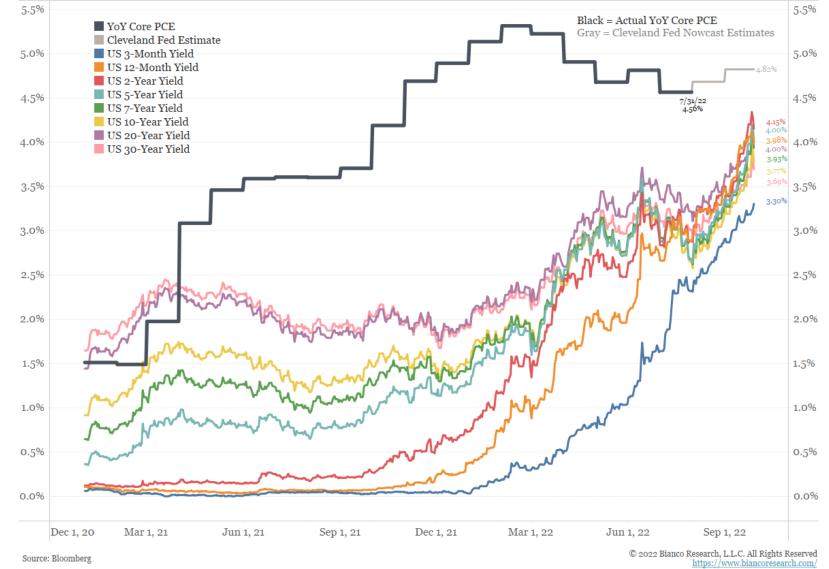


Chairman Powell last week:

... you want to be at a place where real rates are positive across the entire yield curve

I think you would see at that time, you'd see positive real rates across the, across the yield curve, and that is also an important consideration.

If you look at core PCE inflation, which is a good measure of where inflation is running now ...

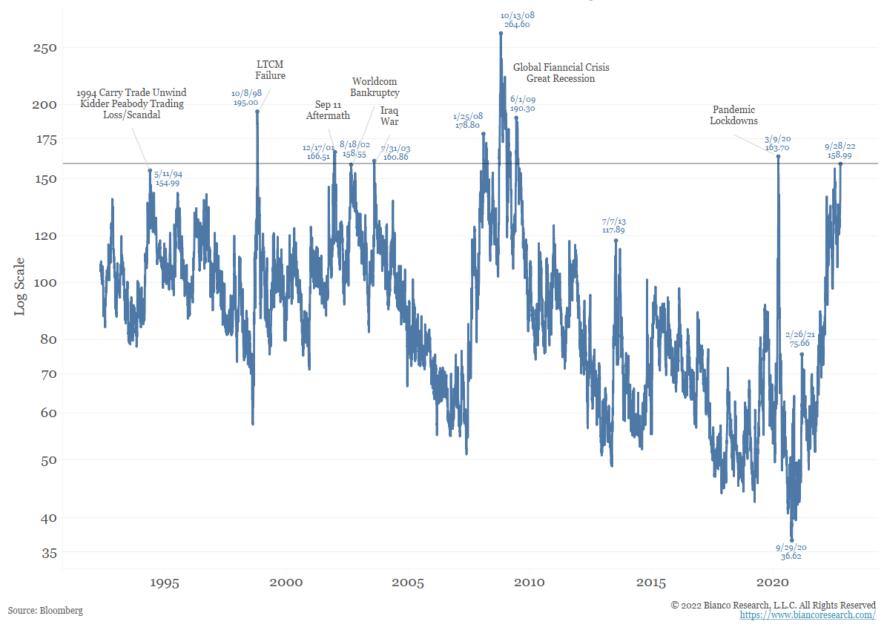


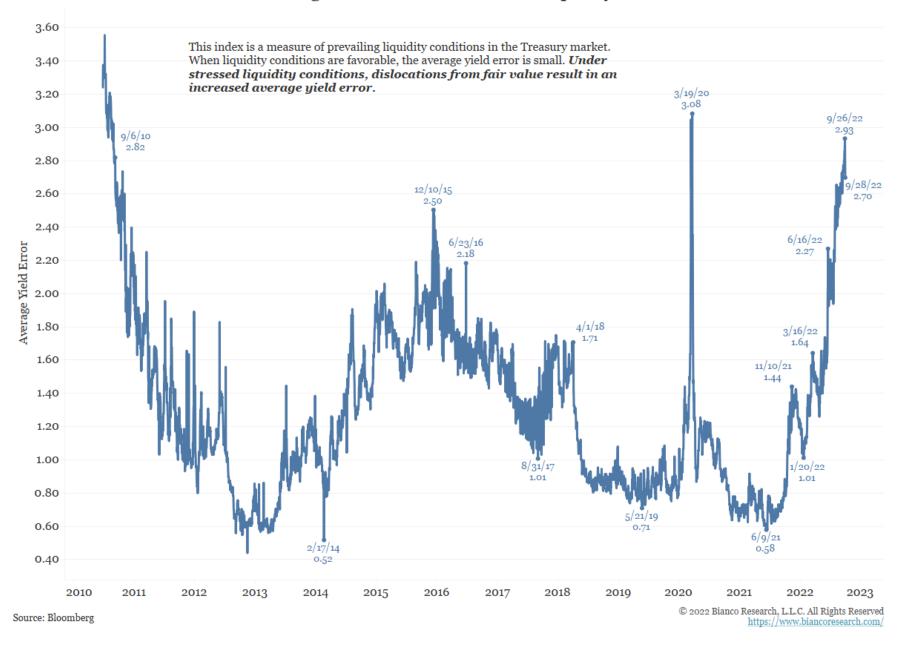
Rates Across The Yield Curve and Core PCE Inflation

