BETTER MARKETS

BANKING REPORT

# Federal Reserve Policies and Systemic Instability: Decoupling Asset Pricing from Underlying Risks

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# INTRODUCTION[1]

While most of the media reporting and discussion on economics and the Federal Reserve ("Fed") is focused on how much, how fast, and for how long the Fed is going to raise interest rates to fight surging inflation and what the consequences might be, the focus also needs to be on the role of the Fed's prior actions in how we got here and in creating the serious risks we are facing. Without undertaking a frank, unbiased, and data-driven assessment of the Fed's prior actions, we risk repeating the same mistakes and putting the U.S. in a series of highly abnormal boom-and-bust cycles that are almost entirely driven by monetary policy.

In particular, the Fed's significant actions in the 14 years since the 2008 global financial crisis ("2008 Crash") decoupled asset prices from risk and ignited an historic borrowing and debt binge. Those actions created a significant set of financial conditions and risks that the Fed and other policymakers are dealing with today. Put differently, the Fed is in many ways fighting problems of its own creation. And considering the scale of the problems, it is very difficult to solve without some damage.

Indeed, the U.S. and the world are facing an unprecedented array of multiple, simultaneous, and consequential economic, financial, and geopolitical shocks that are causing significant volatility and stress in financial markets while straining consumers and businesses in the real economy. In this environment, the margin for error is vanishingly small. Even though the U.S. and some countries across the globe may beat the odds and get the policy responses right or only cause mild to moderate downturns, the likelihood of a financial and/or economic crisis over the coming years is still high. That's in part why the "global economic warning lights are flashing red" and why the IMF warned that "the worst is yet to come."

The risks posed by these many macro issues would be significant for any normal economic cycle. But the last 14 years since the 2008 Crash have been anything but normal. Prior to the pandemic-induced market stress of March 2020 ("2020 Pandemic Stress"), the U.S. was having the longest economic expansion in its history[2] fueled by the ultra-accommodative zero/near-zero-interest rate and massive asset purchase policies of the Fed. And, when the 2020 pandemic crisis hit, the Fed increased and expanded those ultra-accommodative policies. Investors were strongly incentivized if not forced into riskier assets, leading to mispriced risk and a buildup of debt that now threaten to make the potential fallout from any macro issues catastrophic.

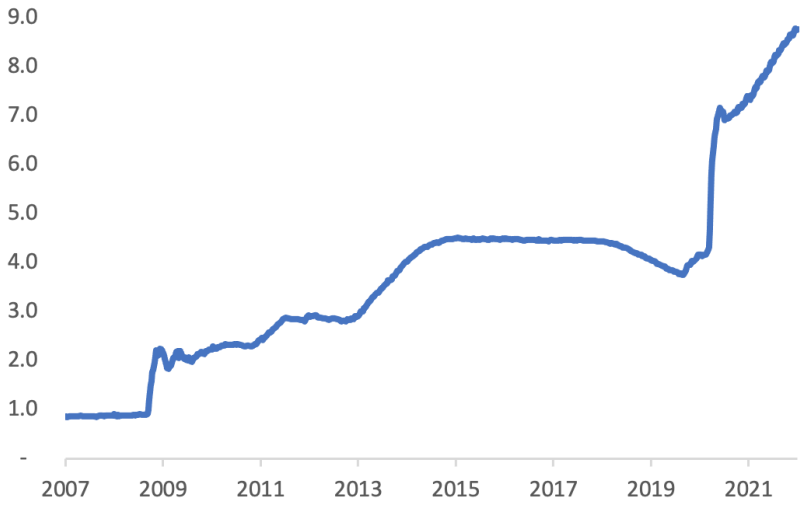
That is, the scale and scope of risks facing policymakers today didn't start with the 2020 Pandemic Stress or Russia's attack on Ukraine in 2022. It started with the Fed's overly accommodative policies that were initially conceived of, launched, and implemented in response to the 2008 Crash with few if any reasonable checks along the way assessing risk taking, moral hazard, mis-formation and misallocation

[1] This Report builds on a Fact Sheet Better Markets released on December 12, 2022: Today's Federal Reserve's Actions Can Only Be Understood in Light of Its Policies From 2008-2022.

[2] Despite a general economic expansion, not everyone benefitted equally. In fact, wealth inequality increased much more quickly for several years after the 2008 Crash than it had been increasing prior to it. This increase in wealth inequality most materially affected Black and Hispanic Americans.

of capital, or other collateral consequences. The federal funds rate was near zero for nine of the last 14 years and, until around mid-2022, otherwise at historic lows. Asset purchases intended to depress longer-term rates ("Quantitative Easing" or "QE") expanded the Fed's balance sheet nearly five times to $4.4 trillion prior to the 2020 Pandemic Stress, after which it added an astonishing $4.5 trillion more, almost doubling its balance sheet again to a shocking $8.9 trillion.

**Figure 1: Federal Reserve Total Assets ($T)**




*Source: Federal Reserve data release H.4.1*

Such unusual and substantial actions cannot be taken without many consequences, some intended, others not. While not often mentioned—or more often ignored—monetary policy and financial stability are deeply interconnected, and more so in the current rapid and historically large so-called "pivot" in monetary policy, which is just a euphemism for completely reversing course. When monetary policy is as highly accommodative as it has been, there is abundant liquidity from the Fed's flooding the financial system with cash as well as easily available credit. Indeed, that is one of the Fed's main goals of lower rates and purchasing assets like Treasuries and asset backed securities. However, it also results in much greater risk taking, dramatic increases in moral hazard, and significant debt buildup that, if not addressed, can lead to financial stability issues.

It is critical, therefore, that policymakers increase financial stability measures, including much more extensive monitoring, as a counterbalance to such dramatic monetary policy actions. Unfortunately, the Fed has focused more on the short-term effects of its actions than the longer-term implications (a mistake it seems to be making again as it works to address inflation). On top of that, financial stability rules and oversight tools were weakened during the Trump era. That is a combustible mix that multiplies risks while lowering the ability and flexibility to identify and respond to risks when they materialize.

As monetary policy rapidly shifts to a potentially new era that will begin with a much higher federal funds rate compared to the near-zero policy, the risk-taking and debt buildup from the prior era will pose significant financial stability risks that threaten to cause catastrophic damage. Understanding the Fed's central role in how we got here is critical to thinking through these issues and reducing the likelihood of such catastrophic damage materializing.

# THE FED'S POST-CRASH ACTIONS

## Fed Actions Caused Risk Mispricing and Debt Buildup by Making Credit Unusually Cheap and Incentivizing—or in Some Cases Rewarding—Indiscriminate Risk Taking

Now that the U.S. is dealing with historically high, persistent inflation, there has been much talk about the Fed not raising rates soon enough after the 2020 Pandemic Stress. While this is a material issue in the context of the rise in inflation, the bigger, more macro issues are that:

- The Fed kept rates too low for too long since the 2008 Crash, and
- The massive asset purchases of QE in response to the 2008 Crash and 2020 Pandemic Stress were too large and lasted for much too long.

These policies resulted in an historic buildup of debt even prior to the 2020 Pandemic Stress. This buildup was then greatly exacerbated by the Fed's immense pandemic-related actions that also incentivized massive investor flows into riskier assets that led to significantly mispriced risk across all assets.

