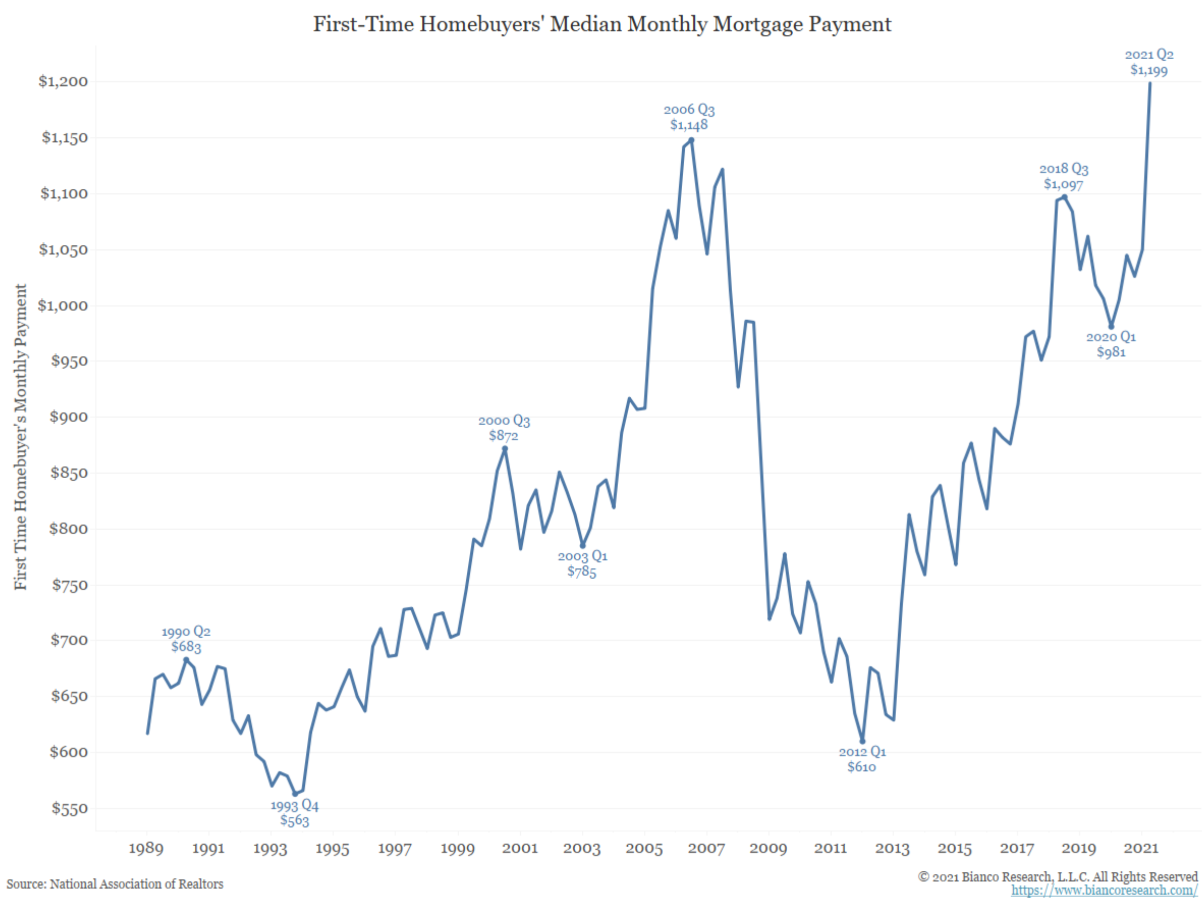
Charts of the Week

October 22nd, 2021

Housing Affordability

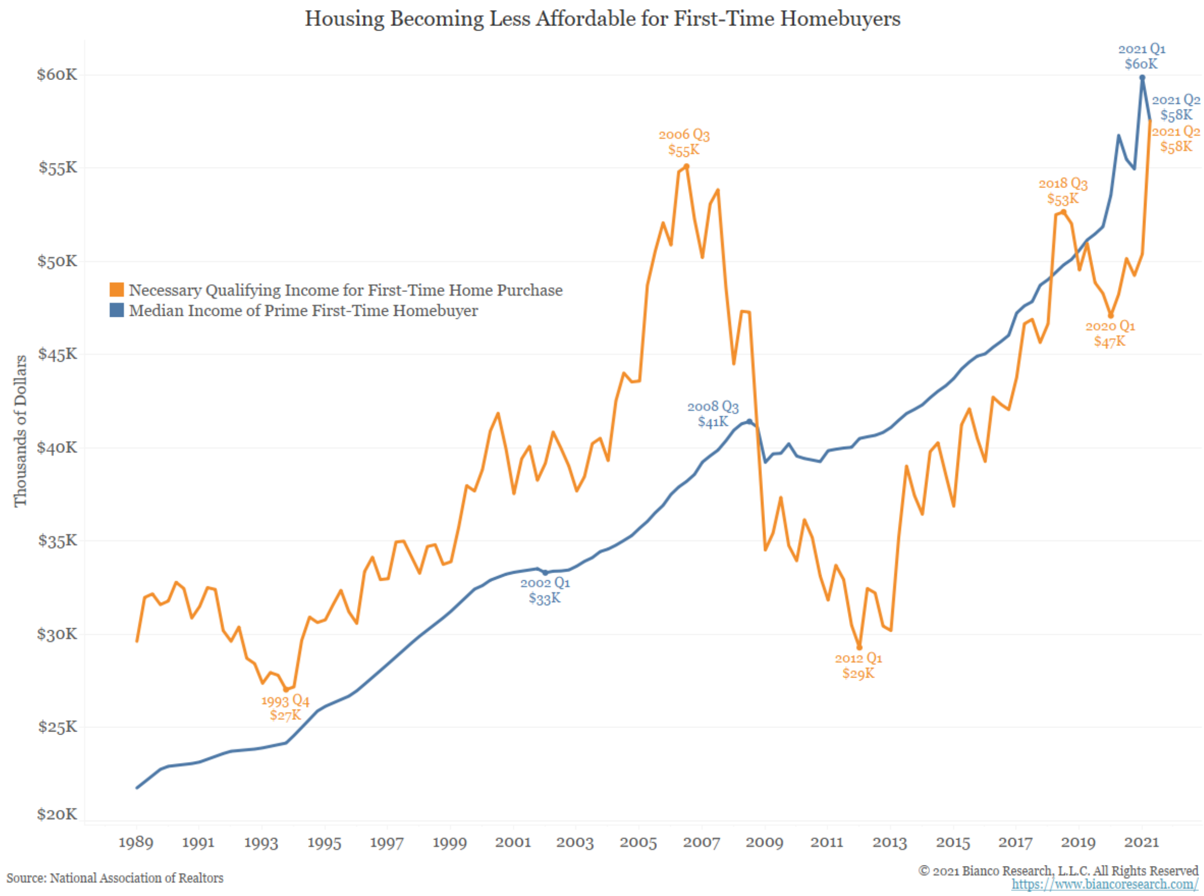
A recent Wall Street Journal story noted declining housing affordability will have the biggest impact on first-time homebuyers, forcing them to either spend more than they want, buy less desirable homes, or postpone a purchase altogether.

Indeed, the median monthly mortgage payment for a first-time homebuyer at the end of the second quarter rose to $1199, topping the previous high set before the housing crash in Q3 2006.



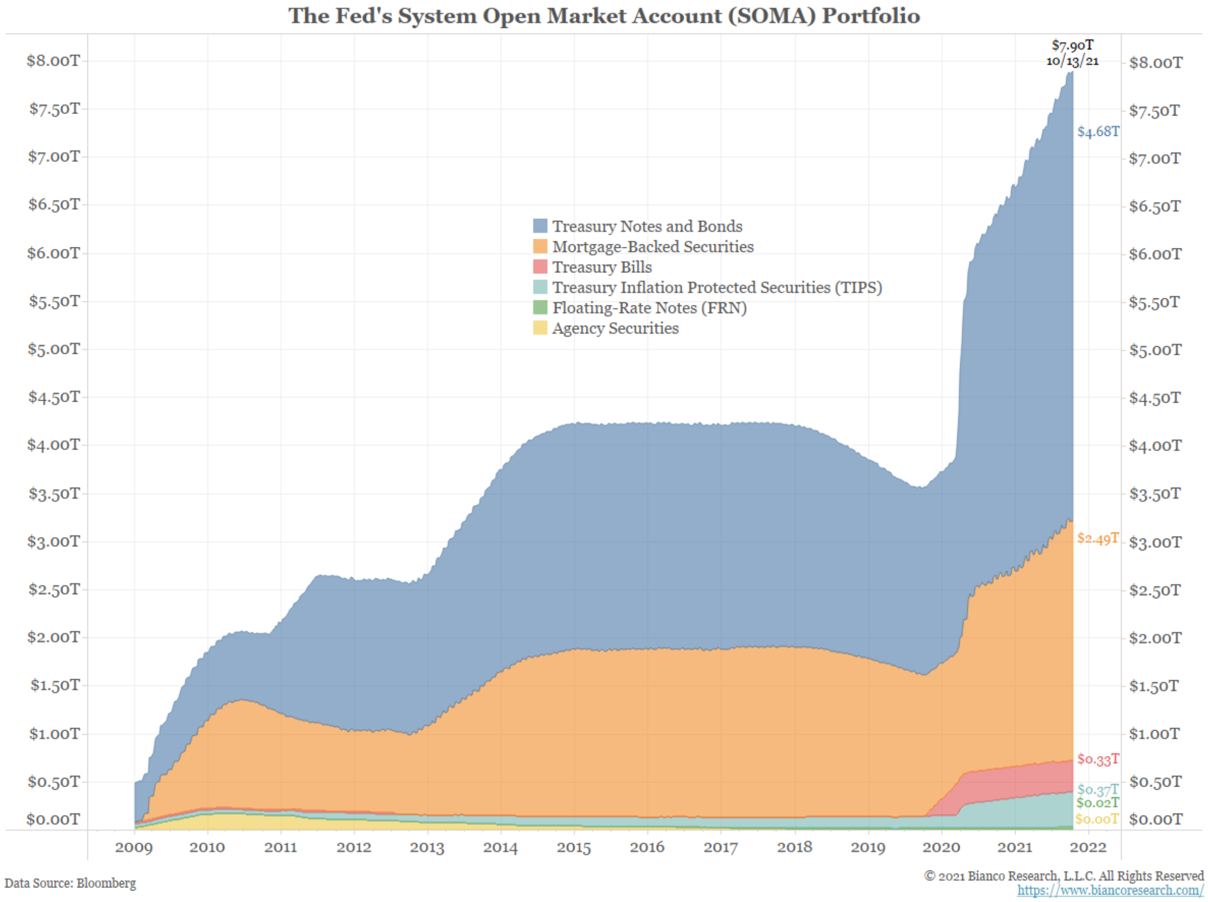
The orange line in the next chart shows first-time homebuyers need a qualifying income of $58,000 to afford the median-priced home. The blue line shows the median income of a prime-rated first-time homebuyer.

As house prices tumbled in the mid-to-late 2000s and interest rates continued lower, the qualifying income necessary for first-time homebuyers to buy a median-priced house actually fell below median incomes. Even as house prices rebounded over the ensuing decade, lower interest rates helped keep homes relatively affordable. As of Q2 2021, however, the red-hot housing market pushed these two measures back into line. With interest rates near rock-bottom, better mortgage rates are unlikely to help affordability much. The rapid price appreciation is unlikely to continue at its current pace, but first-time homebuyers might see a market similar to the period prior to the housing crash in which incomes fall a bit short of necessary qualifying income.