Rates and the Curve

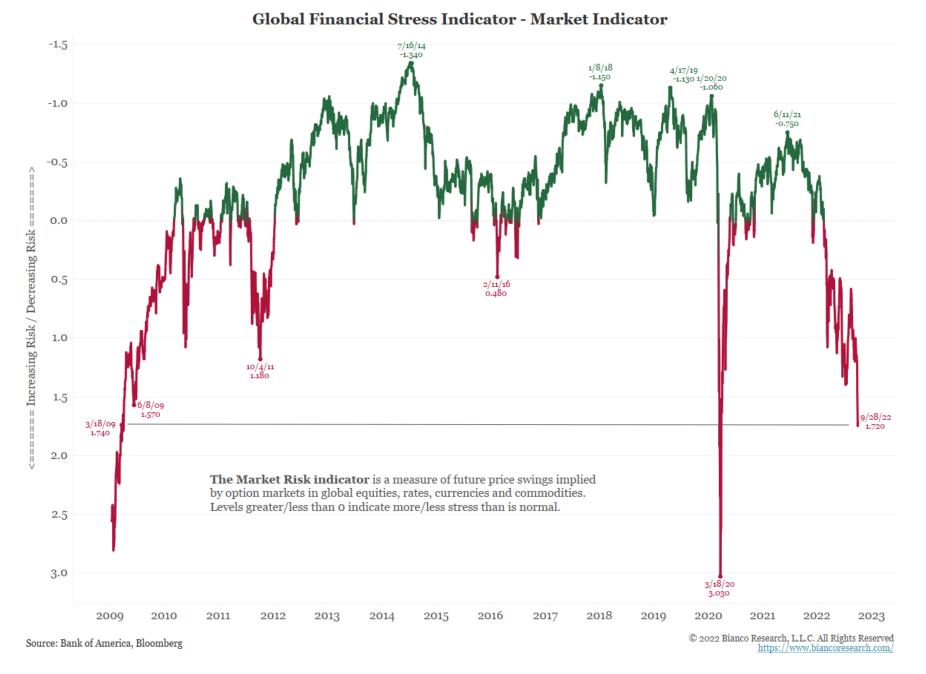


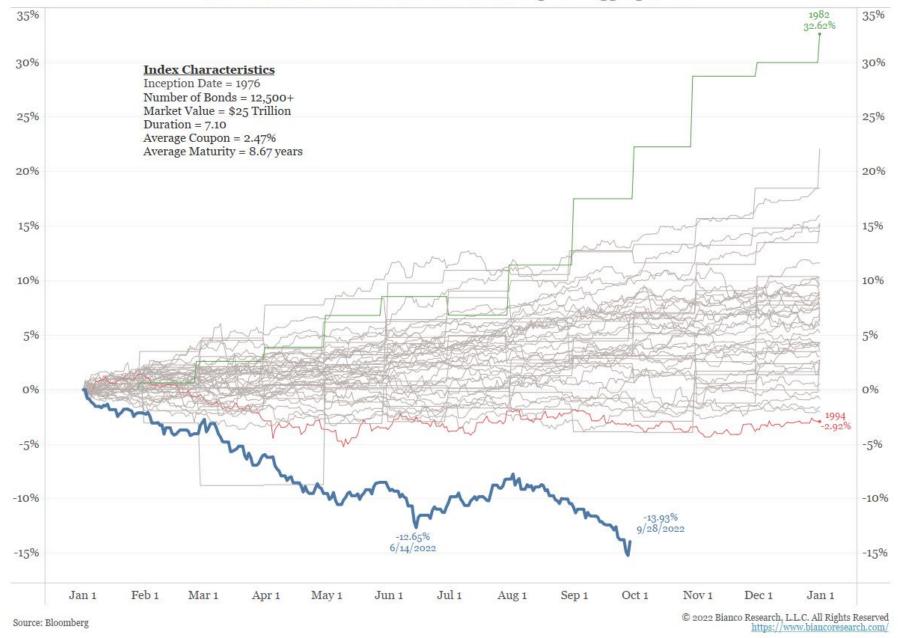
Bond Market "Move" Volatility



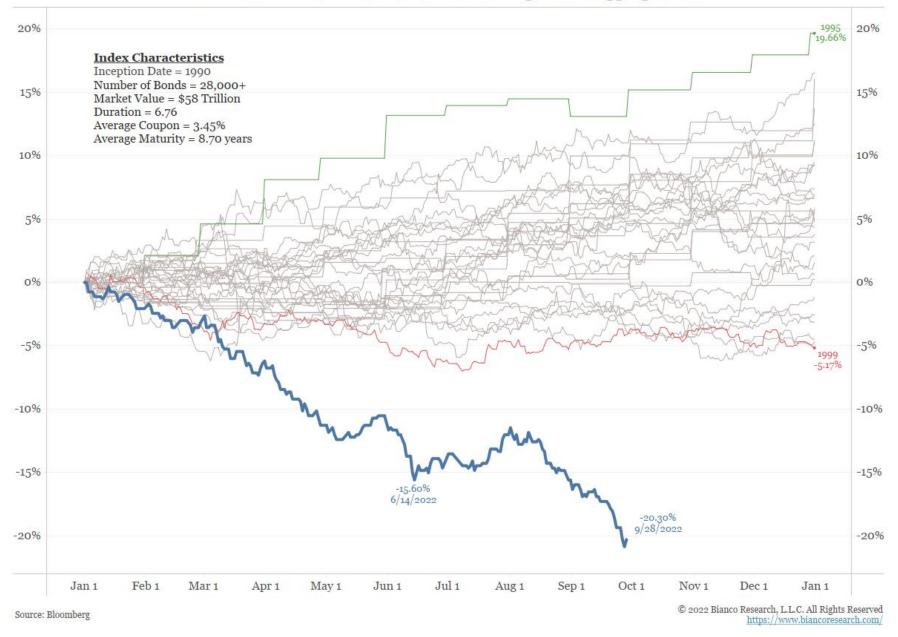


Bloomberg United States Government Liquidity Index





Year-to-Date Total Return for the Bloomberg U.S. Aggregate Index

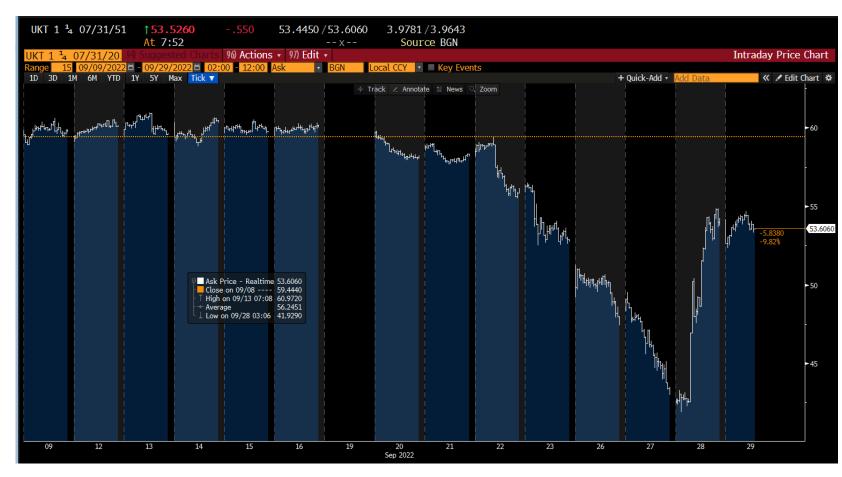


Year-to-Date Total Return for the Bloomberg Global Aggregate Index

Bank of England announces gilt market operation

In line with its financial stability objective, the Bank of England stands ready to restore market functioning and reduce any risks from contagion to credit conditions for UK households and businesses.

On 28 September, the Bank of England's Financial Policy Committee noted the risks to UK financial stability from dysfunction in the gilt market. It recommended that action be taken, and welcomed the Bank's plans for temporary and targeted purchases in the gilt market on financial stability grounds at an urgent pace.



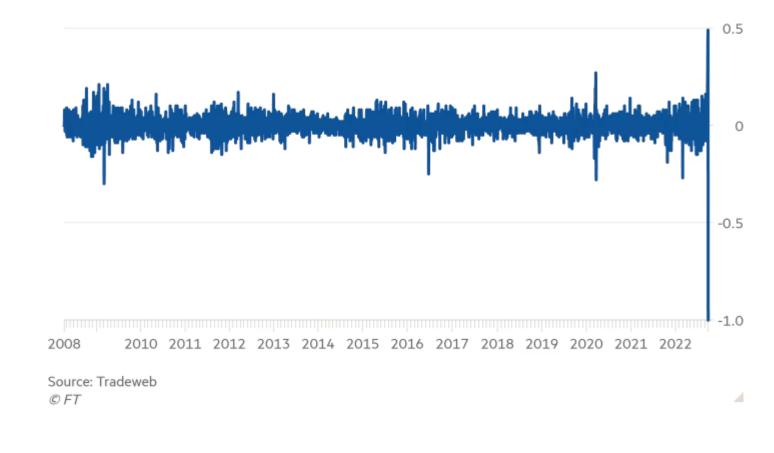
<u>The Financial Times - Bank of England</u> <u>Iaunches £65bn move to calm markets</u> Central bank to spend £5bn a day for 13 days over 'material risk to UK financial stability' and threat to pensions.

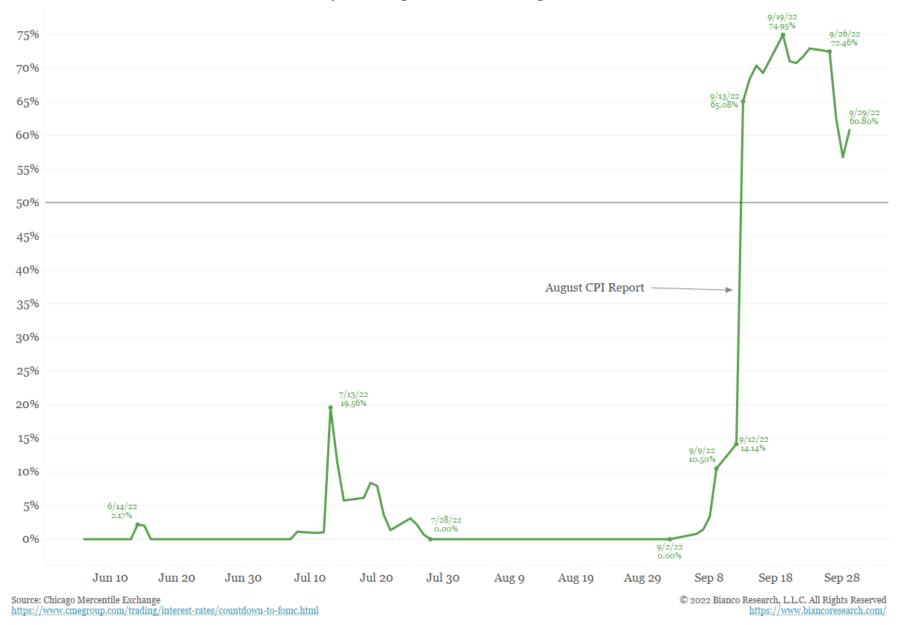
"It appears that some players in the market ran out of collateral and dumped gilts," said Peter Harrison, chief executive of Schroders, which has \$55bn in global LDI business. "We were more conservatively positioned and we had enough collateral to meet all of our margin calls."

"If there was no intervention today, gilt yields could have gone up to 7-8 per cent from 4.5 per cent this morning and in that situation around 90 per cent of UK pension funds would have run out of collateral," said Kerrin Rosenberg, Cardano Investment chief executive. "They would have been wiped out."

Long-term gilts in historic swing

Daily change in 30-year yield (percentage points)