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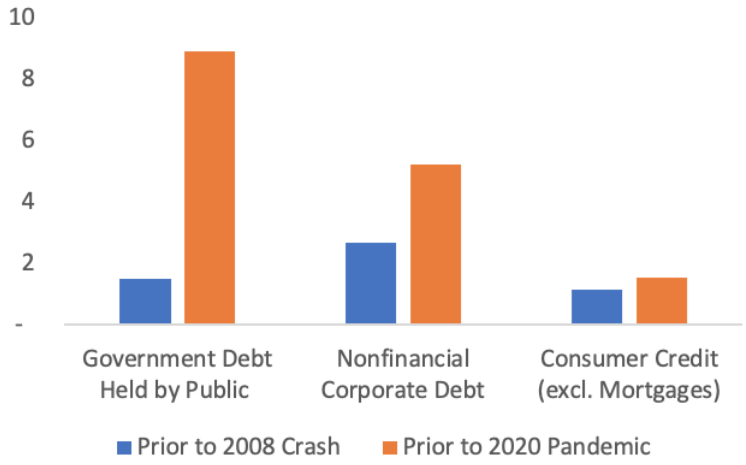
In the years after the 2008 Crash, there was a "culture of debt" in large part due to the Fed's zero to near-zero interest rate policy and large-scale asset purchases. Historically low borrowing and funding costs across all maturities drove significant increases in debt at all levels, from the government to consumers. Indeed, the increase in debt during the 10-year period prior to the pandemic was significantly larger than during the 10-year period prior to the 2008 Crash.

Comparing the pre-pandemic period to the pre-2008 crash period:

- The growth in U.S. debt held by the public was nearly 500% larger;
- The growth in nonfinancial corporate loans and debt securities was around 90% larger; and
- The growth in consumer credit—excluding mortgages—was around 30% larger.

**Figure 2: Growth in Types of Debt over Respective 10-Year Periods ($T)**

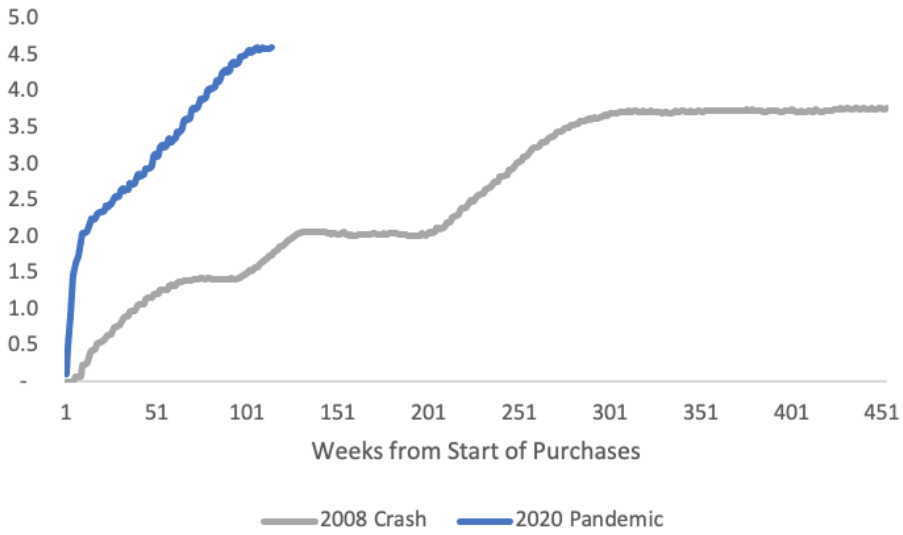



*Source: Federal Reserve data release Z.1*

This pace of debt growth likely would have continued if not for the disruption of the 2020 Pandemic Stress, which at the time seemed it would shut down financial markets and the economy and effectively stop the growth of debt. But instead—with the Fed's return to a zero-interest rate policy and large-scale asset purchases that significantly increased in both pace and scale compared to the 2008 Crash—the debt growth post-2020 Pandemic Stress was greatly accelerated. In just the last two and a half years the same measures of U.S. Government, business, and consumer debt have grown by around 30 percent, 15 percent, and 10 percent, respectively.

To illustrate the immense pace and scale of the Fed's pandemic-related actions, it purchased $2.1 trillion of Treasuries and MBS ***in just the first 90 days*** after the 2020 Pandemic Stress, an amount that took nearly four years for the Fed to purchase after the 2008 Crash. In the two years of pandemic-related QE, the Fed purchased $4.6 trillion of securities, $800 billion more than it did in over 8.5 years after the 2008 Crash.

**Figure 3: Total Fed Purchases of Securities in Response To the 2008 Crash and 2020 Pandemic ($T)**



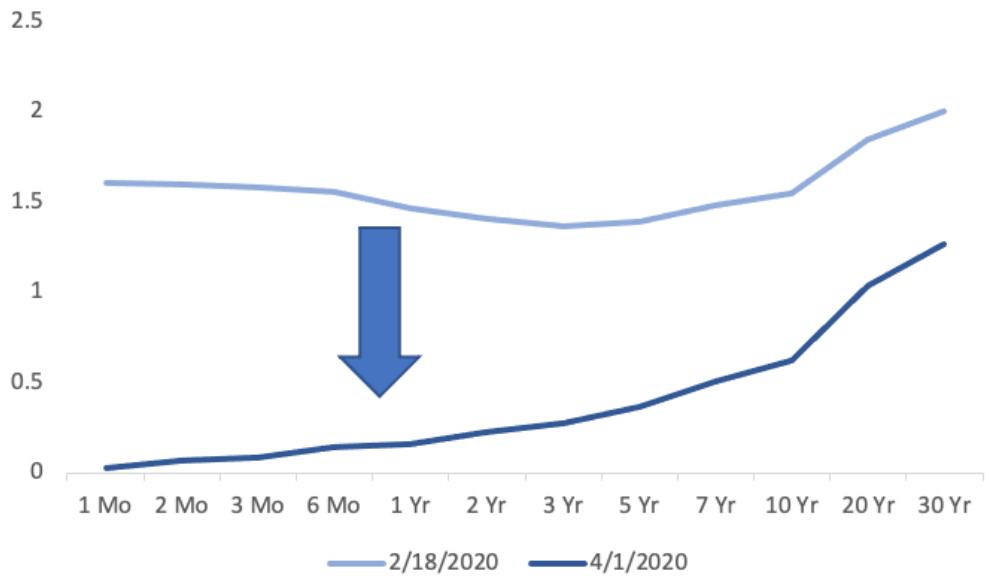

*Source: Federal Reserve data release H.4.1*

Many have found it remarkable that the Fed only stopped its pandemic-related QE in March of 2022, two full years after the pandemic hit. That was despite multiple factors, warning signs, and, indeed, red flags that should have given pause (discussed more below).

This incredible flood of liquidity not only accelerated the buildup of debt but also further distorted financial markets by incentivizing even more risk taking, which was already at all-time highs. Because the Fed's actions are executed through the financial markets, they have the most immediate and significant impact on those financial markets. In this context the Fed's actions had the predictable impact of driving Treasury and MBS yields lower across all maturities and leading to a classic "reach for yield" by investors. That is, because financial returns on assets had been lowered, investors were willing to take on more risk to potentially make the financial returns they wanted.

In fact, in just 45 days—from mid-February to the end of March 2020—Treasury yields were reduced by an average of around 75%. The reduction was especially large—an average of 94%—for short-term Treasuries of one year or less (so-called "Treasury bills") because the Fed purchased a significant amount of these securities. Through the end of 2022, the Fed had an average balance of Treasury bills equal to nearly 8% of the total outstanding amount held by the public, something it did not do after the 2008 Crash.

