installed facilities to restore the market, and invoked the zero interest rate policy (ZIRP.) The main contributors that led to the GFC were cheap credit (under an extended low interest rate environment), overleverage (with financial engineering) and lax lending standards which resulted in the burst of the housing bubble and the near collapse of the banking system.
- In Dec 2015, after 6 years of ZIRP, the Fed began its rate normalization until 2.5% in June 2019. As the economy showed signs of slowing, the Fed cut rates in Dec 2019. Then, the Covid-19 pandemic shocked the world in early 2020, and the Fed immediately responded by returning to ZIRP as well as unleashing unprecedented Quantitative Easing (QE) programs that ultimately doubled the size of its balance sheet.
- During the ensuing two years, according to the May 2022 paper from the University of Utah¹, a total amount of fiscal transfer from the Federal Government equaling 24.6% of the annual GDP was implemented. This dwarfs the 7% stimulus support during the GFC and the 0.4% stimulus support in the post-Dot-Com Bust.
- This twin set of massive policies have saved our economy from a financial depression but sowed the seeds of inflation that we are now experiencing. GDP shot up above the historical average for many quarters.

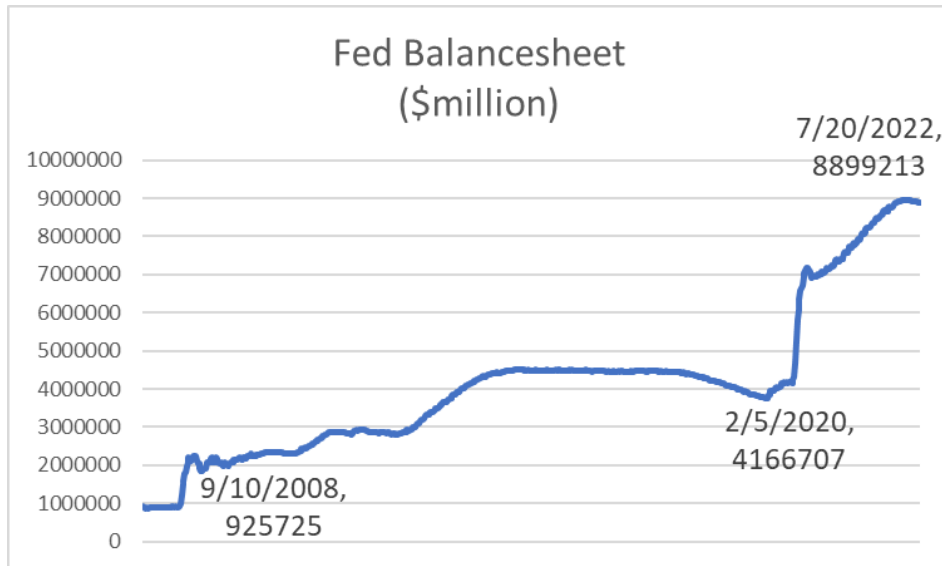
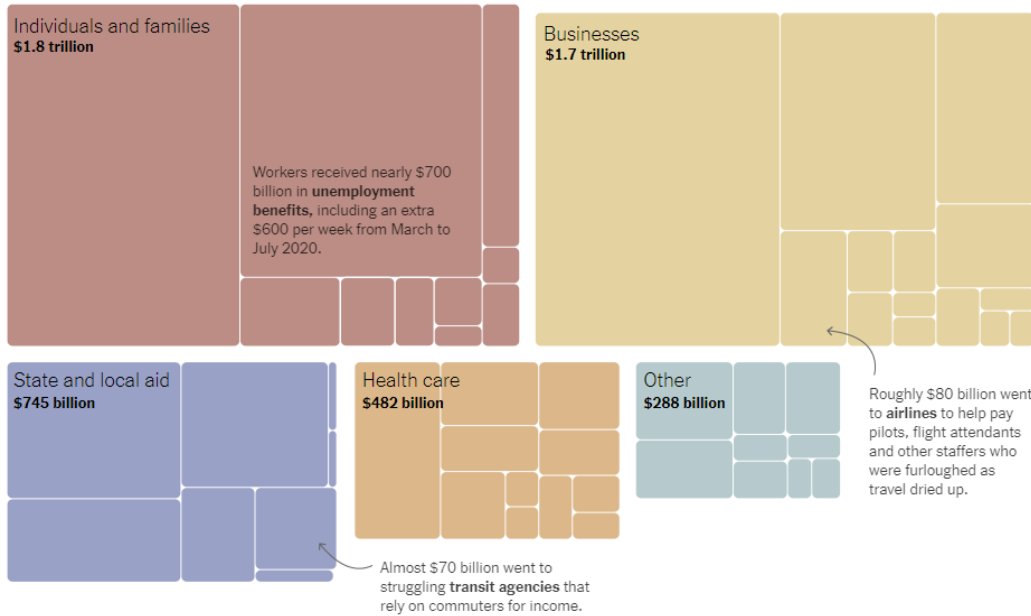


¹ <https://gardner.utah.edu/wp-content/uploads/Fiscal-Stimulus-May2022.pdf?x71849>

Road to a Sustained, Above Trend Inflation

- The initial reaction to Covid-19 was to take every precaution to stop its spread. This resulted in the shutdown of Wuhan, where the virus was first identified. This led to the shutting down of countries' borders around the world. Transportation by sea, air, train and trucks were all impacted. Because China is an essential part of the global supply chain, the cumulative effect was a supply shock of goods globally. Different parts of the well-oiled, efficient, and just-in-time supply and value chain broke down. Further, commodity production, supply, and delivery were also significantly upended.
- With social distancing and the absence of a vaccine, service sectors came to a virtual halt as everyone was sheltering-in-place to avoid catching the contagious and deadly virus. Yet, with fiscal transfers to serve as a safety net, households were flush with free money, and the only place to spend was buying goods online, which added more pressure to the supply chain. With increasing demand and shrinking supply, prices rose. (The Fed was thinking that the demand/supply shock would heal quickly as the world economy opened and thus believed that inflation was initially transitory.)
- As more were vaccinated and the U.S. began to reopen, people slowly turned from purchasing goods to buying services (which represents 2/3rd of the U.S. economy). However, this was happening at a time of significant labor shortage (early retirement, delay re-entry due to fiscal transfer, extended unemployment benefits, lack of childcare, long-Covid, etc.) which led to a rise in service worker wages. Further, with still above trend demand and a delay in the service sector fully recovering, prices rose.
- Although economies began to recover from Covid-shocks, China's zero-Covid policies continued to disrupt and delay supply chain recovery as important industry and technology towns were forced to close down from time-to-time due to an insurgence of local Covid cases. Then, in February, Russia invaded Ukraine. This not only created a significant humanitarian crisis, it also resulted in a crisis for global energy, minerals, fertilizers and agricultural commodities; and thus, prices spiked.
- Finally, weather pattern changes are likely to have a more severe impact on food production and agricultural products. This further contributes to inflation and inflation anxiety.
- All this means that we are expecting more elevated prices for longer periods which have financial, policy and political consequences (especially in poor countries and developing economies).

Road to Recovery - Seeding Inflation



- According to the NY Times, Stimulus bills approved by Congress beginning in 2020 unleashed the largest flood of federal money into the United States economy in recorded history. “Roughly **\$5 trillion** went to households, mom-and-pop shops, restaurants, airlines, hospitals, local governments, schools and other institutions around the country.”

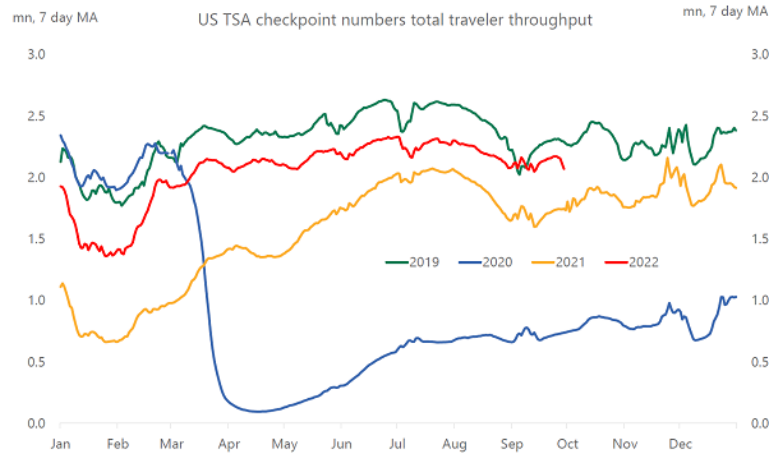
<https://www.nytimes.com/interactive/2022/03/11/us/how-covid-stimulus-money-was-spent.html>

- According to the Congressional Research Service, in response to the Covid crises and to support the economy (accommodative financial conditions), the Fed increased its balance sheet significantly. “Now it is 10-times larger than it was before the 2008 financial crisis.” Additionally, interest rates were once again brought down to the zero lower bound.

<https://crsreports.congress.gov/product/pdf/IF/IF12147>

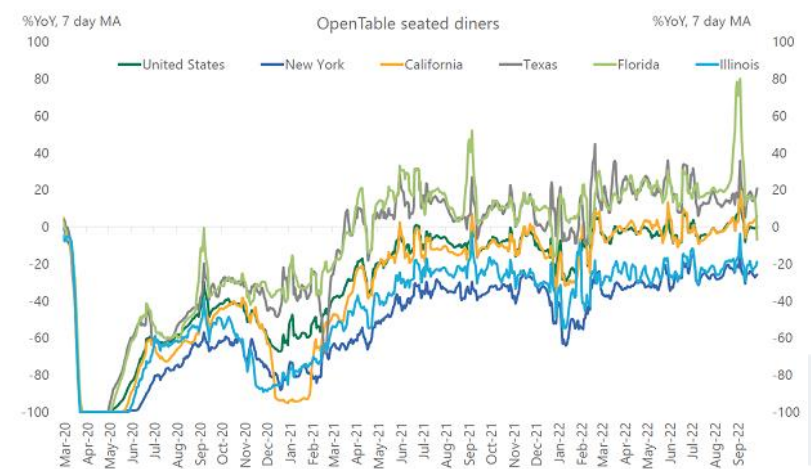
High Frequency Economic Data

US air travel still strong



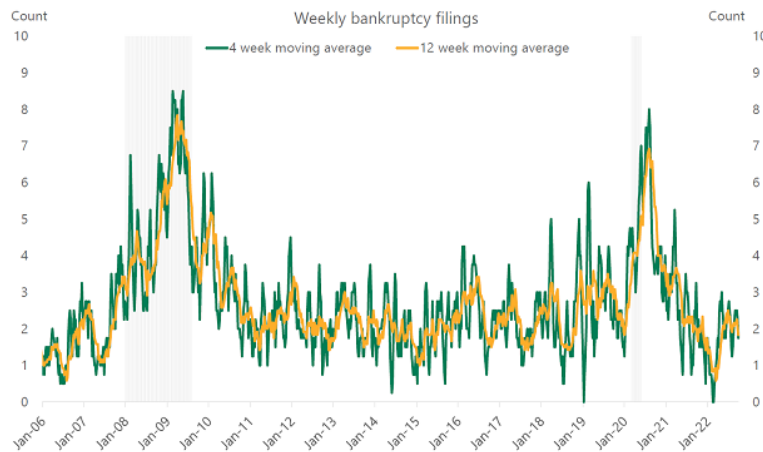
Source: TSA, Bloomberg, Apollo Chief Economist

Restaurant bookings still strong



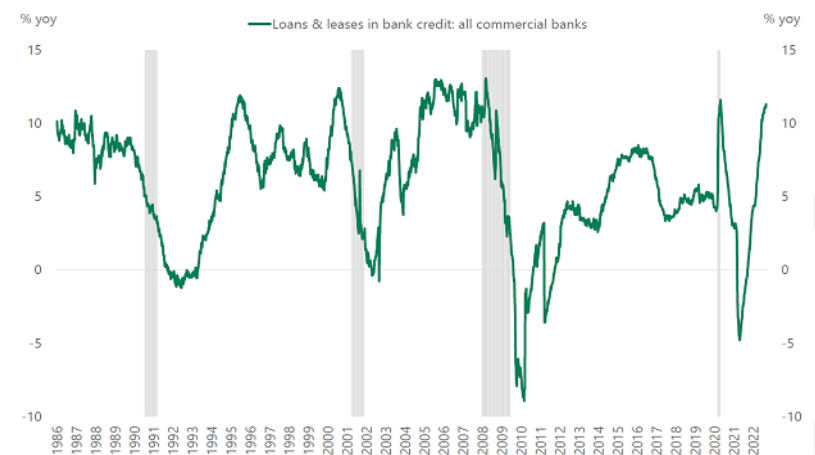
Source: OpenTable, Apollo Chief Economist

Weekly bankruptcy filings still at normal levels



Source: Bloomberg, Apollo Chief Economist. Note: Filings are for companies with more than \$50m in liabilities. For week ending on Tuesday

Banks' loan growth still strong

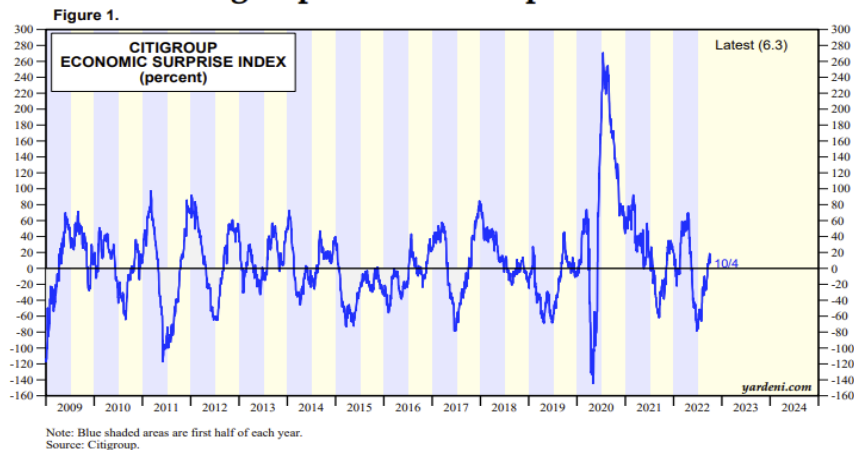


Source: FRED, Haver, Apollo Chief Economist

Courtesy: Apollo, 2022 October

High Frequency Economic Data

Citigroup Economic Surprise Index



<https://www.yardeni.com/pub/citigroup.pdf>

Weekly Economic Index (WEI)



<https://www.newyorkfed.org/research/policy/weekly-economic-index#/interactive>

Citi's Economic Surprise Index, which measures the degree to which economic data is either beating or missing expectations, continued to positively improve in the third quarter. This shows the strength of our post-Covid economy, and it appears that it will take more policy actions to bring down demand and corporate earnings.

On the other hand, the New York Fed's Weekly Economic Index shows ten daily and weekly indicators of real economic activity. Since its peak in May 2021, the index continues to fall.

More recent data regarding labor economy strength and escalating wages are also not signs of a slowing economy or slowing core inflation. The Fed will want to do more and that will likely force a recession.

Chart 1. Three-month percent change, seasonally adjusted, civilian workers, total compensation

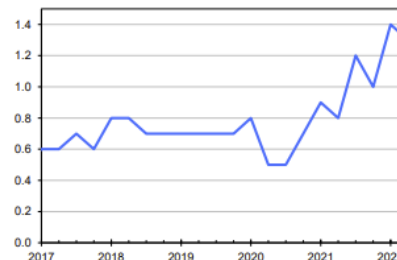
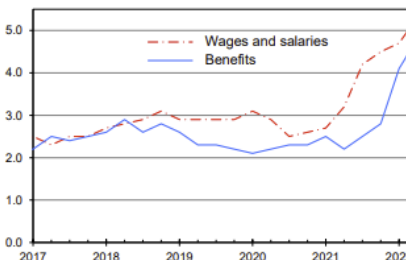


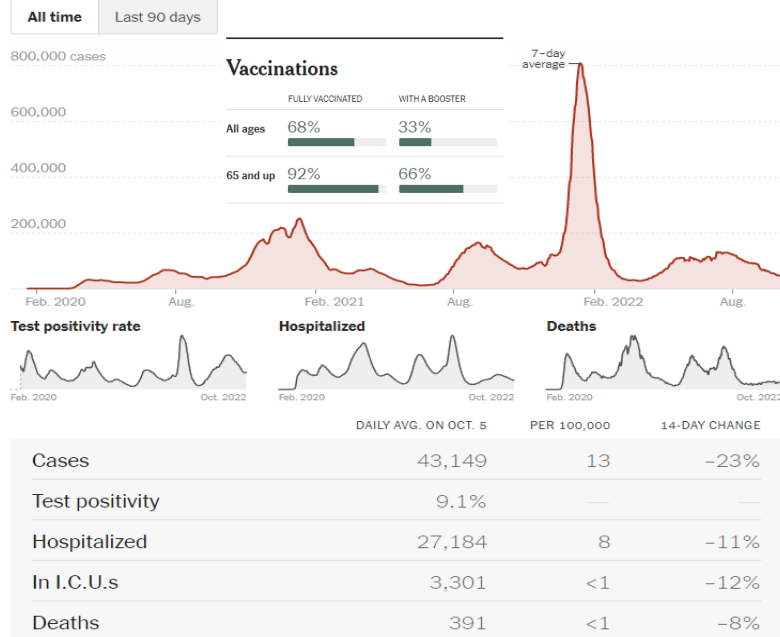
Chart 2. Twelve-month percent change, not seasonally adjusted, civilian workers



2022 Q2 <https://www.bls.gov/news.release/eci.nr0.htm>

Covid is Not Gone – Still Poses Risk to the Economy

New reported cases

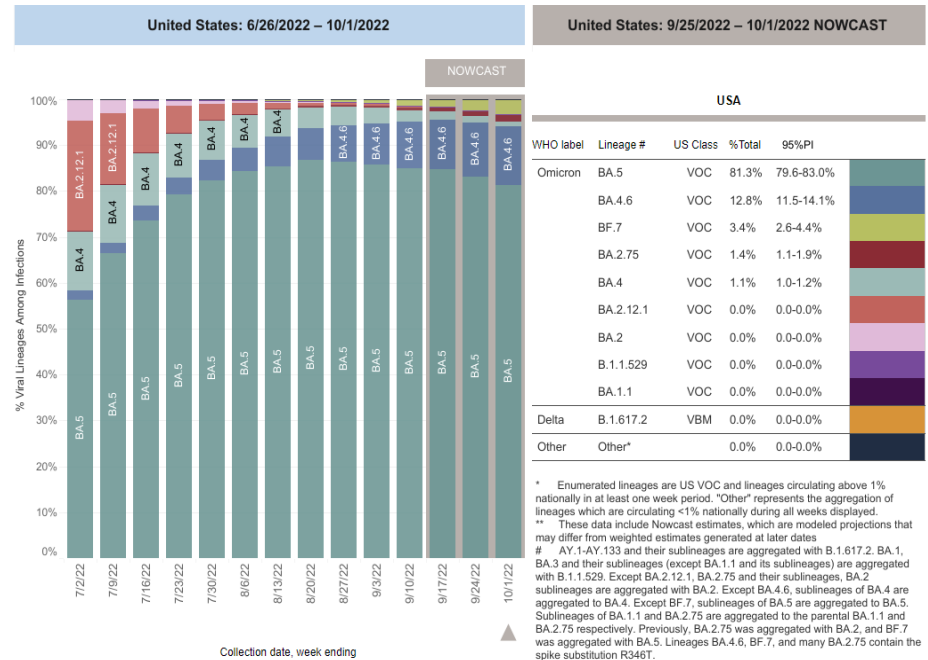


<https://www.nytimes.com/interactive/2021/us/covid-cases.html>

As of 09-30-2022,

- Known daily cases continue to fall at the national level, but a series of regional increases threatens to halt that progress.
- Most Northeastern states have seen cases increase by 10 percent or more in the past two weeks. In the West, case counts are climbing in Montana, Washington and Oregon.
- Hospitalizations have begun to increase in some of these Northeastern and Western states as well, but at the national level, hospitalization numbers continue to decline.
- Deaths remain troublingly high, but they have fallen by 11 percent in the past two weeks.