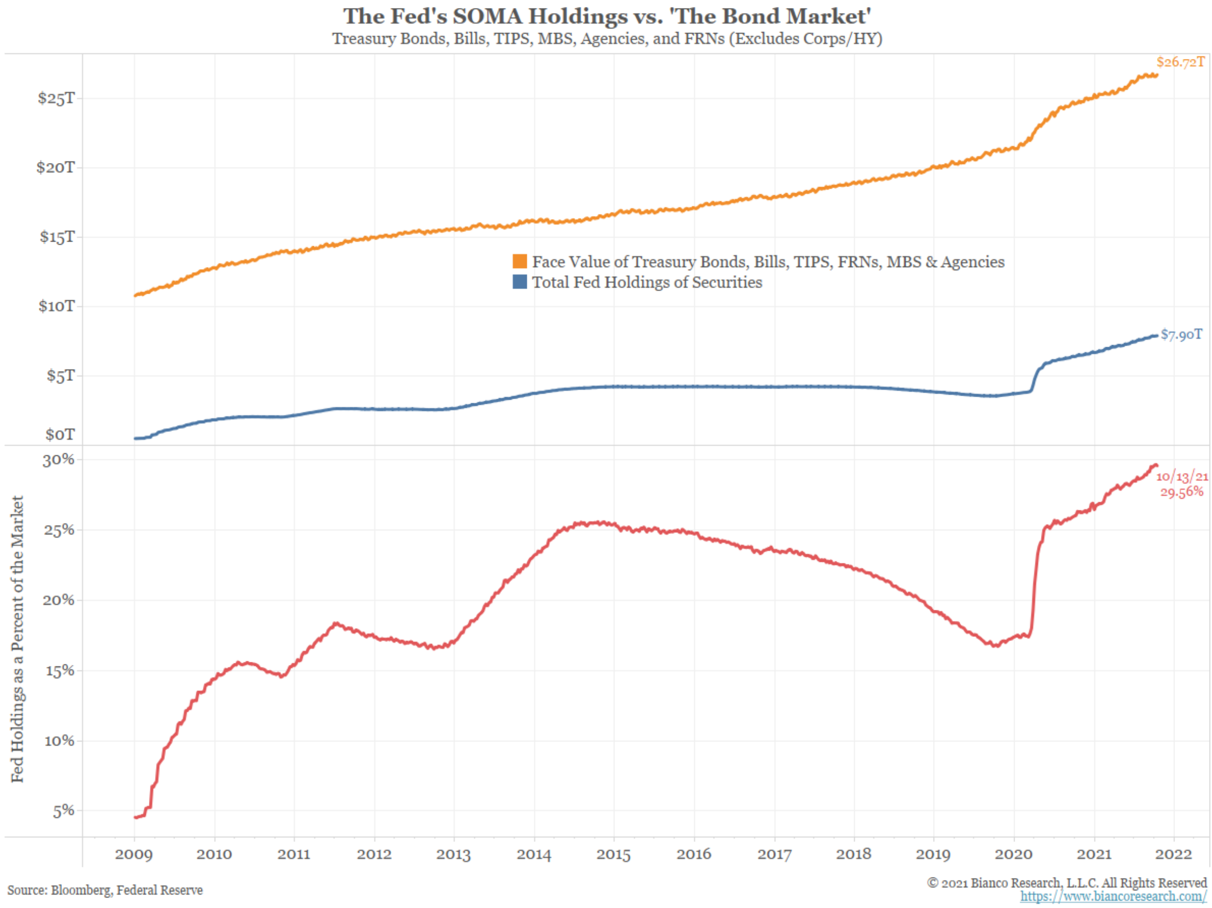
The Fed's Footprint as the Taper Nears

As the taper draws near, we wanted to revisit the Fed's footprint on the fixed income markets. For starters, the Fed holds $7.90 trillion of Treasury notes and bonds, MBS, T-bills, TIPS, floating rate notes, and agencies. This does not include the emergency 13(3) holdings such as corporate bonds and ETFs. Technically those securities are owned by the U.S. Treasury.

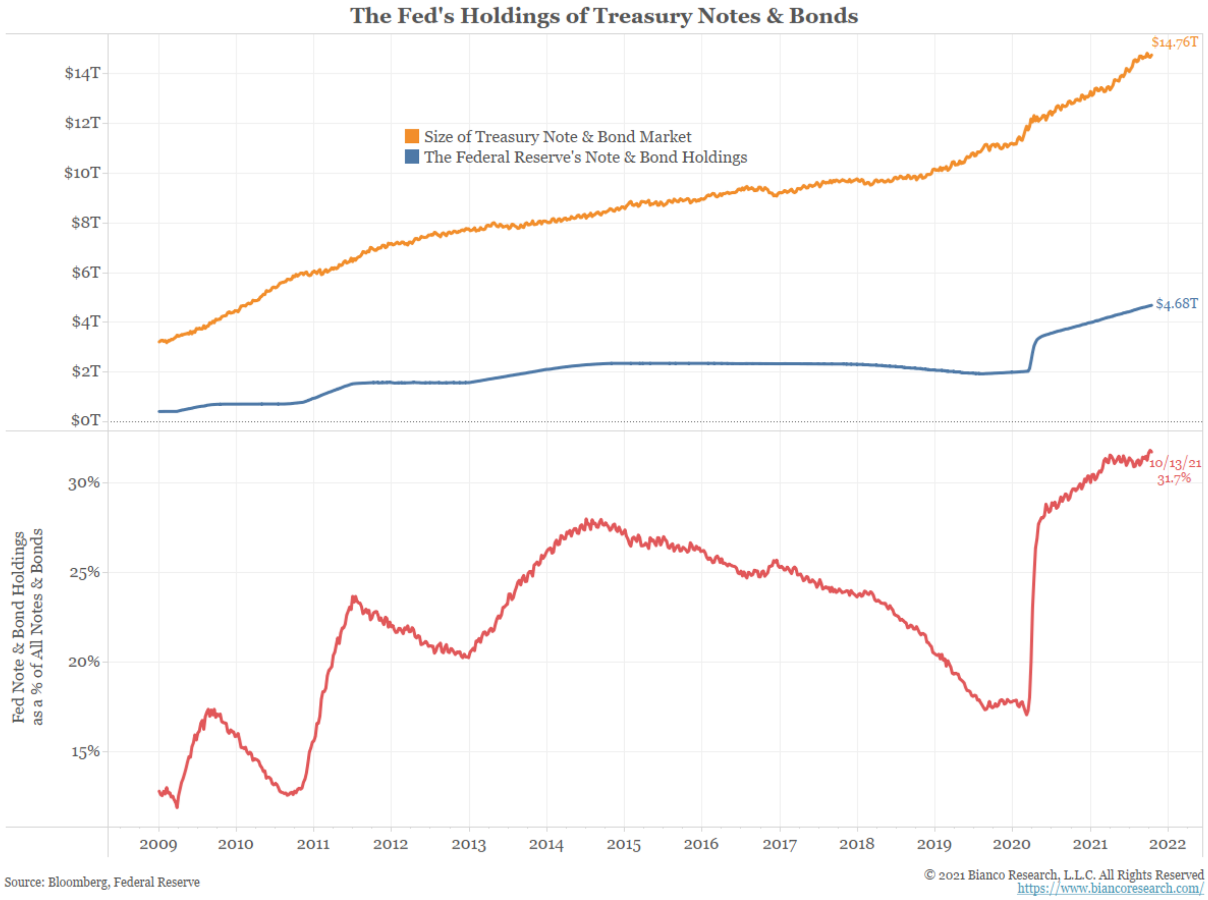


So, how much of each market does the Fed own? To approximate the size of each market, we start with the market value of the Bloomberg/Barclays fixed income indices. Because Bloomberg does not include most SOMA securities in its indices, we also added the Fed's holdings to the total to get a more accurate picture of market size (this applies to bonds, notes, bills, TIPS, and FRNs. Fed holdings of MBS and agencies are already included in the Bloomberg MBS and agency indices).

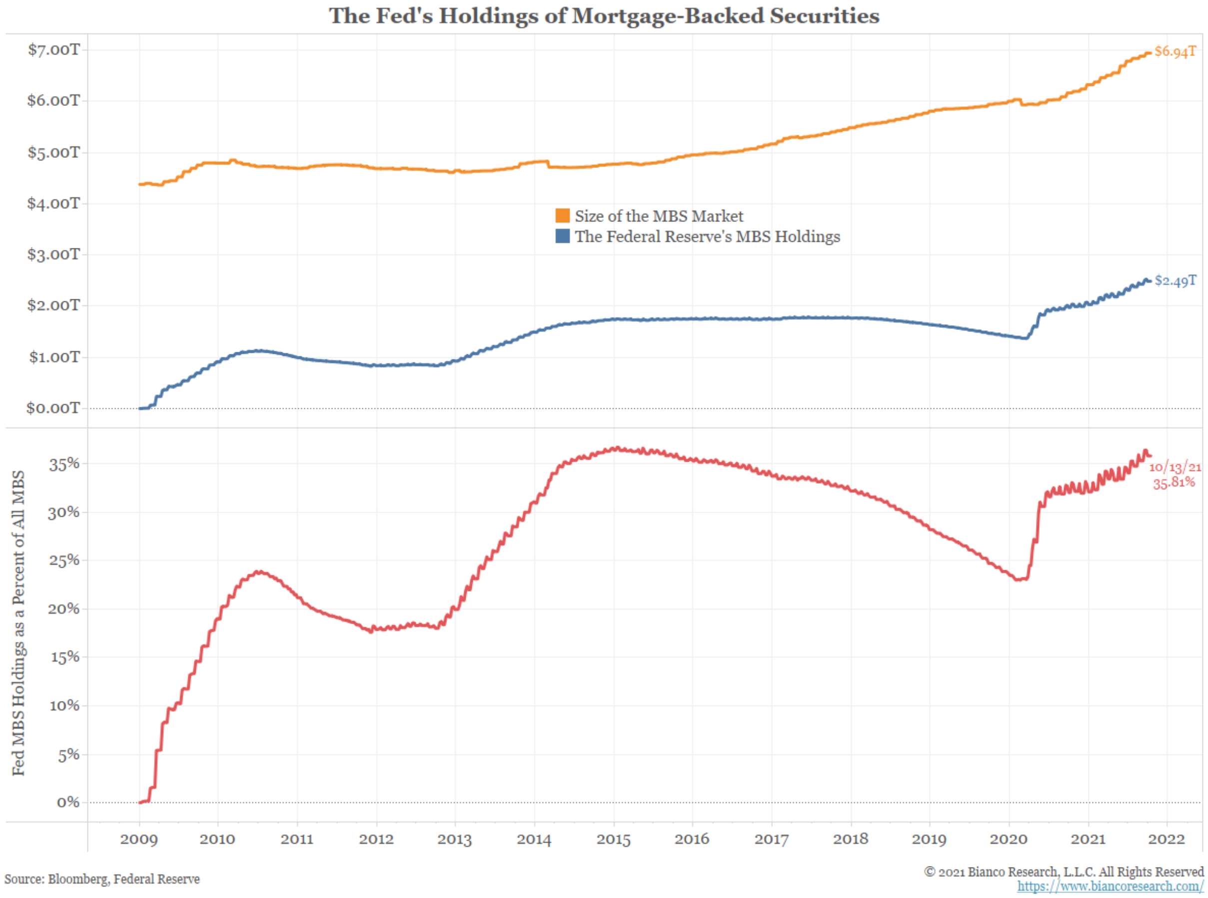
When all of the above listed securities are taken into consideration, the Fed owns almost 30% of the U.S. 'fixed income market.'