**Figure 4: Yields on U.S. Treasury Securities on Select Dates**




*Source: U.S. Department of the Treasury*

That meant that an investor seeking an annual return of about 1.5% in February 2020 could invest in a 1-month Treasury bill. However, just 45 days later, 1-month Treasury bills had a return of near-zero. Indeed, that same investor seeking that same return in April of 2020 could not get that 1.5% annual return by investing in any Treasury security. Therefore, that investor was forced to invest in assets riskier than Treasuries to even get a 1.5% return. Of course, many investors sought returns higher than the risk-free Treasury rate, meaning they were all forced into much riskier assets.

The effect of pushing investors into this reach for yield was compounded by the fact that the Fed's asset purchases also removed massive amounts of safe assets from markets and onto its balance sheet at a very rapid pace and replaced them with cash in the hands of investors that had to be reinvested. With fewer safe assets to purchase and lower yields, investors had no choice but to turn to riskier assets and "reach" for yield much further out on the risk spectrum than they have before. As noted, this was especially true for investors that typically held shorter-term assets.

Additionally, the Fed's so-called special facilities greatly increased the incentives for market participants to ignore the risks of their actions because they believed, based on the Fed's prior actions and current statements, that the Fed would just bail everything out (i.e., the so-called Fed "put" dramatically increased moral hazard). These facilities, such as the facility used to support failing money market funds, were used in both the 2008 Crash and the 2020 Pandemic Stress by the Fed to temporarily enter certain markets and basically bail them out. However, they were expanded in scale and scope in response to the 2020 Pandemic Stress by adding facilities to backstop corporate bond markets, effectively guaranteeing investors would not lose money across the spectrum of types of debt securities.

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This unprecedented combination of factors distorted markets and allowed even the riskiest companies to sell debt and raise funding at historically low rates.

## This is the key, unspoken point: the scope and scale of actions by the Fed since the 2008 Crash decoupled the relationship between asset pricing and asset risk.

The interest rate yields of debt securities above risk-free Treasury rates—the so-called "spreads" of debt securities—are supposed to reflect risk: the riskier the debt, the higher the interest rate to compensate investors for the additional risk and therefore the bigger the spread between that rate and the risk-free rate. However, the Fed's actions distorted and, indeed, undermined this critical relationship. The Fed drove down spreads materially regardless of the underlying risks. That is, with the Fed pushing down the risk-free rates while at the same time flooding trillions of dollars into the financial system and removing the safest assets, the Fed forced more dollars to flow into riskier assets.

As a result, the cost of credit was greatly reduced, and the availability of credit was greatly increased. The "risk per dollar" that is reflected by spreads decreased even though the underlying actual risk profile and financial viability of debt issuers almost certainly materially decreased. For example, in 2021 spreads on junk bonds (i.e., the bonds of companies that are of the worst credit quality and therefore have the highest risk and should have the highest interest rates) reached lows not seen since 2007, just before the 2008 Crash.

**Figure 5: Spread on CCC and Lower Rated Corporate Bonds (basis points)**


*Source: ICE BofA CCC & Lower US High Yield Index Option Adjusted Spread*

Not only that, with so much money in the financial system, there was demand for even more debt of all types, including the riskiest debt. Average issuance of high yield debt in the six quarters after the 2020 Pandemic Stress was double the average of issuance in the three years prior that. Clearly illustrating the effects of Fed policies, issuance of high yield debt has plummeted since the Fed started to raise rates and reduce the size of its balance sheet.

**Figure 6: Issuance of High-Yield Bonds ($B)**


*Source: White & Case "Debt Explorer" with data provided by Debtwire Par*

And it was not just debt securities that were affected. Risk across the spectrum of assets became mispriced. The Fed's policies creating excess liquidity, a shortage of safe assets, and moral hazard essentially pushed Treasury investors into investment grade corporate bonds, investment grade investors into high yield bonds, high yield investors into equities and commodities, and equity investors into cryptocurrencies and other digital assets.

In its own Financial Stability Report from November 2021, even the Fed highlighted issues in the markets of "risky assets," stating that

> *"in some markets [for risky assets], prices are high compared with expected cash flows."*

The Fed, however, never acknowledged the critical role its own policies played in increasing the disconnect between asset prices and real financial conditions. Specific to debt securities, the Fed report also observed

> "The excess bond premium, which is a measure that captures the gap between corporate bond spreads and expected credit losses, declined further from its level in May 2021 and now stands at the bottom decile of its historical distribution, suggesting elevated appetite for risk among investors."

*The Fed was injecting so much money so fast into the financial system that financial institutions could not find enough uses for the cash.*

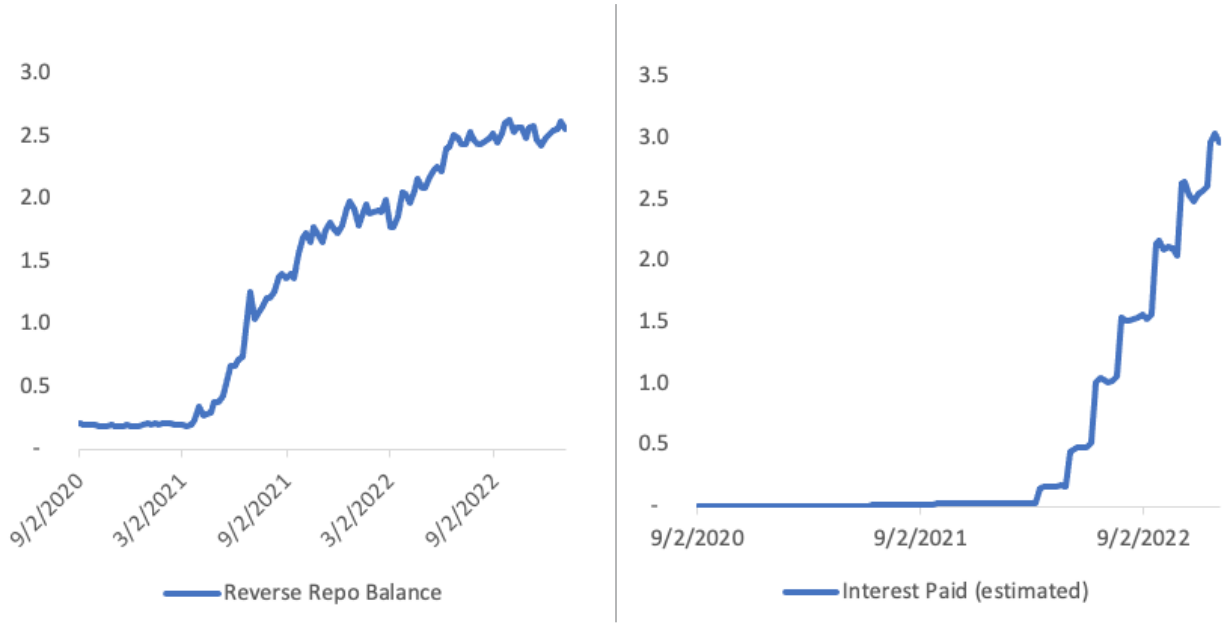
Again, the Fed's report was silent as to its role in causing these historic conditions.

Further illustrating the level of financial market distortion caused by the Fed's pandemic-related policies was the use by market participants of the Fed's reverse repurchase facility ("RRP" facility), which it officially established at the end of 2015. This facility allows a highly select, very small group of financial institutions[3] to park cash at the Fed overnight in a temporary exchange for Treasuries. Because the Fed pays interest to the financial institutions that use this facility and because it can be used every day, it essentially serves as a deposit account for large financial institutions at the Fed, including institutions that don't have access to actual Fed accounts, such as money market funds.

