WHITE PAPER | July 2021

RISING RATES 2023:
Bull Versus Bear Scenarios

Interest rates are expected to rise in 2023 if we stay on the current economic course. Is your bank prepared if we do not?

The expectation that financial institutions will raise deposit rates in 2022 or 2023 is based on a recovery and expansion scenario.

INTRODUCTION

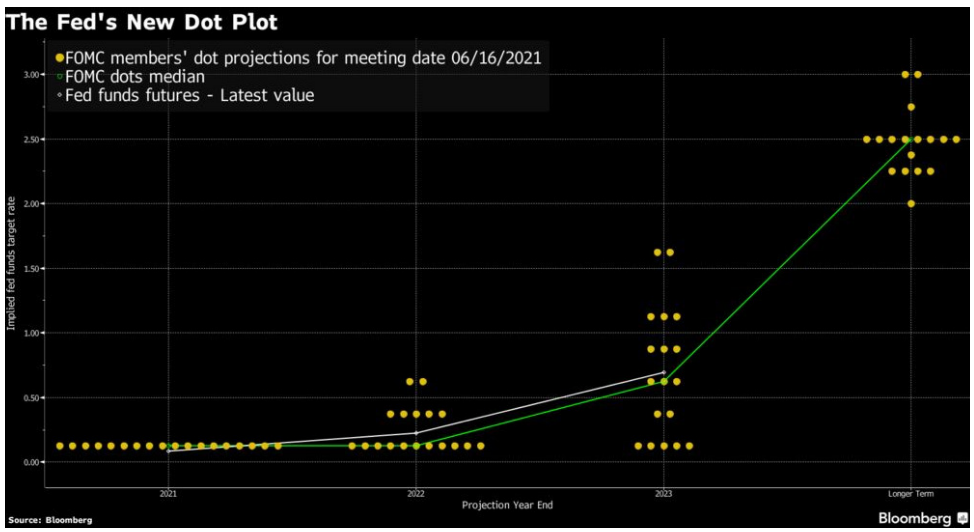
Recent industry buzz suggests that we will soon see Fed funds, and subsequently, retail and commercial deposit rates, rise in 2022 or 2023. Banks are anxious to see an expansionary rate regime to push open net interest margins and thus, signal the improving demand for loans. Tepid loan demand and rock-bottom margin spreads have been an anchor on bank earnings over the past year and we are collectively anxious to return to a more traditional rate curve. However, the current sentiment around rising rates being just over the horizon is based on the current trajectory of the economic curve.

Inflation has been prevalent across news and media headlines lately, and for good reason. Supply chains remain somewhat disrupted due to Covid-19 adaptations, the demand for goods is rising, and there is excess liquidity in the money supply. Together, these three forces are lifting prices higher. On the one hand, recent growth in core consumer prices, commodities, equity values, and real estate prices give concern that the market is exuberant. On the other hand, unemployment remains high, and Spring 2020 saw the sharpest economic contraction in modern history. The current trajectory of the economy *could* be an indication that we are getting "back on track." All of that considered, the next chapter in this story can go one of two ways: recovery or correction.

PART I: THE SUMMARY

A Look at the Current Environment

The expectation that financial institutions will raise deposit rates in 2022 or 2023 is based on a recovery and expansion scenario. However, circumstances in this rate cycle are unique from previous cycles. For example, the amount of money printing and free cash currently held in depository institutions is unprecedented. In a normal rising-rate environment, one would expect to see depository institution rates moving in earnest after the Fed funds rate makes 100-150 basis points of movement. While the industry may see some upward rate movement from central banks in the medium term, the existing overabundance of funding and low loan demand, if exacerbated by a future bearish economy, could result in a lack of federally insured institutions making meaningful rate movement before central banks are forced to cut rates again.



The "Dot Plot" is showing some pressure for a rate increase in 2022 following the FOMC June meeting, but stronger consensus is for rates to increase in 2023 given current economic trends. Source: Bloomberg.