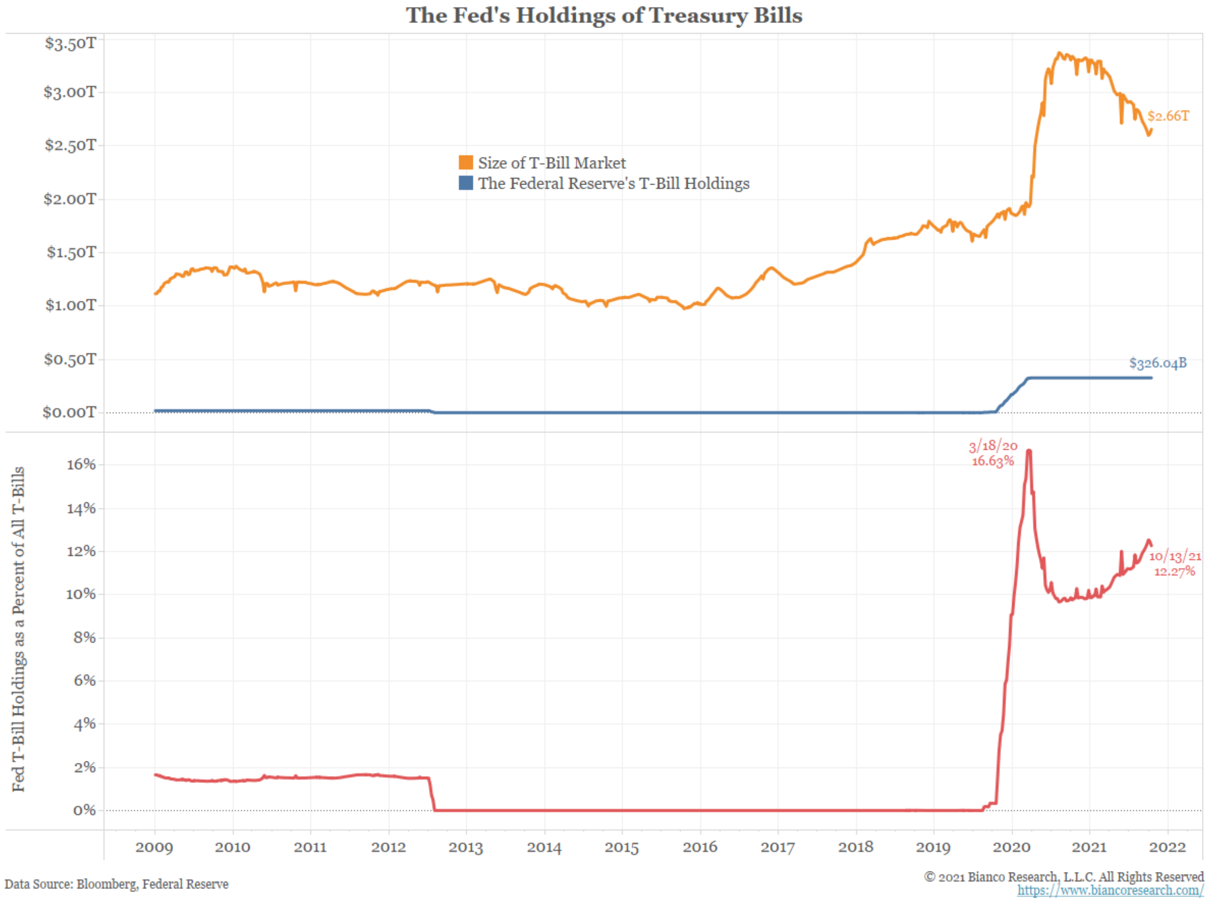
The Fed's largest purchases are in Treasury notes and bonds. The SOMA account holds over 31% of these securities.



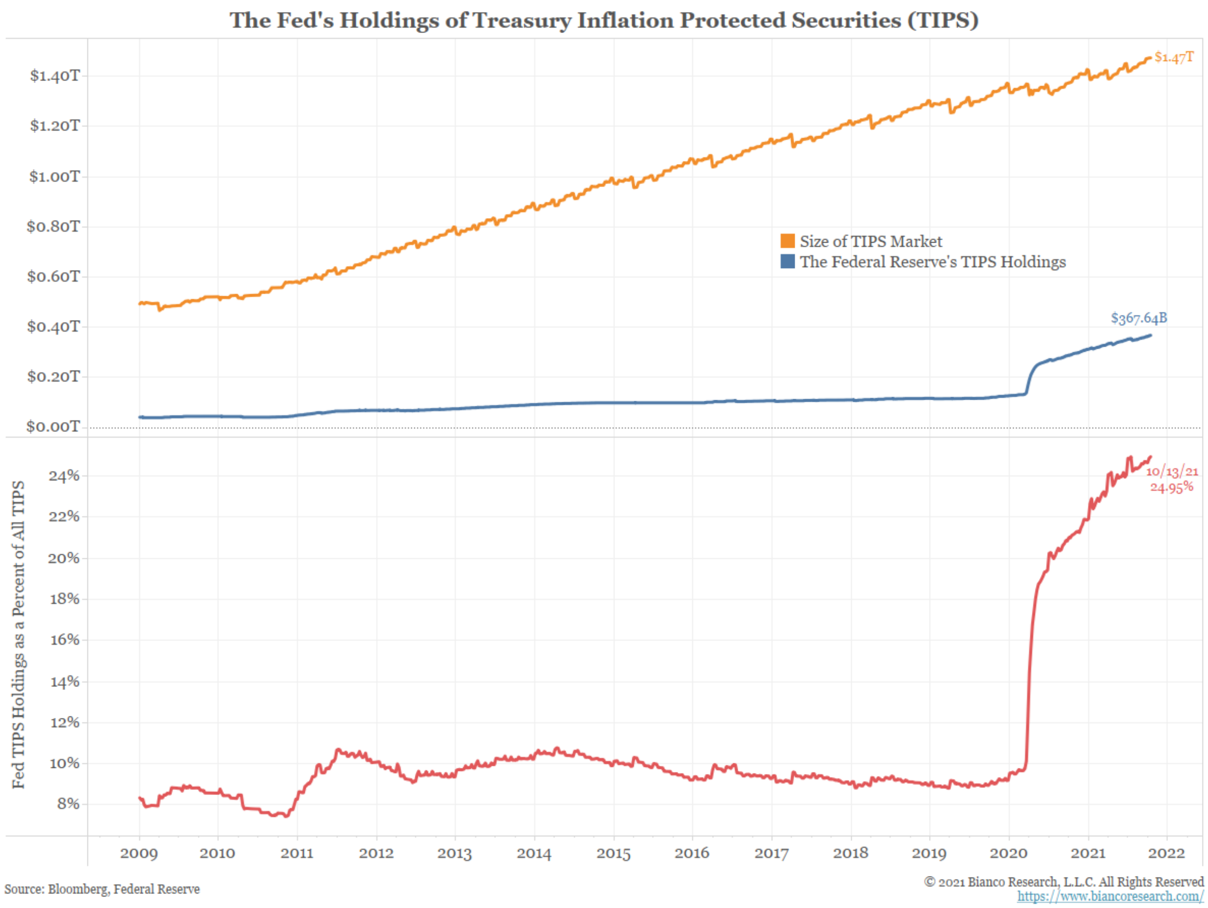
The Fed's $2.49 trillion in MBS securities accounts for roughly 36% of the market.



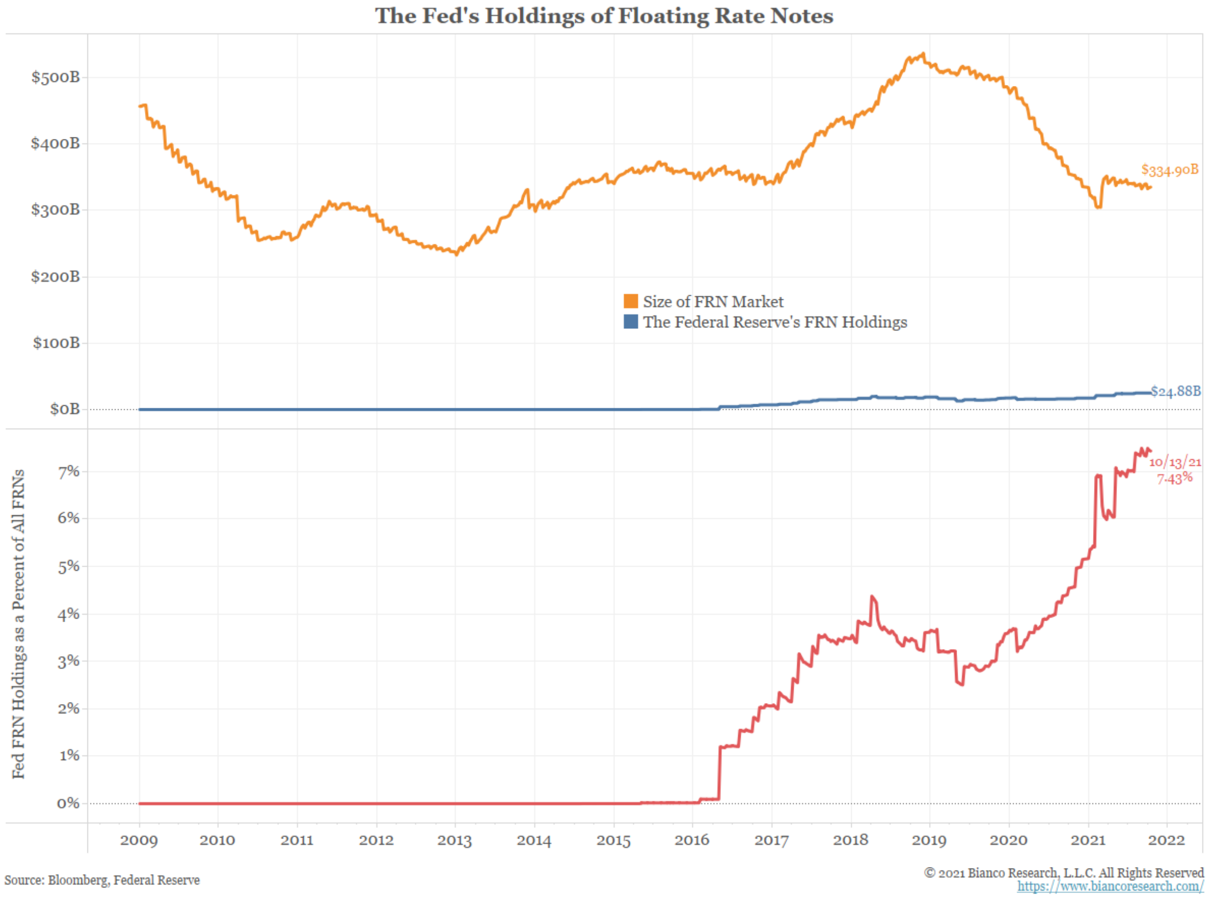
The Fed holds a little over 12% of the Treasury bill market.