Put differently, the Fed was injecting so much money so fast into the financial system that financial institutions could not find enough uses for the cash. As a result, rather than keep that mountain of unused excess cash in their own accounts, they deposited the very cash that they got from the Fed at the Fed, which then paid them interest on that cash. The Fed literally was just sending those financial institutions piles and piles of free money. Unsurprisingly, as the Fed increased the interest rate it paid on deposits in the RRP facility, the use by those large financial institutions of the facility exploded, increasing to around $200 billion at the end of 2020, and currently sitting around $2.5 trillion.

[3] The criteria to be eligible for the Federal Reserve's reverse repurchase facility as well as the current list of counterparties can be found on the website of the Federal Reserve Bank of New York, available at https://www.newyorkfed.org/markets/rrp_counterparties.

**Figure 7: Balance of Reverse Repurchase Agreements at the Federal Reserve ($T) and Estimated Interest Paid to Financial Companies ($B)**




*Source: Federal Reserve data release H.4.1*

Chair Powell attributed this ballooning use of the Fed's RRP Facilities to "a shortage of safe, short[-term] assets." However, ***again***, he did not acknowledge that the Fed caused this shortage by massively increasing demand for the RRP Facility by its own liquidity injections into the markets, by increasing the rate of interest it was paying on those deposits, and by holding about $300 billion of short-dated Treasury bills on its balance sheet (highlighted above). *Therefore, the Fed was pumping trillions of dollars into financial markets and limiting the supply of safe assets on one side of the market and siphoning out trillions of dollars from financial markets through its RRP facility on the other side.*

This was a clear sign that there simply was way too much liquidity in the markets, which were significantly distorted due to the Fed's actions which decoupled risk from prices. Yet, remarkably, the Fed gave no indication that these distortions were due to its policies or that it was considering the costs and consequences of such policies.

# ENTRENCHMENT OF POLICIES


## The Fed Ignored the Adverse Effects and Warning Signs of Its Policies

The Fed was so focused on keeping its monetary policy actions "accommodative" and on short-term financial market conditions, it ignored the medium- and longer-term adverse effects of its policy actions as well as multiple warning signs in the analysis of how long and to what level its actions should proceed. This more short-sighted assessment process resulted in an entrenchment of its overly accommodative stance that led to significant risks the economy and financial markets face.

Even in the years after the 2008 Crash, the Fed did not fully appreciate the entrenching effects its policies would have on financial markets, businesses, and consumers. Indeed, in 2013 when the Fed merely announced that it *could* start reducing (i.e., tapering) its large-scale asset purchases—four and a half years after it began its purchases—financial markets reacted negatively by selling their Treasuries and thereby increasing market rates in anticipation of less Fed policy stimulus. This has been referred to as the so-called "taper tantrum."

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This was a direct result of the Fed's actions deeply distorting the markets as well as investor actions and expectations: investors had become used to the Fed being the single largest buyer in the Treasury and MBS markets; banks had become used to having excess reserves and the flow of free money the interest payments on them provided; and businesses and consumers had become used to cheap debt. In response to the taper tantrum, the Fed reversed its decision to taper, doing the opposite of its original plan. It continued expanding its balance sheet, which continued the buildup of cheap debt and further entrenched the effects and expectations of its policies.

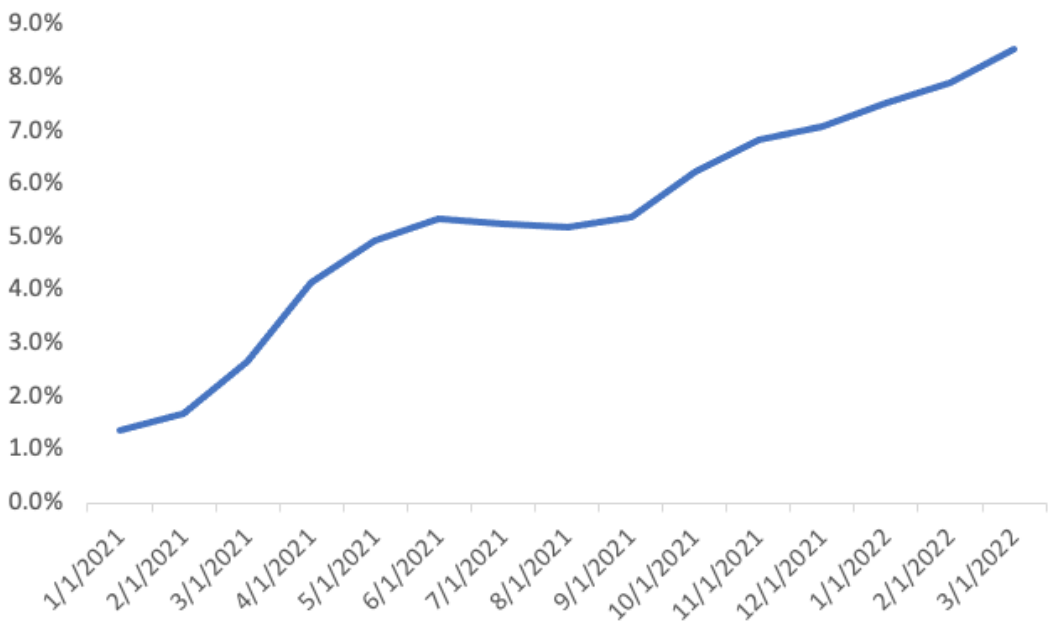
This entrenchment was again evidenced just prior to the 2020 Pandemic Stress. The Fed decided again to try to "normalize" its policy in 2016 (similar to 2013) by gradually raising the federal funds rate from near zero to around 2.4% over the following two years, i.e., by the end of 2018. It successfully did this, and rates remained at 2.4% until mid-2019. It also reduced its balance sheet by around $675 billion between mid-2017 and mid-2019. But by mid-2019 it became apparent once again that the era of cheap debt and abundant liquidity had become entrenched in the economy. As the economy faced headwinds from geopolitical events and slowing economic growth outside the U.S., aggregate demand pressures were soft despite the still-accommodative monetary policy, and inflation remained stubbornly low. The Fed then reversed course by reducing the federal funds rate by 75 basis points and increasing its balance sheet by $175 billion heading into 2020.

Because the economy was on a continuous upward trajectory and inflation was low, there was little if any assessment of what risks the substantial buildup in debt and entrenchment of cheap-and-abundant money would present in the long run. There was apparently no assessment of what the downside would look like in the event of an exogenous shock or another catastrophic financial or economic crisis. There was no margin for error in the policy stance. There should have been more reflection, assessment, and re-evaluation of the policy positions along the way.

This lack of assessment of adverse effects and downside risks was especially harmful with regard to the pandemic-related policies, which put the pre-pandemic policy stance into overdrive. With such dramatic actions, there should have been even more reflection and assessment than would have been appropriate after the 2008 Crash, but again little was in place and less was done. As it implemented its actions in response to the 2020 Pandemic, the Fed even ignored significant macro factors and warning signs such as:

- The Fed's flooding of markets with trillions of dollars was on top of trillions of dollars in fiscal spending (albeit some significant amount of that was replacement dollars due to businesses closures, i.e., not all the money was additional dollars), and
- Year-over-year inflation was double the 2% inflation target ***by April 2021***, passed 7% at the end of 2021, and was over 8% by the time the Fed stopped its QE activities.

**Figure 8: Year-over-Year Increase in the Consumer Price Index**




*Source: Bureau of Labor Statistics*

Also, considering the pace and scale of the Fed's actions, it was inevitable that at some point the Fed would have to reverse course on its policies, which in turn would lead to a change in investor risk appetite that would create material risks as assets were repriced. In its November 2021 Financial Stability Report, the Fed noted that

> "asset prices remain vulnerable to significant declines should investor risk sentiment deteriorate."