<https://www.nytimes.com/interactive/2020/us/covid-19-vaccine-doses.html>



<https://covid.cdc.gov/covid-data-tracker/#variant-proportions>

SARS-CoV-2, the virus that causes COVID-19, is constantly changing and accumulating mutations in its genetic code over time. New variants of SARS-CoV-2 are expected to continue to emerge. Some variants will emerge and disappear, while others will emerge and continue to spread and may replace previous variants.

According to the October 3, 2022, Nature online magazine, “evidence is building that the northern hemisphere is on course for a surge of COVID-19 cases this autumn and winter. New immune-evading strains of the SARS-CoV-2 Omicron variant, behavior changes, and waning immunity mean that many countries could soon see large numbers of COVID infections — and potentially hospitalizations” If this occurs, we will see a slowdown in our economy.

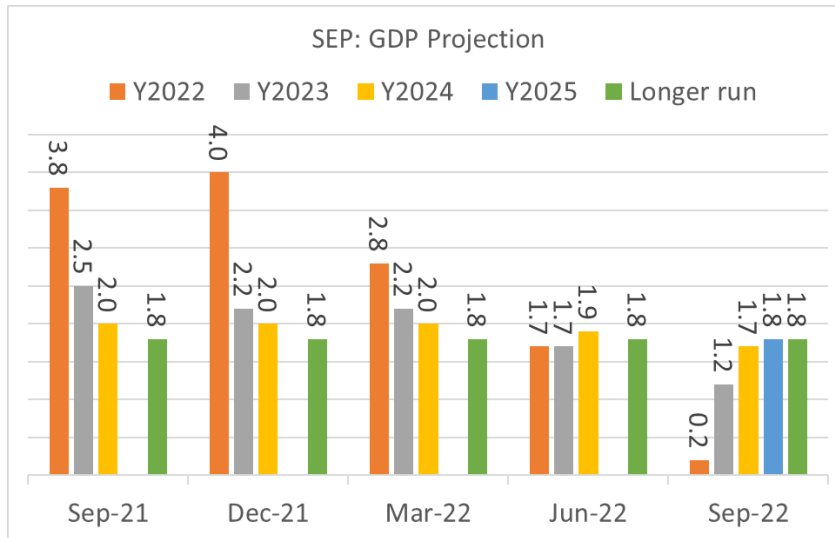
<https://www.nature.com/articles/d41586-022-03157-x>

What Could Covid Look Like this Fall?

(1) In the absence of a new variant, and with a late vaccination campaign, hospitalizations are projected to remain stable and gradually decline until the end of the year. (2) Early distribution of reformulated boosters starting in mid-September is expected to decrease hospitalizations in early fall. (3) Not all models project a rebound with the arrival of a hypothetical new variant in the fall, so that there is large uncertainty in ensemble projections. If it occurs, a rebound would most likely peak near the end of the year.

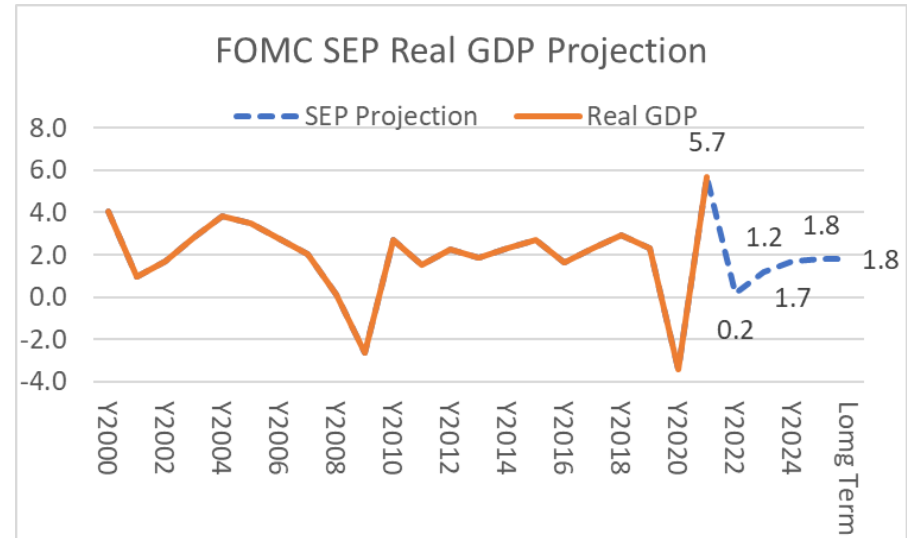
	No new variant:	High immune escape Variant x:
	<ul style="list-style-type: none"> No new variant Protection from natural immunity and Vaccine Effectiveness (VE) against infection decrease over time due to waning but not due to variant mix. Risk of severe disease conditional on infection remaining unchanged. 	<ul style="list-style-type: none"> 50 infections with new variant x seeded weekly from Sep 4 – Dec24 (16 weeks) 40% immune escape against infection (applies to VE and to protection from natural immunity) There is a 20% increased risk of hospitalization and death with variant x, relative to Omicron, conditional on infection and immune status.
Reformulated vaccines available Sep-11, 2022 for all adults <ul style="list-style-type: none"> Coverage of boosters progresses throughout fall 2022 in different age groups at a 10% reduced coverage compared to historical seasonal flu vaccination; whether individuals get a 2nd and 3rd booster is at own discretion. Boosters are recommended regardless of time since previous receipt of a booster. 	✓ Scenario A Early boosters No new variant	✓ Scenario B Early boosters New immune escape variant
Reformulated vaccines available Nov-13, 2022 for all adults <ul style="list-style-type: none"> Coverage of boosters progresses throughout fall 2022 in different age groups at a 10% reduced coverage compared to historical seasonal flu vaccination; whether individuals get a 2nd and 3rd booster is at own discretion. Boosters are recommended regardless of time since previous receipt of a booster. 	✓ Scenario C Late boosters No new variant	✓ Scenario D Late boosters New immune escape variant

Summary of Economic Projections - GDP



<https://www.federalreserve.gov/monetarypolicy/files/fomcprojt20220615.pdf>

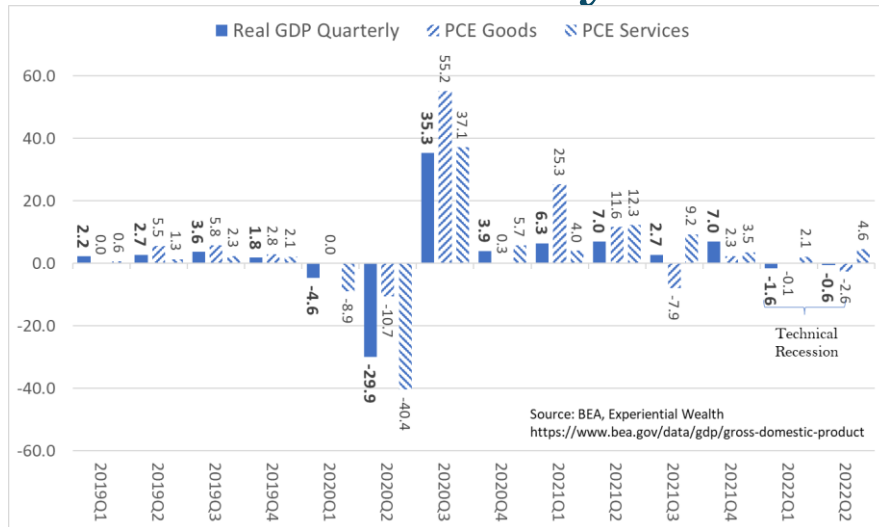
At its September meeting, the Federal Open Market Committee (FOMC) released its quarterly Summary of Economic Projections (SEP). FOMC participants submit their projections of the most likely outcomes for real gross domestic product (GDP) growth. Participant projections are based on information available at the time of the meeting together with their assessment of appropriate monetary policy and assumptions about other factors likely to affect economic outcomes. Historically, SEP projections are more reliable in terms of directionality rather than the actual projections.



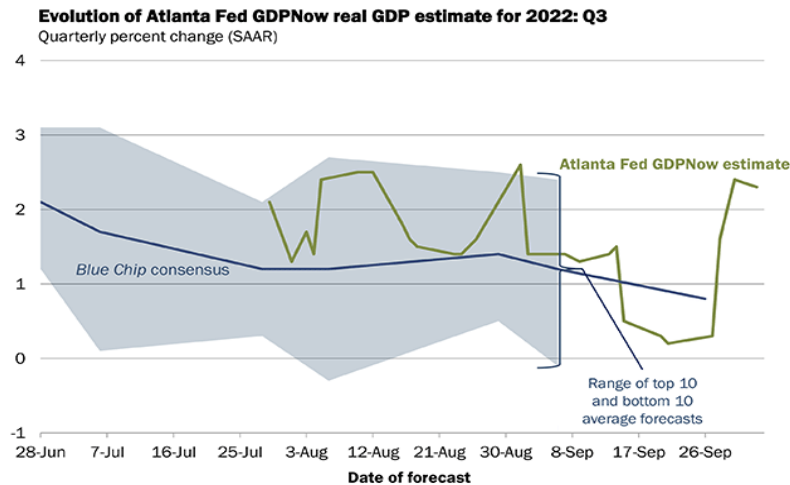
<https://fred.stlouisfed.org/series/GDP>

The SEP should NOT be relied upon as the official position of the FOMC. The FOMC has significantly revised downward its 2022 economic growth projection to near recession level. This likely is in recognition of the signs of a slowing U.S. and global economy as well the need to further and persistently tighten financial conditions to bring inflation back to the 2% level inflation without causing the economy to dip into a recession.

The U.S. Economy – GDP – A Slow Transition



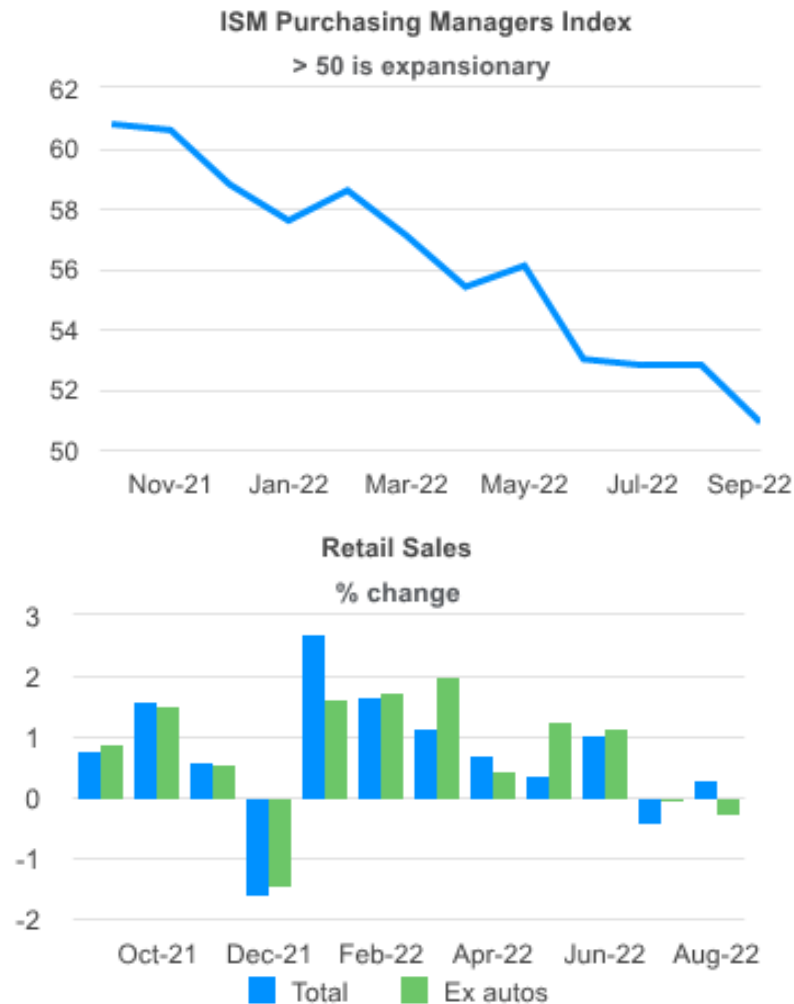
Real GDP **decreased** at an annual rate of **1.6%** in the first quarter of 2022, followed by a negative 0.6% GDP in the second quarter. Technically, this back-to-back quarterly economic contraction is deemed a recession. Recession is declared by the National Bureau of Economic Research (NBER). “Because a recession must influence the economy broadly and not be confined to one sector, the [NBER] emphasizes economy-wide measures of economic activity. The determination of the months of peaks and troughs is based on a range of monthly measures of aggregate real economic activity published by the federal statistical agencies. These include real personal income less transfers, nonfarm payroll employment, employment as measured by the household survey, real personal consumption expenditures, wholesale-retail sales adjusted for price changes, and industrial production.” As for now, unemployment rate remains at the lowest range in a generation, and consumer spending and corporate balance sheets remain positive. (This shows the super strength of the U.S. economy post-Covid.) However, with evidence that the U.S. and global economy are slowing due to the rapid rise in interest rates engineered by the Fed and other central banks and Russia’s invasion of Ukraine, the U.S. economy is expected to slow.



Sources: Blue Chip Economic Indicators and Blue Chip Financial Forecasts
 Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the Blue Chip survey.

<https://www.atlantafed.org/-/media/documents/cqer/researchcq/gdpnow/RealGDPTrackingSlides.pdf>

Signs of a General Economic Slowdown



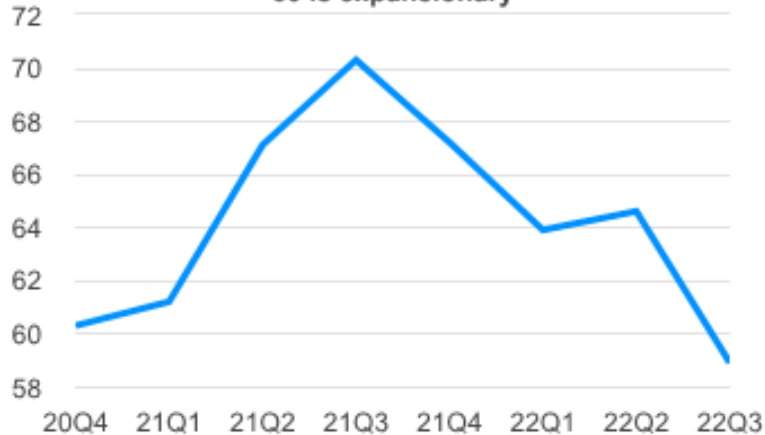
Source: Moody's Economics

The U.S. ISM manufacturing index dropped more than anticipated in September. The ISM manufacturing index fell from 52.8 in August to 50.9 in September. The main concern is the detail that new orders fell below their neutral threshold of 50, coming in at 47.1 in September. Employment and backlog orders also declined in September. The U.S. non-manufacturing sector expanded in August for the 27th month in a row, and the breadth of growth was slightly greater than in the prior month. The index edged up from 56.7 to 56.9. New orders and business activity increased, and employment climbed above its neutral threshold of 50. Retail sales rose, but the gain was partly offset by a downward revision to July sales. A strong gain in sales at vehicle dealers, despite a decline in new light-vehicle sales, offset a drop in gasoline station sales caused by falling prices.

Signs of a General Economic Slowdown

California Purchasing Manager's Composite Index

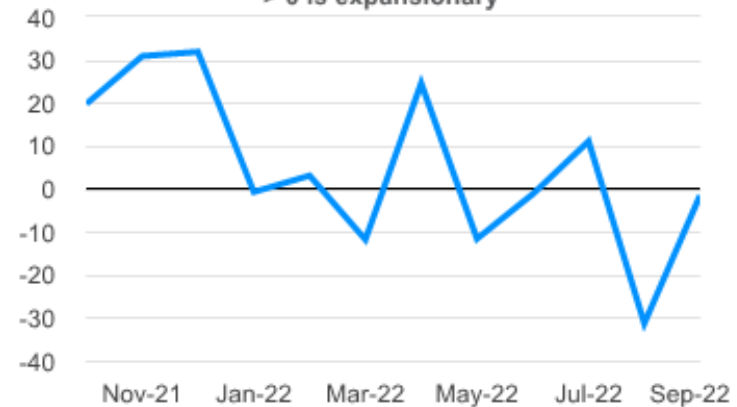
> 50 is expansionary



New York Empire State Manufacturing Survey

General Activity - Current vs. Previous Month

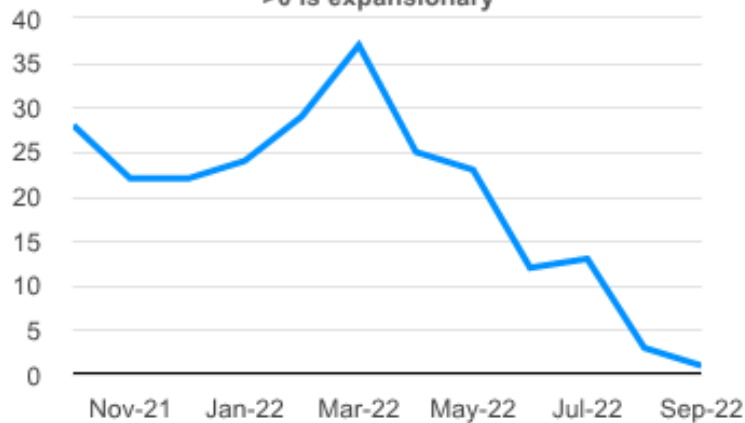
> 0 is expansionary



Kansas City Fed Manufacturing Survey

Composite Diffusion Index

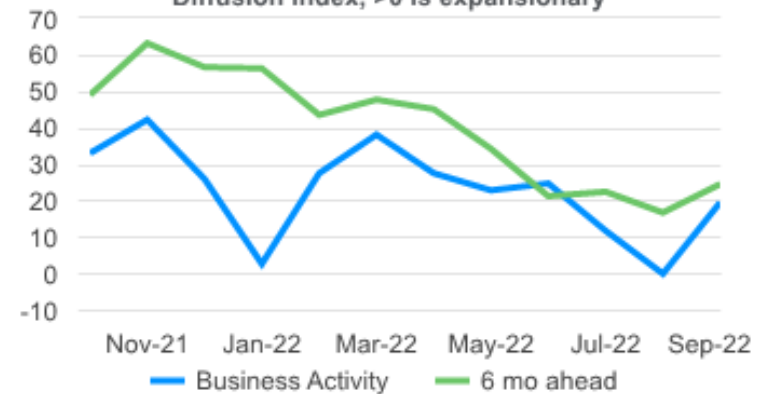
>0 is expansionary



Philadelphia Fed Non-Manufacturing Survey

Nonmanufacturing Survey

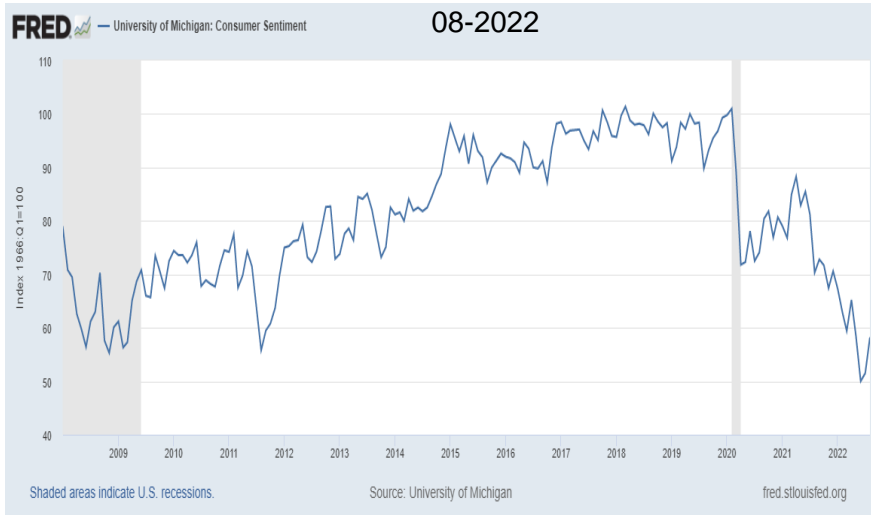
Diffusion index, >0 is expansionary



Source: Moody's economics

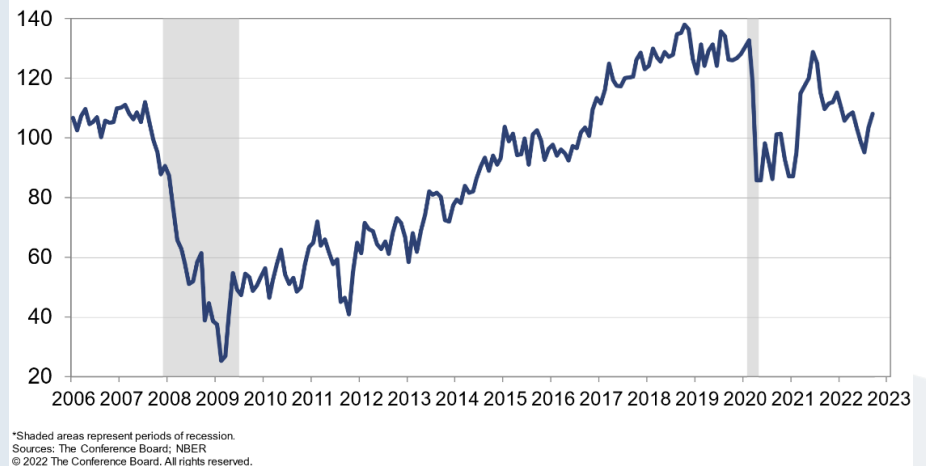
What are People Thinking: Consumer & Business Confidence