So, what are financial institutions to do in light of limited opportunity to gain yield via margin expansion? Options for an expansion in fee income via punitive fees are restricted due to changes in the legislative and regulatory administration. Mortgage and wealth management fees are a popular strategic focus when margins are compressed, but these fees are sensitive to the rate cycle and the space continues to get more and more crowded by non-bank participants. It is also important to note that the necessity of expanding brand awareness and improving the digital experience has precipitated a wave of merger announcements over the past three years, and it is expected that this trend will continue as long as regulators permit. One must also be mindful of the persistent and somewhat urgent focus on deepening relationships and thus, achieving a greater share of wallet.

While this focus is nothing new, there has been an obvious shift and additional attention on leveraging robust technology and actionable data to better understand clients and specifically tailor pricing, rewards, and offers to their unique situation. Further, with fewer transactions taking place in the branch, banks are using technology and data to replace the contextualized service that was once provided by a smiling banker.

Banks that succeed in creating a rich and personalized experience will be able to gain a sufficient share of wallet and scale amid the ups and downs of rate cycles. The financial institutions that are too slow to adapt or are unable to allocate necessary resources to embrace this shift could find themselves as a good target for a merger or acquisition.

When Will Deposit Rates Rise Again?

From media stories and government reports on core and non-core inflation rates, to neighbors bemoaning the cost of a trip to the lumber store or car dealership, our lives have been flooded with tales of inflation. In one way or another, all have experienced the effects of an ample money supply and shortages, as well as an increased demand for goods.

Seasoned industry experts consistently see, and hear evidence of, an increasing supply of deposits and an underwhelming demand for loans. In fact, the latest FDIC call report data shows the banking industry's assets grew by more than $680 billion to an astounding $22.5 trillion, but net loans and leases decreased by -0.15% during Q1. Where is all this asset growth coming from? Cash grew by 13.8%, securities grew by 7.1%, and trading account assets also grew by 7.1%. The translation? Banks are drowning in cash and cannot or will not lend, so it is being parked in cash or securities.

With an abundance of funding slack in the system, it comes as no surprise that some banks are anxious to determine when we will reach a summit in money supply, when rates will rise, and when lending activity will increase again.

According to the CME Group's CME FedWatch Tool, which only forecasts to the end of this year, the consensus probability of no Fed rate increase stands at over 90%. In other words, a Fed funds rate increase in 2021 is highly unlikely. This is expected and common knowledge across the industry.

Why Banks are Anxious to See Rates Rise

Banks, especially those who have asset-sensitive balance sheets (i.e., several variable-rate loans tied to Prime, LIBOR or SOFR) realize an immediate boost to earnings whenever rates rise. The excess of deposits, both in the system and at the institution level, means that banks will not need to seek additional funding to meet loan demand. Unlike in previous rate cycles, there is such an abundance of deposits that we may not see Betas—the co-movement of Fed funds rates and bank deposit rates—rising as quickly as in previous cycles. As a rule of thumb, the Fed funds rate will have to increase between 100 and 150 basis points before there is any meaningful lift-off in the deposit rates at banks.

Limited Rate Increases Have Already Begun

Due to consumers' aversion to locking up money in term deposits, the industry has seen an increasing flow of deposits out of term products into liquid. Further, some portfolios of term deposits fall between 60% and 90% of the balances they had just over a year ago. Meanwhile, liquid deposits are 125% to 175% of where they were a year ago. Many banks find the imbalance uncomfortable and are making efforts to slow or stop attrition in the term deposits book. This has led to increases in term deposit rates and in a limited number of cases, even rate specials. Banks that prioritize rebalancing the mix of deposits should consider introducing a medium-term Bump product, or potentially restructure early withdrawal penalties to make mid-/long-term deposits less intimidating.

When Will Rate Increases Begin in Earnest?