Remarkably, again, the Fed highlighted this risk as if its policies had—and would have—nothing to do with the deterioration of investor risk sentiment. The risks were clear, but the Fed's acknowledgment of their origin and attention to them was absent.

There should have been more consideration for the risks and adverse effects of its policies all along the way, including as it designed and implemented its asset purchase programs and backstop facilities. However, no conditions were put in place for the immense purchases of Treasuries and MBS. Additionally, while the Fed did design its special, temporary backstop facilities (discussed above) to have conditions that were intended to prevent certain adverse effects, these conditions ultimately had little effect. Furthermore, the Fed completely ignored the second-order adverse effects of their policies.

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The direct/first order effects of the Fed's actions were realized by the institutions that were directly provided liquidity or whose liquidity positions were supported directly, i.e., the first institutions that received the cash from the Fed's liquidity/backstops. For example, if the Fed purchased Treasuries from a hedge fund, that hedge fund was a direct beneficiary. The indirect/second order effects were realized by institutions that benefited from market-wide impacts that decreased the cost and increased the availability of credit.

For example, the mere announcements of the primary and secondary corporate credit facilities (which essentially made the Fed a buyer of corporate bonds thereby bailing out the debt of private corporations) in late March of 2020 virtually immediately reversed credit fund outflows and pushed spreads on investment grade and high yield debt down by approximately two thirds before the Fed even made its first purchases under these facilities. This so-called "announcement effect" clearly showed the value the market attributed just to the knowledge that the Fed was providing a backstop. In fact, despite committing $750 billion to the two corporate credit facilities, the Fed only had a maximum deployment of just over $14 billion. That is, the effects of this facility were almost entirely second-order.

**Figure 9: Investment Grade and High Yield Corporate Bond Spreads Before and After the Federal Reserve's Announcement of Its Corporate Bond Facilities (basis points)**


*Source: ICE B of A Indices Option-Adjusted Spreads*

As a result of these second-order effects, companies with low credit ratings and poor financial performance —and often even poorer prospects—were able to sell debt that they otherwise would not be able to or to sell more debt than they otherwise would be able to (as discussed above regarding high yield debt issuance). But there were also adverse first-order effects as well, especially from the large-scale asset purchases. For these purchases there were no criteria regarding the financial condition of the asset sellers, i.e., the Fed essentially could buy from any seller no matter how risky, leveraged, or irresponsible their positions were.

Thus, not only did the Fed incentivize unbridled risk taking by injecting trillions of dollars of liquidity, but it also effectively rewarded and, indeed, bailed out the most extreme pre-pandemic risk taking however irresponsible and predatory or even just poorly run. That includes so-called zombie companies with revenues lower than the interest payments on their then-current debt. The Fed literally kept those zombies alive and created many more.

The Fed failed to also focus on minimizing the adverse effects of their actions and only focused on maximizing benefits to financial markets. As noted above, the special facilities contained some conditions to reduce some of the first order adverse effects, but ultimately this was only in principle. For example, the two corporate credit facilities had criteria in place to ensure that debt being purchased through the facilities was from ostensibly good-quality issuers. However, these conditions were effectively meaningless considering that the Fed deployed only a small fraction of the committed amount due to the announcement effect, de facto implementing the policy without any conditions.

Thus, there was essentially no mitigation of first order adverse effects because (1) there was minimal impact of the conditions that were in place with the special facilities and (2) there were no conditions in place at all with the purchases of Treasuries and MBS to address first order effects. Therefore, the focus should have been on the second order effects.

The Fed should have been monitoring these adverse effects closely through financial conditions and macroeconomic factors to determine the extent of their impact. The Fed was performing regular assessments of the benefits of their actions—loosely defined as "accommodative" financial conditions—but they also should have been performing at least quarterly (if not monthly) assessments of the adverse consequences and adjusting their policies based on these assessments.

For example, they should have been asking questions such as:

- What are the implications of having the lowest spreads on high yield (i.e., lowest creditworthy) debt since 2007 (i.e., the bubble just before the 2008 Crash)?
- What could the adverse consequences be of having a growth in M2 money supply of $4 trillion between the end of 2019 and the end of 2020 and $6.3 trillion by the end of 2021, levels of growth that previously took 5.5 years and 8.5 years, respectively, prior to the pandemic?
- What are the implications of nonfinancial corporate credit outstanding (debt securities and loans) as a percentage of GDP averaging around 55% in 2020 and 50% in 2021, as opposed to an average of 47% in the two years prior to the pandemic?
- What do market signals mean when the annual issuance of high yield bonds in both 2020 and 2021 was nearly double that in the two years prior to the pandemic, with annual pandemic issuances of about $430 billion vs $210 billion prior to the pandemic?
- Are there risks building from an increase in commercial real estate lending even though office properties are at 40 percent of their pre-pandemic occupancy?
- Are consumers fully benefitting from all the excess liquidity if banks are using their massive increases in deposits and reserves to purchase securities instead of to make loans?

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The answers to any one of these questions very likely would have—and certainly should have—resulted in the Fed recalibrating its policies and slowing its policy actions so that they were tailored to the evolving facts rather than blindly continuing everything as if it was on autopilot. For example, the corporate credit facilities were in place until the end of 2020 and the money market mutual fund liquidity facility was in place until the end of March 2021, both well after these markets had returned to normal functioning. Additionally, as highlighted above, the massive purchases of Treasuries and MBS lasted until March of 2022.

The Fed also could have done more to mitigate the first order adverse effects. Most notably, the Fed could have put more conditions in place for the purchase of Treasuries and MBS. In its open market operations, it could have put conditions in place for its primary dealers to determine the financial state of the sellers of securities prior to making purchases. These conditions would have limited the amount of purchases of securities from sellers that were in a poor financial state by setting credit rating requirements or that had taken irresponsible, overly leveraged positions (e.g., hedge funds) by setting a maximum leverage threshold.

While this may have led to a lower overall market value and higher yield of Treasuries compared to the indiscriminate approach the Fed took, these conditions likely would not have lasted as the market figured out who the distressed sellers were. At that point those distressed sellers would have had to accept a discount on their sales and to make those sales to more creditworthy investors. Those more creditworthy investors then could have received the undiscounted market value from the Fed/its primary dealers. Including such calibrated conditions could have led to a similar outcome of accommodative financial conditions without directly bailing out some of the riskiest market participants engaged in the most predatory business activities, thereby limiting some of the first order adverse effects.

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Ultimately, instead of following a principle of "hope for the best, but plan for the worst," the Fed followed a principle of "hope for the best, plan for the best." That is, they left no margin for error with their policy actions both before and after the 2020 Pandemic Stress. Even if they thought their projections of economic conditions were valid, such as inflation being "transitory," economic and geopolitical forecasting is notoriously wrong, and so there is always a non-negligible probability that there will be downsides. They should have accounted for that in their policy decisions and actions, but they didn't. And this was in spite of the Fed's own missed forecasts for decades, before and after the 2008 Crash and before and after the 2020 Pandemic Stress.