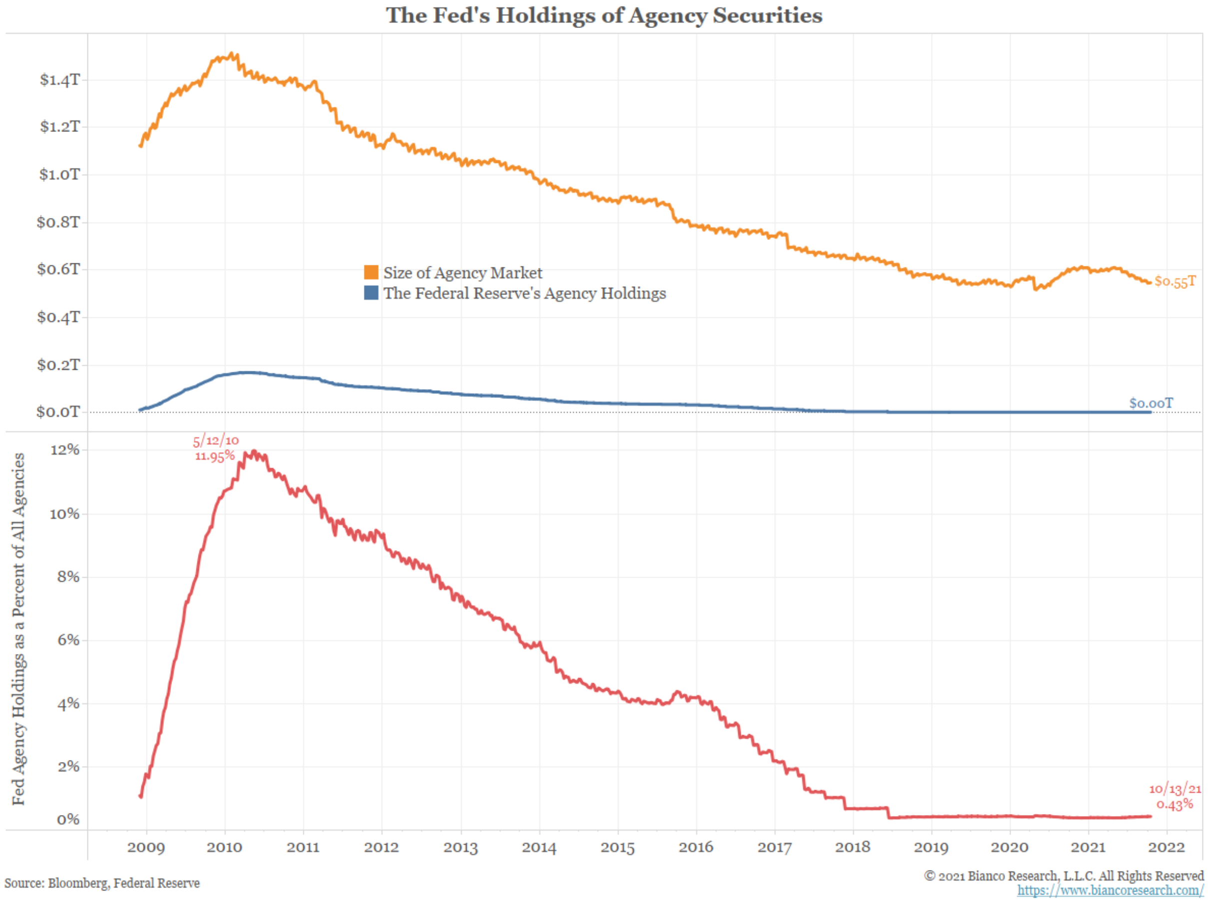
In March 2020, the Fed's holdings of TIPS jumped considerably. The Fed has accumulated almost 25% of the TIPS market.



The Fed's involvement in the floating rate note market is much smaller in comparison to those above. Their $25 billion in holdings accounts for roughly 7% of the market.



Finally, the Fed's holdings of agency securities have dwindled to almost zero over the past decade.



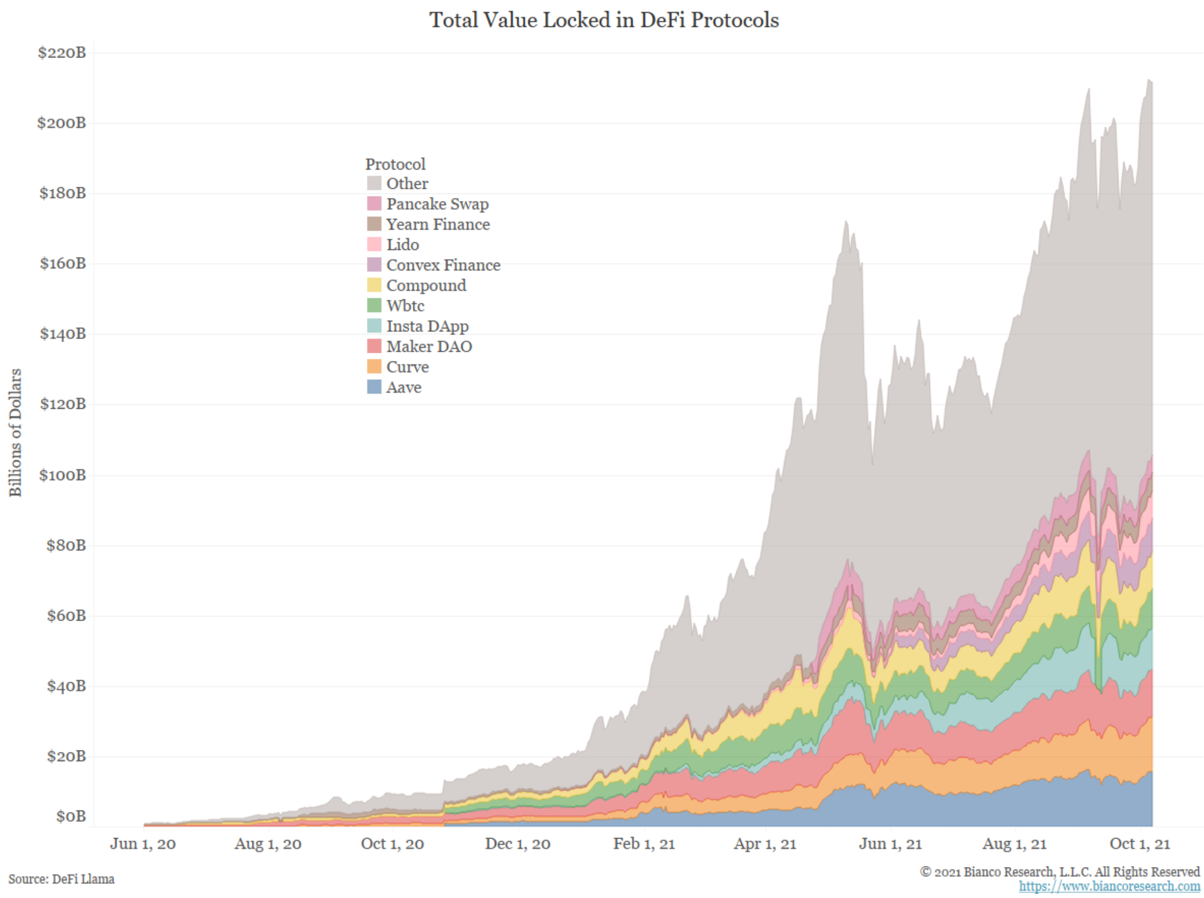
DeFi Total Value Locked Back at All-Time Highs

The general size of the decentralized finance (DeFi) movement can be measured in a couple different ways. In the past, we have monitored the market values of the tokens associated with the top DeFi protocols. This could then be compared to the market caps of different parts of the stock market.

DeFi could also be measured in terms of total value locked (TVL). In other words, how much money is locked in smart contracts on different protocols? Whether staking ETH to help the Ethereum blockchain move to a proof of stake validation process or using ETH as collateral for leverage, crypto is held in smart contracts until the user reverses the transaction.

The chart below shows the TVL in DeFi protocols recently reached $212 billion. The ten largest protocols by TVL account for half of this total. Aave, Curve, and Maker are the three biggest lending/automated market maker protocols.

It should be noted this total is denominated in dollars, so TVL tends to rise and fall with ETH prices. When prices dropped in May, many leveraged traders' positions were liquidated per the rules of the smart contract, lowering TVL by almost $70 billion. While ETH prices are still off their all-time high, however, TVL has once again reached a record.



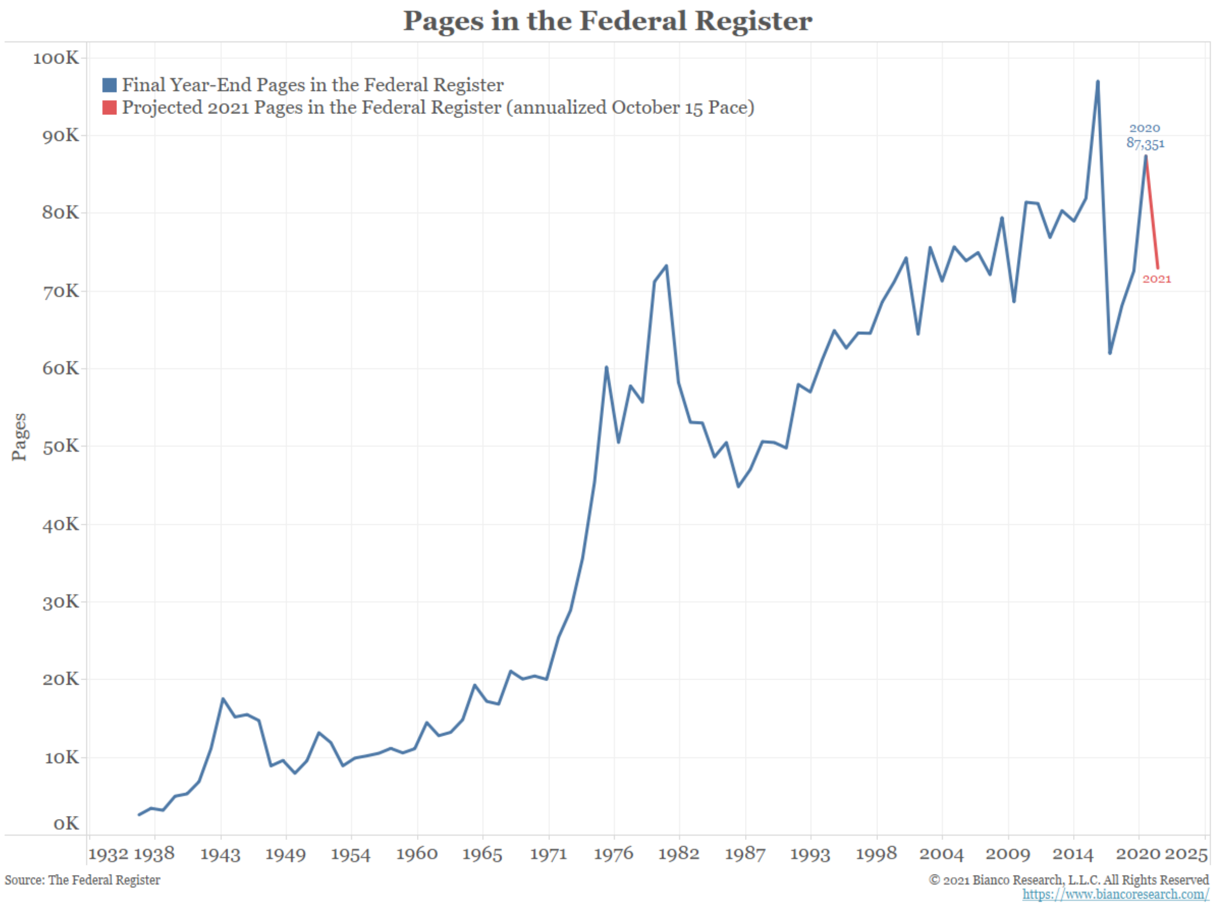
Measuring Regulatory Activity in 2021

Whenever a new regulation is made, it must be chronicled in the Federal Register. We have often viewed the number of pages in this report to be a decent proxy for regulatory activity.

The red line in the chart below shows the projected number of pages for 2021. It simply takes the pace of regulation through October 15 and annualizes it.