UMich Consumer Sentiment
08-2022



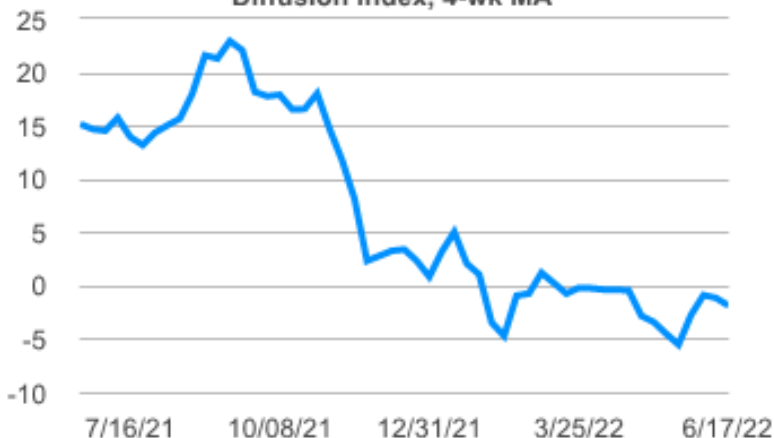
<https://fred.stlouisfed.org/series/UMCSENT#>

Conference Board Consumer Confidence Survey
09-27-2022



<https://www.conference-board.org/topics/consumer-confidence>

Moody's Analytics Survey of Business Confidence
Diffusion index, 4-wk MA

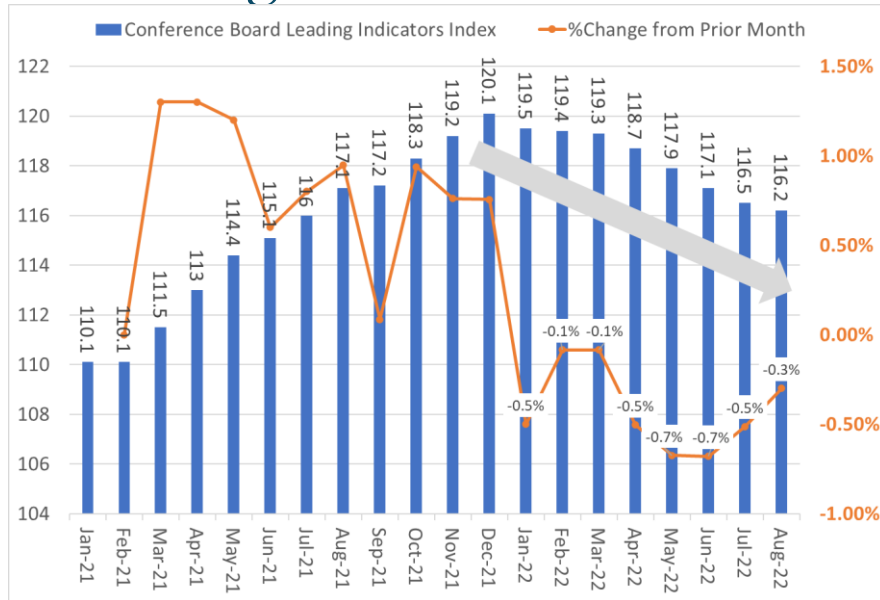


https://www.economy.com/economicview/indicator/usa_dsbc/5ACCE990-B6C9-4E5D-A4FA-14B8A15F6A13/World-Moodys-Analytics-Survey-of-Business-Confidence

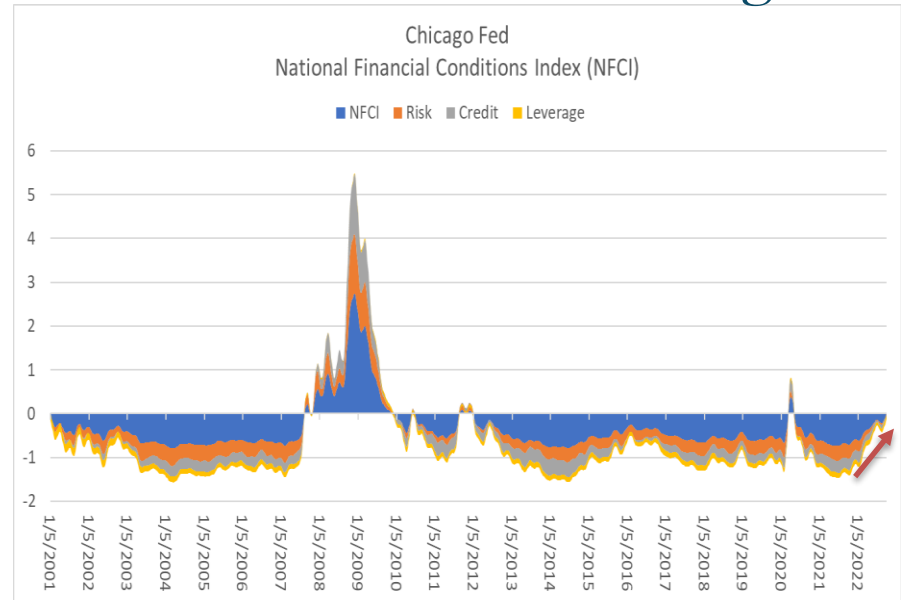
Beige Book report is published eight times per year. Each Federal Reserve bank gathers anecdotal information on current economic conditions in its district through reports from bank and branch directors and interviews with key business contacts, economists, market experts, and other sources. In September, U.S. economic activity was unchanged since July. It reports steady consumer spending, as households continued to shift away from discretionary goods toward more essential items. Supply-chain bottlenecks remained a challenge for both the energy sector and manufacturers. Expectations for future growth were generally downbeat, with many firms expecting a further softening in demand in the coming months. Inflationary pressures remained highly elevated.

<https://www.federalreserve.gov/monetarypolicy/beigebook202209.htm>

Leading Indicators and Financial Conditions – a mixed bag



https://www.economy.com/economicview/indicator/usa_leading/Conference-Board-Leading-Indicators

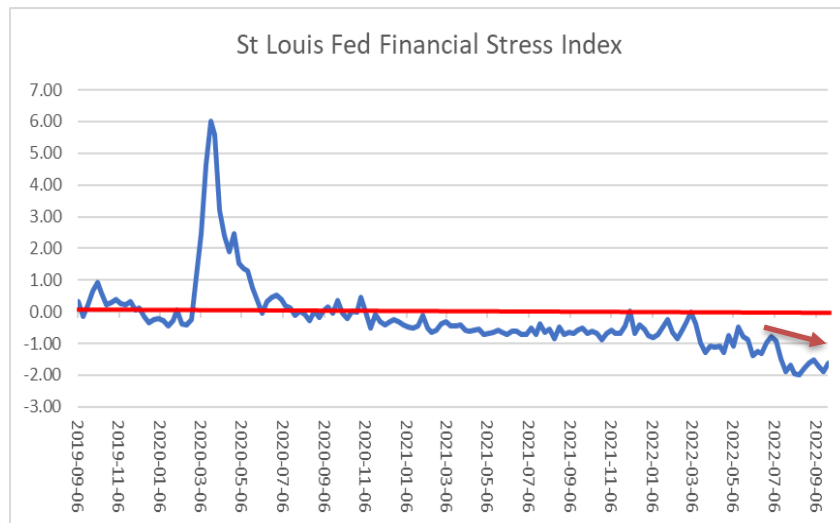


<https://www.chicagofed.org/publications/nfci/index>

The Conference Board Leading Indicators Index intends to forecast future economic activities. The Index declined by 0.3% in August to 116.2 (2016=100). The dip follows a revised 0.5% drop (previously 0.4%) in July, signaling further softening of future economic growth expectations but at a slower rate. Over the prior six months, the LEI declined by 2.7%, or about 5.3% on an annualized basis. This is a notable reversal from the same period last year, which posted a 1.7% gain. All in all, weakness across leading indicators has been broad-based so far this year.

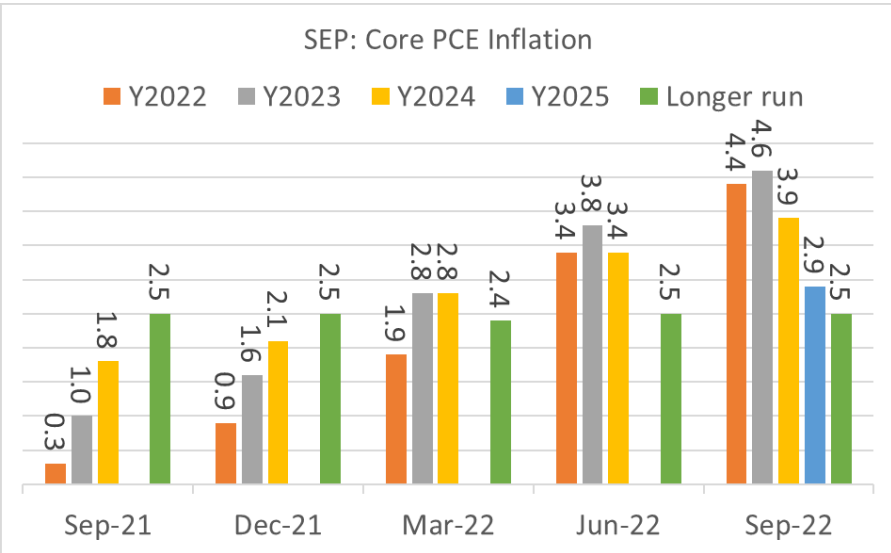
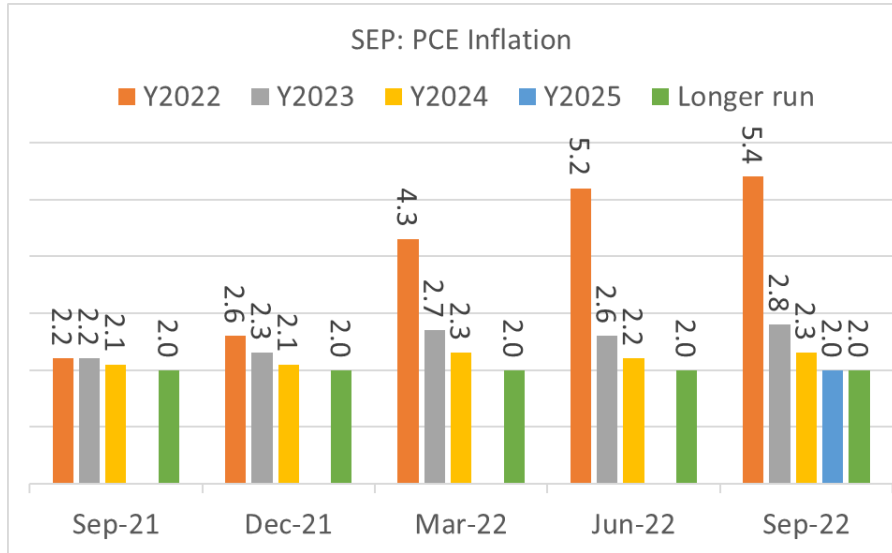
The St. Louis Federal Reserve Bank's Financial Stress Index continues to remain supportive. (Negative is accommodative.) This index measures the degree of financial stress in the markets and is constructed from 18 weekly data series.

The Chicago Fed's National Financial Conditions Index (NFCI) provides a comprehensive weekly update on U.S. financial conditions in money markets, debt and equity markets, and the traditional and "shadow" banking systems. The NFCI edged up to -0.06 in the week ending September 30. Risk indicators contributed 0.07, credit indicators contributed -0.03, and leverage indicators contributed -0.10 to the index in the latest week. These signals indicate the financial conditions remain supportive but are getting less accommodation.



Source: St Louis Fed <https://fred.stlouisfed.org/series/STLFSI3>

Summary of Economic Projections –Inflation (Core PCE)



<https://www.federalreserve.gov/monetarypolicy/fomcproptabl20220615.htm>

In the latest SEP, it is clear that FOMC members continue to see inflation moving higher. For 2022, the projected annual PCE moved up from March's meeting at 4.3% to the Sep meeting at 5.4%. The projection also suggests that the Fed's current hiking in rates and QT will have impact as the projected PCE for next year remains relatively stable since March and is now at 2.8%. At the same time, projections for Core PCE (ex-food and energy) inflation do not mirror those of PCE projections. The Core PCE has moved up from 2.9% in March for 2023 to 4.6% in September and 2.8% in March for 2023 to 3.9% in Sep for 2023. This means that the FOMC members are expecting core inflation to remain persistently higher as oil and food component prices drop over the next two years. This confirms the stated view of more aggressive rate actions for longer by the FOMC to combat core PCE inflation.

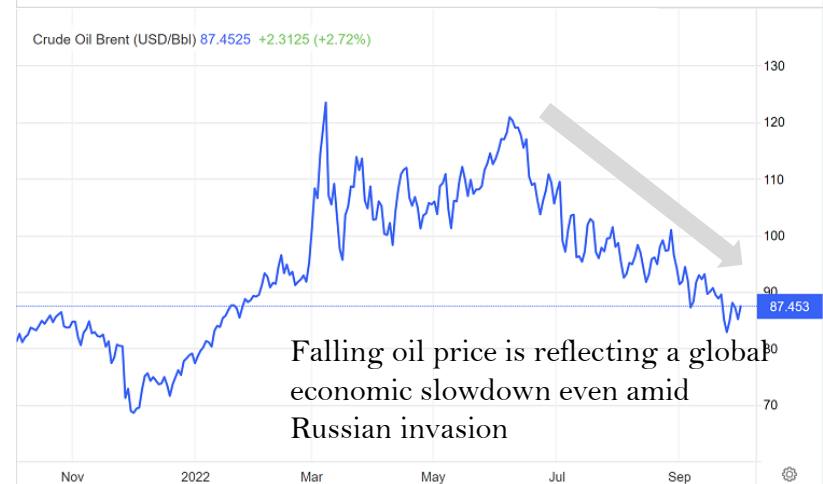
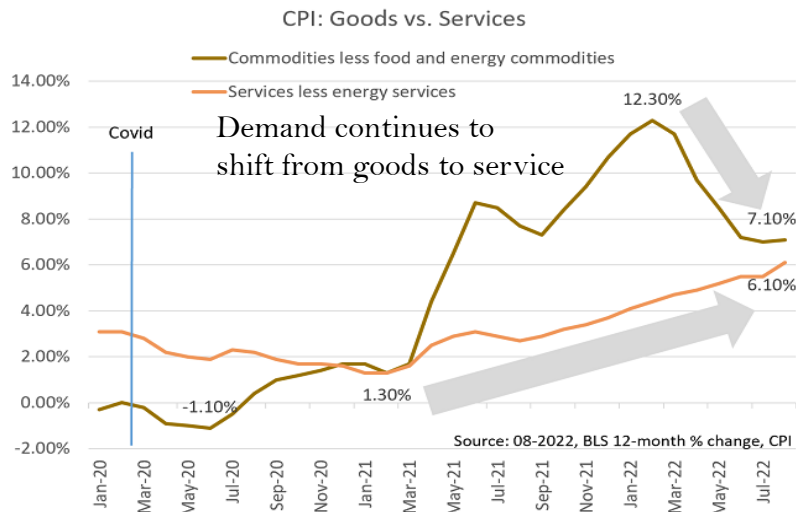
Consistent with the August PCE report from BEA, a \$67.5 billion increase in current-dollar PCE reflected an increase of \$96.9 billion in spending for services that was partly offset by a decrease of \$29.4 billion in spending for goods. Within services, the largest contributors to the increase were spending for housing and utilities, transportation, and health care.

What this data tells us is that wages are on the rise and are likely due to a tight labor market, especially in the service sector. To slow down PCE, the FOMC must control wage increases by increasing unemployment; or to put it euphemistically, bring labor market supply and demand more into balance.