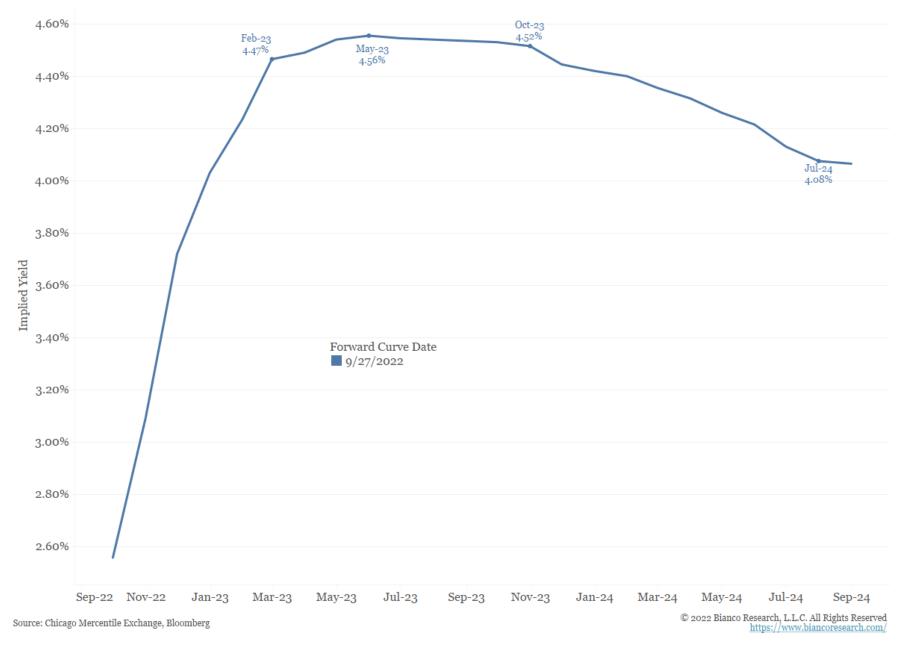




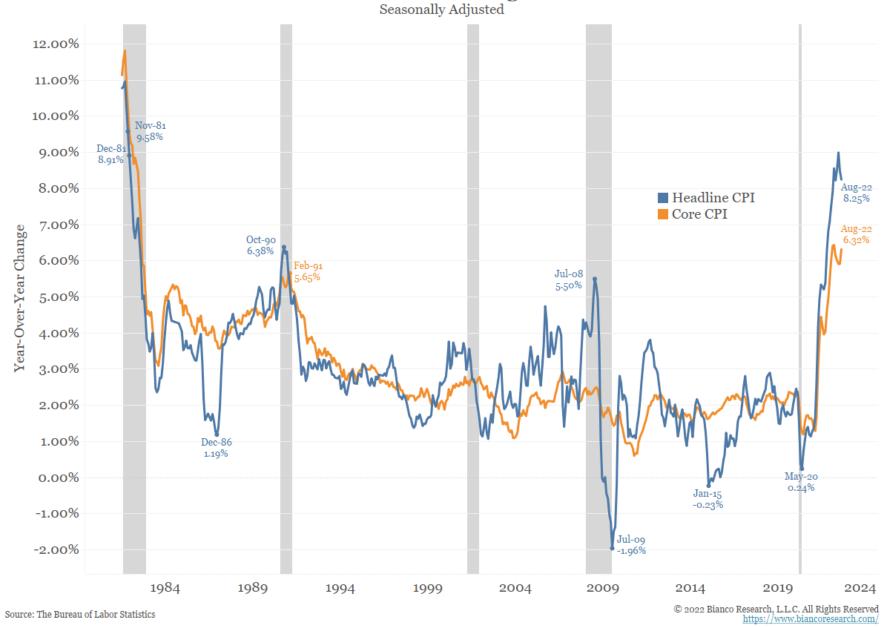
Probability of 75 Basis Point Hike at the November 2, 2022 FOMC Meeting, to 3.75% to 4.00%

As Calculated by the Chicago Mercantile Exchange's Fed Watch Tool

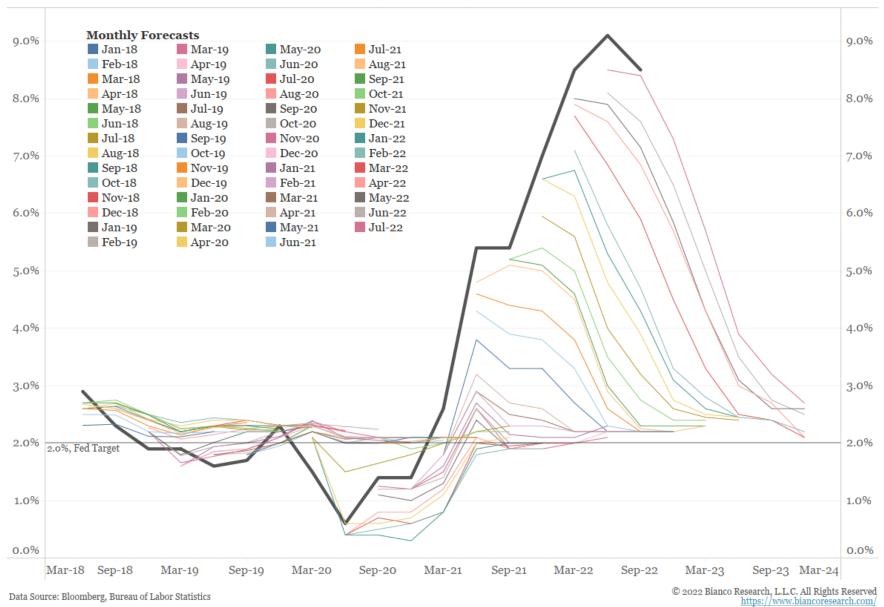
What Is the Terminal Fed Funds Rate?



Year-Over-Year Change in CPI Seasonally Adjusted

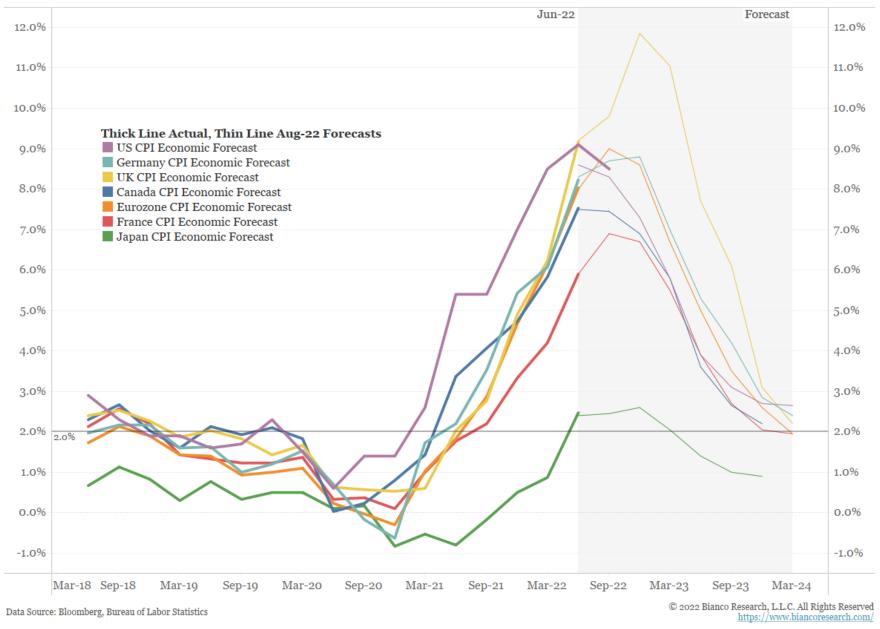


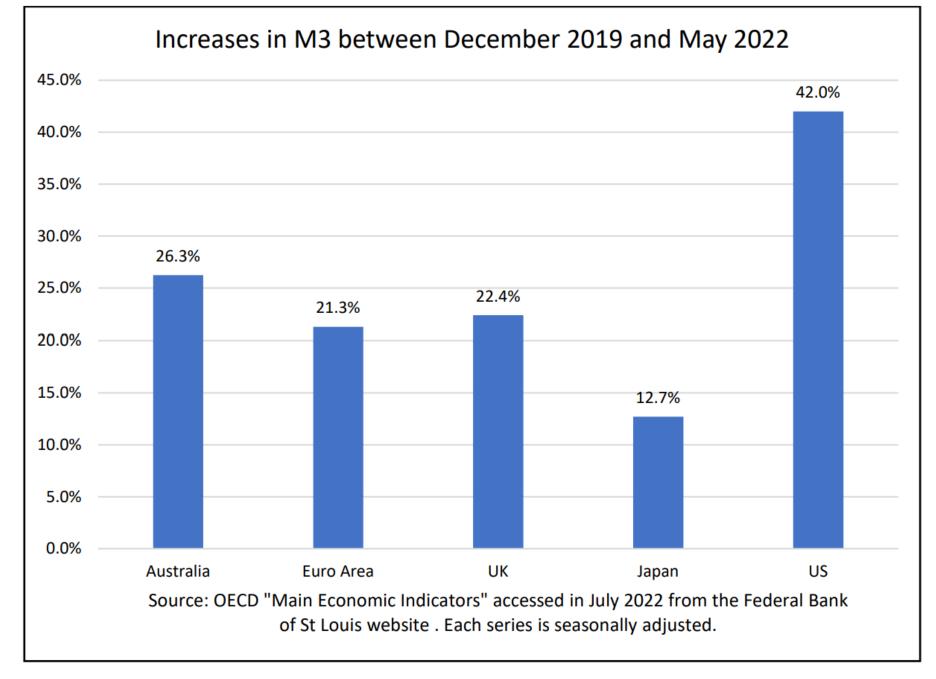
US Inflation Forecasts Always End at ~2%