# RISKS ARE BEING REALIZED

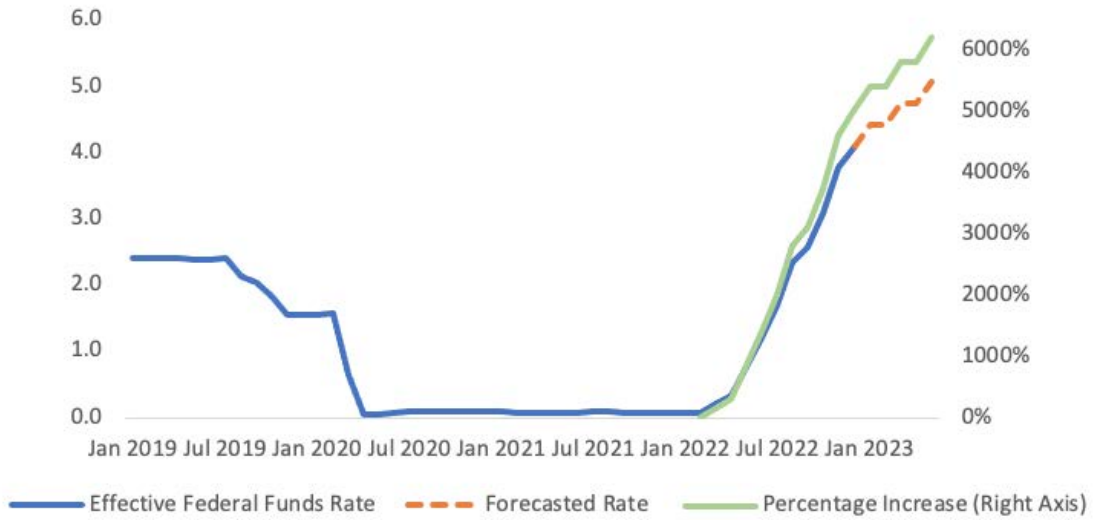
## The Risks from the Fed's Inflation-Related Policy U-Turn Are Rising

Now with the Fed moving quickly and forcefully in the opposite direction with their policy on rates and QE, spreads are arguably being "normalized," and asset prices have been collapsing and are starting to reflect more risk. This means investors can get greater returns on traditional, more creditworthy corporate bonds and other, less risky debt without having to "reach for yield." However, that also means there is a pull back of investors from riskier assets because there are fewer investors willing to take the risk of junk bonds and similar less credit worthy debts.

This is compounded by the fact that the Fed's new policies are intended to move significantly and quickly in the opposite direction of its pandemic-related policies with the goal of reducing business activity and employment, which may (and many think will) cause a recession. That means that there will be reduced economic activity, which would result in increased unemployment and reduced business activity and consumer spending (which is about 70% of GDP). That all increases the risk of debt restructurings if not defaults and bankruptcy of riskier businesses, driving their debt rates up even more, including to potentially unsalable and unsustainable levels.

If the most recently available median year-end projection by FOMC members from the December 2022 meeting of the effective federal funds rate is realized, the benchmark rate will be raised to 5.1 percent by this year from near zero just this past March, an astonishing 6,200% increase. Additionally, the Fed is now reducing its balance sheet by $95 billion per month, or $1.1 trillion per year. This will have the opposite effect of the massive floods of liquidity from the pandemic that were completed in March of last year.

**Figure 10: Actual and Forecasted Effective Federal Funds Rate (percentage points) and Percent Increase from February 2022 (percentage)**



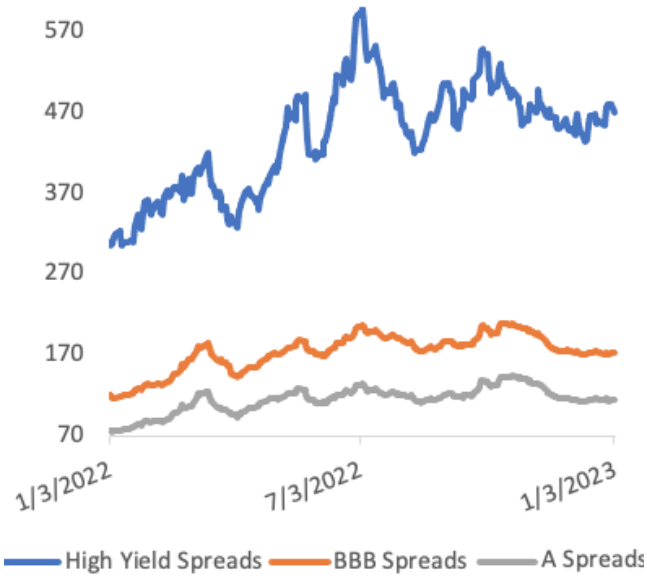

*Source: Board of Governors of the Federal Reserve System and author's calculations based on the Federal Open Market Committee's Summary of Economic Projections from December 2022*

**Figure 11: Actual and Projected Total Assets of the Federal Reserve System ($T)**


*Source: Board of Governors of the Federal Reserve System data release H.4.1 and author's calculations based on the Federal Open Market Committee's announced plan for Federal Reserve System balance sheet reduction*

The effects of the Fed reversal are already being realized and raising risks throughout the financial system and economy. The spreads on high yield securities have been rising rapidly and have increased 50% in the last year, more accurately reflecting the risk of the issuing companies, i.e., reflecting the re-coupling of price and risk. The same has been occurring with more creditworthy issuers, with spreads on BBB and A rated corporate bonds rising 44% and 49% respectively in the last year. This will affect the issuing companies who now have higher costs to service their debt as well as those who currently hold the debt of these companies, which is being significantly devalued.

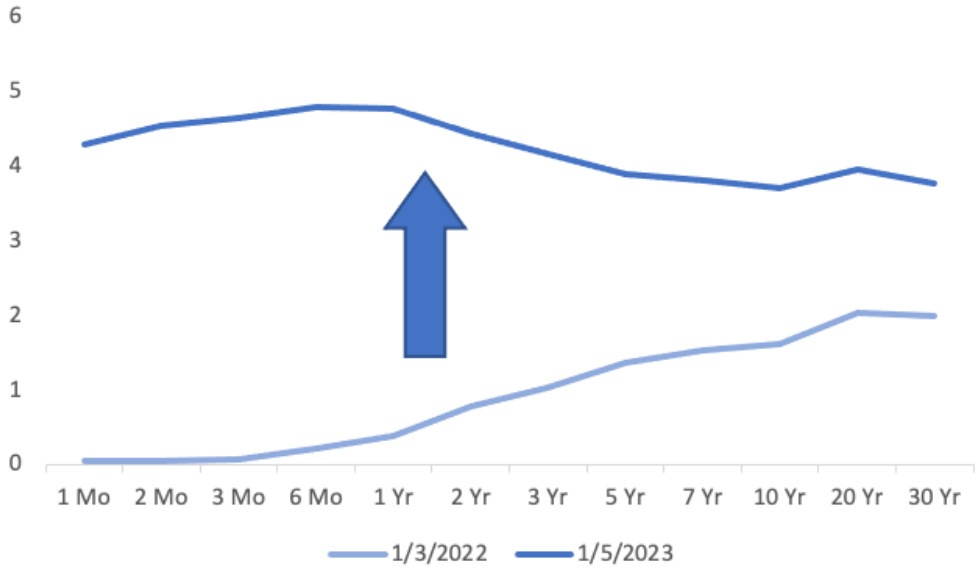
**Figure 12: High Yield and Select Investment Grade Corporate Bond Spreads (basis points)**




*Source: ICE BofA Indices Option-Adjusted Spreads*

Even for the most creditworthy borrowers the cost of borrowing overall has increased dramatically. In response to the Fed's rate hikes and balance sheet reduction, Treasury yields across the maturity spectrum have risen around 2,200% on average over the last year. These "risk free" rates set the basis for all borrowing costs. This will severely impact any consumer or business that must take out new debt or has existing debt based on variable rates, such as credit card debt and commercial real estate loans.