Fed's Overarching Focus: Bring Inflation Back to 2%

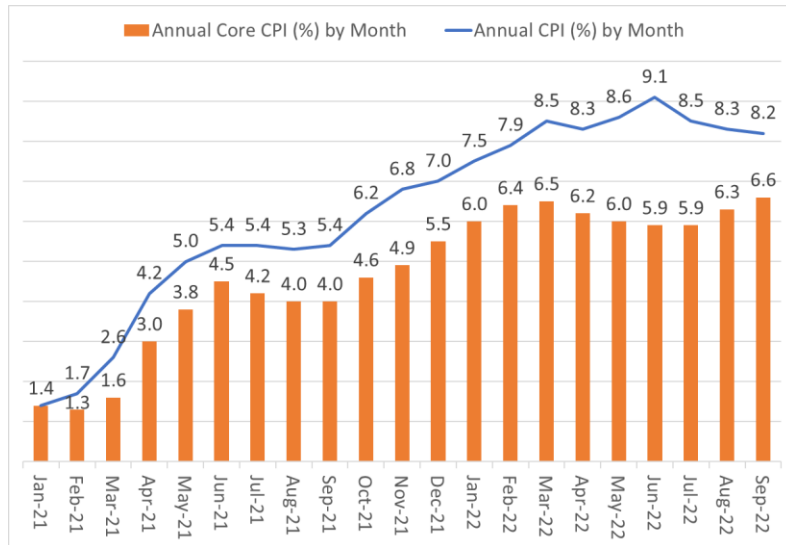
- In setting the record straight and to maintain the Fed's credibility of price stability, Chair Powell, in his prepared remarks, during the annual economic policy symposium sponsored by the Federal Reserve Bank of Kansas City in Jackson Hole, Wyoming, stated (with *interpretation*):
 1. Moving policy stance purposefully to a level that will be sufficiently restrictive (*meaningfully hike rates and QT*) to return inflation to 2 percent.
 2. Without price stability, the economy does not work for anyone. (*conviction*)
 3. Restoring price stability will take some time and likely to require a sustained period of below-trend growth. (*possible recession*)
 4. Requires using its tools forcefully to bring demand and supply into better balance (*monetary policy is not as impactful for supply driven shocks and requires more aggressive actions*)
 5. The labor market is particularly strong, but it is clearly out of balance. There will very likely be some softening of labor market conditions needed (*increase unemployment rate, a sign of recession*)
 6. Restoring price stability will likely require maintaining a restrictive policy stance for some time. The historical record cautions strongly against prematurely loosening policy. (*keeping rates higher for much longer and not to pivot too soon*)
 7. The successful Volcker disinflation in the early 1980s followed multiple failed attempts to lower inflation over the previous 15 years. A lengthy period of very restrictive monetary policy was ultimately needed to stem the high inflation and start the process of getting inflation down to the low and stable levels that were the norm until the spring of last year. Our aim is to avoid that outcome by acting with resolve now.
- In Chair Powell's prepared remarks for his post FOMC September 21, 2022, press conference, he reiterated the same points he made during the Jackson Hole event. Chair Powell wanted to make clear of the FOMC's intent and their commitment to using policy tools forcefully and persistently until incoming data show clear evidence of policy effectiveness in bringing inflation back down to 2%.

Inflation Contributors & Detractors

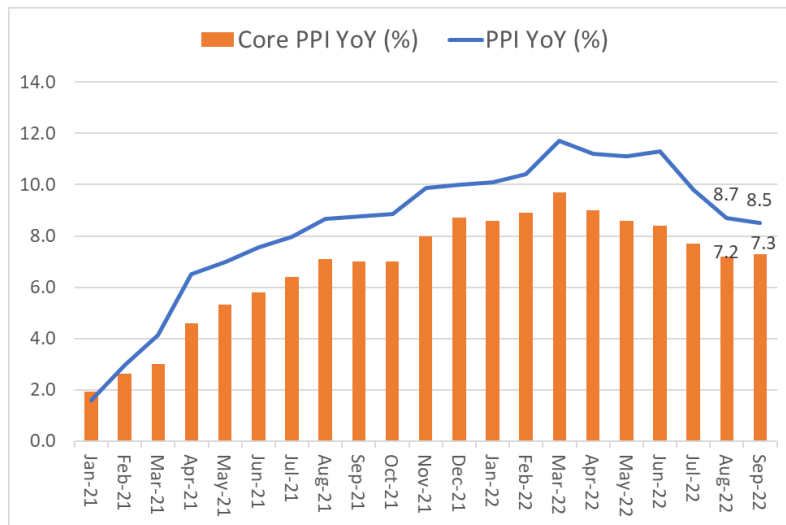


The GSCPI integrates a number of commonly used metrics with the aim of providing a comprehensive summary of potential supply chain disruptions. Global transportation costs are measured by employing data from the Baltic Dry Index (BDI) and the Harpex index, as well as airfreight cost indices from the U.S. Bureau of Labor Statistics. The GSCPI also uses several supply chain-related components from Purchasing Managers' Index (PMI) surveys, focusing on manufacturing firms across seven interconnected economies: China, the euro area, Japan, South Korea, Taiwan, the United Kingdom, and the U.S. 16

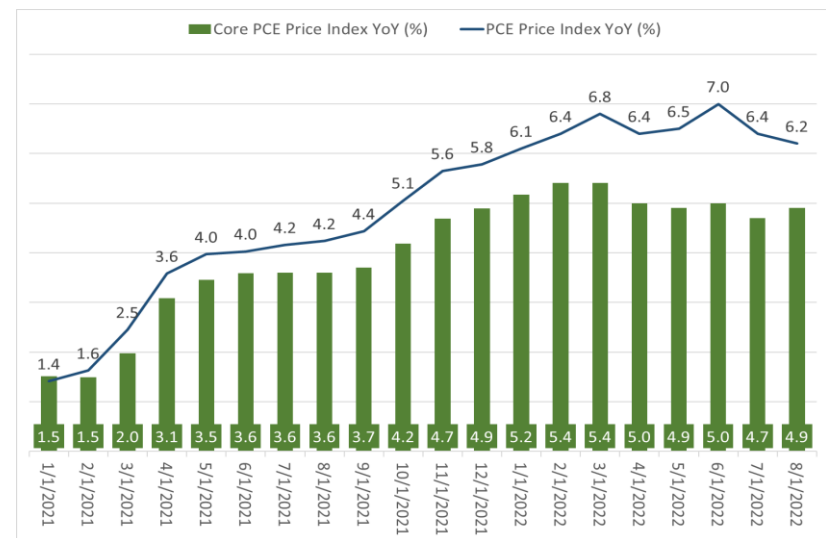
Inflation Alphabet Soup – CPI, PCE and PPI



<https://www.bls.gov/cpi/>



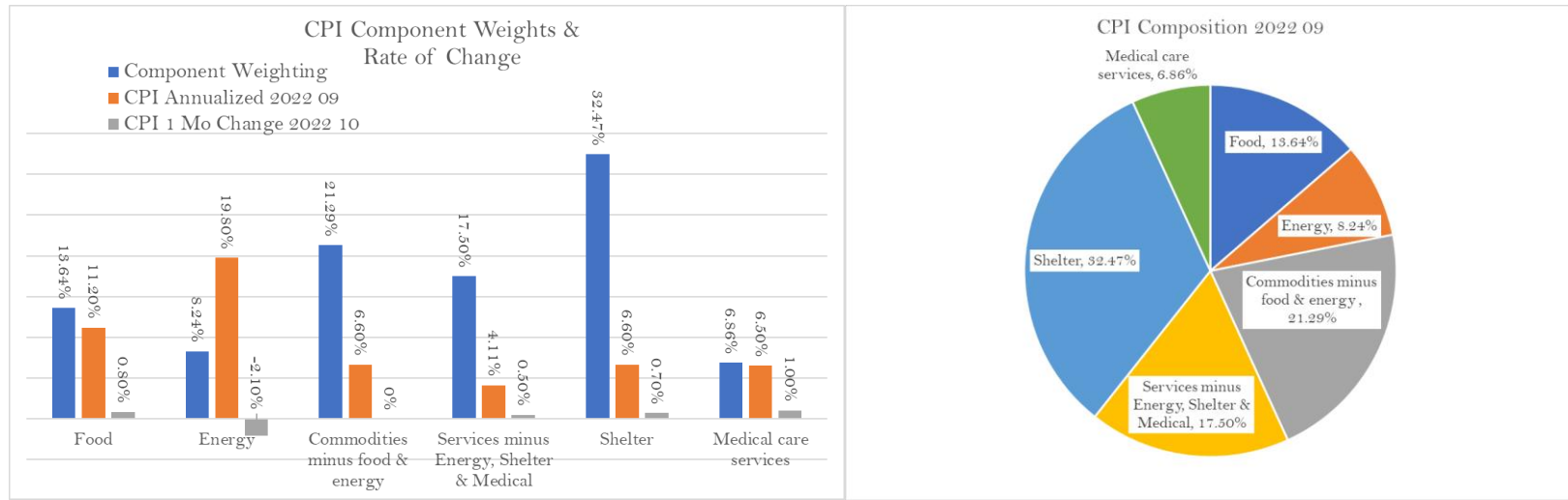
Source: ycharts



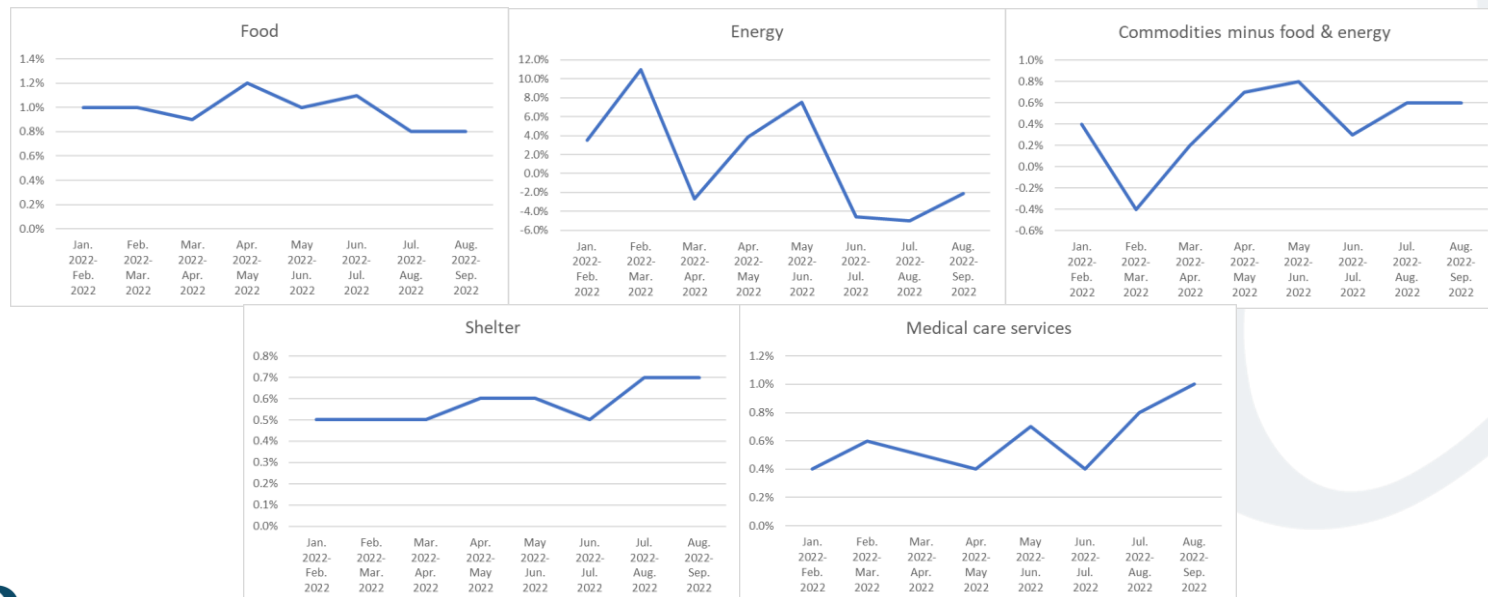
<https://www.bea.gov/data/personal-consumption-expenditures-price-index>

The Consumer Price Index for All Urban Consumers (CPI-U) rose 0.4% in September on a seasonally adjusted basis after rising 0.1% in August. Over the last 12 months in September, the all items index increased 8.2% before seasonal adjustment. Increases in the shelter, food, and medical care indexes were the largest of many contributors to the monthly seasonally adjusted all items increase. These increases were partly offset by a 4.9% decline in the gasoline index. The food index continued to rise, increasing 0.8% over the month as the food at home index rose 0.7%. The energy index fell 2.1% over the month as the gasoline index declined, but the natural gas and electricity indexes increased. The core CPI rose 0.6% in September, and over the past 12 months, core CPI rose 6.6%. The Producer Price Index for final demand increased 0.4% in September, seasonally adjusted, the U.S. Bureau of Labor Statistics reported today. Final demand prices declined 0.2% in August and 0.4% in July. On an unadjusted basis, the index for final demand advanced 8.5% for the 12-months ended in September. The index for final core (ex food and energy) increased 7.3%.

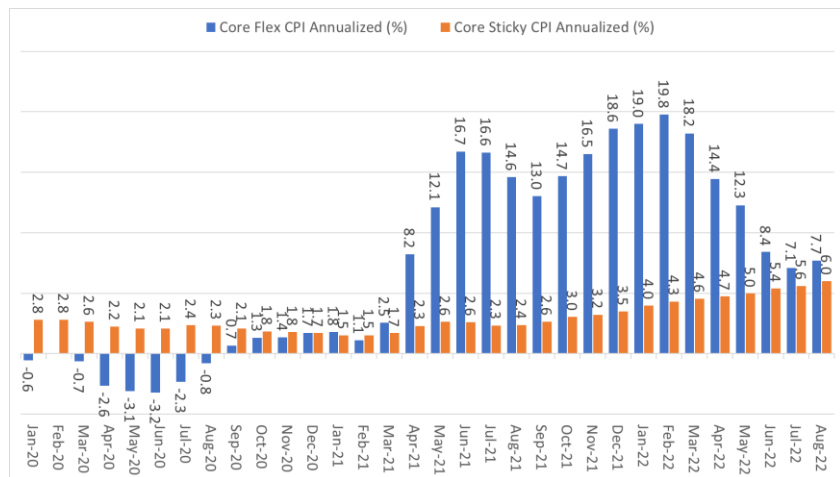
CPI September – Upside Surprise



<https://www.bls.gov/web/cpi.supp.toc.htm>

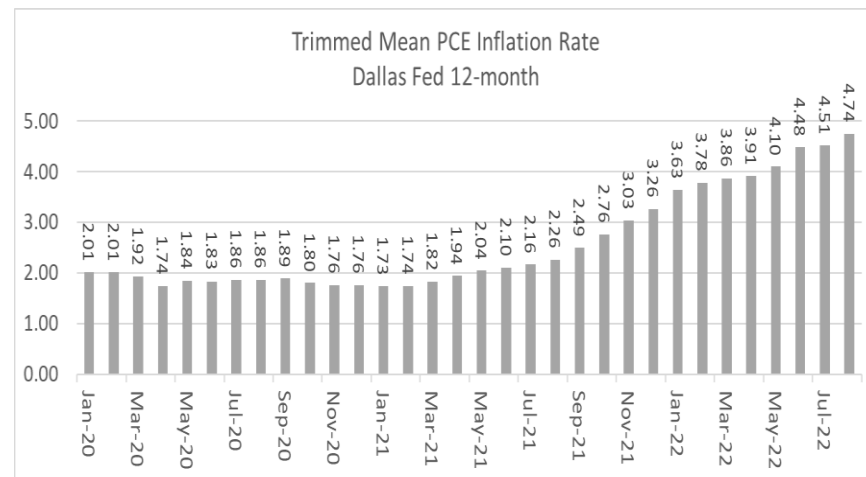


Alternative Inflation Measured



<https://www.atlantafed.org/research/inflationproject/stickyprice>

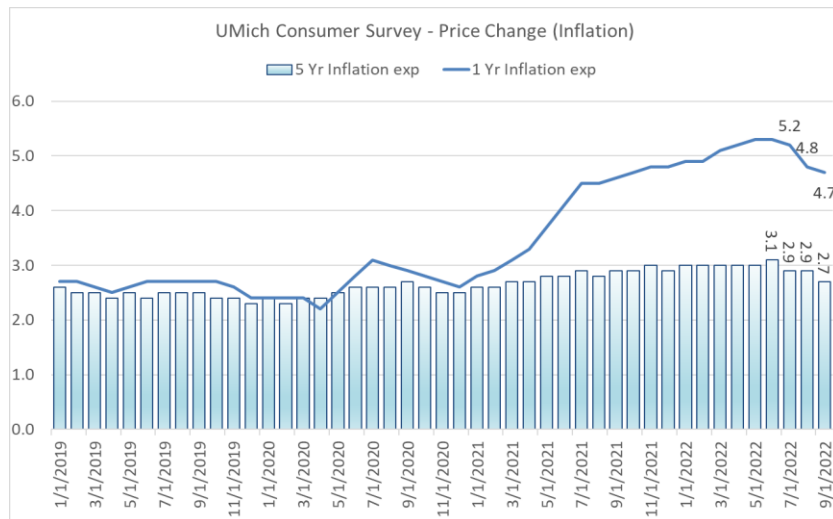
Flexible-priced items (like gasoline) are free to adjust quickly to changing market conditions, while sticky-priced items (like rent) are subject to some impediment or cost that causes them to change prices infrequently. As research shows, sticky prices appear to have an embedded inflation expectations component that is useful in forecasting future inflation. The Atlanta Fed calculates these two types of inflation indexes each month. The latest figures show a reduction in Core (exclude energy and food) Flex CPI and an upward trend for Core Sticky CPI. This is a worrying sign because it means that the current inflation may be harder to combat and may cause expectations to be unanchored. For August, Core Sticky is up, and Core Flex ticked up slightly.



<https://www.dallasfed.org/research/pce#data>

The Trimmed Mean PCE inflation rate produced by the Federal Reserve Bank of Dallas is an alternative measure of core inflation in the price index for personal consumption expenditures (PCE). Calculating the trimmed mean PCE inflation rate for a given month involves looking at the price changes for each of the individual components of personal consumption expenditures. The individual price changes are sorted in ascending order from “fell the most” to “rose the most,” and a certain fraction of the most extreme observations at both ends of the spectrum are thrown out or trimmed. The inflation rate is then calculated as a weighted average of the remaining components. The trimmed mean inflation rate is a proxy for true core PCE inflation rate. The August report continues its upward trajectory for this is consistent with Atlanta Fed’s Stick Core CPI index.

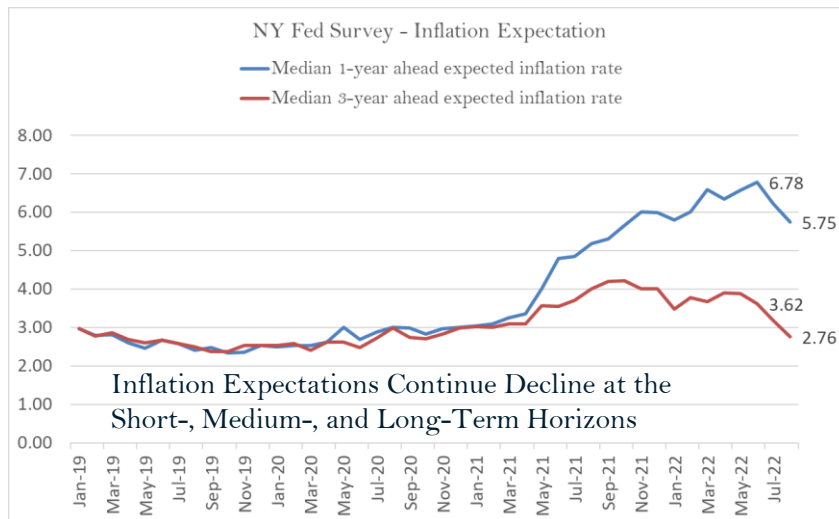
Inflation Expectation – Survey-Based



<http://www.sca.isr.umich.edu/tables.html>



<https://www.atlantafed.org/research/inflationproject/bie>



<https://www.newyorkfed.org/microeconomics/scf#/inflepx-1>

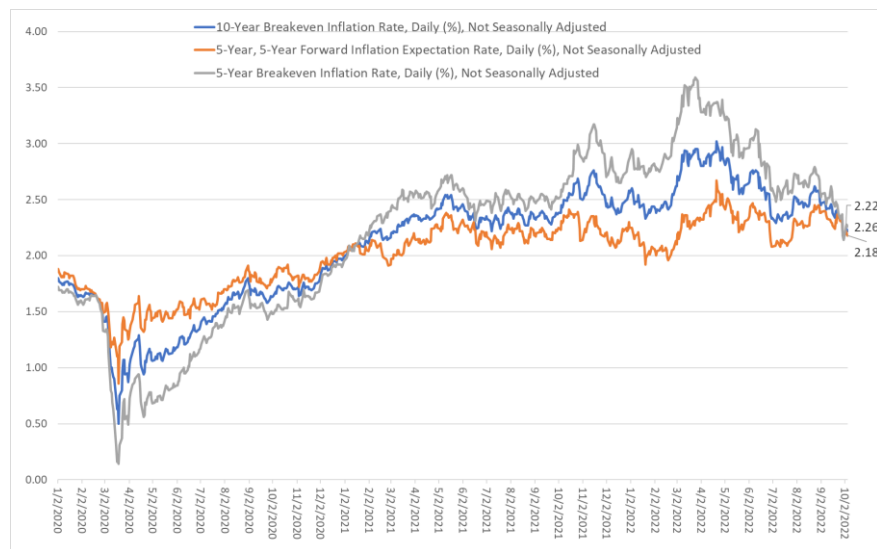
UMich consumer survey: the tentative slowdown in inflation last month has not, as of yet, translated to sustained improvements in how consumers feel about their financial situations. About 42% of consumers cited high prices eroding their living standards, down from a peak of 49% in July but more than double the 18% reading from a year ago.