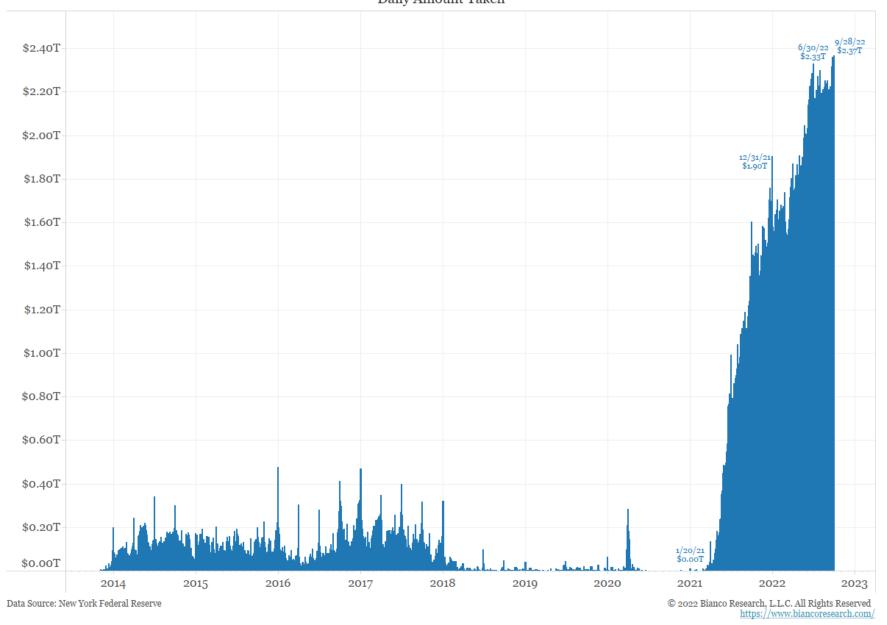
Monthly from January 2018 to Date

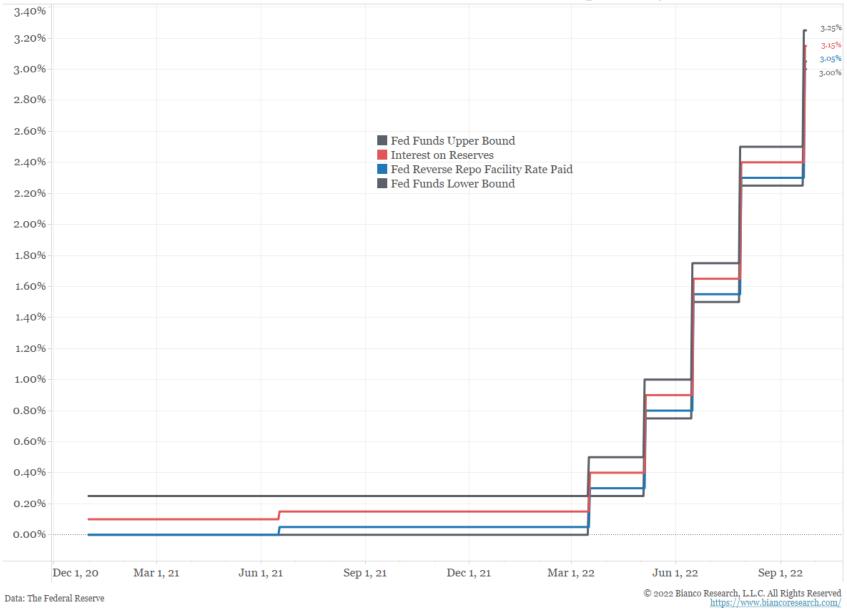
All Forecasts Lead Back to ~2%





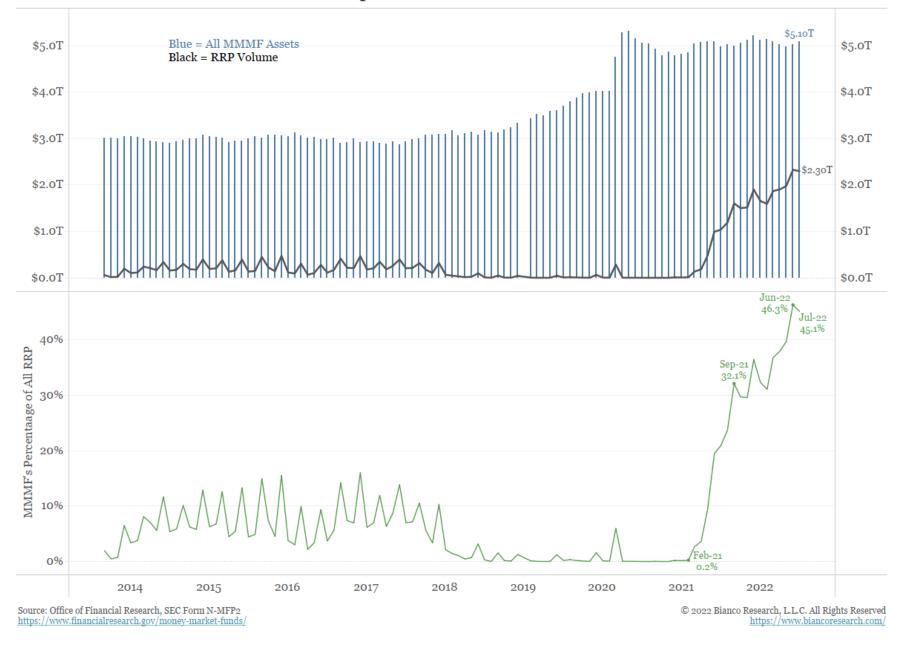
The New York Fed's Reverse Repo Facility Daily Amount Taken





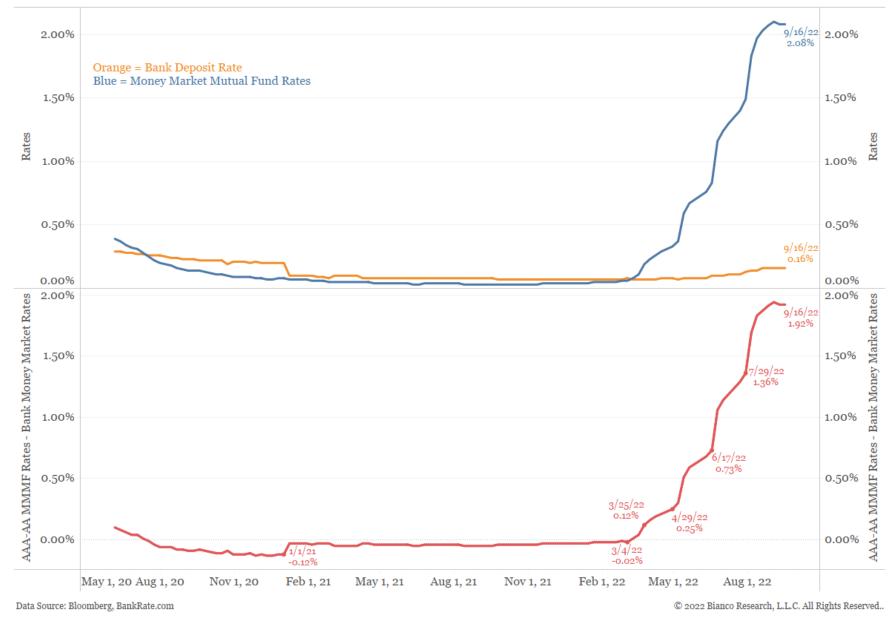
Fed Funds vs. Interest on Reserves & the Fed's Reverse Repo Facility Rate

RRP Compared To All MMMF Fund Assets

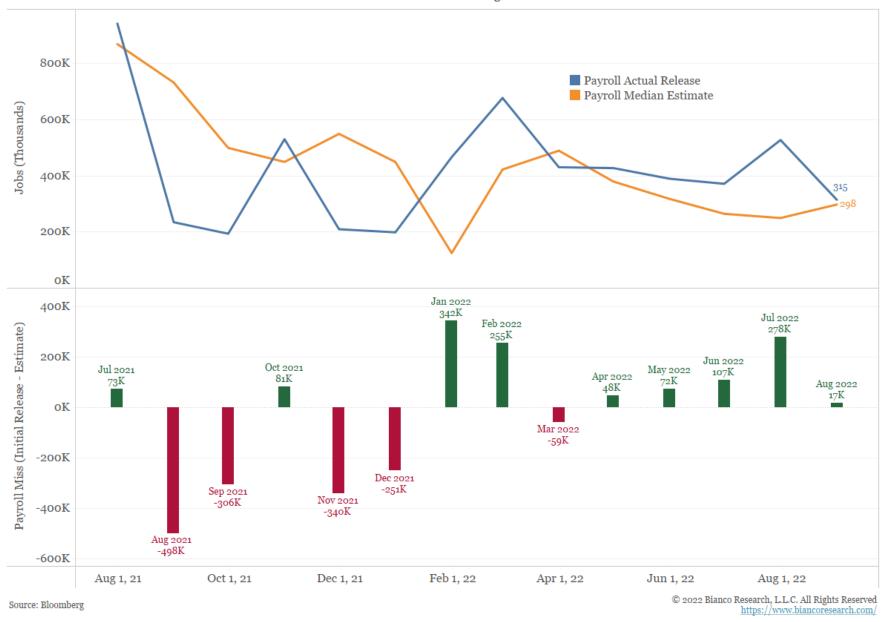


The Spread Between Money Market Mutual Fund Rates & Bank Deposit Rates

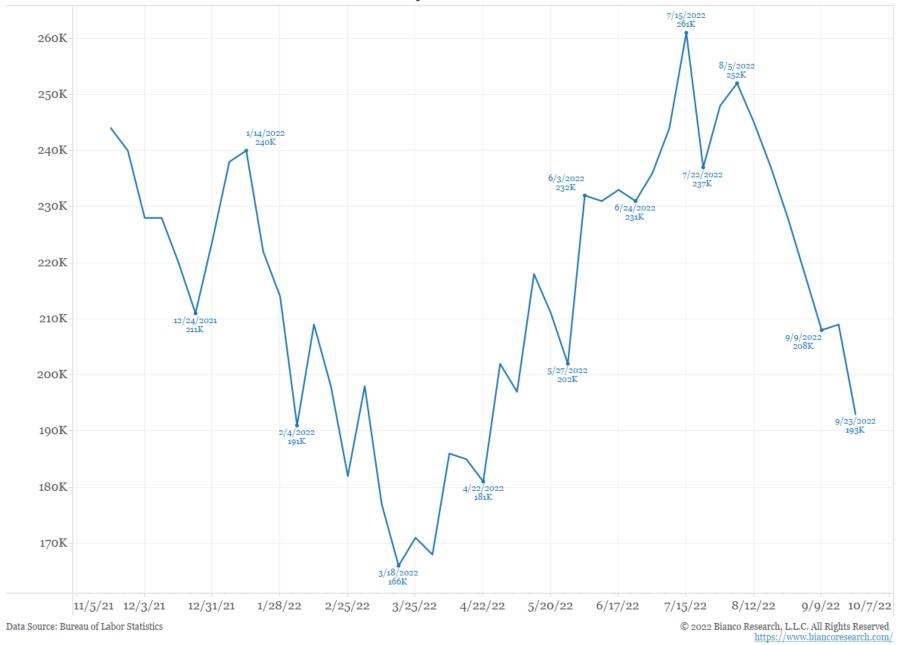
S&P AAA-AA Money Market Rate - Bankrate National Average Bank Money Market Rates