That depends. While the last rate cycle prompted discussions about rising interest rates as early as 2010, the first increase did not actually arrive until December 2015—and that was the result of a slow and steady improvement in the economy. The thesis for the next rate increase is based on a series of assumptions about the current economic trendline prevailing for the foreseeable future. Part II of this white paper explores the Bull and Bear cases for the economy and further details counterpoints to the current narrative that, if accurate, would likely push a deposit rate increase to 2025 or beyond.

A Summary of Market Forces

There are bullish and bearish theories about where the market is headed next. Both camps are holding steady, as shown by the sideways trading in the S&P 500 over the past eight weeks.

IN THE BULLISH CASE:

The theory that the economy will continue to expand is based on several premises.

- Vaccine-related reopening will unleash pent-up demand.
- Direct government stimuli have added trillions of dollars to the money supply that will be spent and re-spent.
- Consumer and business borrowing is down overall, improving credit quality.
- Banks are better capitalized, and mortgage qualifications are tighter than in 2007.
- Stocks (i.e., crypto, real estate, NFTs, commodities or IPOs/ SPACs) only go up.

IN THE BEARISH CASE:

This offers a view of why the current economic trajectory is unsustainable.

- Low treasury yields are driving yield-seeking behavior and inflating asset prices.
- Equities are overvalued and overdue for a correction.
- Margin debt is at an all-time high.
- Direct government stimulus is coming to an end.
- Forbearance on mortgages, student loans, and moratoriums on evictions will end soon.
- Inflation is increasing and may force the Fed to raise rates.
- The Federal Reserve balance sheet growth is unsustainable and QE programs will taper soon.
- Commercial real estate has not yet felt the impact of vacancy or moratoriums.

The Federal Reserve's recently published Financial Stability Report documents a compelling case for the dangers to the economy. The top four concerns are paraphrased below.

1. Equity valuations are too high.
2. Business debt is high relative to GDP. Consumer debt, though moderate, is bolstered by stimulus, forbearance, and low rates.
3. The financial sector is overleveraged.
4. Liquidity and funding risk exists because assets cannot be unwound fast enough to cover run-on liabilities.

According to the same report*, the Federal Reserve identifies the interdependencies within the system:

> "These vulnerabilities often interact with each other. For example, elevated valuation pressures tend to be associated with excessive borrowing by businesses and households because both borrowers and lenders are more willing to *accept higher degrees of risk* and leverage when asset prices are appreciating *rapidly*. The associated debt and leverage, in turn, make the risk of outsized declines in asset prices *more likely and more damaging*. Similarly, the risk of a run on a financial institution and the consequent *fire sales of assets* are greatly amplified when significant leverage is involved."
>
> *Italics have been added for emphasis as it relates to the topic of this white paper.

Mark Cuban also weighed in on the topic, tweeting it more succinctly:

Source: https://twitter.com/mcuban.

The risks that have been identified by the Federal Reserve Bank and the interdependencies within the system mean that weakness in one sector of the economy will likely influence other segments. As financial institutions begin their strategic planning for the next 6-18 months, a bearish scenario should be considered.

What should my bank do, and how can Nomis help?

Relationships will determine success in the future. If you are like most financial institutions, your customer base is likely 35% to 50% single-service households and your income is skewed toward a small percentage of your overall customer population. Segmenting, scoring, and understanding your customer base at a deeper level will help create the necessary insights to unlock franchise value for your bank. Using that insight to deliver better onboarding programs, personalized offers, relationship programs, and pricing will drive increased customer primacy and increased profitability.