New York Fed survey: median one- and three-year-ahead inflation expectations both posted steep declines in August, from 6.2% and 3.2% in July to 5.7% and 2.8%, respectively.

Atlanta Fed survey: firms' year-ahead inflation expectations decreased significantly to 3.3 percent, on average.

Inflation expectation is a leading indicator for future inflation. Thus far, survey-based data suggest that consumers and businesses, over the past two months, have lowered their expectations. The trends for both short- and long-term inflation expectations are moving lower. This is encouraging news to the FOMC as inflation anchoring at or around 2% is a central objective to deliver price stability.

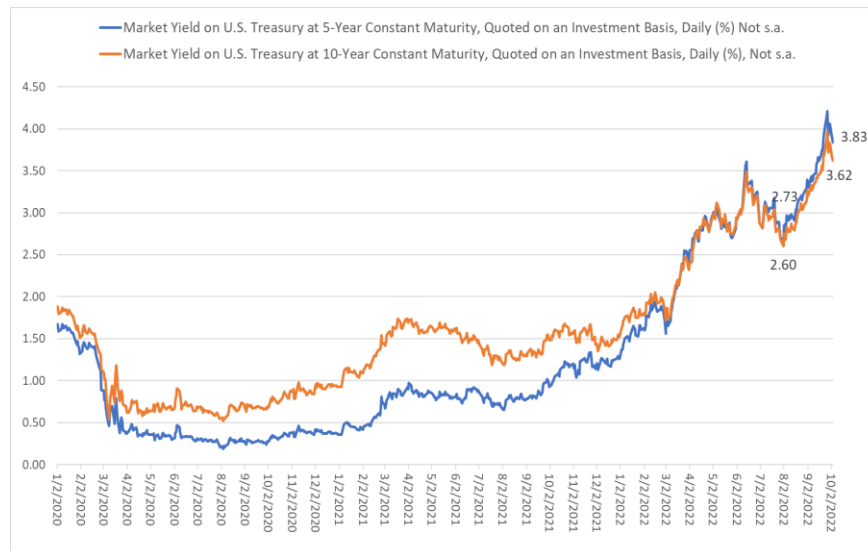
Inflation Expectation – Market-Based



5-Year, 5-Year Forward Inflation Expectation Rate is a measure of expected inflation (on average) over the five-year period that begins five years from today - **@ 2.18%**

10-Year Breakeven Inflation Rate is a measure of expected inflation derived from 10-Year Treasury Constant Maturity Securities and 10-Year Treasury Inflation-Indexed Constant Maturity Securities. The latest value implies what market participants expect inflation to be in the next 10 years, on average - **@ 2.22%**

5-Year Breakeven Inflation Rate is the measure of expected inflation derived from 5-Year Treasury Constant Maturity Securities and 5-Year Treasury Inflation-Indexed Constant Maturity Securities. The latest value implies what market participants expect inflation to be in the next 5 years, on average - **@ 2.26%**



5-Year Constant Maturity Rate is the nominal rate of the 5-Year U.S. Treasury. The latest value is the current yield on the 5-Year Treasury - **@ 3.83%**

10-Year Constant Maturity Rate is the nominal rate of the 10-Year U.S. Treasury. The latest value is the current yield on the 10-Year Treasury - **@ 3.62%**

These expectations have all increased since January. The most recent yields have turned down a bit. This may suggest that the market is expecting a sufficient economic slowdown in the months to come.

Mastercard: Changing Consumer Spending Pattern

Mastercard SpendingPulse™

U.S. Retail Snapshot – July 2022

	Sales Growth Year-Over-Year July 2022 vs. July 2021	Sales Growth vs. Pre-Pandemic July 2022 vs. July 2019
Total Retail (ex. Auto)	+11.2%	+22.4%
Total Retail (ex. Auto & ex. Gas)	+9.0%	+20.3%
E-commerce	+11.7%	+98.5%
In-Store	+11.1%	+13.9%
By Sector		
Airline	+13.3%	-10.2%
Apparel	+16.6%	+28.4%
Department Stores	+14.0%	+22.2%
Electronics	+4.3%	+16.7%
Fuel & Convenience	+32.3%	+47.1%
Furniture & Furnishings	+5.0%	+33.2%
Grocery	+16.8%	+29.5%
Home Improvement	+2.9%	+22.0%
Jewelry	+18.6%	+109.1%
Lodging	+29.6%	+28.4%
Luxury (excluding jewelry)	-3.7%	+48.3%
Restaurants	+9.5%	+42.6%

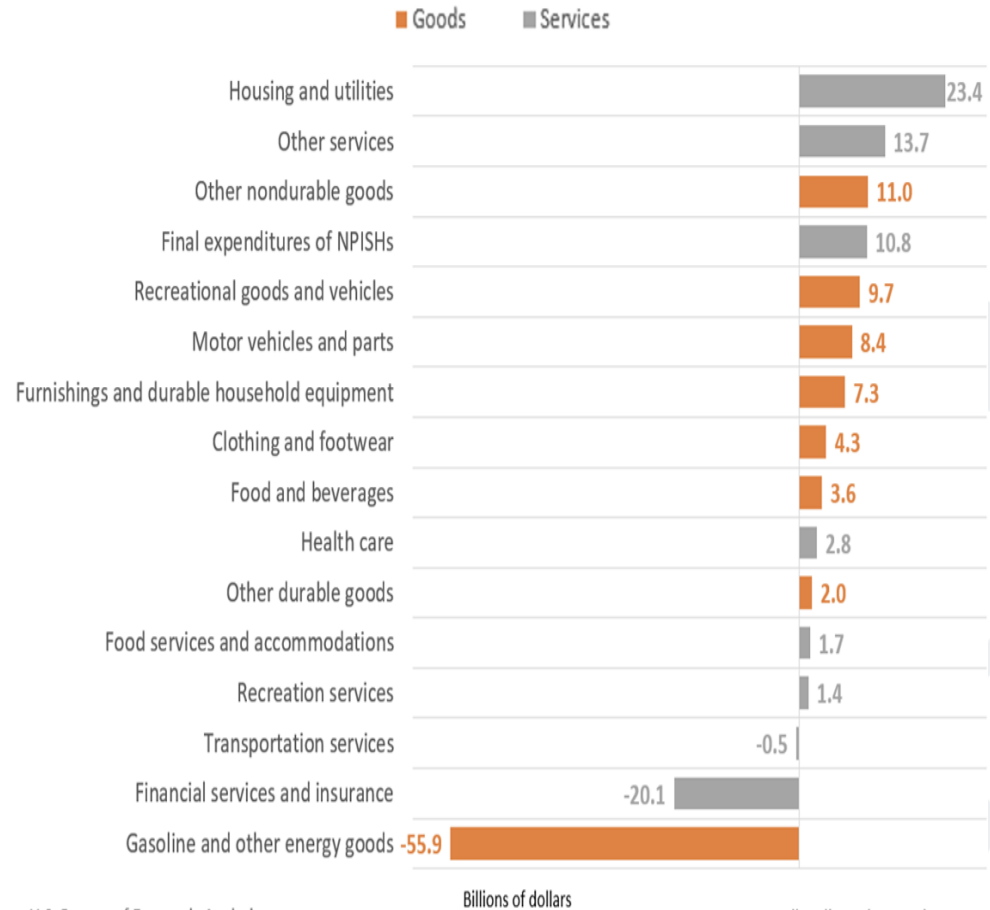


SpendingPulse™

Source: Mastercard SpendingPulse, which measures in-store and online retail sales across all forms of payment.

Changes in Consumer Spending, July 2022

Consumer spending increased \$23.7 billion



U.S. Bureau of Economic Analysis

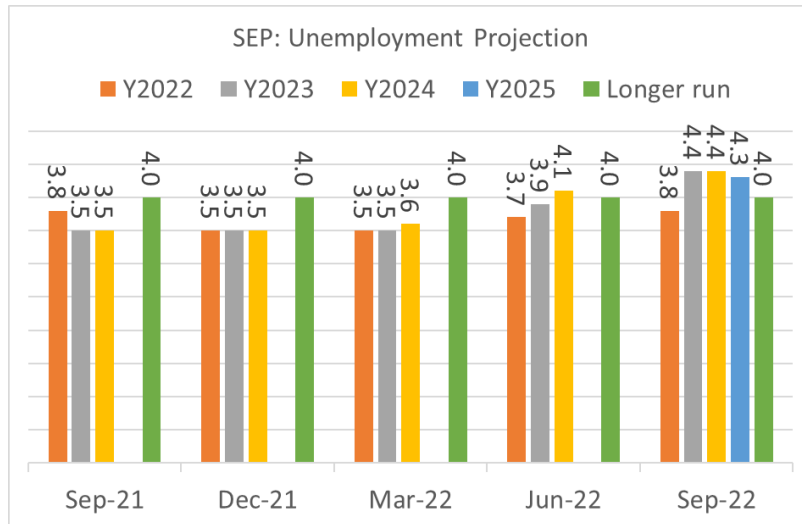
Billions of dollars

Seasonally adjusted, annual rates

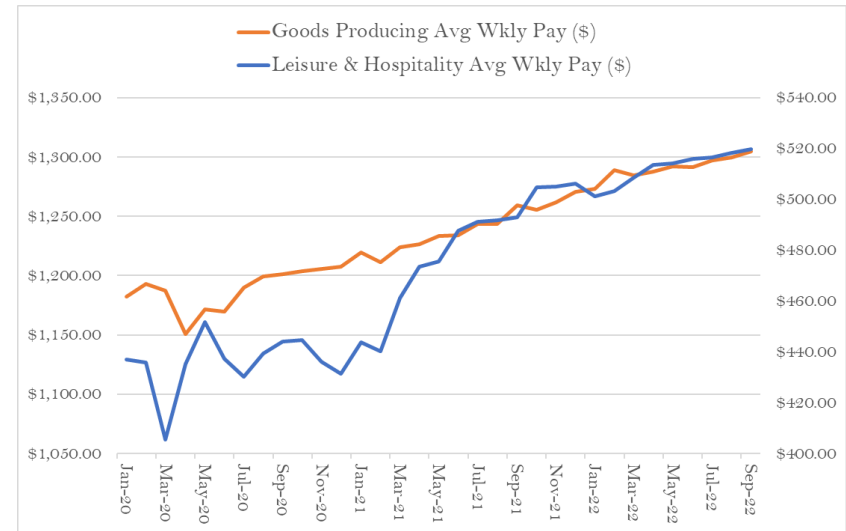
<https://www.mastercard.com/news/press/2022/august/mastercard-spendingpulse-u-s-consumers-continued-to-spend-in-july-while-navigating-high-inflation/>

<https://www.bea.gov/taxonomy/term/706>

Summary of Economic Projections – Unemployment (U3)



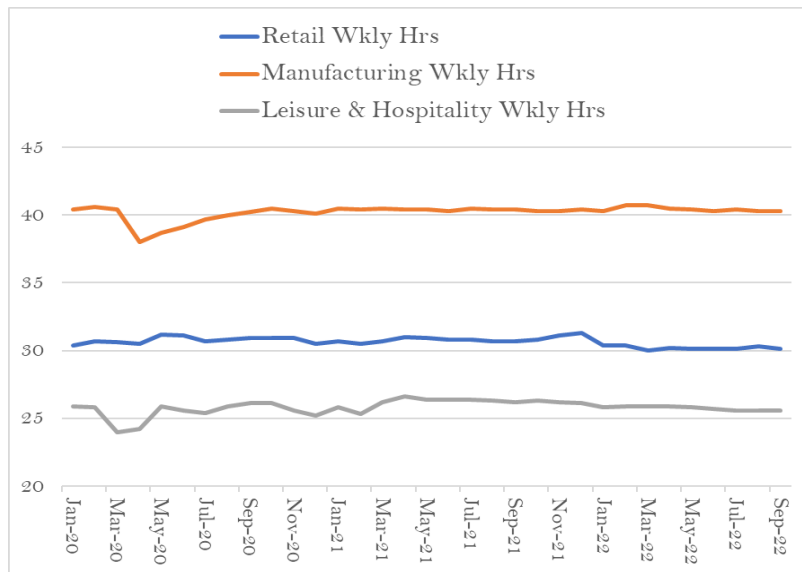
<https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20220316.pdf>



<https://www.bls.gov/webapps/legacy/cpsatab11.htm>

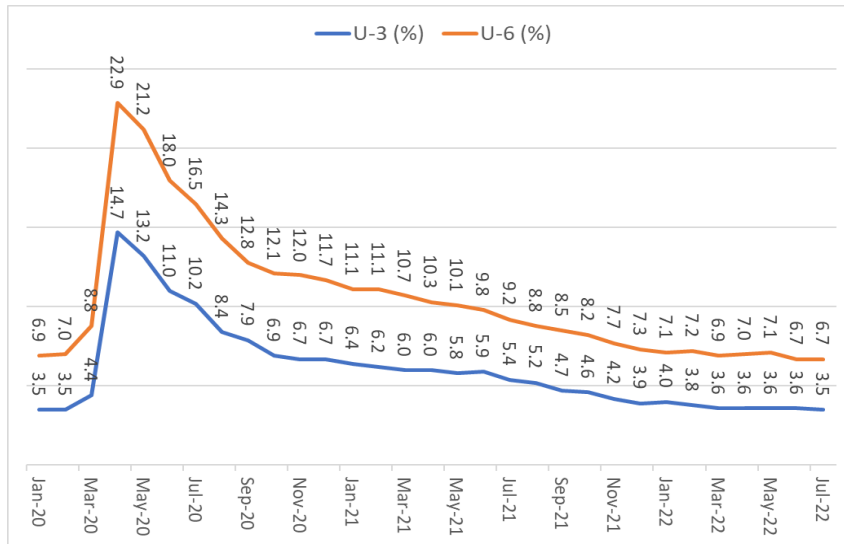
The Federal Reserve expects the unemployment to move up from its 3.5% historical low to 3.8% this year and up to 4.4% for the next couple of years. It is well known that there remains a post-Covid labor shortage, and the Fed is trying to bring the supply and demand of labor into balance – to fight inflation. The SEP shows that the Fed expects a 4.4% unemployment rate next year.

Since the reopening of the economy, we see a steady rise of average weekly wages for goods producing as well as leisure and hospitality workers in the chart above. At the same time, the number of hours worked for retail, manufacturing and leisure-hospitality remain fairly constant. This shows businesses have to pay more to keep the workers, and higher wages mean further support for inflation.

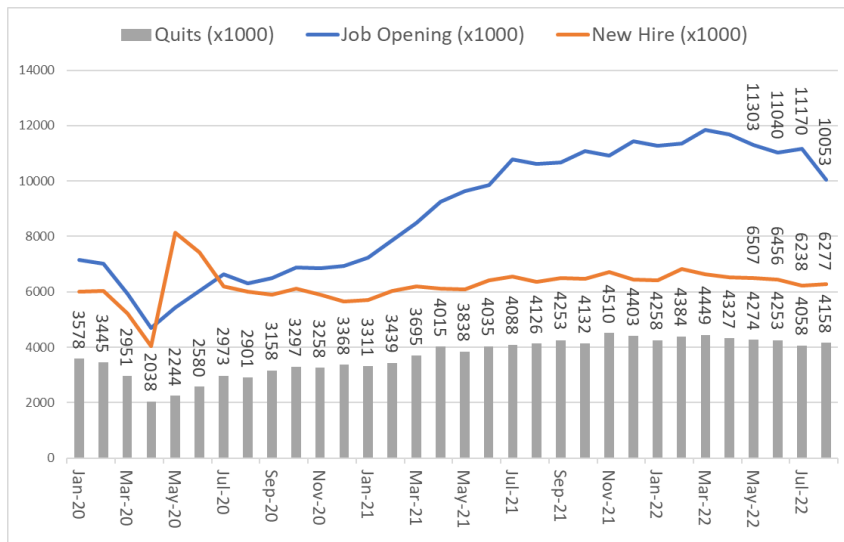


<https://www.bls.gov/ces/data/employment-situation-table-download.htm>

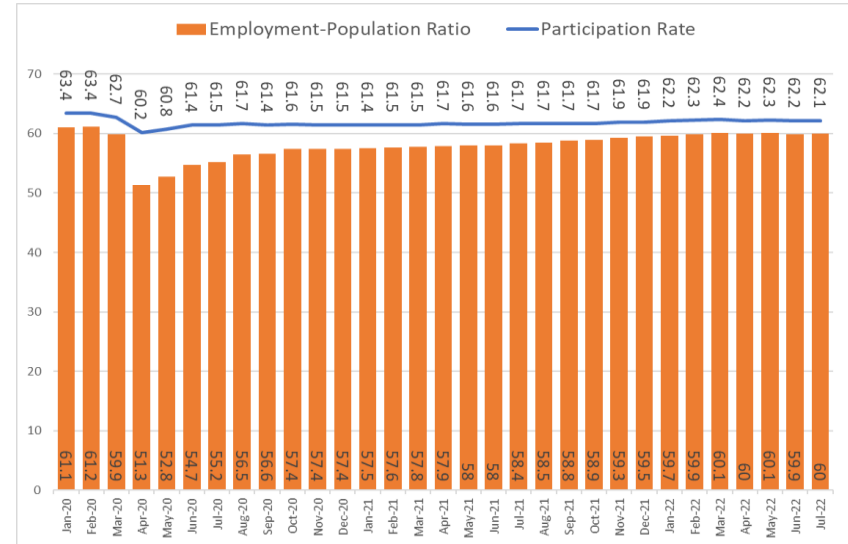
The Labor Economic: still strong for now



<https://www.bls.gov/webapps/legacy/cpsatab1.htm>

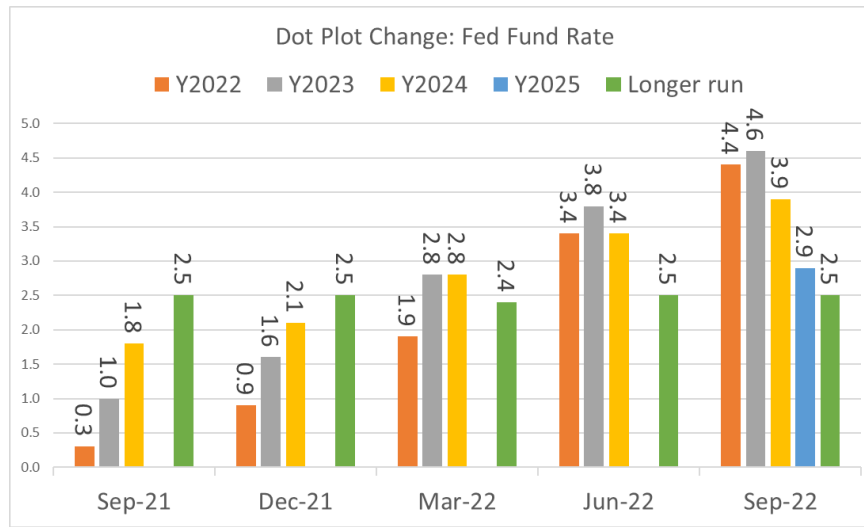


<https://www.bls.gov/jlt/>

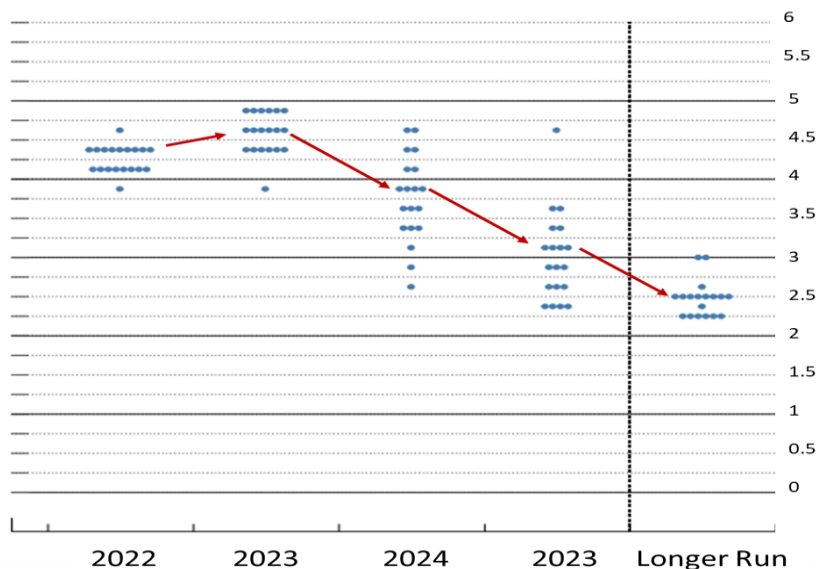


The labor economy remains very strong as more people are coming back into the service sector of the labor force, post-Covid. The headline unemployment rate is still at 3.5%, a multi-generational low. This strong labor economy is confirmed by the gradual improvement in the Employment-Population Ratio, now at 62.1% and the improving Labor Participation Rate, now at 60%. This tight labor market is more about a lack of labor supply or mismatched job and skills. This is a structural problem. The Quit rate (people quit because they can get a better paying job elsewhere) remains elevated even though Job Openings is gradually coming down.