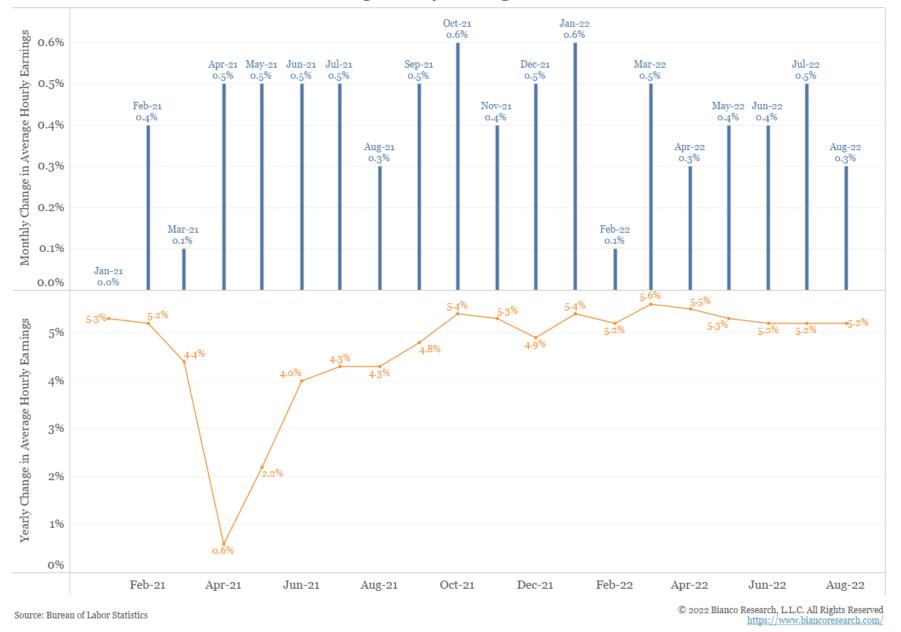
Payroll Misses Initial Release Minus Bloomberg's Estimate



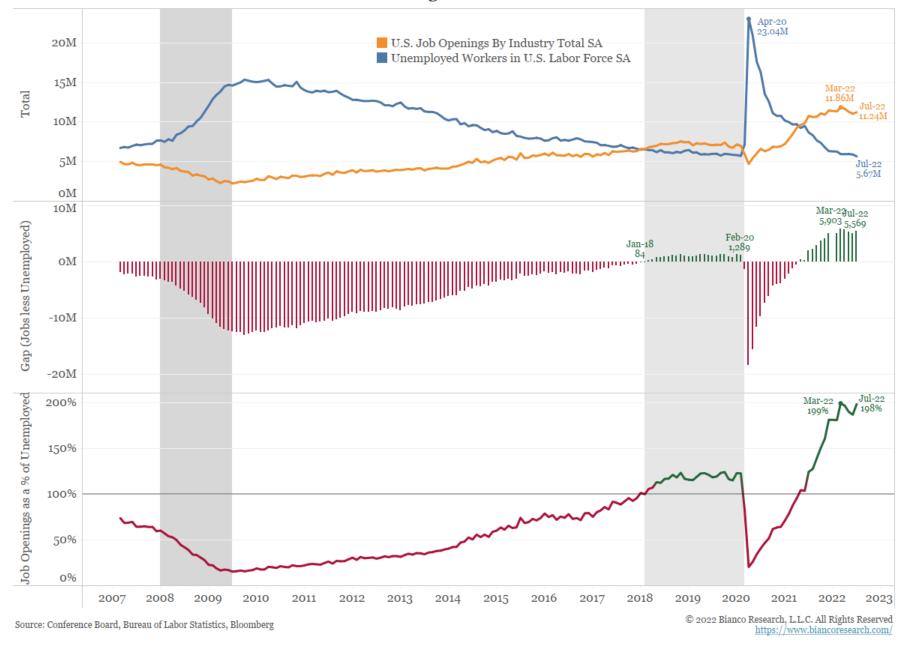
Weekly Initial Claims



Average Hourly Earnings Growth



A Shortage of Workers?



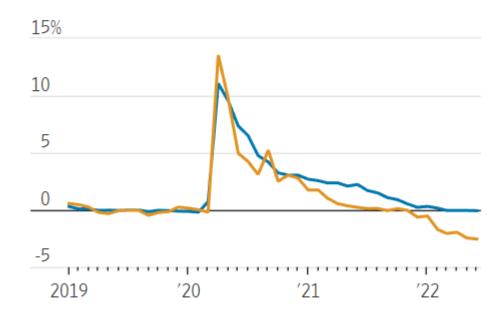
* The Wall Street Journal – <u>Greg Ip: Workers' Changing</u> <u>Attitudes Tighten Labor Market</u>

All this suggests workers' attitudes, and leverage, have shifted in important ways in recent years. The effect is to make labor scarcer and more expensive than ordinary economic indicators show. ... The Covid-19 pandemic might, similarly, have catalyzed a reappraisal of what workers are willing to do, for how many hours, and at what wage. While this mostly consists of anecdotal evidence of a "great resignation" or "quiet quitting," some empirical evidence points in the same direction.

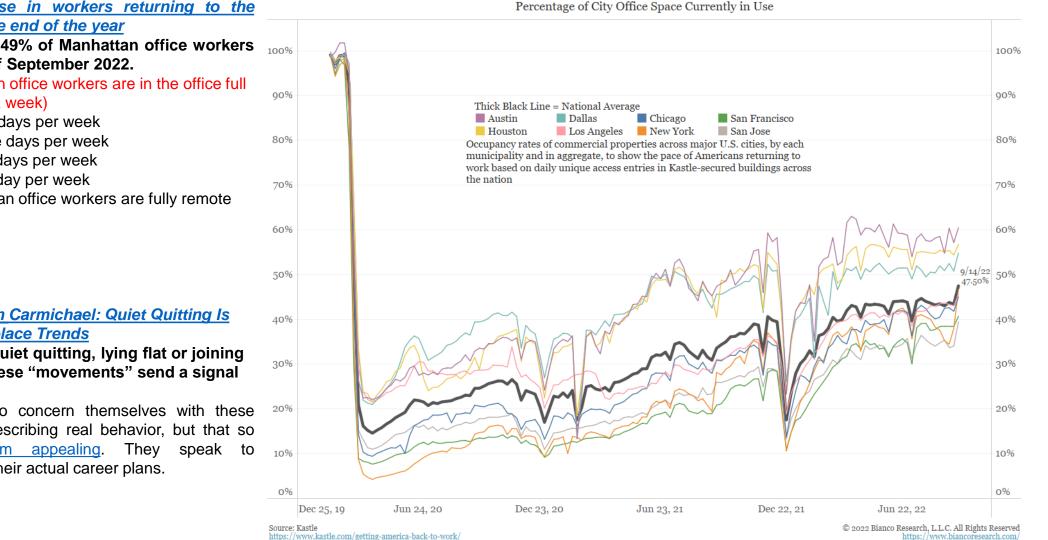
How Tight Is the Labor Market?

Measures of labor-market slack relative to 2019 average

- Aggregate hours gap*
- Unemployment



*Difference between hours people are willing to work and hours they are currently working Source: R. Jason Faberman, Andreas I. Mueller and Ayşegül Şahin



Kastle Back to Work Indices

Partnership for New York City – Partnership survey finds slow but steady increase in workers returning to the office, topping 50% by the end of the year

On an average weekday, 49% of Manhattan office workers are in the workplace as of September 2022.

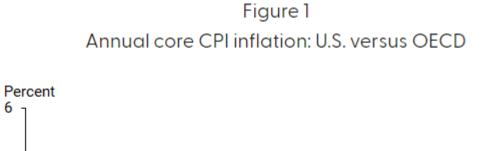
- 9% of Manhattan office workers are in the office full • time (five days a week)
- 12% are in four days per week
- 37% are in three days per week
- 15% are in two days per week
- 11% are in one day per week
- 16% of Manhattan office workers are fully remote

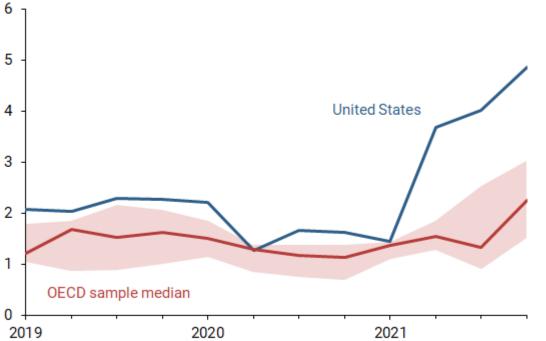
Bloomberg – Sarah Green Carmichael: Quiet Quitting Is the Fakest of Fake Workplace Trends

But even if we're not all quiet quitting, lying flat or joining the Great Resignation, these "movements" send a signal about work.