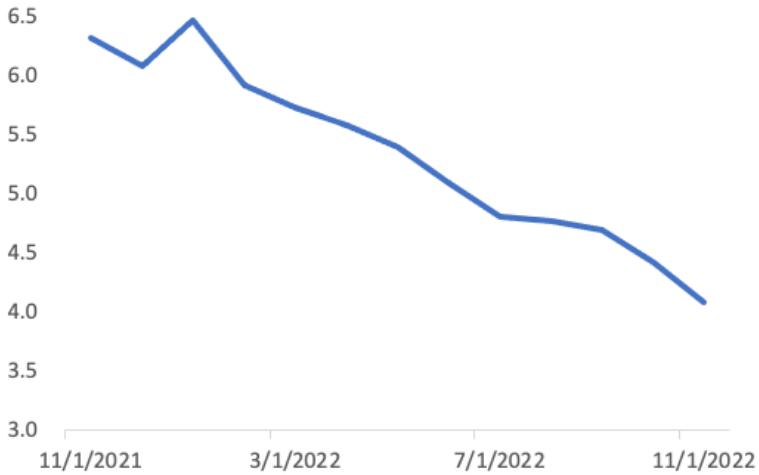
**Figure 13: Yields on U.S. Treasury Securities on Select Dates (percentage points)**




*Source: U.S. Department of the Treasury*

As with the effects of the 2020 Pandemic-related policies, debt securities are not the only assets that are being impacted. Loans are not only becoming more expensive, they are becoming harder to obtain for companies and consumers, especially for riskier borrowers and in key lending markets outside banks. As a result, defaults are expected to increase for the riskiest borrowers but soon after may increase for more creditworthy borrowers. Last year was the worst annual performance for stocks since 2008, with the S&P 500, Dow 30, and Nasdaq declining 20.0%, 9.4%, and 33.9% respectively. Initial public offerings were also down the most since 2008, and they are not expected to recover this year. Sales of existing homes have plummeted.

**Figure 14: Sales of Existing Homes (millions of units)**




*Source: National Association of Realtors*

## Risks to Debt Securities and Loans

The risk on debt securities and loans is being repriced at exactly the same time companies are going to have reduced demand (i.e., reduced risk appetite and reduced economic activity) – put differently, the willingness to take on risk is being dramatically reduced from two separate but reinforcing directions. The possible effects could be dramatic:

- Marginally profitable companies and those that aren't profitable at all (i.e., the many PE-stripped companies and other so-called zombie companies with revenues lower than the interest payments on their current debt) are likely to fall into bankruptcy or restructurings;
- Market participants that purchased their debt during the pandemic will face losses—a direct result of the Fed intentionally causing markets to misprice risk;
- The debt of even more reputable/creditworthy companies is also being re-priced as the result of the Fed's policy U-turn, resulting in mark-to-market losses for all debt holders (again, due to the Fed-induced risk mispricing); and
- Beyond debt securities, borrowers holding loans with variable interest rates are being materially affected as their borrowing costs significantly rise.
  - Most loans to businesses in the U.S. are based on variable rates.
  - Personal credit card balances have gone up recently and have reached pre-pandemic levels at the exact time the Fed is raising rates, which means that, although the balance amounts are the same as pre-pandemic, they will be subjected to significantly higher rates.

As these risks materialize, the financial stability questions include:

- As the Fed's policies push the economy closer to recession if not into a recession, how many companies of marginal/poor performance (e.g., zombie companies) will fail and what impact with that have on the financial system?
  - What is the extent of loans that will be "nonperforming"/defaulting or securities held as margin or otherwise that will be repriced?
- As junk and lower rated bonds are repriced (and more accurately reflect their risk both as a standalone and in light of the coming economic slowdown/recession), what will be the direct and knock-on impacts of as much as 500 or more basis point increases in rates?
  - What will be the impact on the banks?
  - What will then be the impact on the financial system?
- Rates for junk bonds/high yield debt increasing could be the first step in a dramatic wave reversing the risk mispricing/repricing, affecting the outstanding debt of companies further up the spectrum of creditworthiness and their ability to issue new debt.
  - What are the financial stability implications?

## Risks to Treasury and MBS Markets

At the same time, stopping QE and changing to quantitative tightening (QT), or reducing the size of the balance sheet, is disrupting the Treasury and MBS markets. That is, the Fed is stopping its active role in the private markets as one of the biggest buyers of Treasuries and MBS and allowing these securities to mature and "roll off" their balance sheet by $60 billion of Treasuries every month or $720 billion per year and $35 billion of MBS every month or $420 billion per year (i.e., more than $1.1 trillion a year).

- Who, if anyone, is going to fill the gigantic gap created on the buy side of the market and what are the implications of that?
  - This is being compounded by reports that other large, traditional buyers of treasuries are also pulling back.
- With uncertainty around the path of Fed policy and the economy, Treasury buyers are reluctant to buy for fear of "catching the falling knife" (i.e., debt securities that are declining in value and may decline significantly more), and so these markets are already out of balance with more sellers than buyers.
  - With this imbalance as the starting point, what are the financial stability implications and what happens if funding markets deteriorate more and widespread market stress materializes?
- While the largest increase in rates in 40 years is going to/has reduced home purchases and therefore the number of mortgages and MBS, there will still likely be an imbalance in the MBS market as well, albeit to a smaller unknown scale
  - What will be the impact of that?

## Risks in the Nonbank Shadow Banking Financial Sector

Also, we have repeatedly seen just how quickly financial conditions and markets can deteriorate, particularly in the short-term funding markets. As happened in the 2020 Pandemic Stress (and before that in 2008 Crash, but also with the taper tantrum in 2013 and repo market in 2019 as well as recently in the UK gilt markets, all of which required central bank intervention), investor confidence can evaporate quickly and ignite panic, causing liquidity crises (i.e., one sided markets) which spill over into other debt markets (and not just long-term debt markets), threatening to shut down the global economy.

Much of this panic and selling activity happens in the highly interconnected nonbank financial sector, which is broadly unregulated and nontransparent, which amplifies investors' concerns and can induce overreaction due to ambiguity/lack of information to size or price risk. Therefore, not only are there few financial protections, but there is also minimal data availability for market participants and regulators to see, much less understand or rationally react to, what is going on in the markets.

Given this lack of regulation, visibility and information, it is very likely that the Fed and other policy makers are missing significant financial stability risks.

# FINANCIAL DEREGULATION HAS EXACERBATED THE RISKS


The Fed's pandemic-related actions happened after years of deregulation during the Trump administration, which materially reduced the strength and resilience of and transparency in the banking system and made the nonbank shadow banking industry even more dark and dangerous.