Summary of Economic Projections – Fed Fund Rate



FOMC members all followed the lead of Chair Powell in being explicit about needing to frontload rate hikes (i.e., speed) and be aggressive in containing inflation. After another 75bp increase in the September meeting, the Fed is likely to impose another 75bp hike in its November meeting. The members have been consistent in saying the future path of rate hikes will be data dependent. Thus far, economic data have been positive for the economy, which means the Fed believes it will need to do more to weaken the economy as a necessary step to bring inflation back to or around 2%.



The dot plot in its September Summary of Economic Projections shows the wide range of opinion or projections among members of where the terminal Fed Fund's rate would be for this cycle. For 2022, the majority of members have the rate to be at the 400 to 425bp range which is 100 bp more than the current 300 to 350bp rate. But the market is increasingly expecting the range at 425 to 450bp. Further, the high end of the range of the projection for 2023 is at 450 to 475 which suggests the FOMC is projecting to pause in early 2023 and begin to cut rates into 2024 and beyond.

Market Expectation of FOMC's Rate Hiking Cycle

July 1, 2022, CME Fed Watch Tool

MEETING PROBABILITIES										
MEETING DATE	200-225	225-250	250-275	275-300	300-325	325-350	350-375	375-400	400-425	425-450
7/27/2022	17.4%	82.6%	0.0%	0.0%						
9/21/2022	0.0%	0.0%	14.3%	70.8%	14.9%	0.0%	0.0%	0.0%	0.0%	
11/2/2022	0.0%	0.0%	0.0%	8.6%	48.4%	37.1%	5.9%	0.0%	0.0%	0.0%
12/14/2022	0.0%	0.0%	0.0%	2.0%	18.0%	45.7%	29.7%	4.5%	0.0%	0.0%
2/1/2023	0.0%	0.0%	0.0%	1.6%	14.7%	40.0%	33.0%	9.7%	0.9%	0.0%
3/15/2023	0.0%	0.0%	0.0%	1.4%	13.0%	36.6%	33.9%	12.8%	2.1%	0.1%
5/3/2023	0.0%	0.0%	0.8%	8.2%	26.9%	35.1%	21.5%	6.5%	0.9%	0.1%
6/14/2023	0.0%	0.4%	4.4%	17.2%	30.8%	28.5%	14.3%	3.8%	0.5%	0.0%
7/26/2023	0.2%	2.3%	10.4%	23.6%	29.7%	21.8%	9.4%	2.3%	0.3%	0.0%

<https://www.cmegroup.com/education/demos-and-tutorials/fed-funds-futures-probability-tree-calculator.html>

The short and definitive speech by Chair Powell at the annual economic policy symposium sponsored by the Federal Reserve Bank of Kansas City at Jackson Hole, Wyoming, signaled the Fed's commitment to raise rates; and there was no indication of a pivot. This somehow "shocked" the market and projected rates moved up quickly. After the July 27th meeting, market participants projected a 48.4% chance the rate would be 325-350bp by year end. But after the September meeting, the projection showed a 69.6% probability of 425-450bp. Further, the "terminal" rate is now expected in the 450-475bp range from 300-325bp range in June, a 150bp jump.

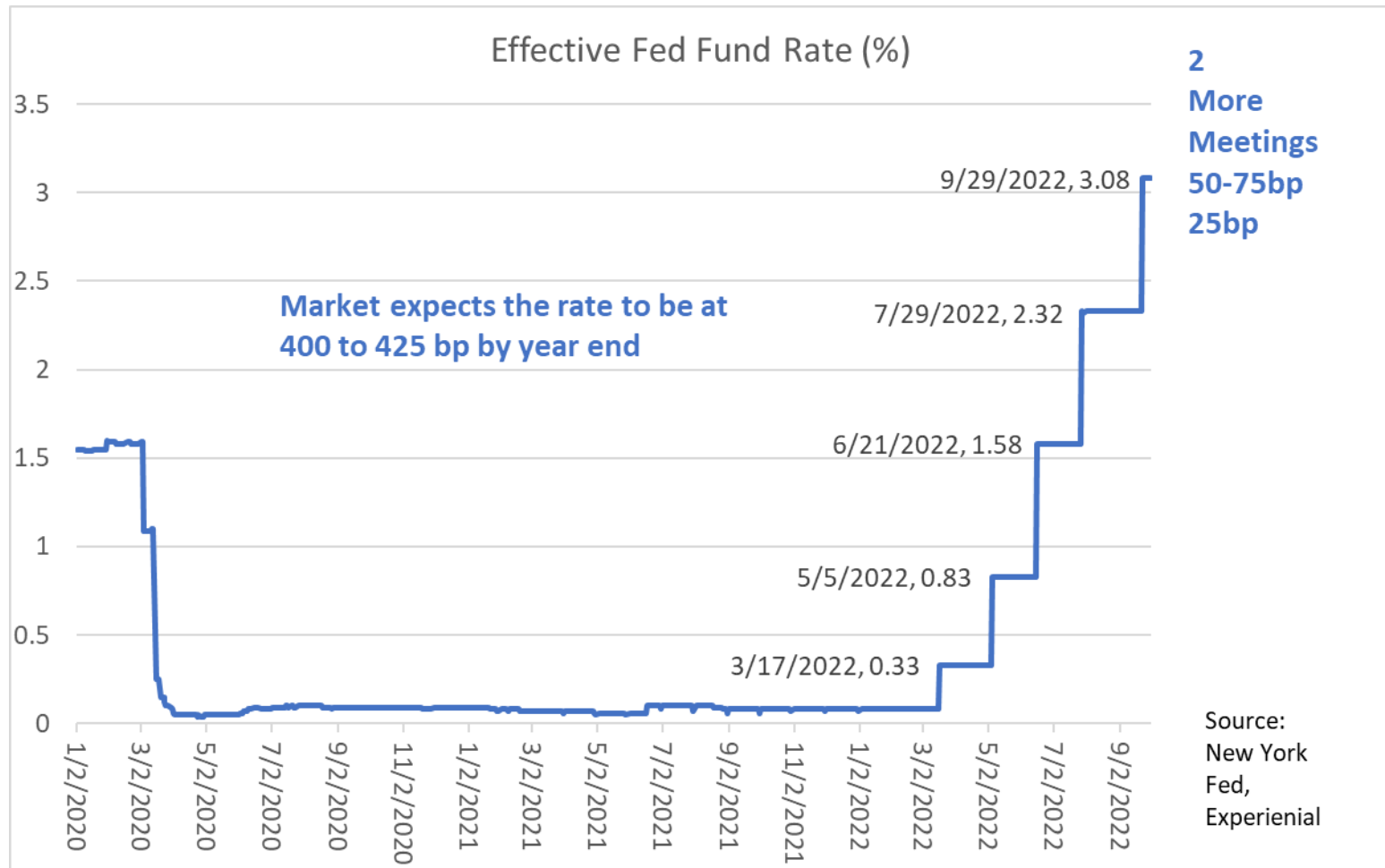
Aug 26, 2022, CME Fed Watch Tool (Jackson Hole Speech)

MEETING PROBABILITIES							
MEETING DATE	275-300	300-325	325-350	350-375	375-400	400-425	425-450
9/21/2022	39.0%	61.0%	0.0%	0.0%			
11/2/2022	0.0%	8.5%	43.8%	47.7%	0.0%	0.0%	0.0%
12/14/2022	0.0%	1.2%	13.5%	44.4%	40.9%	0.0%	0.0%
2/1/2023	0.0%	0.9%	9.9%	35.4%	41.9%	11.9%	0.0%
3/15/2023	0.0%	0.6%	7.1%	27.5%	39.9%	21.2%	3.7%
5/3/2023	0.0%	0.6%	7.3%	27.6%	39.8%	21.1%	3.7%
6/14/2023	0.1%	2.0%	11.3%	30.0%	36.0%	17.6%	2.9%
7/26/2023	0.4%	3.6%	14.6%	31.1%	32.8%	15.0%	2.4%

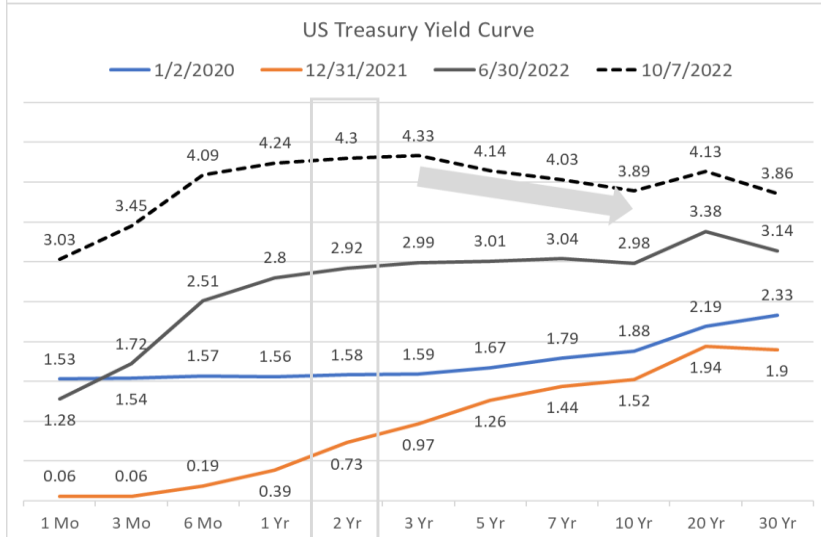
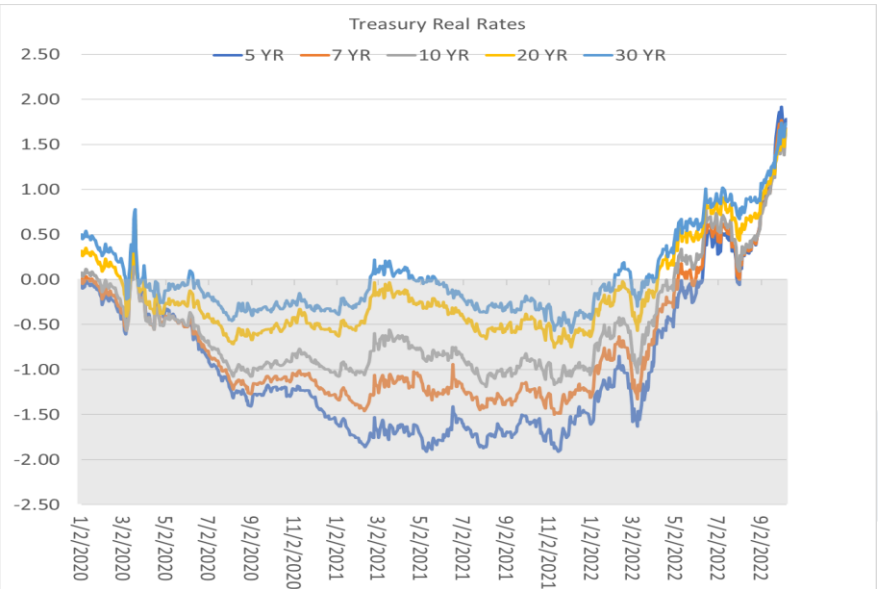
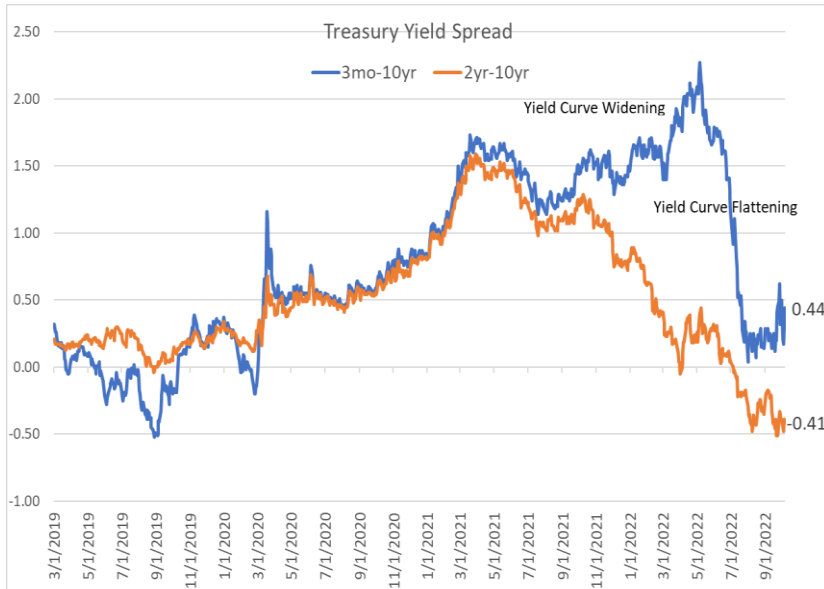
September 21, 2022, CME Fed Watch Tool

MEETING PROBABILITIES								
MEETING DATE	325-350	350-375	375-400	400-425	425-450	450-475	475-500	500-525
11/2/2022	0.0%	41.5%	58.5%	0.0%	0.0%			
12/14/2022	0.0%	0.0%	1.9%	42.3%	55.9%	0.0%	0.0%	0.0%
2/1/2023	0.0%	0.0%	0.2%	6.4%	43.8%	49.6%	0.0%	0.0%
3/22/2023	0.0%	0.0%	0.2%	5.2%	36.6%	48.5%	9.5%	0.0%
5/3/2023	0.0%	0.0%	0.7%	8.5%	37.9%	44.4%	8.5%	0.0%
6/14/2023	0.0%	0.0%	0.7%	8.3%	37.1%	44.2%	9.5%	0.2%
7/26/2023	0.0%	0.1%	1.9%	12.9%	38.3%	38.6%	8.0%	0.2%
9/20/2023	0.0%	0.3%	2.9%	15.2%	38.3%	35.9%	7.3%	0.2%
11/1/2023	0.1%	1.1%	6.6%	22.2%	37.6%	27.2%	5.1%	0.1%
12/13/2023	0.3%	2.2%	9.9%	25.4%	35.4%	22.6%	4.1%	0.1%

Q3 Projecting Interest Rate



A Hawkish Fed – Good for savers, not for bonds or stocks



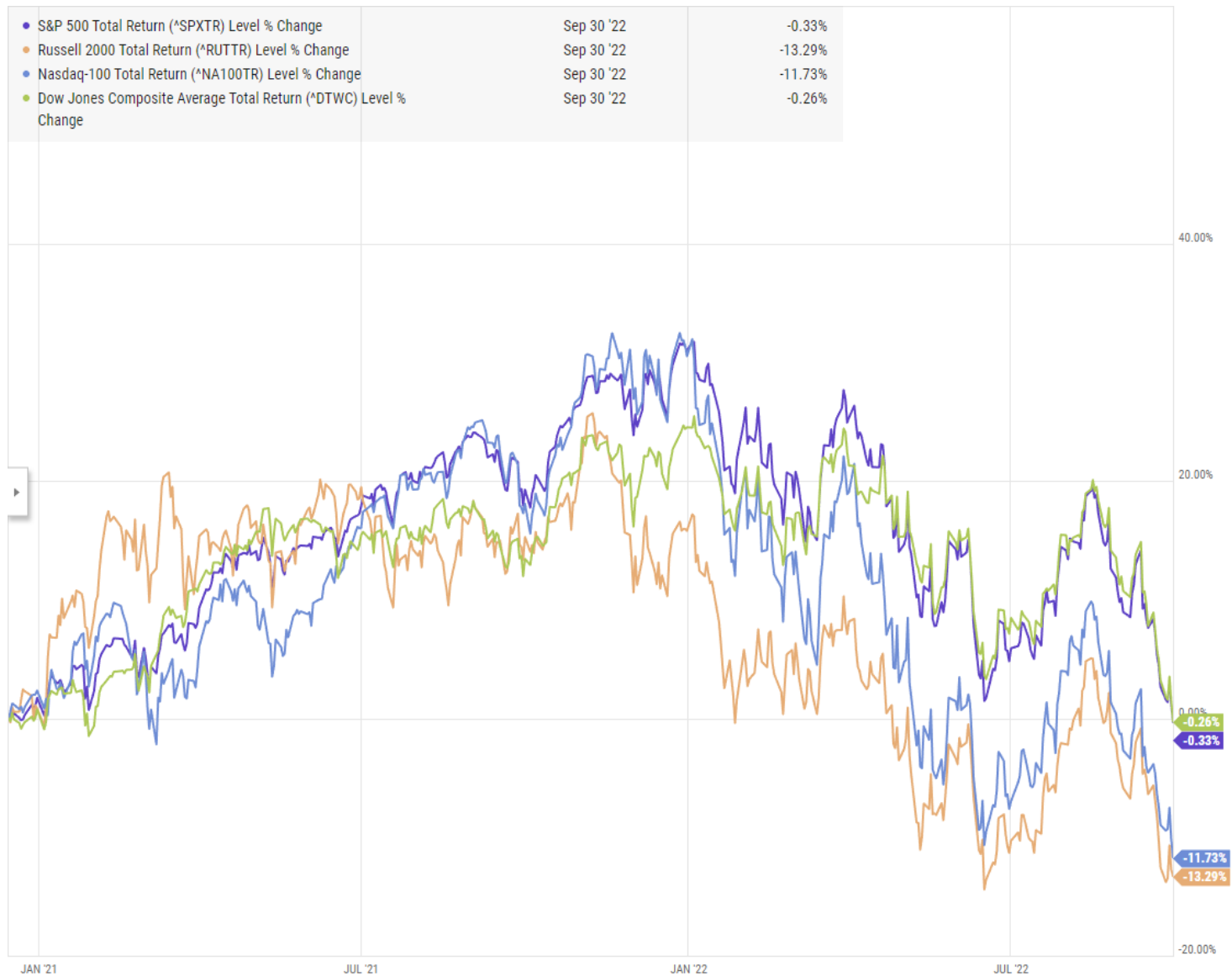
U.S. Treasury spread continues to flatten since June. This shows a rapidly rising short-end of the yield curve in response to the Fed's frontloading actions, while the longer end (using 10-year treasury as a proxy) moves upward at a much slower pace. The 2-10 spread shows increasingly the 2-year is yielding higher than the 10-year treasury. 2-year is considered a proxy for the terminal rate in the current cycle and is expected to move higher towards 5%, currently at 4.3%. The inverted yield curve is telling that the economy moving forward will slow (recession?) and does not justify a high interest rate. The real yields continue to move higher as the entire nominal yield curve moves up, representing an overall higher interest rate regime. This is good for savers (high rates) but bad for stocks and bonds.