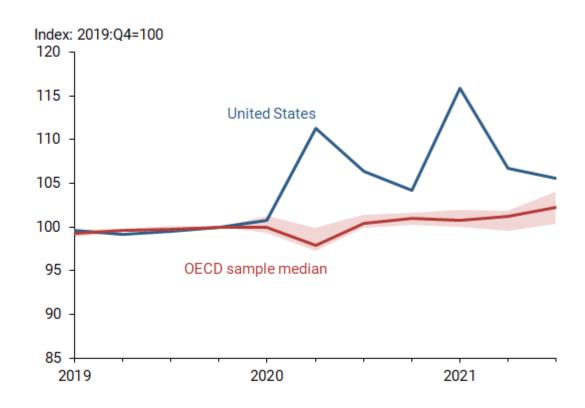
The reason for bosses to concern themselves with these trends isn't that they're describing real behavior, but that so people find them appealing. They speak to many employees' fantasies, not their actual career plans.

September 29, 2022

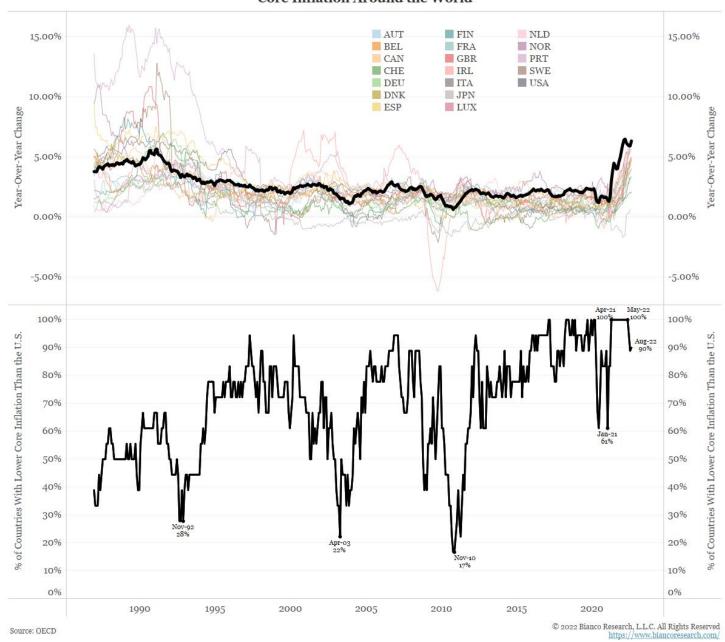




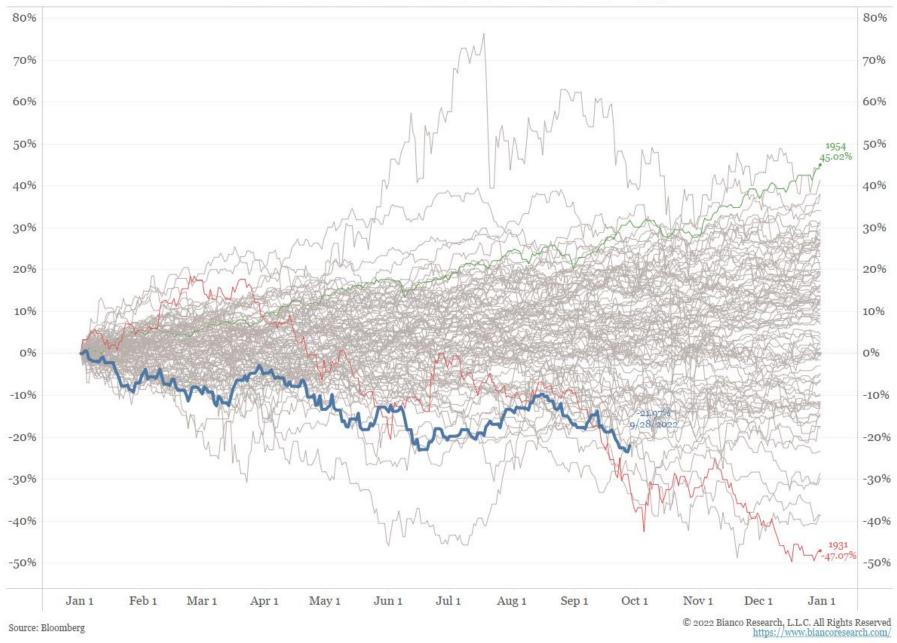
Note: Shaded area reflects interquartile range for OECD sample. Source: OECD Household Dashboard: cross country comparisons. Figure 2 Real personal disposable income: U.S. versus OECD



Note: Shaded area reflects interquartile range for OECD sample. Source: OECD Household Dashboard: cross country comparisons.

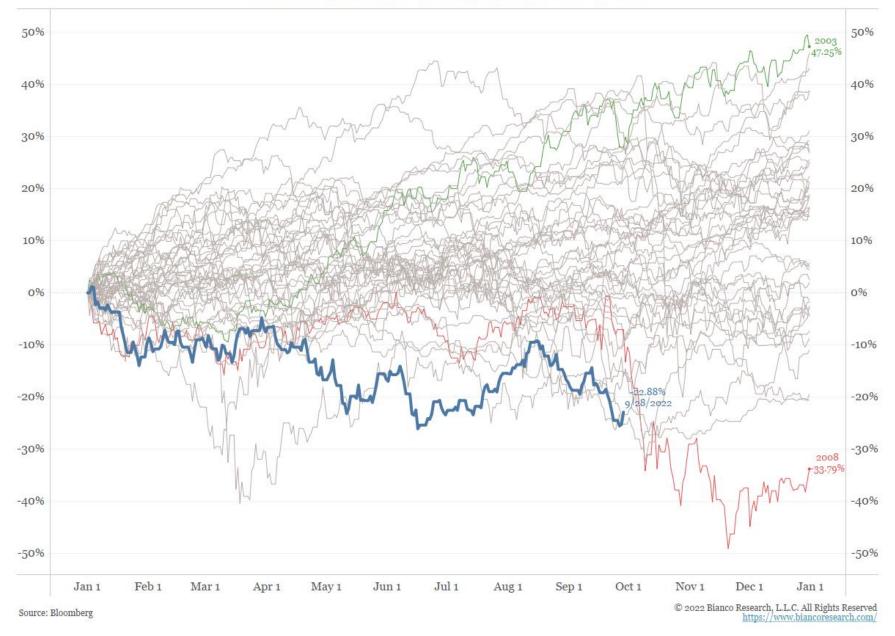


Core Inflation Around the World

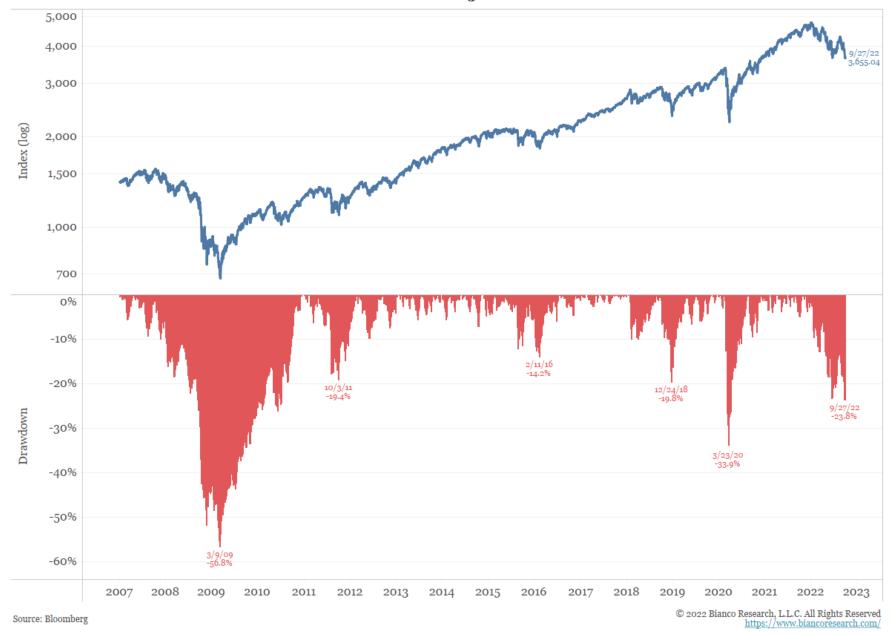


Year-to-Date Total Return for the S&P 500 Price Only

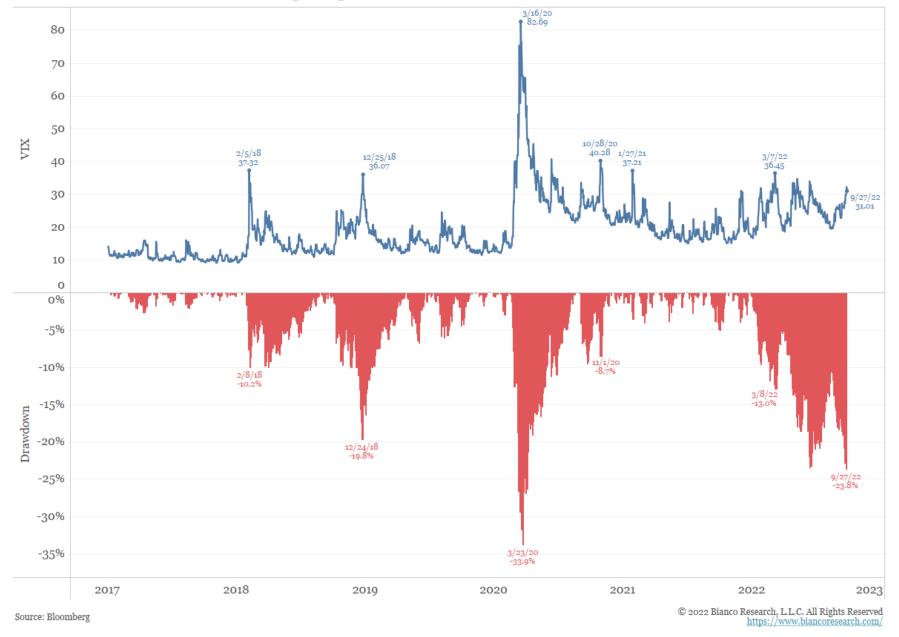
Year-to-Date Total Return for the Russell 2000 TR