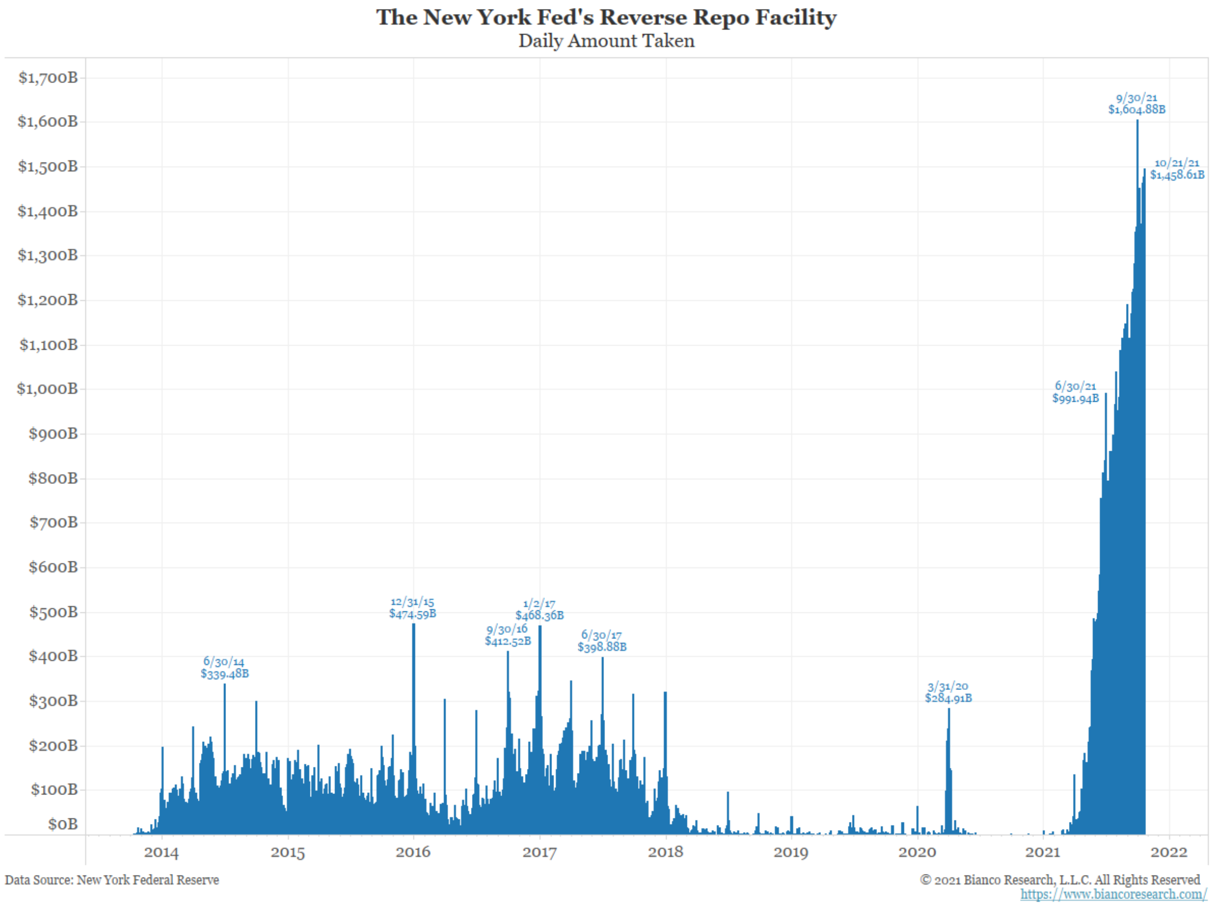
Given Democrats' unified control of the government this year, especially as the country emerged from pandemic lockdowns, it may come as a surprise that the size of the Federal Register is on pace to contract significantly. In fact, this would rank as the third largest decrease in pages on record. 2017 saw the largest decrease as Trump promised to roll back regulations. The second largest decrease took place in 1981 when Reagan said, "government is not the solution to our problems; government is the problem" (on a percentage basis, there were also a few years following WWII that saw larger decreases).

At its current pace, the logbook of new regulations would finish the year at 72,926 pages.

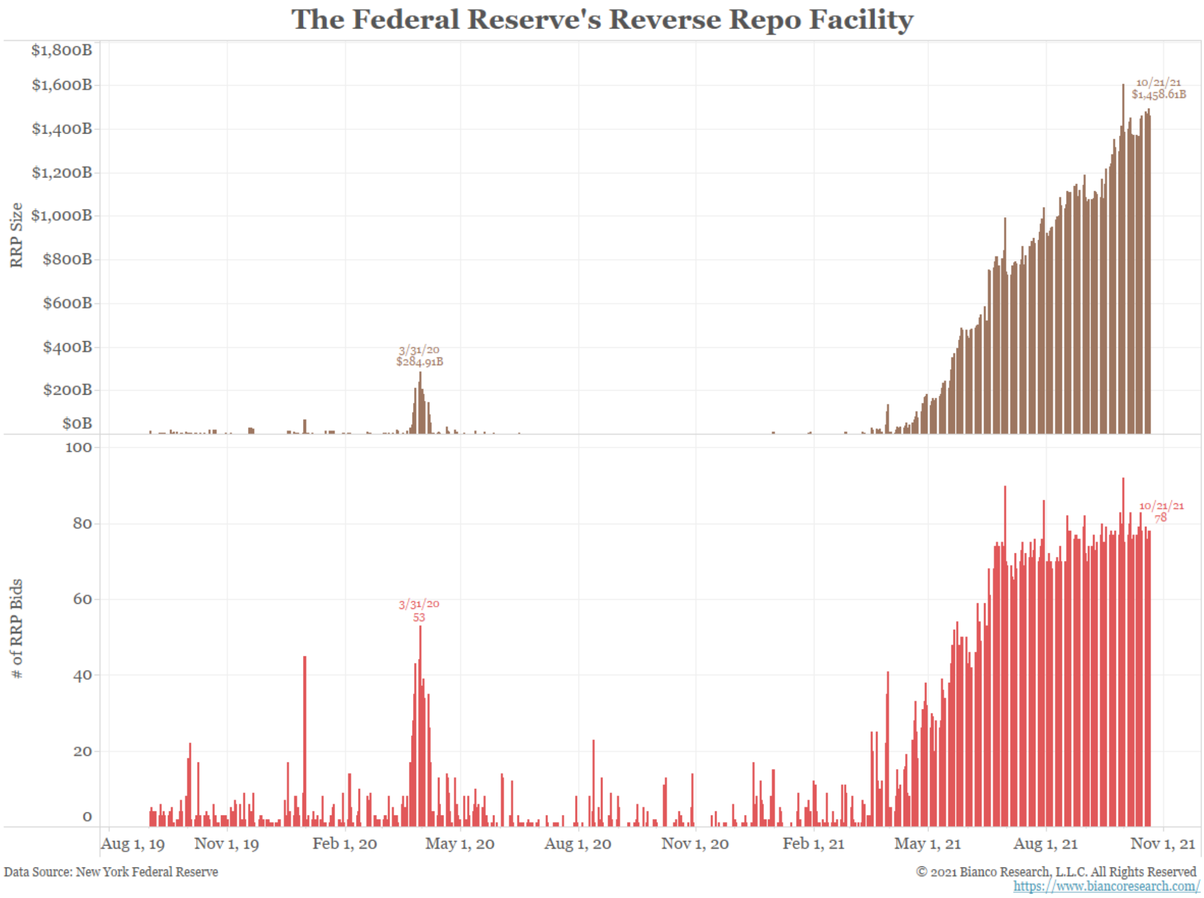


The Fed's Repo Facility Continues to Attract More Dollars

The Fed's reverse repo facility has seen an extraordinary influx of cash over the past few months. As we explained recently, banks are awash in cash and rushing into this facility since it offers a better rate of return than anything in the short-end market. This week the facility took in almost $1.5 trillion in cash from banks and money market funds. Outside of the quarter-end daily intake of $1.6 trillion at the end of September, the last few days have marked the largest volume of deposits on record.



This total continues to grow, while the number of banks or money market funds using the facility remains steady (red, below). In [our September 3 update on the topic](), we speculated the biggest banks were close to hitting their limit of $80 billion per counterparty per day. At the last FOMC meeting, the Fed doubled the counterparty limit to $160 billion per day, more or less confirming the biggest banks were at risk of pushing up against the old limit. The growth in the Fed's repo facility should not come as much of a surprise.

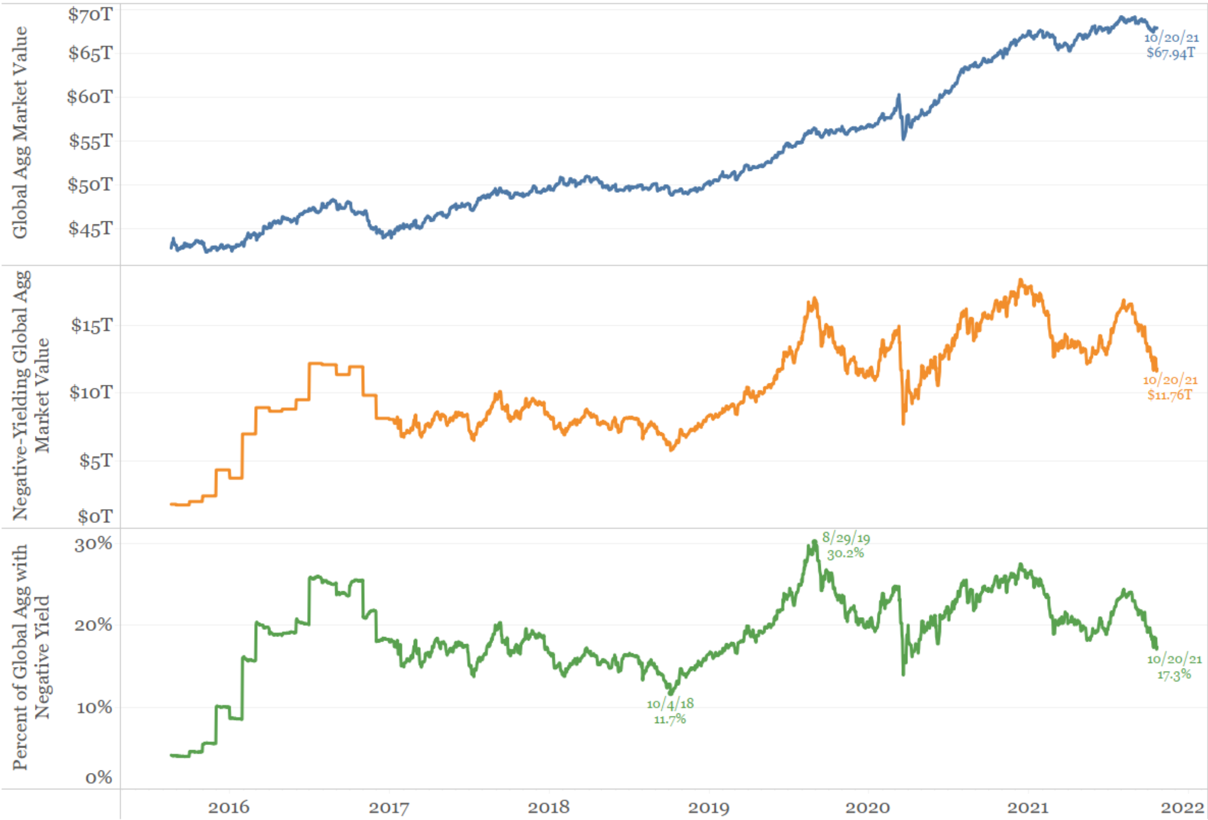


While this seems the sensible course of action for the short-term, we remain concerned any time a government/Fed program effectively replaces private market price discovery.

An Update on Negative-Yielding Bonds

With rates heading higher since early August, an update of the world of negative-yielding debt is in order. The charts and tables below show the total amount outstanding, maturity of that debt, OAS, total return, and much more.