The Market: U.S. Factors & Sectors Performance (%)

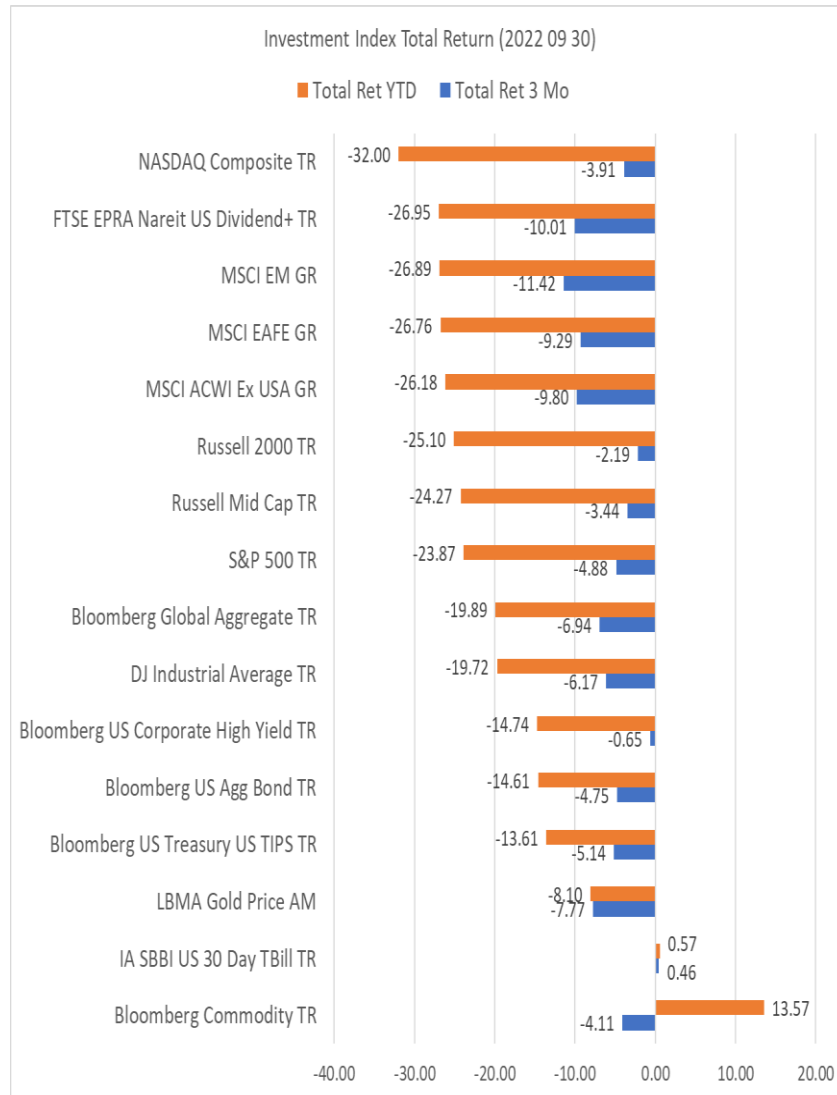
Period	2022Q1	2022Q2	2022Q3	2022YTD
S&P 1500 Consumer Discretionary TR	39.10	-4.60	3.61	34.07
S&P 1500 Energy TR	4.45	-4.90	2.39	-6.94
S&P 1500 Financials TR	-0.89	-5.86	-2.81	-11.86
S&P 1500 Industrials TR	-1.21	-6.40	-3.99	-13.86
S&P 1500 Health Care TR	-1.60	-14.78	-5.16	-20.52
S&P 1500 Information Technology TR	-2.96	-15.85	-6.08	-20.84
S&P 1500 Utilities TR	-3.24	-16.52	-6.31	-22.95
S&P 1500 Consumer Staples TR	-5.46	-16.89	-6.48	-29.24
S&P 1500 Materials TR	-8.37	-20.16	-6.87	-30.09
S&P 1500 Real Estate TR	-9.58	-20.66	-11.05	-31.29
S&P 1500 Communication Services TR	-11.82	-25.38	-12.61	-38.86
S&P 1500 TR	-4.64	-16.02	-4.76	-23.72

Period	2022Q1	2022Q2	2022Q3	2022YTD
S&P 500 Value TR	-0.16	-6.99	-2.80	-14.25
S&P 500 Low Volatility Index TR	-1.72	-9.51	-3.86	-16.56
S&P 500 Dividend Aristocrats TR	-3.01	-11.27	-4.89	-17.38
S&P 500 Momentum Index TR	-5.27	-14.38	-5.82	-21.17
S&P 500 Quality TR	-5.88	-15.37	-5.86	-24.24
S&P 500 Growth TR	-8.59	-20.81	-6.19	-30.41
S&P 500 TR	-4.60	-16.10	-4.88	-23.87

The Market: 2021 Gains have been Wiped Out



The Market: tough 9-month with more downside expected



During this first nine months in 2022, there was no asset class where an investor could hide, with the exception of cash. For the first time in over a decade, an investor is paid to hold cash, even though the real yield remains negative (i.e., adjusted for inflation).

The left chart shows the index return year to date and for the third quarter. For the first six months, commodities did very well, and now, with recognition of a global economic slowdown, commodity prices have retreated. For example, OPEC and non-OPEC partners (OPEC+) recently agreed to impose deep output cuts to support oil prices which have dropped from \$120 to \$80 range.

For the first 9 months, a classic 60/40 portfolio would have returned a negative 20% (60% allocation to the S&P 500 and 40% to US Aggregate Bond). This type of correlated return is very rare since stocks and bonds tend to counteract each other to offer the benefit of asset diversification. But, in a fast-rising rate environment, there is nowhere to hide for investors.

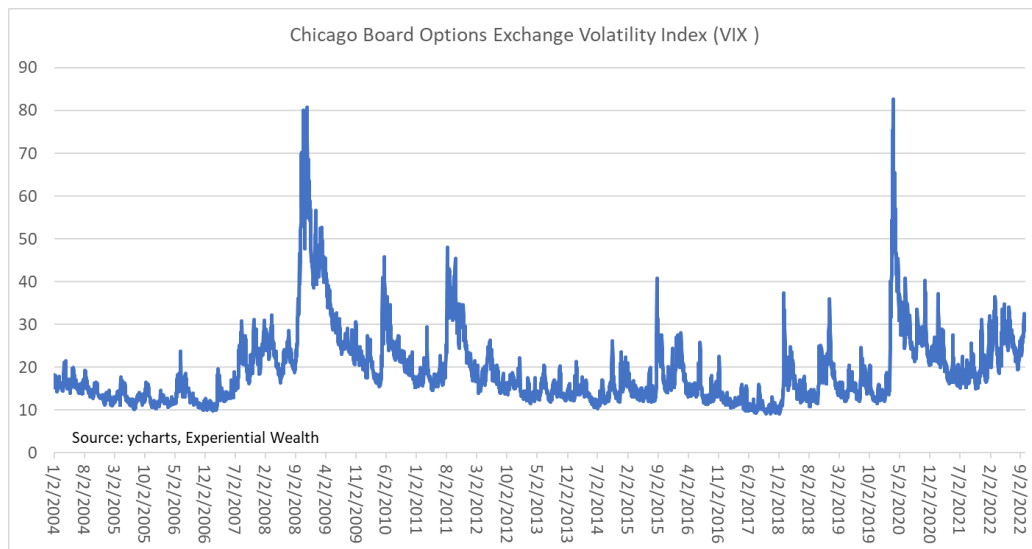
The Market: more volatility expected



Source: Financial Times, 10-7-2022: <https://markets.ft.com/data/indices/tearsheet/summary?s=MOVE:PSE>

MOVE - Merrill Lynch Option Volatility Estimate- is one measure of U.S. interest rate volatility and can provide a signal for changing risk sentiment in fixed income markets. This year's speed and the expected continuation of FOMC's interest rate hikes have vastly increased fixed income volatility.

VIX - Chicago Board Options Exchange Volatility Index is a popular measure of the implied volatility of S&P 500 index options. A high value corresponds to a more volatile market and therefore more costly options, which can be used to defray risk from volatility. With real and nominal interest rates moving steadfastly upward, we witnessed a jump in stock market volatility as well and the market is expected to remain uncertain until there is more clarity regarding the FOMC's terminal interest rate for this cycle.



Source: ycharts, Experiential Wealth

World: Growth is Further Revised Down



OECD

Report Date

U.S.

World

G-20

Euro Area

China

Project 2022

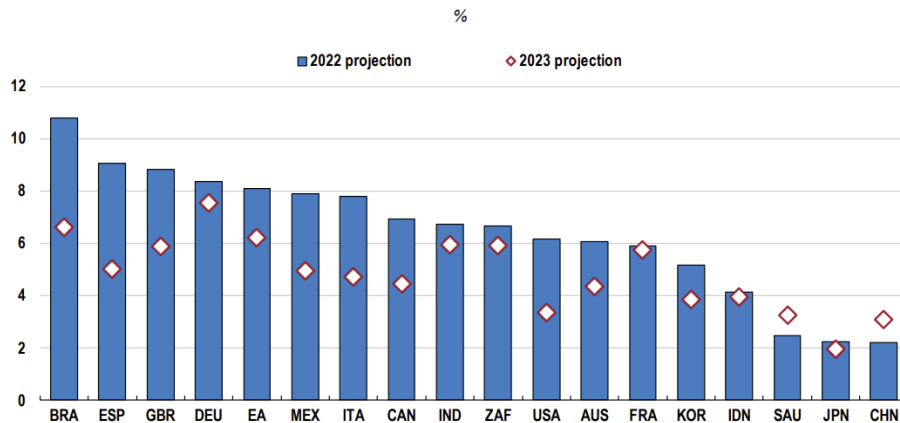
Project 2023

	Apr-21	Sep-21	Dec-21	Jun-22	Sep-22	Jun v Sep	Dec-21	Jun-22	Sep-22	Jun v Sep
U.S.	4.0%	3.9%	3.70%	2.50%	1.50%	↓	2.40%	1.20%	0.50%	↓
World	4.0%	4.5%	4.50%	3.00%	3.00%	↓	3.20%	2.80%	2.20%	↓
G-20	4.1%	4.8%	4.70%	2.90%	2.80%	↓	3.30%	2.80%	2.20%	↓
Euro Area	3.8%	4.6%	4.30%	2.60%	3.10%	↑	2.50%	1.60%	0.30%	↓
China	4.9%	5.8%	5.10%	4.40%	3.20%	↓	5.10%	4.90%	4.70%	↓

Sep 26, 2022, OECD Interim Economic Outlook

https://read.oecd-ilibrary.org/view/?ref=1156_1156954-u68er93i01&title=OECD-Economic-Outlook-Interim-Report-September-2022

Inflation will remain high



Note: Inflation for Türkiye is projected to be 71.0% in 2022 and 40.8% in 2023. For Argentina, inflation projections are 92.0% in 2022 and 83.0% in 2023. India projections are based on fiscal years, starting in April.
Source: OECD Economic Outlook database; and OECD calculations.

The Organization for Economic Co-operation and Development (OECD), in their latest global growth projections, shows the inflation and energy supply shock stemming from the Russian-Ukraine war has led it to revise its previous growth projections downward worldwide. Energy prices are high and volatile while high fertilizer and elevated food prices threaten food security. A cold winter in Europe will exacerbate the already tight energy supply; and further energy disruptions could impact growth and inflation. Supply chain pressures have eased but remain elevated. The OECD points to substantial uncertainty about the economic outlook, with significant downside risks.

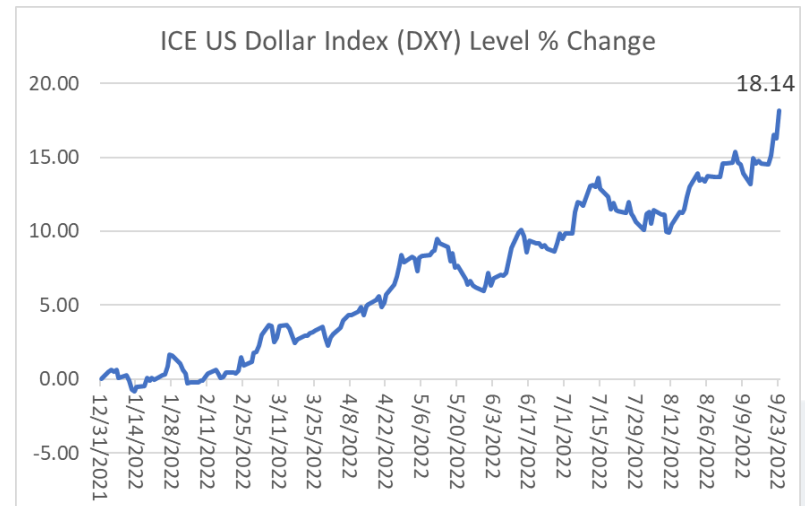
Report Date	Project 2023								Project 2023				
	Jul-21	Oct-21	Jan-22	Apr-22	Jul-22	Oct-22	Jul v. Oct	Apr v. Jul	Apr-22	Jul-22	Oct-22	Apr v. Jul	Apr v. Jul
U.S.	4.90%	5.20%	4.00%	3.70%	2.30%	1.60%	-0.70%	↓	2.3	1.0%	1.0%	0.0%	=
World	4.90%	4.90%	4.40%	3.60%	3.20%	3.20%	0.00%	=	3.6	2.9%	2.7%	-0.2%	↓
Euro Area	4.30%	4.30%	3.90%	2.80%	2.60%	3.10%	0.50%	↑	2.3	1.2%	0.5%	-0.7%	↓
Advanced	4.40%	4.50%	3.90%	3.30%	2.50%	2.40%	-0.10%	↓	2.4	1.4%	1.1%	-0.3%	↓
China	5.70%	5.60%	4.80%	4.40%	3.30%	3.20%	-0.10%	↓	5.1	4.6%	4.4%	-0.2%	↓
Emerging	5.20%	5.10%	4.80%	3.80%	3.60%	3.70%	0.10%	↑	4.4	3.9%	3.7%	-0.2%	↓

“Global economic activity is experiencing a broad-based and sharper-than-expected slowdown, with inflation higher than seen in several decades. The cost-of-living crisis, tightening financial conditions in most regions, Russia’s invasion of Ukraine, and the lingering COVID-19 pandemic all weigh heavily on the outlook. Global growth is forecast to slow from 6.0% in 2021 to 3.2% in 2022 and 2.7% in 2023. This is the weakest growth profile since 2001 except for the global financial crisis and the acute phase of the COVID-19 pandemic. Global inflation is forecast to rise from 4.7 percent in 2021 to 8.8 percent in 2022 but to decline to 6.5 percent in 2023 and to 4.1 percent by 2024. more than a third of the global economy will contract this year or next, while the three largest economies—the United States, the European Union, and China—will continue to stall. In short, the worst is yet to come, and for many people 2023 will feel like a recession.”

Our view is that these projections remain too optimistic. The projection does not price-in a recession in 2023 for the U.S. or the Euro area nor the probability of China extending its Covid zero policy for an extended period of time, which will cripple their economy further. With a super strong dollar and slowing advanced economies, many emerging and developing countries will also suffer economic hardship. This assumes no further increase in geopolitical turmoil, no devastating climate events that not only threaten lives but food supplies, nor some form of crisis from a spillover of a liquidity event.

World Central Banks & USD

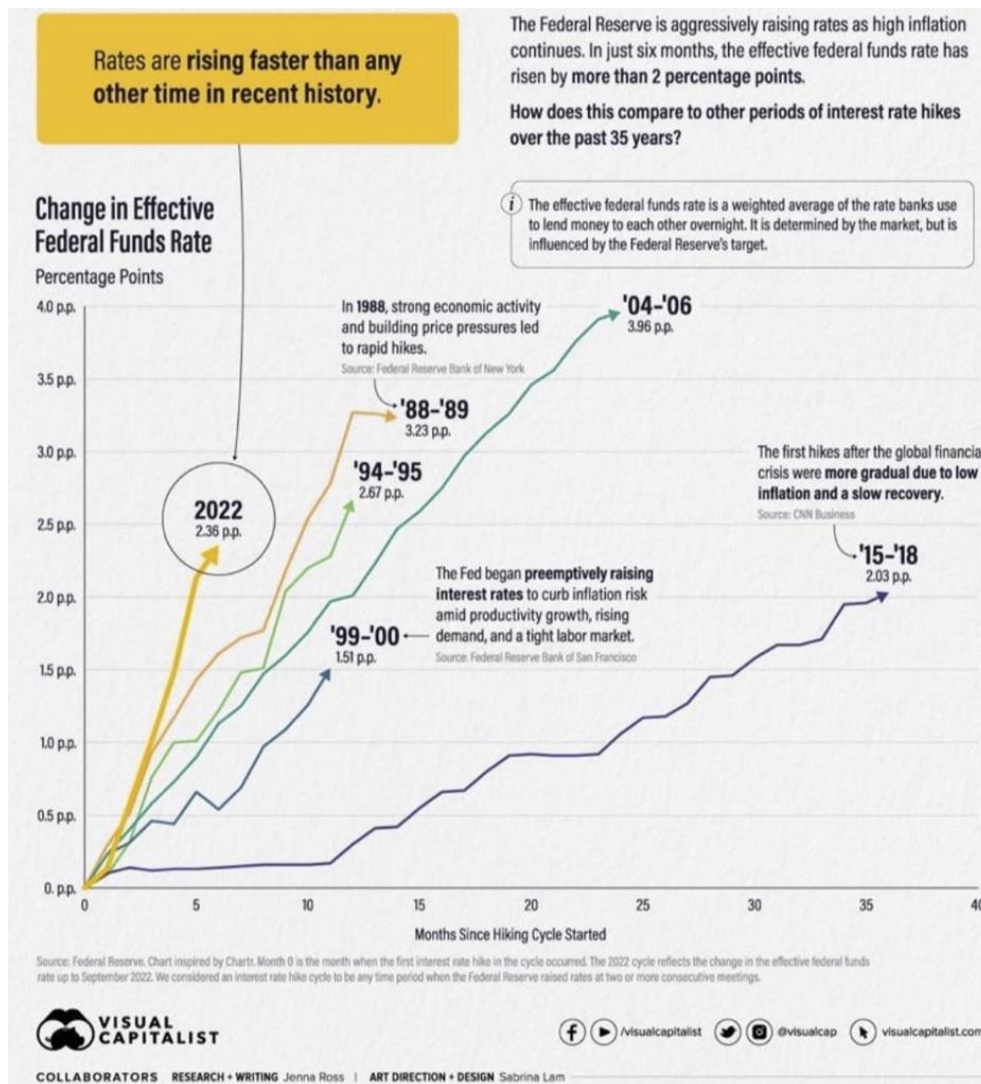
Central Bank	Direction	Current Rate	Prior Rate	Rate Change	Change Date
United States	↑	3.250%	2.500%	0.750%	9/21/2022
Australia	↑	2.350%	1.850%	0.500%	9/6/2022
Chile	↑	10.750%	9.750%	1.000%	9/6/2022
South Korea	↑	2.500%	2.250%	0.250%	8/25/2022
Brazil	↑	13.750%	13.250%	0.500%	8/4/2022
Great Britain	↑	2.250%	1.750%	0.500%	9/22/2022
Canada	↑	3.250%	2.500%	0.750%	9/7/2022
China	↓	3.650%	3.700%	-0.050%	8/22/2022
Czech Republic	↑	7.000%	5.750%	1.250%	6/22/2022
Denmark	↑	0.800%	0.050%	0.750%	9/9/2022
Europe	↑	1.250%	0.500%	0.750%	9/8/2022
Hungary	↑	11.750%	10.750%	1.000%	8/31/2022
India	↑	5.400%	4.900%	0.500%	8/5/2022
Indonesia	↓	6.500%	6.750%	-0.250%	6/16/2016
Israel	↑	2.000%	1.250%	0.750%	8/22/2022
Japan	↓	-0.100%	0.000%	-0.100%	2/1/2016
Mexico	↑	8.500%	7.750%	0.750%	8/11/2022
New Zealand	↑	3.000%	2.500%	0.500%	8/17/2022
Norway	↑	2.250%	1.750%	0.500%	9/22/2022
Poland	↑	6.750%	6.500%	0.250%	9/7/2022
Russia	↓	7.500%	8.000%	-0.500%	9/16/2022
Saudi Arabia	↑	3.000%	2.250%	0.750%	7/27/2022
South Africa	↑	6.250%	5.500%	0.750%	9/22/2022
Sweden	↑	1.750%	0.750%	1.000%	9/20/2022
Switzerland	↑	0.500%	-0.250%	0.750%	9/22/2022
Turkey	↓	12.000%	13.000%	-1.000%	9/22/2022