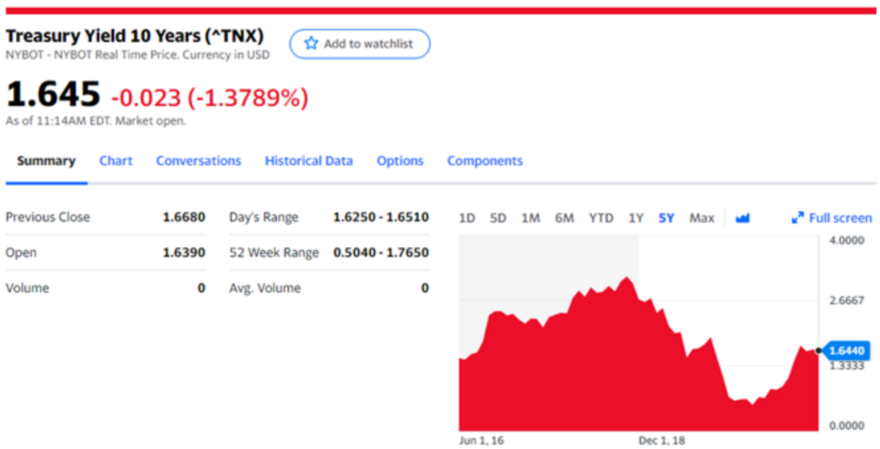
If deepening relationships and generating value in a low-rate environment is a priority for your bank, let's talk! Nomis is built on a foundation of data, analytics, and informed decision making, and our team of experts is here to help you better serve your clients, deepen relationships, improve share of wallet, and ultimately—drive profitability without relying on future margin expansion.

PART II: THE DETAILS

THE BULL CASE

For the intended purpose of this white paper, we will treat the bullish case briefly. This is not to undermine the principles but because most of them are well understood and acknowledged in the market. In addition to the list provided in Part I of this white paper, two key indicators of positive market sentiment are the improving yield on 10-year treasury bonds and the CBOE VIX.

As displayed in the figure below, the 10-year treasury bond has risen from 0.64% just one year ago to approximately 1.6% today. Typically, an increasing treasury yield is a positive sign for the future.



Source: CBOE Volatility Index (^VIX) Charts, Data & News - Yahoo Finance.

The [CBOE's VIX measure](#) is also an interesting predictor of the market's near-term expectation of volatility. According to the 5-year trending chart display below, the VIX is elevated (with additional spikes) relative to past years but does not currently imply impending disaster.

Source: CBOE Volatility Index (^VIX) Charts, Data & News.

St. Louis Fed Chair, James Bullard, stated in a recent Bloomberg interview that he is expecting a 6.5% growth rate for the economy this year, the fastest increase since the mid-1980s. Manufacturing activity is also picking up and there are unfilled job postings. Further, homebuilder optimism is above 80 and it looks as if the economy is poised for expansion.

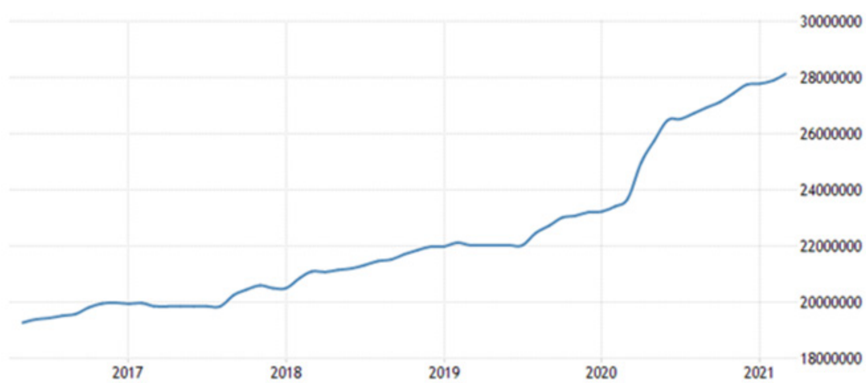
Both the treasury yield trend line and the VIX support a bullish case of continued prosperity. In short, bulls are content and feel there is room to run as lockdowns come to an end, employment begins to rise, and cash on hand starts being spent.

THE BEAR CASE

Asset Bubbles and Inflation

Oil prices are up 226% year-over-year and raw lumber has gone from $400 per thousand feet to $1,600. Housing, Bitcoin, Ethereum, luxury sneakers—name any item and it is likely that said item has gotten more expensive. New and used car lots are lean, travel is set to significantly increase, the IPO/SPAC market has gone wild, and equity prices have been on a tear for most of the last year. Meanwhile, Jerome Powell and Janet Yellen have set targets around "average" inflation and have indicated they are willing to let the economy run "hot" to catch up. Let's unpack that.