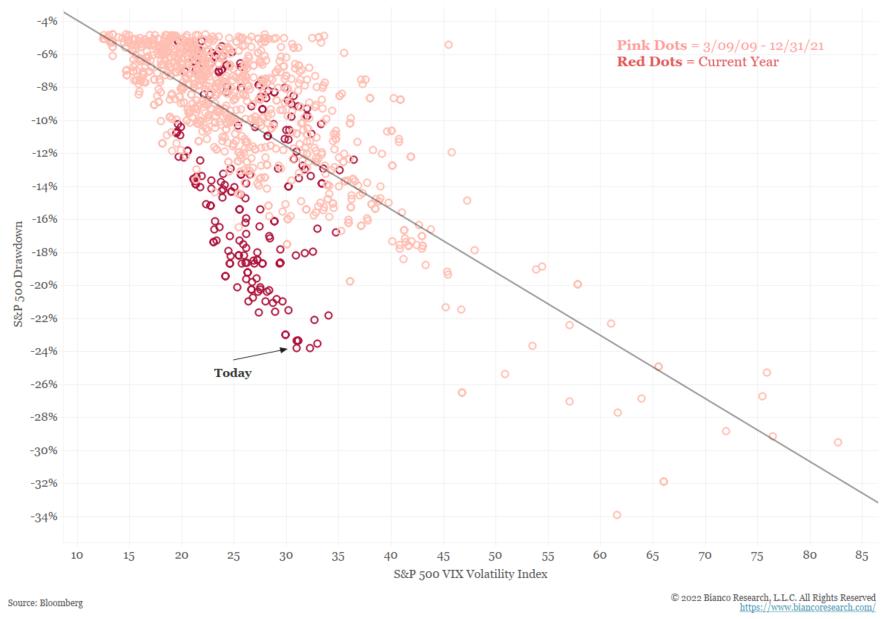
The S&P 500



Comparing VIX Levels and S&P 500 Drawdowns



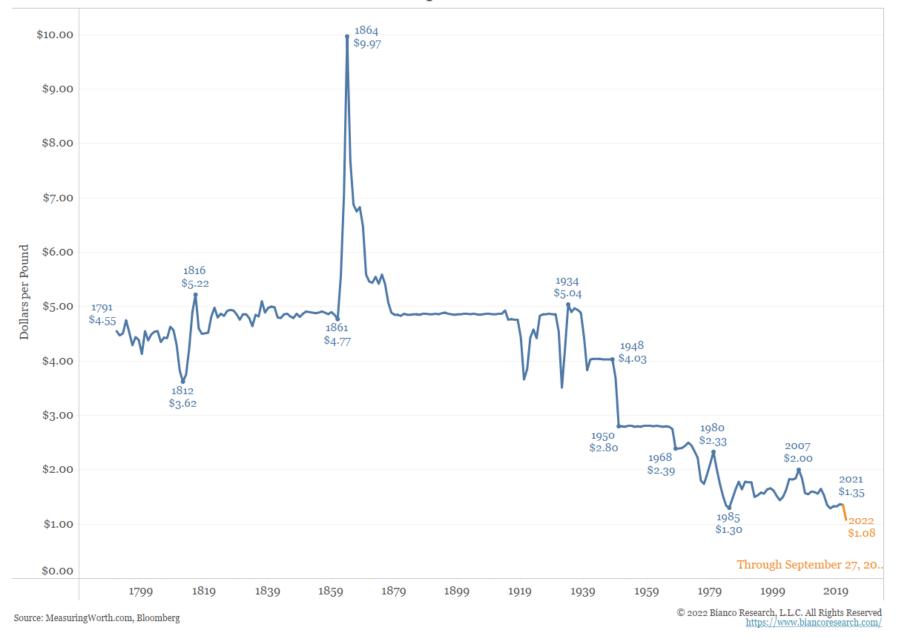
The Fear Index is Not Very Fearful in 2022 Measuring the Relationship Between VIX level and S&P 500 Drawdown



Measuring The Dollar



U.S. Dollars per British Pound



Cumulative Trade Deficit

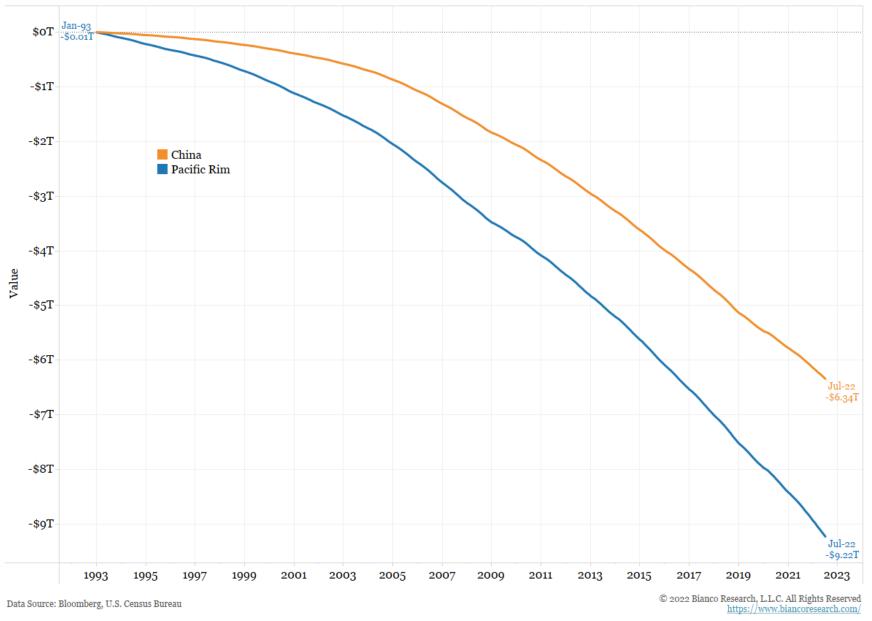
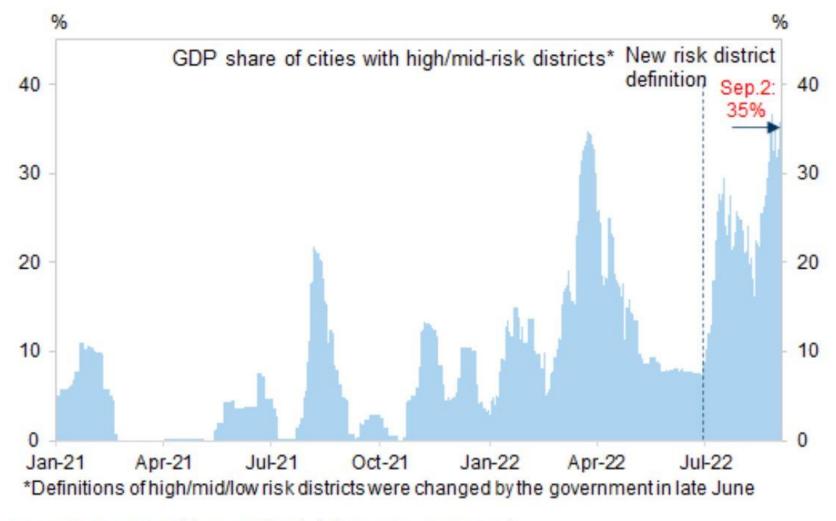
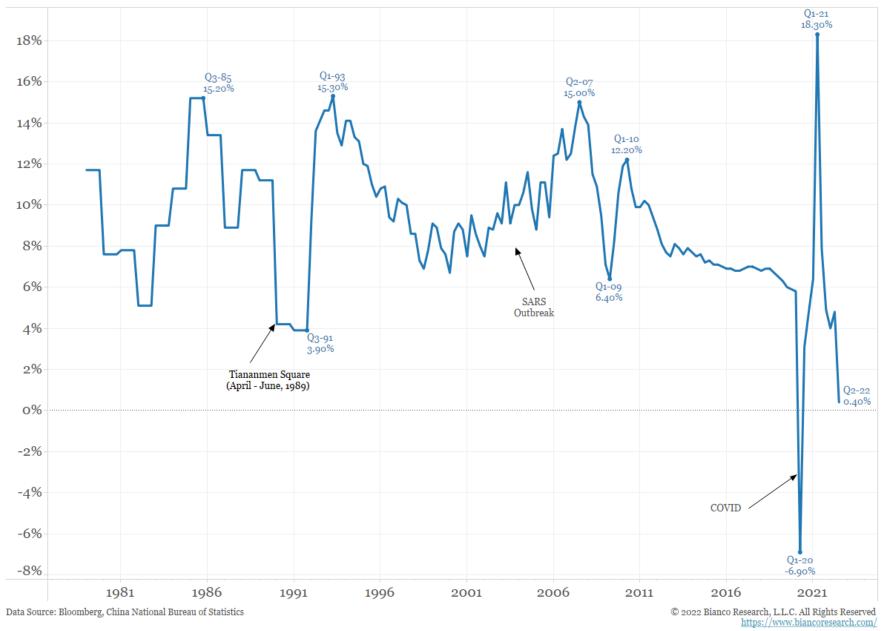