The Fed is on the fastest rate hike path in history in an effort to tamp down inflation. A number of emerging markets have been raising rates in anticipation of Fed actions while others are reacting to the speed and scale of the increase, with a few exceptions. One of the consequences of the U.S. hiking rates to tamp down the U.S. economic growth and ultimately U.S. inflation is making USD assets more attractive. The U.S. Dollar Index (DXY) has risen significantly since the start of 2022 and, as such, is exporting inflation to the rest of the world, since the USD is a reserve currency and used to transact commodities.

<https://www.global-rates.com/en/interest-rates/central-banks/central-banks.aspx>

Buckle Your Seatbelt for More Monetary Tightening



This chart by Visual Capitalist shows the speed of rate hikes by the FOMC as compared to the prior rate hike cycles since 1988. The current speed reflects the FOMC is “behind the curve” or late in recognizing the non-transitory nature of the current inflation. In order to preserve its credibility for maintaining “price stability” and the intensity of inflation, immediate and purposeful actions need to be taken. Further, the buoyant, post-Covid economy, due to massive fiscal and monetary support, will take time to slow (reduce inflation pressure). Additionally, there remains supply side driven inflation for which monetary policy is not very effective.

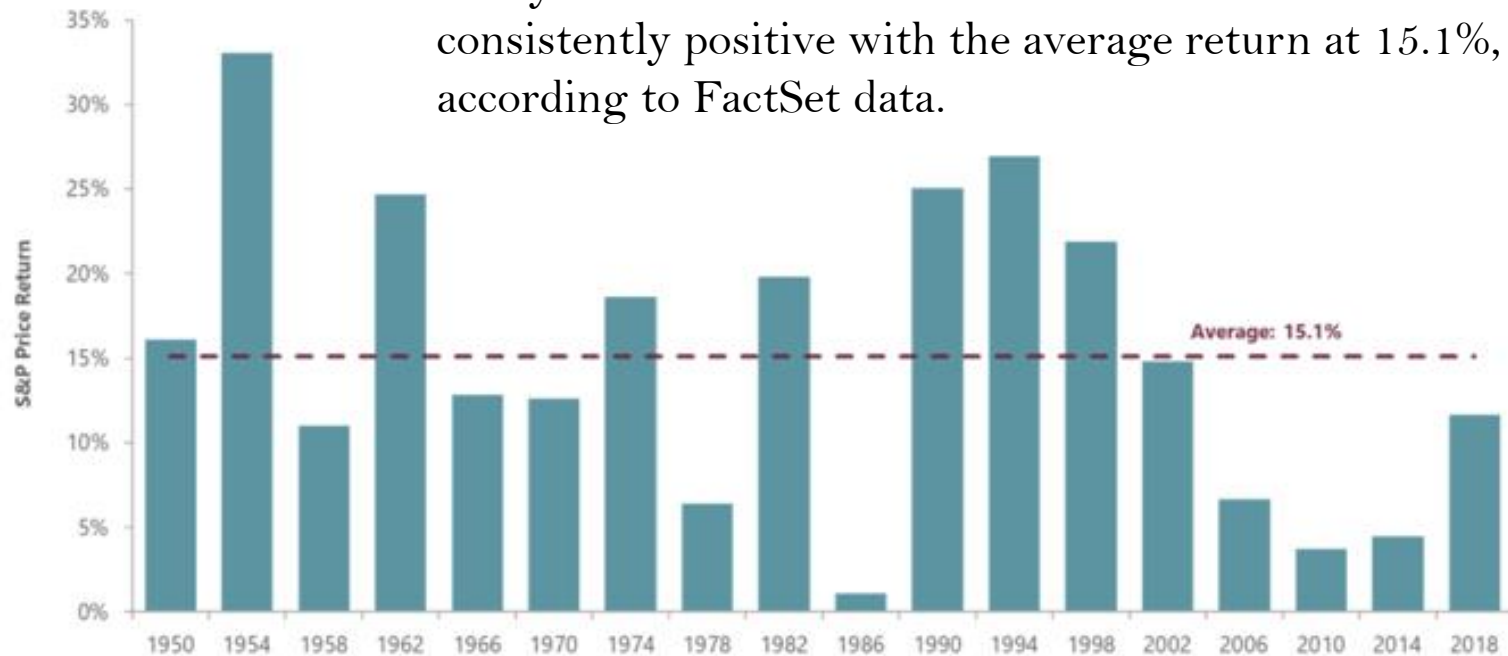
The bottom line is rates will continue to move higher and will likely reach a terminal rate that is greater than the market expects. Right now, the market is expecting the year to end in the 400 to 425bp range and to hike more gradually and stop in 2023. Due to the underlying strength of the U.S. economy and some structural challenges in energy infrastructure and the labor market, the terminal rate may be 475-500bp in 2023 which is 75-100bp higher than the market expects for 2023.

Vice Chair Lael Brainard, 10-10-22 Speech

- Higher interest rates are working to temper demand and bring it into better alignment with supply.
- Excess savings held by households is 25% lower and has been drawn down more rapidly in recent quarters than previously estimated, which may imply a more subdued pace of consumer spending going forward.
- The second-half rebound will be limited, and the real GDP growth will be essentially flat this year due to the significant increase in interest rates and associated tightening in broader financial conditions.
- There is a lag in the transmission of tighter policy in certain economic sectors. This means that policy thus far will have its full effect on activity in coming quarters, and the effect on price setting may take longer.
- A variety of indicators suggest labor demand remains strong, while labor supply remains below pre-pandemic conditions, and this supply–demand imbalance is reflected in strong wage growth.
- Strong wage growth, along with high rental and housing costs, means that inflation from core services is expected to ease only slowly from currently elevated levels.
- Core goods have been expected to return to something closer to the pre-pandemic trend of modest disinflation as a result of demand rotation away from goods to services, coupled with the healing of supply chains and declining core import prices.
- Disinflation in core goods would help to offset the inflationary pressures in services.
- Both market and policymaker surveys indicate additional rate increases this year and into next year, and balance sheet shrinkage is now proceeding at its maximum rate, reinforcing the move to a restrictive stance. Also, broader U.S. financial conditions have tightened rapidly in response.
- Many central banks in large economies have raised rates and the combined effect of concurrent global tightening is larger than the sum of its parts; cross-border effects of unexpected movements in interest rates and exchange rates, as well as worsening external imbalances, in some cases could interact with financial vulnerabilities.
- In light of elevated global economic and financial uncertainty, moving forward deliberately and in a data-dependent manner will enable the Fed to learn how economic activity, employment, and inflation are adjusting to cumulative tightening in order to inform its assessments of the path of the policy rate.

History: Post Midterm Election Stock Market

Midterm Years Since 1950



- ▶ In the 12 months following a midterm election, the S&P 500 has been up 15.1% on average, historically.
- ▶ Historically, every period has had a positive return.

ClearBridge
Investments

Source: FactSet. Past performance is not a guarantee of future results. Investors cannot invest directly in an index, and unmanaged index returns do not reflect any fees, expenses or sales charges.

Bend and then Break

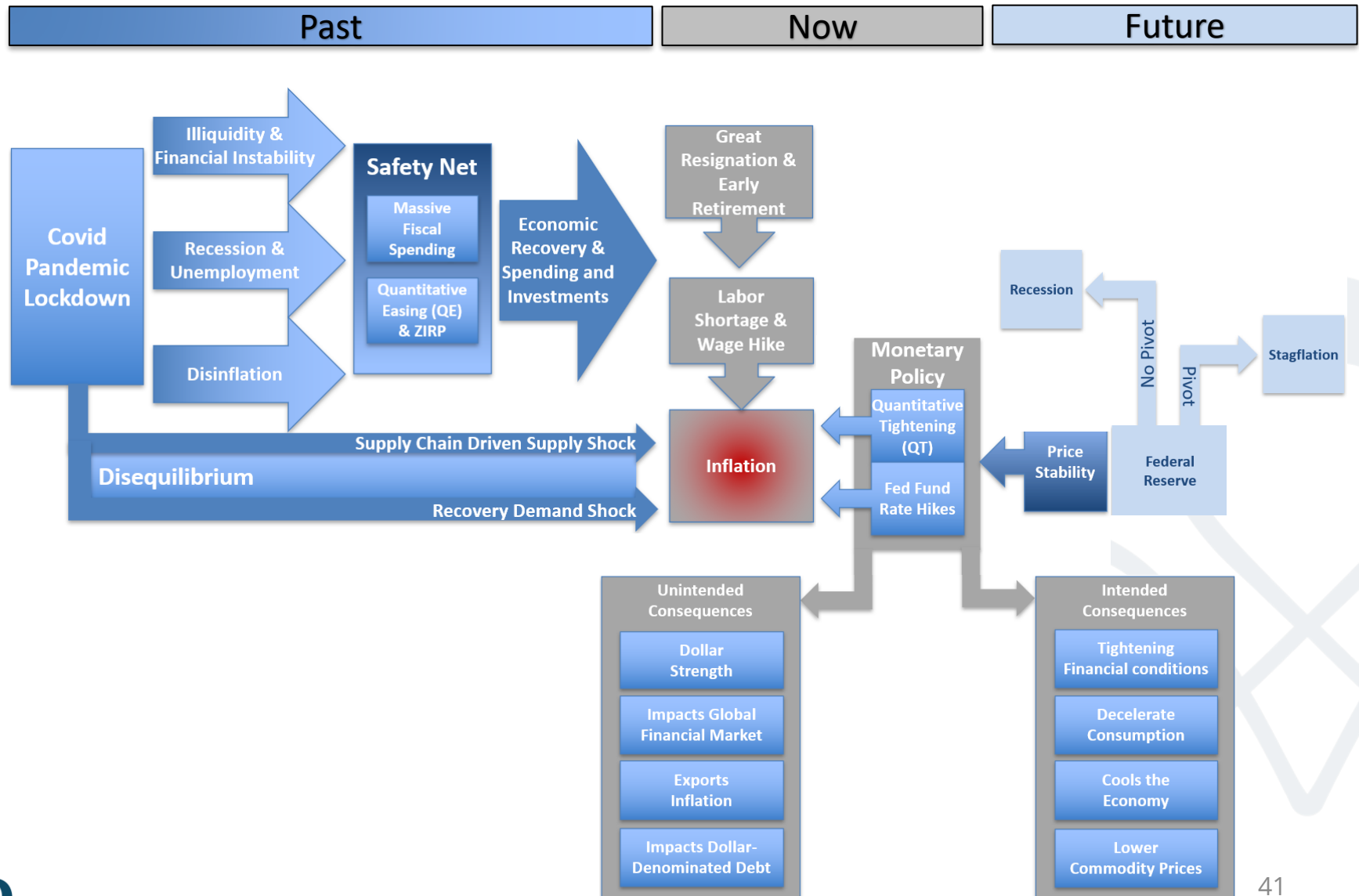
There are many known risks to the economy now and moving forward:

- Since the GFC, rates have been at the zero bound with negative real rates. The Fed applied unconventional policy, such as Quantitative Easing (QE), to put a safety net for risk taking. Then came Covid-19, and the Fed kept the ZIRP while initiating QE on steroids in addition to the massive fiscal transfer from Congress. Today, all of these super accommodative policies have stopped and reversed. Thus, all assets lost value but significantly more painful for riskier assets. The Fed has clearly signaled that they will continue to raise rates until they see convincing evidence that inflation is on its way back to its 2% target. This we believe means the 2-year rate (closely represents the terminal rate in this cycle) to be at or around 5%. Our base case for the U.S. economy, as a consequence of the speed and amount of rate hikes, is it'll be driven into a recession in 2023.
- There is a chance that the Fed will hike rates through the first quarter next year and pause. This of course will be determined by the incoming economic data (wages, employment, GDP, inflation, financial condition, etc.). However, the market is projecting a “pause” in Fed action sooner than later. But if the Fed does pause too soon, the U.S. will likely be in a prolonged stagflation environment with higher sustained level of inflation with a weak GDP growth rate.
- If the Fed's action is aggressive and the U.S. enters a recession, the market is expecting a shallow and short recession. Overall, we are entering a recession at a 50-year low unemployment rate with healthy bank and individual balance sheets. Many believe a self-imposed recession should recover quicker. An average recession historically has lasted 10.3 months. Our base case is somewhat different. We expect a shallow and longer recession. Historically, the Fed starts to lower rates quickly in a recession to stimulate risk taking. This time we expect the Fed to be self constrained to get the U.S. out of recession since it is primarily focused on getting inflation back to 2%. As such, the Fed is not likely to lower rates much unless their 2% target is within reach during the next recession.

Bend and then Break

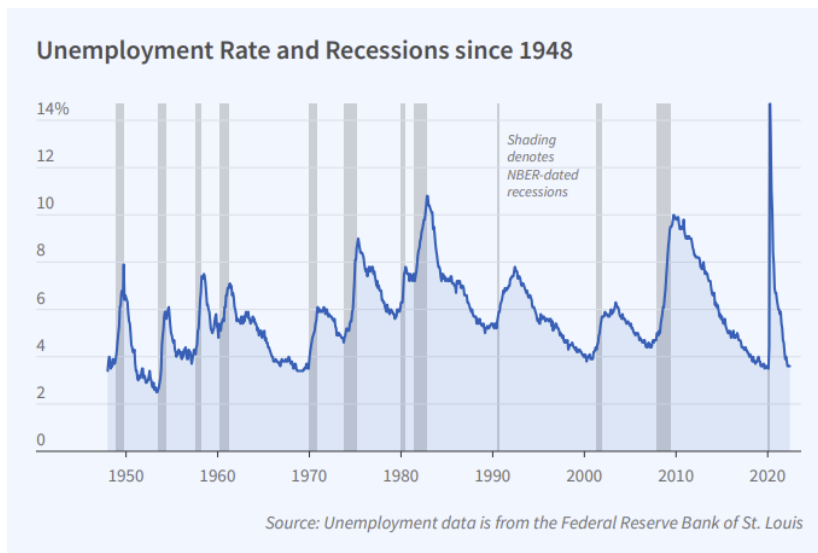
- More downside to risk assets is expected as no one is certain what the terminal rate will be in the cycle. The Fed's policy decision will “depend on the totality of the incoming data and the evolving outlook” according to Chair Powell, and this means uncertainty as to when and where the Fed will stop hiking rates. The market will continue to anticipate and discount the future. We believe that recession and thus down adjustments to earnings have not been fully recognized by the market.
- It is likely that the worst news for fixed income is behind us, meaning we do not foresee another 350bp of interest rate hike from here. The current high quality bond yields are becoming more attractive. More interest rate hikes remain however – losing value in the short-term.
- In last September, Britain's new prime minister, Liz Truss, announced large tax cuts, deregulation and free-market economics to spur growth at a time of generational high inflation and tightened liquidity globally. British stocks and bonds and the pound all lost significant value after the announcement (a sign of loss of confidence in the UK), with the pound falling to a four-decade low against the dollar. This is also against the backdrop of countervailing forces by the monetary authority of raising rates to fight inflation to slow down economic activities. British borrowing costs shot up as bond yields jumped and stressed the mortgage market. Unlike the U.S, typical British mortgage is adjustable after 2 to 5 years and the dramatic rise in rates puts significant stress on the mortgage and housing market. It is estimated that more than a third of all mortgages are on fixed rates that expire within the next two years. Further, a popular strategy used by British pension plans is to hedge against falling interest rates as a part of their Liability Driven Investment scheme. Many pension funds don't have the cash to cover losses on their hedging strategies, so they have to sell liquid assets, such as government bonds, which exacerbates the bond market even more. This UK chain of events is a possible microcosm of financial risks that can spill over to other markets. This should add more caution to our thinking about how this rate rising cycle may end.

End of the Beginning – Don't Fight the Fed



Our Base Case Forward

- Headline inflation (CPI and PCE) will continue to drop while core and sticky inflation will remain uncomfortably high for the Fed for some time.
- Chair Powell has repeatedly stated that tightening financial conditions (i.e., rate hikes and sticking with shrinking its balance sheet – draining market liquidity) will persist for longer periods. This means a sustained 5% terminal rate is likely a reality.
- At the current 3.5% U3 unemployment rate, the labor market remains too strong. This resulted in wage increases and is not helping to lower inflation. Chair Powell stated that tight monetary policy will be needed to bring supply and demand into balance and that he is willing to grow the economy at below trend for some time. The left graph provided by NBER shows that since 1948, every recession is accompanied by a rise in unemployment. This makes perfect sense. Each time, the unemployment rate is at or above 6%.



We believe a 4.5% rate is more likely to have a positive effect on demand destruction.

Moving forward, the unemployment rate is likely a reliable indicator for signaling the arrival of a recession. Most observers expect a shallow and below average duration recession. We take a slightly different view. In the past, the Fed takes necessary policy actions to support the economy, but this time, the amount of policy action is likely to be significantly reduced in the face of elevated inflation. We expect a longer recession.

- Each quarter that goes by, the case for recession in the U.S. becomes more likely. (We expect 2023 Q2 or Q3.) The other two major economic regions of the Euro Zone and China/ASEAN are experiencing economic headwinds. We are experiencing a synchronized global slowdown/recession, exacerbated by a strong dollar, geopolitical risks and uncertain climate events.

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