Negative Yielding Bonds in the Barclays/Bloomberg Global Aggregate Index

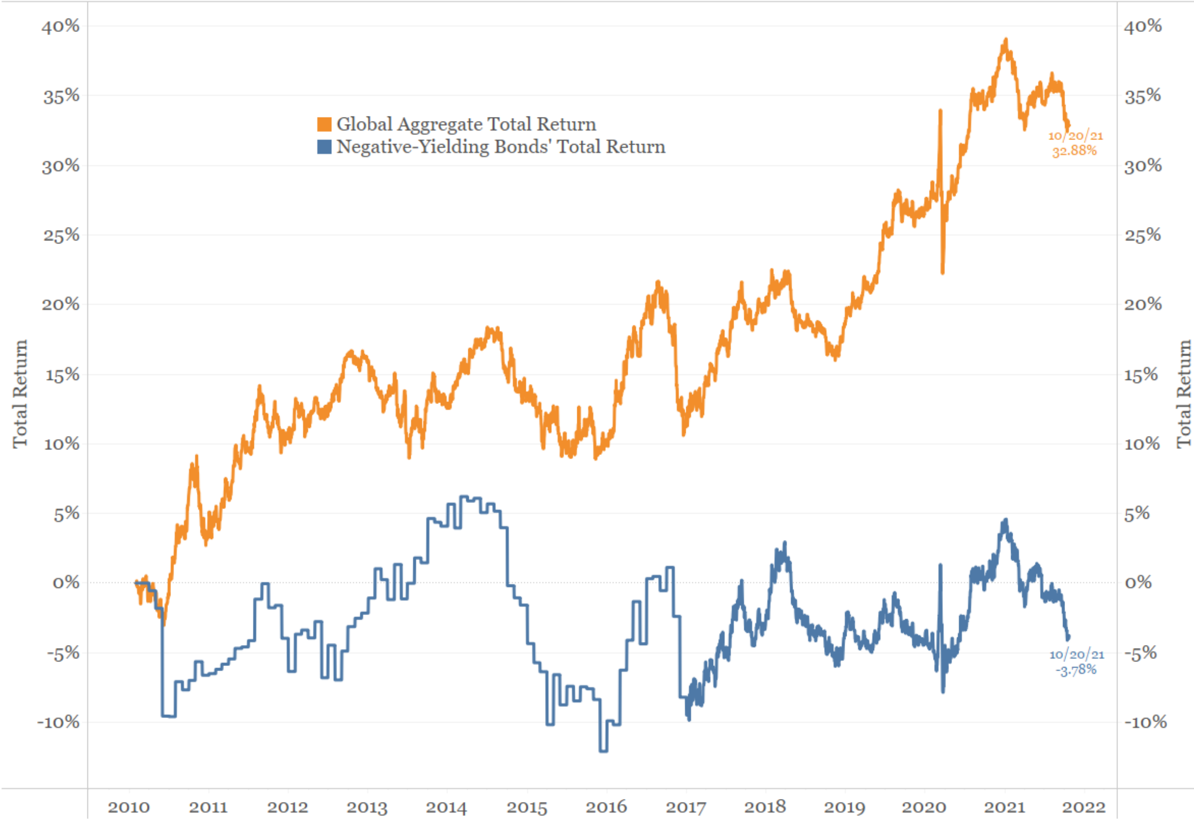


Source: Bloomberg

Total Negative Yielding Bonds Outstanding

Source: Bloomberg

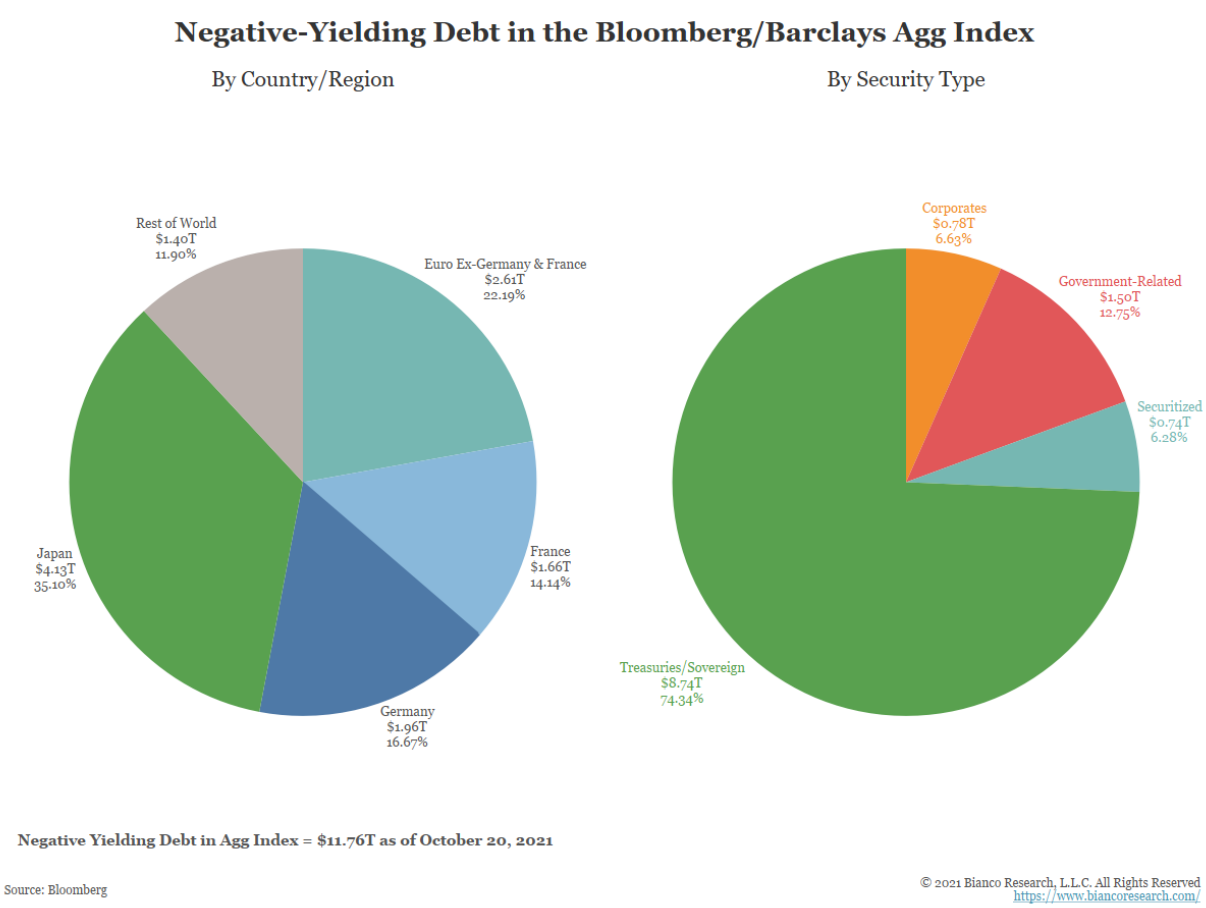
Negative Yielding Bonds Total Return



Source: Bloomberg

Negative Yielding Bonds in the Bloomberg/Barclays Global Aggregate Index

Source: Bloomberg



Interest Rates in the Developed World

As of 10/21/2021

Country	Policy Rate	6-Month	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year	15-Year	30-Year
Switzerland	-0.75	-0.74	-0.80	-0.76	-0.60	-0.47	-0.38	-0.32	-0.29	-0.19	-0.13	-0.07	0.06	0.06
Germany	-0.50	-0.70	-0.69	-0.65	-0.61	-0.53	-0.43	-0.36	-0.28	-0.25	-0.19	-0.10	0.09	0.27
Netherlands	-0.50	-0.68		-0.70	-0.61	-0.50	-0.41	-0.32	-0.23	-0.14	-0.05	0.03	0.25	0.34
Denmark	-0.60	-0.62		-0.62			-0.36			0.00		0.16		
Finland	-0.50		-0.70	-0.63	-0.56	-0.47	-0.34	-0.27	-0.15	-0.06	0.04	0.12	0.35	0.54
Austria	-0.50		-0.65	-0.69	-0.60	-0.48	-0.35	-0.29	-0.18	-0.07	0.03	0.12	0.42	0.62
Japan	-0.10	-0.11	-0.12	-0.12	-0.11	-0.10	-0.08	-0.07	-0.03	-0.01	0.03	0.09	0.28	0.69
France	-0.50	-0.69	-0.63	-0.66	-0.58	-0.47	-0.24	-0.22	-0.08	0.04	0.14	0.23	0.47	0.90
Belgium	-0.50	-0.68	-0.64	-0.68	-0.61	-0.50	-0.37	-0.23	-0.17	-0.06	0.05	0.20	0.33	0.87
Ireland	-0.50		-0.65		-0.60	-0.46	-0.34	-0.22	-0.12		0.00	0.26	0.45	0.87
Spain	-0.50	-0.59	-0.58	-0.60	-0.41	-0.36	-0.20	-0.01	0.08	0.26	0.38	0.52	0.95	1.33
Portugal	-0.50	-0.73	-0.72	-0.68	-0.65	-0.41	-0.31	-0.11	0.00	0.10	0.26	0.41	0.69	1.27
Italy	-0.50	-0.54	-0.46	-0.43	-0.18	-0.02	0.17	0.40	0.49	0.66	0.82	0.94	1.36	1.84
United Kingdom	0.10	0.03	0.59	0.70	0.75	0.79	0.86	0.86	0.93	1.04	1.13	1.20	1.39	1.44
Australia	0.10	0.01	0.11	0.17	0.72	1.02	1.17	1.34	1.47	1.58	1.72	1.79	2.19	2.59
New Zealand	0.50			1.74			2.09		2.28			2.50	2.72	
Canada	0.25	0.21	0.49	0.84	0.91	1.20	1.34		1.46			1.68		2.08
United States	**0.13**	**0.06**	**0.10**	**0.42**	**0.76**		**1.20**		**1.50**			**1.67**		**2.12**

Concept courtesy of @CharlieBilello https://www.biancoresearch.com

Real Interest Rates in the Developed World (Nominal Minus CPI)

As of 10/21/2021

Country	Inflation Rate	Policy Rate	6-Month	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year	15-Year	30-Year
Switzerland	0.90	-1.65	-1.64	-1.70	-1.66	-1.50	-1.37	-1.28	-1.22	-1.19	-1.09	-1.03	**-0.97**	-0.84	-0.84
Germany	4.10	-4.60	-4.80	-4.79	-4.75	-4.71	-4.63	-4.53	-4.46	-4.38	-4.35	-4.29	**-4.20**	-4.01	-3.83
Netherlands	2.70	-3.20	-3.38		-3.40	-3.31	-3.20	-3.11	-3.02	-2.93	-2.84	-2.75	-2.67	-2.45	-2.36
Denmark	2.20	-2.80	-2.82		-2.82			-2.56			-2.20		-2.04		-2.20
Finland	2.50	-3.00		-3.20	-3.13	-3.06	-2.97	-2.84	-2.77	-2.65	-2.56	-2.46	**-2.38**	-2.16	-1.96
Austria	3.20	-3.70		-3.85	-3.89	-3.80	-3.68	-3.55	-3.49	-3.38	-3.27	-3.17	**-3.08**	-2.78	-2.58
Japan	-0.40	0.30	0.29	0.28	0.28	0.29	0.30	0.32	0.33	0.37	0.39	0.43	**0.49**	0.68	1.09
France	2.20	-2.70	-2.89	-2.83	-2.86	-2.78	-2.67	-2.44	-2.42	-2.28	-2.16	-2.06	**-1.97**	-1.73	-1.30
Belgium	2.86	-3.36	-3.54	-3.50	-3.54	-3.47	-3.36	-3.23	-3.09	-3.03	-2.92	-2.81	**-2.66**	-2.53	-1.99
Ireland	3.70	-4.20		-4.35		-4.30	-4.16	-4.04	-3.92	-3.82		-3.70	**-3.44**	-3.25	-2.83
Spain	4.00	-4.50	-4.59	-4.58	-4.60	-4.41	-4.36	-4.20	-4.01	-3.92	-3.74	-3.62	**-3.48**	-3.05	-2.68
Portugal	1.48	-1.98	-2.21	-2.20	-2.16	-2.13	-1.89	-1.79	-1.59	-1.48	-1.38	-1.22	**-1.07**	-0.79	-0.22
Italy	2.50	-3.00	-3.04	-2.96	-2.93	-2.68	-2.52	-2.33	-2.10	-2.01	-1.84	-1.68	**-1.56**	-1.14	-0.66
United Kingdom	3.10	-3.00	-3.07	-2.51	-2.40	-2.35	-2.31	-2.24	-2.24	-2.17	-2.06	-1.97	**-1.90**	-1.71	-1.66
Australia	3.80	-3.70	-3.79	-3.69	-3.63	-3.08	-2.78	-2.63	-2.47	-2.33	-2.22	-2.08	**-2.01**	-1.61	-1.21
New Zealand	4.90			-4.90	-3.16			-2.81		-2.62			**-2.40**	-2.18	
Canada	4.40	-4.15	-4.19	-3.91	-3.56	-3.49	-3.20	-3.06		-2.94			**-2.72**		-2.32
United States	5.40	-5.28	-5.34	-5.30	-4.98	-4.64		-4.20		-3.90			**-3.73**		-3.28