Exhibit 4: Cities with high/mid-risk districts increased to around 35% of national GDP



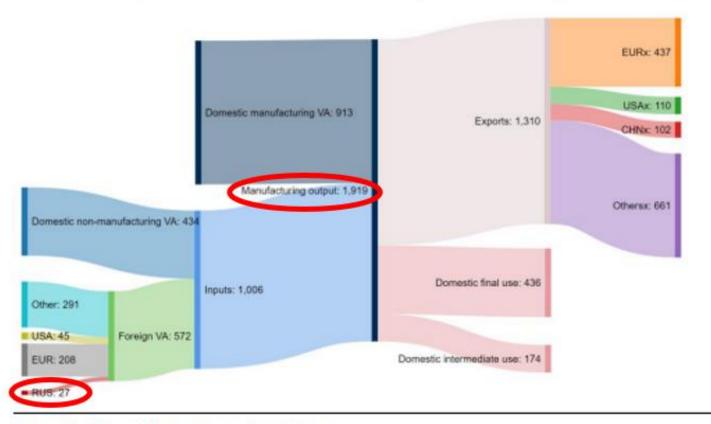
Source: NHC, CEIC, Goldman Sachs Global Investment Research

China GDP



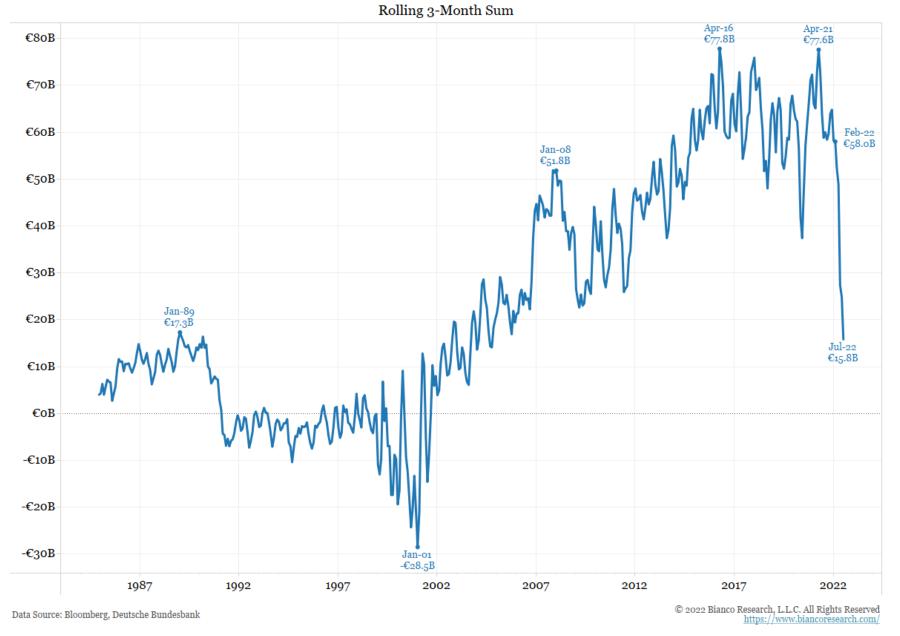
Germany's Commodities "Leverage" (2)

billions of U.S. dollars; sources of value added are shown on the left; sales shown on the right

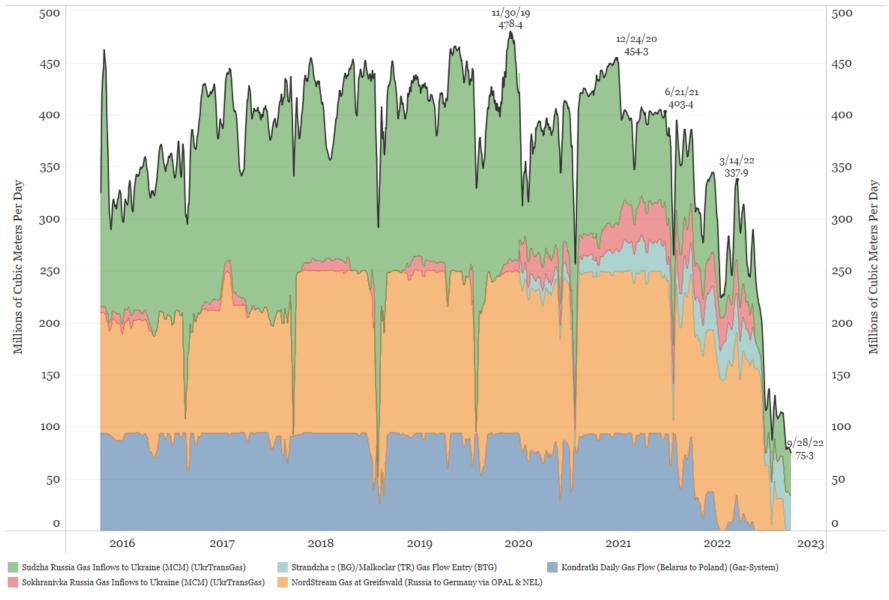


Source: World Input-Output database, Credit Suisse

German Current Account Balance



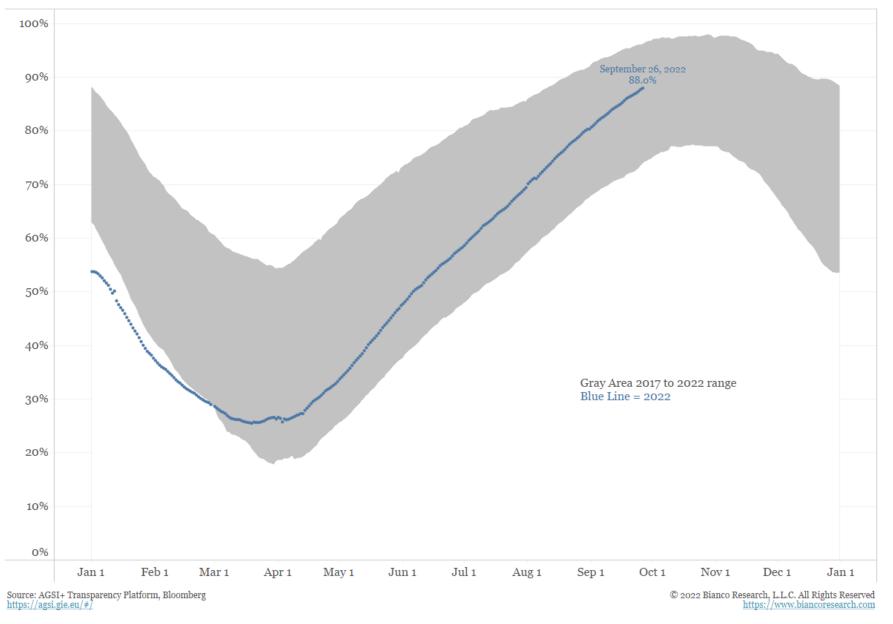
Russia Gas Flows To Europe 10-Day Moving Average

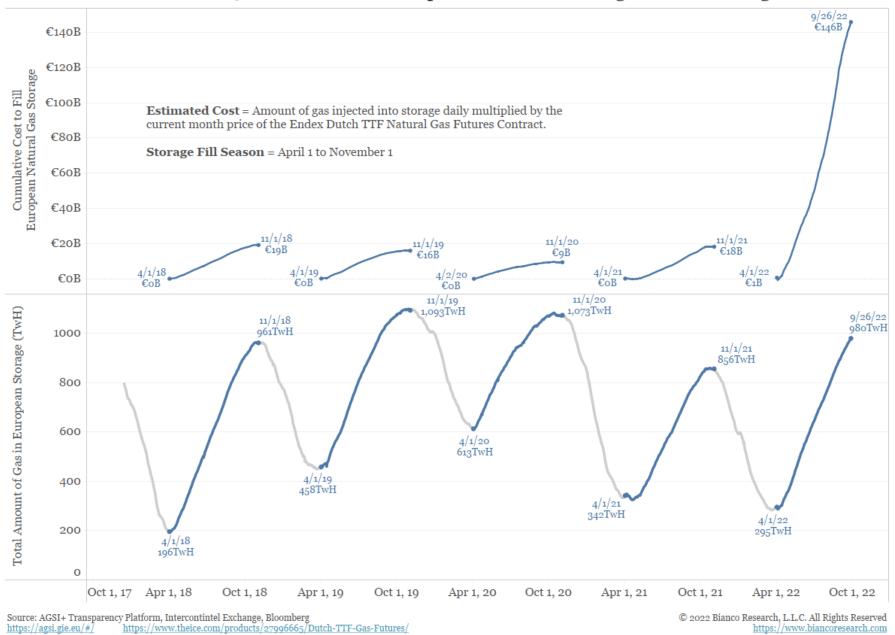


Source: Gascade

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The Percent of European Natural Gas Storage Filled Seasonal Pattern





More Than A 9x Increase To Fill European Natural Gas Storage ... And Counting

2016 79% 2017 80% 80% 2016 75% 76% United States OECD members 70% Euro area World 65% 60% 55% 50% 2016 46% 45% 40% 35% 30% 25% 20% 15% 10% 5% 0% 2008 1992 1994 1996 1998 2000 2002 2004 2006 2010 2012 2014 2016 2018 1990 Data Source: The World Bank- World Development Indicators $\underline{data.worldbank.org}$ © 2022 Bianco Research, L.L.C. All Rights Reserved https://www.biancoresearch.com/

Percent of the Population Using the Internet

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