Since the beginning of 2020, the money supply in the United States has increased from $15.4 trillion to $19.9 trillion. This equates to a 29.4% increase of the M2 money supply in just over a year. The money supply is being fueled by record borrowing by the U.S. Treasury, which has increased the U.S. national debt from approximately $23 trillion last year to more than $28 trillion today. The U.S. national debt, illustrated in the chart below, is now equal to GDP, which has not happened since WWII.



Source: TRADINGECONOMICS.COM - U.S. Department of the Treasury.

So, who is buying all these treasury notes? Many would be surprised to learn that the Federal Reserve is a major buyer of treasuries. In fact, the Fed's balance sheet has increased from $870 billion in 2007 to $4.5 trillion in 2015 and $7.8 trillion in 2021. Today, the Federal Reserve balance sheet shows a $1.6 trillion increase in securities over the past year, with $1.02 trillion coming from treasury securities and $586 billion as a result of Mortgage Backed Securities (MBS). The Federal Reserve now holds $7.2 trillion in securities, of which $5.04 trillion is in U.S. treasury securities.

What does this mean? The Fed has used a lot of recession-fighting ammunition over the past 18 months. While working to fend off a recession, they have created an excess money supply and made a notable contribution. The Federal Reserve is buying U.S. treasuries to keep bond prices low and to increase the money supply, commonly referred to as Quantitative Easing (QE). This enormous boost in the money supply may be creating asset bubbles.

With U.S. treasuries at 1.6%, bank deposits earning even less, and inflation at least 2.2%, yield-seekers are far more motivated to purchase other appreciating assets. The biggest recipients of funding over the past 10 years have been stocks and real estate.

Stocks Are Overvalued

One economic theory is that the S&P 500 reverts to a mean over the long term. By that measure, we are above average for the S&P 500 and potentially overdue for correction.

Source: S&P mean reversion model - inflation-adjusted S&P 500 index price 1950-current.

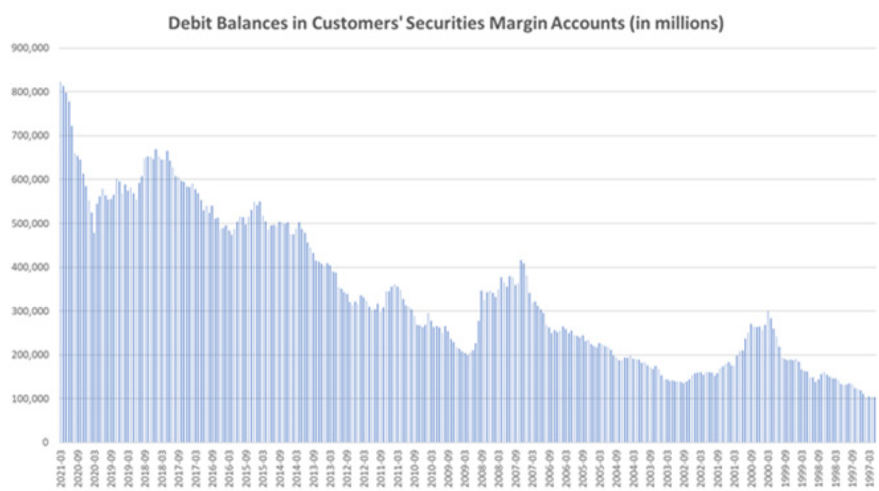
Another relatively popular gauge is the Buffet Indicator, which has historically been a reliable measure of market valuation. The indicator shows total U.S. stock market value in comparison to U.S. GDP. Currently, the S&P 500 is 85% (2.8 standard deviations) *above* the historic average for where we should be.

Source: Buffet Indicator - value vs. historical trend since 1990.