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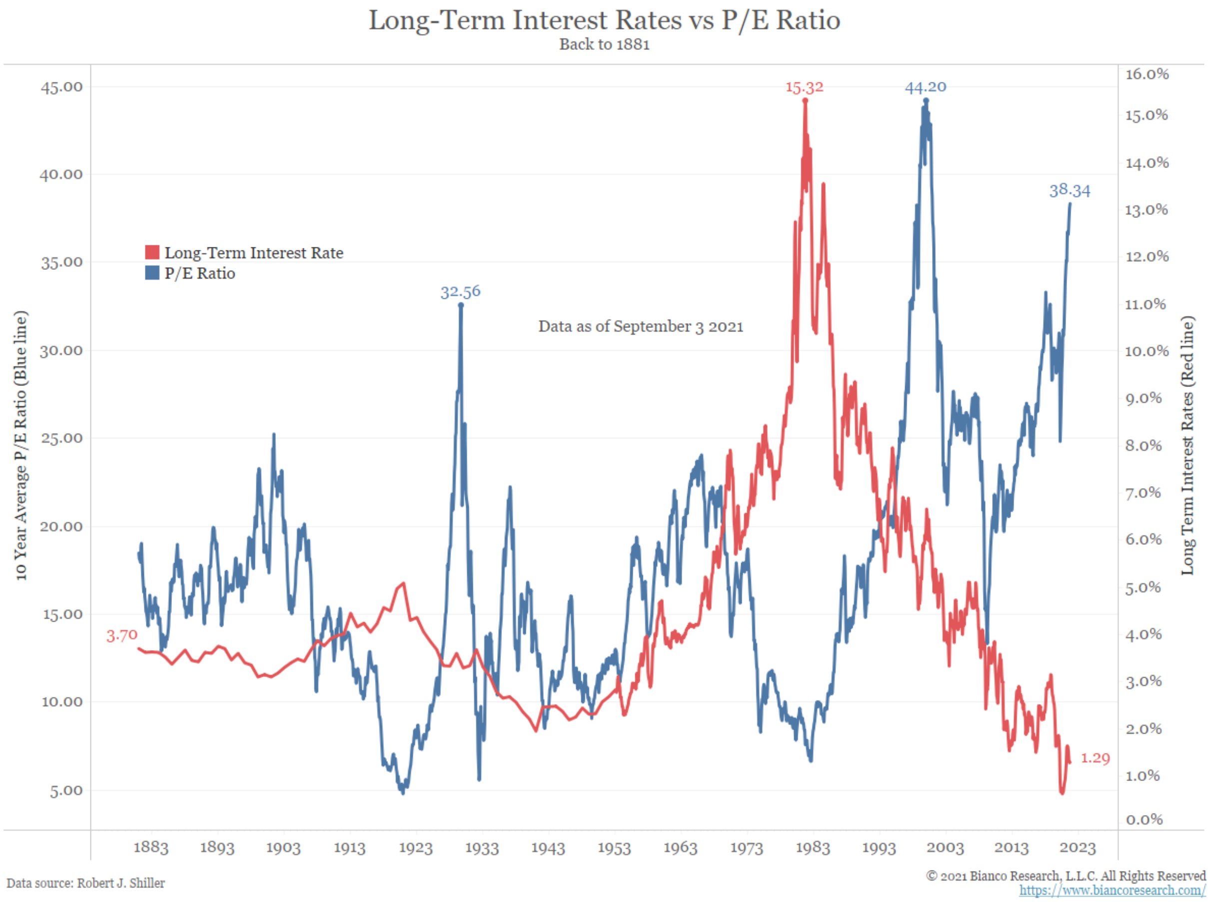
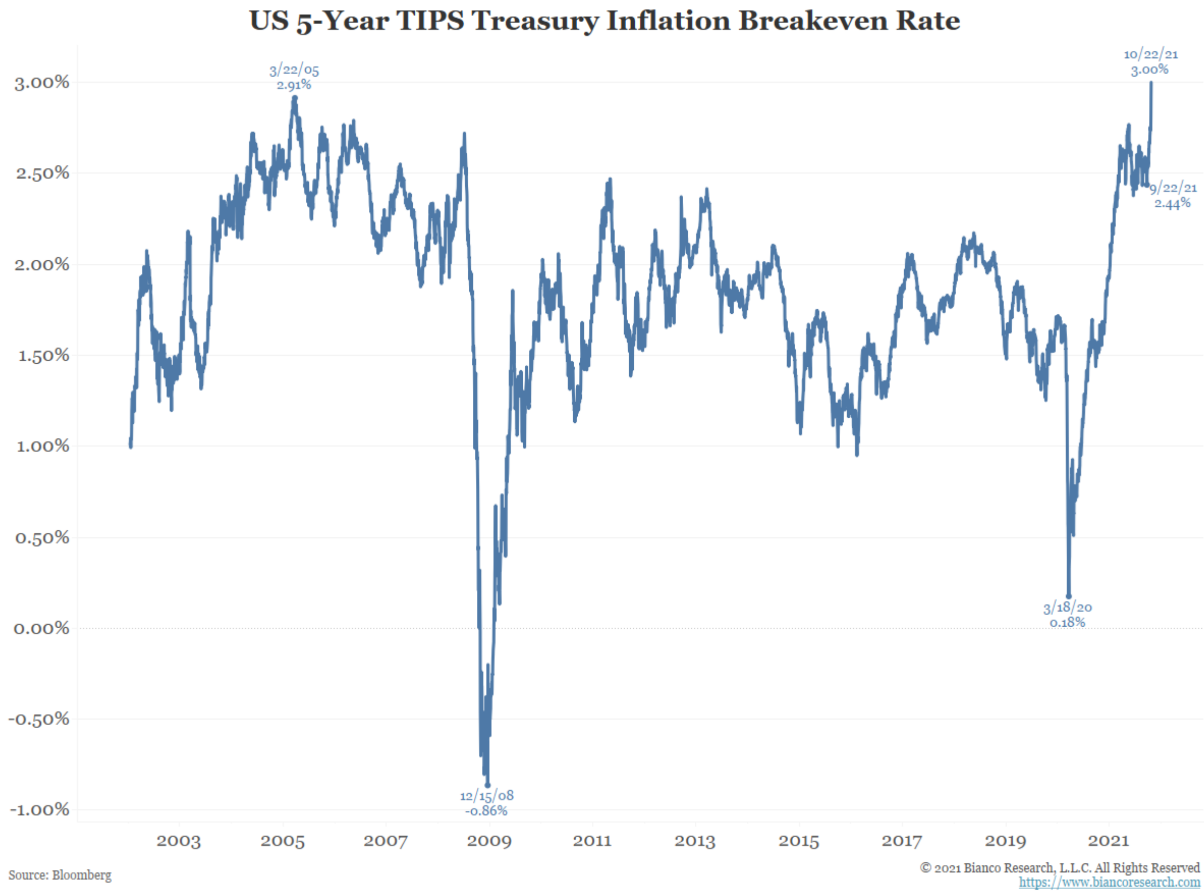
LT Outlook: A Look at PE Ratio and Rates



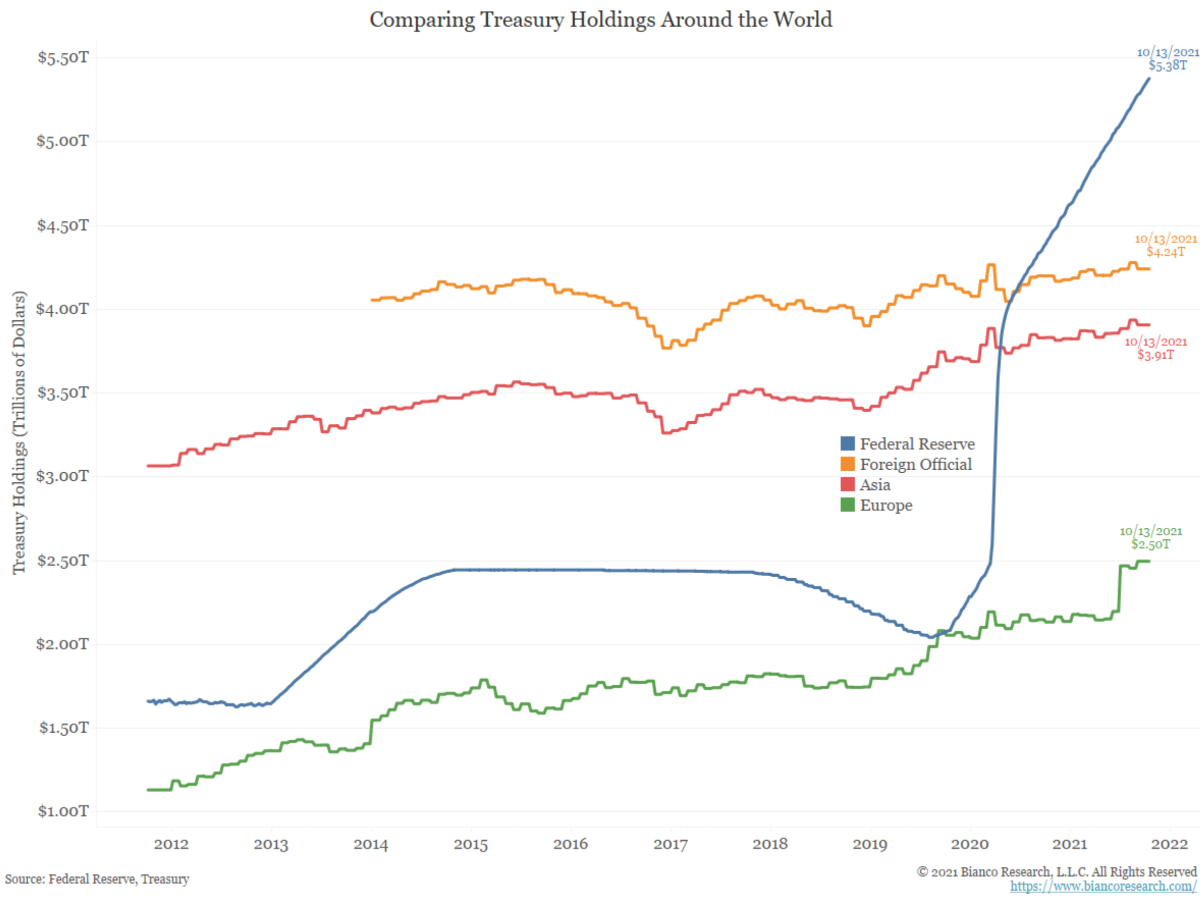
Weekly Research Roundup

Below are selected charts and excerpts highlighting some of the research we have published recently.