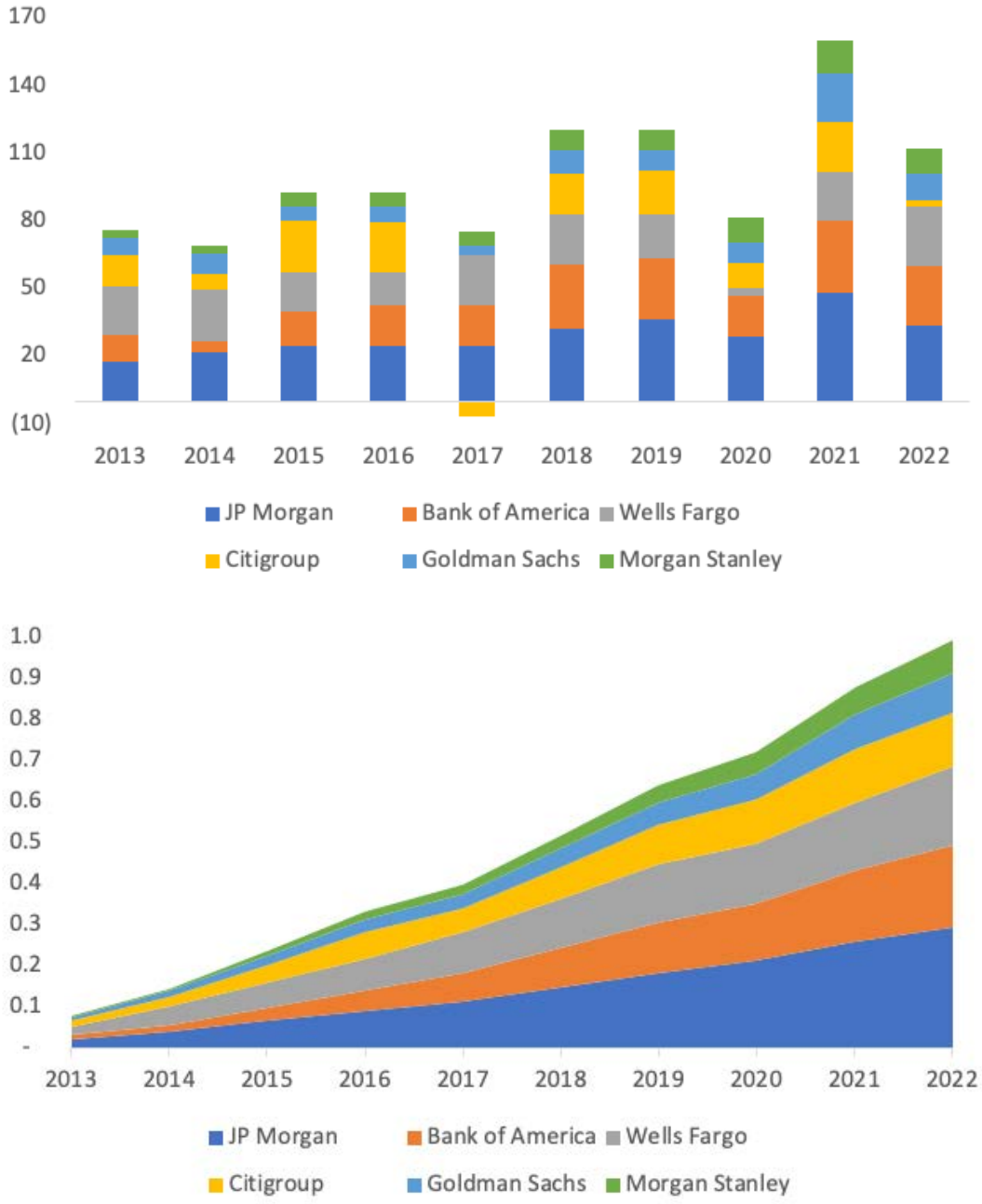
- Stress tests were made materially weaker:
  - The results of stress tests (all banks passing with flying colors all the time) are providing false comfort that the banking system is as strong and more resilient as it appears.
- Capital and liquidity requirements were lowered:
  - Capital and liquidity were reduced in a number of ways, including through the weakened stress tests that by extension reduce the stress-based capital requirements.
- Supervision was eased:
  - Regulators have less insight into what banks are doing and where the risks are.
  - Trump's regulators also explicitly directed supervisors to reduce the rigor of their oversight.
- The living wills/resolution planning process was weakened:
  - If a bank fails, the likelihood it will cause contagion is higher and, therefore, the likelihood of taxpayer bailouts is higher.
- Volcker Rule restrictions on banks' proprietary trading and investments in risky funds were eased:
  - Banks can now participate in more of both, increasing leverage and risk.

Additionally, although it has been said many times by Fed officials and others that banks were a "source of strength" during the market turmoil at the onset of the 2020 pandemic, that conclusion is materially incomplete and misleading at best. Banks really only needed to serve their role as a source of strength and market intermediaries for about two weeks before the Fed stepped in, flooded financial markets with trillions of dollars, and effectively guaranteed all markets.

In just the first 90 days, the Fed expanded its balance sheet by $3 trillion (which included the purchase of more than $2 trillion in Treasuries and MBSs that dramatically boosted banks' trading revenues and profits), provided tens of billions of dollars to banks' broker dealers, and backstopped the short-term funding markets that banks rely on heavily. On top of that, the Fed provided banks with regulatory relief that lowered the amount of capital they were required to have as part of their funding and Congress provided banks' customers with money that increased bank deposits and prevented defaults.

As a result of these many dramatic actions, banks' revenue and profits skyrocketed, smashing historic records. Thus, not only were they not a source of strength, but they were also unrivaled recipients of the Fed's largess. The six largest banks are estimated to have made $1 trillion over the last 10 years.

**Figure 15: Earnings of the Six Largest Banks Over the Last Ten Years ($B)**




*Source: Federal Financial Institutions Examination Council FR Y-9C report form for 2013 to 2021. Estimates for 2022 were obtained from the article Wall Street's Big Banks Score $1 Trillion of Profit in a Decade, Max Abelson and Hannah Levitt (December 26, 2022), Bloomberg.*

Given all this, it is all but certain the banks would not be a source of strength if the risks that are facing the economy and financial markets materialize and the Fed does not backstop all markets as it did in the 2020 Pandemic. The result, in that case, would be significant financial instability, revealing that the banks were not strong enough. Therefore, it is equally probable that the Fed would once again have to intervene to backstop and bail out the markets as they crashed, repeating the pattern since the 2008 Crash, and thereby even further exacerbating the current strained and risk-filled financial condition.

# CONCLUSION


As inflation continues to remain persistently high, the Fed continues to raise monetary policy rates, and flips from QE to QT, we move closer and closer to the potentially devastating realization of the risks created or amplified by Fed policies over the last 14 years. During that period the Fed ignored some of its own key principles and allowed significant risks to build up. With inflation persistently too low prior to the 2020 Pandemic Stress, the Fed was concerned with expectations of low inflation becoming entrenched just as it is now with its concerns around expectations of high inflation. But it gave far too little attention to the entrenchment of expectations around its ultra-accommodative policies among financial markets, businesses, consumers, and even the U.S. government. Similarly, although the Fed monitors and seeks to address risks to financial stability and the banking system, it simply failed to see—or didn't look or consider—itself as a potential source of those risks.

Through zero/near-zero rates and large-scale balance sheet activities, the Fed thought it had "cracked the code" and ushered in a new "Goldilocks" era of monetary policy that led to persistent growth accompanied by full employment across demographics and low inflation. After many post-2008 Crash years of slow and steady growth accompanied by low inflation, this appeared to be true. However, the Fed's policy actions failed to include prudent risk management. With no margin for error given the unprecedented policies, the Fed appears to have had no robust plan for downside scenarios, and no consideration for how the effects of its policies would be unwound when inevitably it would have to change course. That is why the Fed simply doubled down on previous policies when the catastrophic downside scenario of the 2020 Pandemic Stress happened.

These policies led to a massive buildup of debt and, importantly, a decoupling of asset prices from the risks they are supposed to capture both before the 2020 Pandemic Stress and in an accelerated and exacerbated way after. Its policies were designed to create outsized demand, which had the obvious effect of causing the prices not only of goods and services to increase but also of financial assets, resulting in asset bubbles across asset types from high yield and investment grade debt to equities and alternative assets. Now that the Fed has rapidly and significantly reversed its policies, these risks are starting to dramatically unfold, and more can be expected.

While the Fed reverses course with its policies, it must avoid the mistakes of the past, which can only be done if it analyzes and assesses those prior mistakes. Otherwise, it risks once again over-reacting and prioritizing short-term goals over the realization of long-term risks that will again cause it to act. Such a cycle must be avoided for the benefit of our economy and the livelihoods of all Americans.

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Better Jobs | Better Economic Growth
Better Lives | Better Communities

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