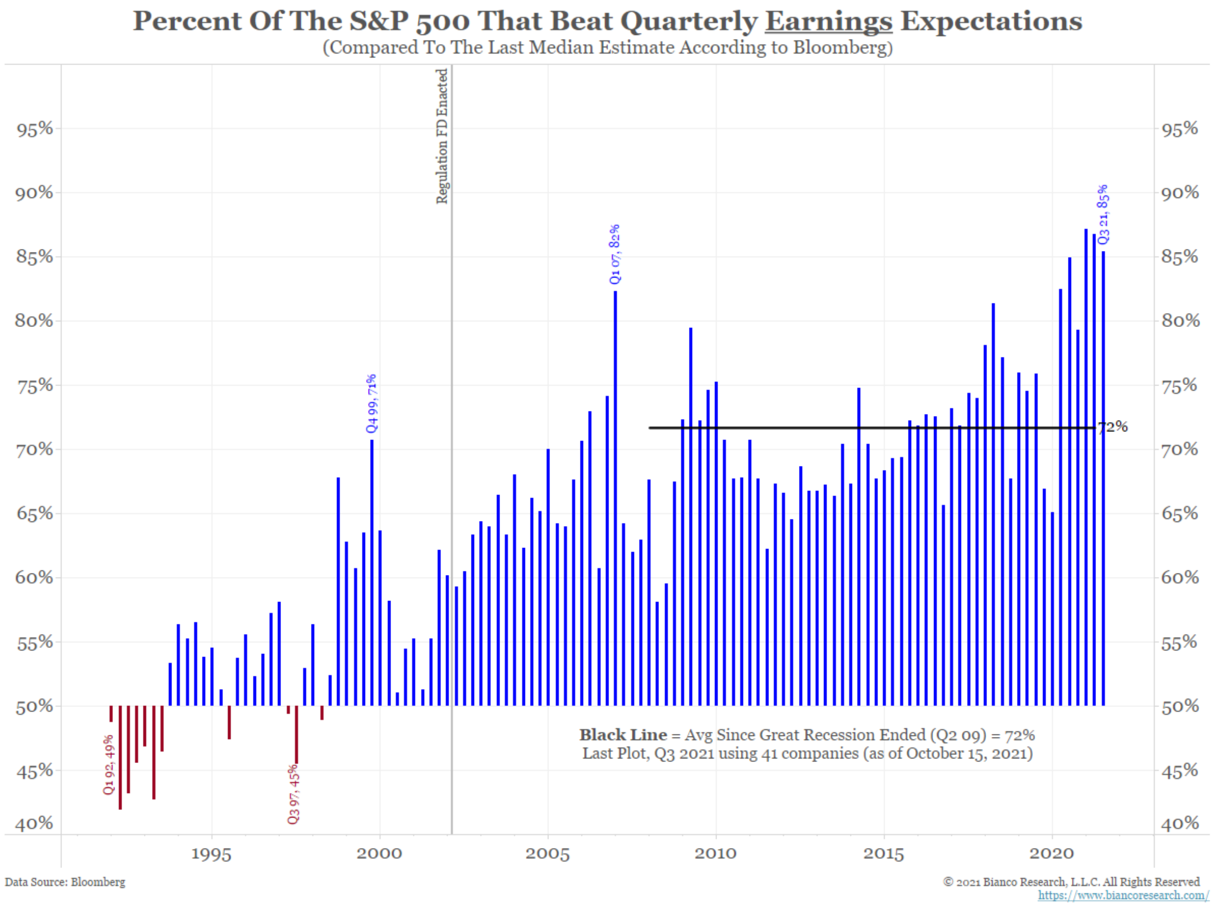
Exactly a month ago (September 22), the 5-year BE was 2.44%. Now it is 56 bps higher. Exactly a month ago, Powell made it clear in his presser that the taper was coming in November. One month ago the 10-year was 1.30%. The next day the bond market got smashed and yields broke out (horizontal red line below). A month later yields hit 1.70%. In the last month, the 10-year is averaging a 10 bps rise per week. **(Original post published on October 22, 2021)**



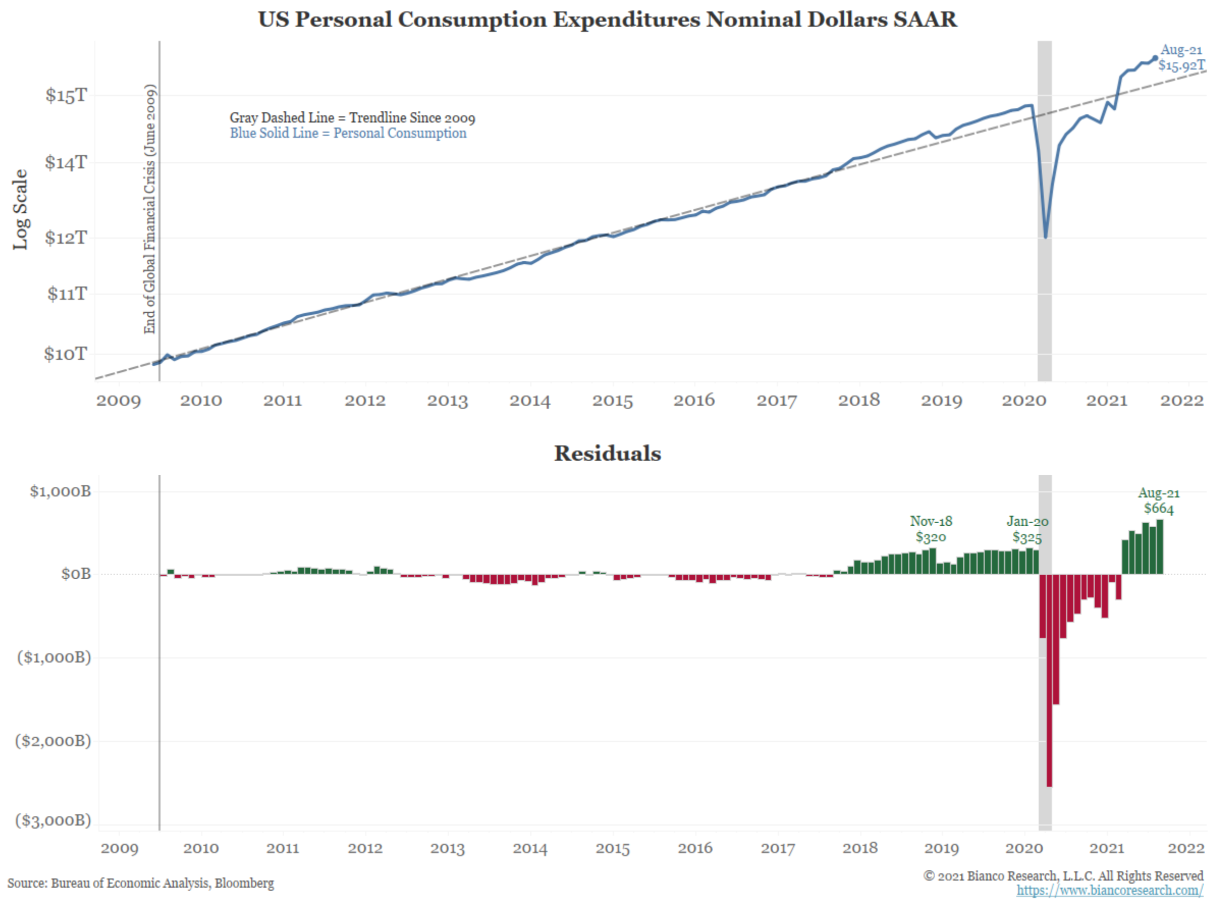
As the Federal Reserve threw the kitchen sink at the markets in order to keep U.S. dollars flowing around the world, their holdings of Treasury securities have grown astronomically. Because these numbers have become difficult to comprehend, the chart below compares the Fed's Treasury holdings (blue) versus other regions/entities around the world. As a note, Fed data is current through mid-October while the Treasury's TIC data is only current through the end of August. There were times in the past when the Fed's holdings would have been comparable to those of China or Japan. Now, however, they hold more Treasuries than 'Foreign Officials', aka all other central banks around the world! **(Original post published on October 19, 2021)**



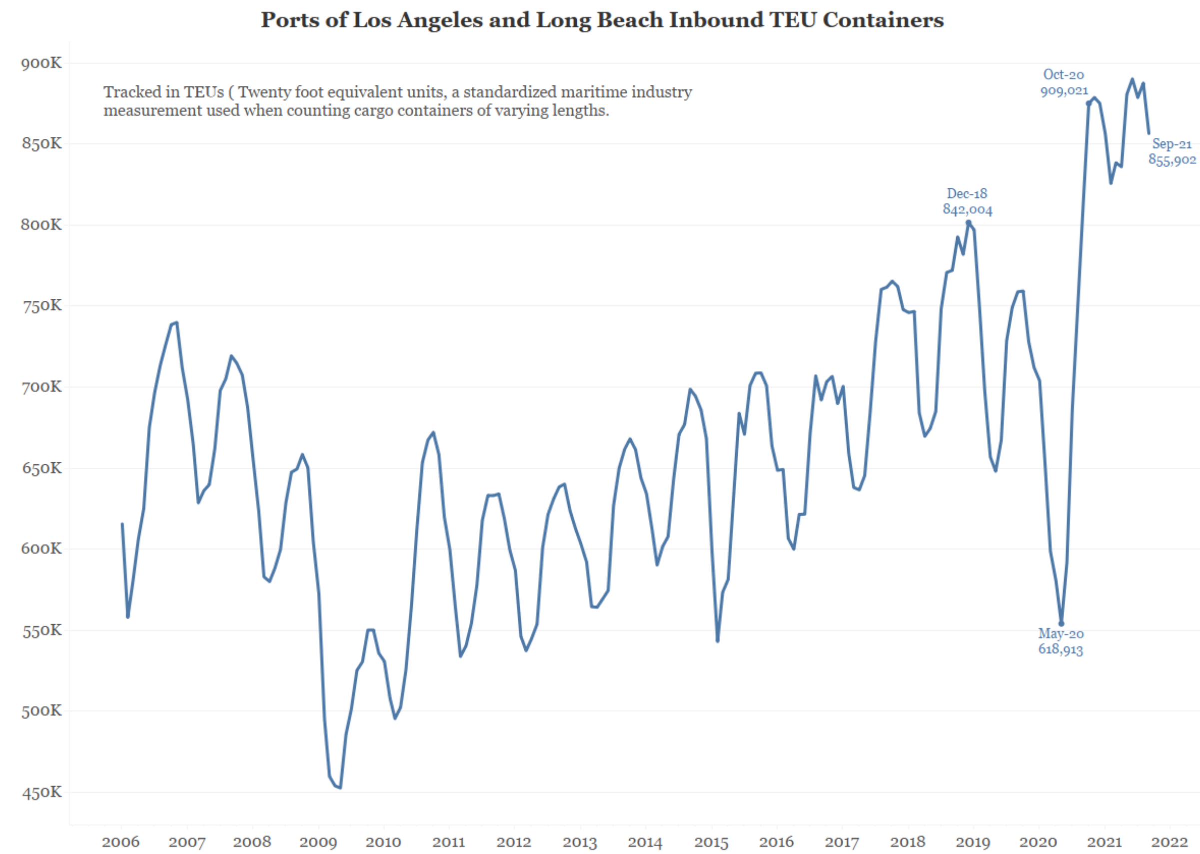
With only 41 companies in the S&P 500 reporting so far, we might not have a clear representation of what is to come. That being said, the beat rate of the 41 companies that have reported earnings stands at 85% for Q3 2021. **(Original post published October 18, 2021)**



Last week we noted the supply chain is running at capacity and cannot keep up with overstimulated demand thanks to the fiscal and monetary policy of the last 18 months. This suggests the fix is not expanding supply, which would be hard in the short term, but raising prices high enough to reduce demand. Below we show more detail of the boom in demand. The chart below shows U.S. personal consumption (blue line) and its trend (note the top panel is a log scale). The bottom panel shows how far above or below expenditures are versus their long-term trend. Consumption is running the most above trend in the period shown, by $664 billion. **[(Original post published on October 18, 2021)]()**



And why is the supply chain running at full capacity? After 18 months of fiscal and monetary stimulus worldwide, demand has outstripped the supply chain's capacity. The chart below shows the focal point of the global supply chain's problems, the Los Angeles and Long Beach ports. Collectively they unload just under one million containers a month. For the last year, they have been running at record rates. In other words, they are running as fast as they can. **(Original post published on October 15, 2021)**



Data Source: Bloomberg, The Port of Los Angeles and Long Beach

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