For one additional data point, we look at the Shiller P/E ratio index, also known as the CAPE ratio, which shows the aggregate price of the stock market to the earnings of underlying companies. In the figure below, note the reading on Black Tuesday in 1929 which marked the beginning of the Great Depression, relative to today.

Source: CAPE ratio.

Yes, the stock market appears overvalued, and it is worsened by margin debt (borrowing to buy more stocks). The economy has now hit [an all-time high](). In the figure below, note the two additional peaks in 2000 and 2007.



Source: FINRA.org - margin statistics.

The Federal Reserve just published commentary on equity valuations and debt, as well as why federally insured financial institutions should be mindful of the movements in the stock market:

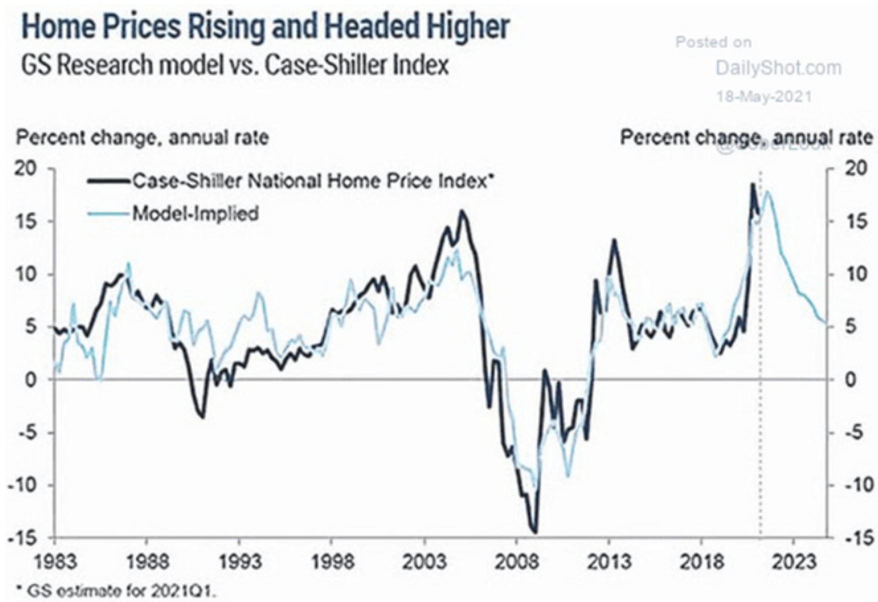
> "...elevated valuation pressures tend to be associated with excessive borrowing by businesses and households because both borrowers and lenders are more willing to accept higher degrees of risk and leverage when asset prices are appreciating rapidly. The associated debt and leverage, in turn, make the risk of outsized declines in asset prices more likely and more damaging. Similarly, **the risk of a run on a financial institution and the consequent fire sales of assets are greatly amplified when significant leverage is involved.**"

RISING RATES 2023

BULL VERSUS BEAR SCENARIOS

Will Real Estate Rip, Cool, or Crash?

It is well known how competitive and expensive the residential market is. What is interesting is the model forecast by Goldman in the chart below, sourced from The Daily Shot on May 18, 2021. While this model does not indicate a crash, it certainly implies a normalization of price increases in residential real estate over the next 2-3 years.



Source: Standard and Poor's - Goldman Sachs research.

There are many episodes in which residential properties will sell for sums much greater than the asking price, many times with multiple offers and no contingencies. While it is not worth recounting those here, it is, however, worth noting that there has been a significant increase in the Google search phrase, *"When will the housing market crash?"*

Inflation-adjusted home prices are now equivalent to the 2006/2007 pricing level and a University of Michigan survey shows that consumer pessimism for homebuying overall and sentiment about housing prices are nearing 2006 levels. While residential housing prices may not trigger a correction, housing prices are certainly poised to feel the impact of turning consumer sentiment from a change in economic conditions. Because residential housing is commonly a consumer's largest asset, spending and saving habits are likely to be impacted by changes in the housing market.

The CRE Conundrum

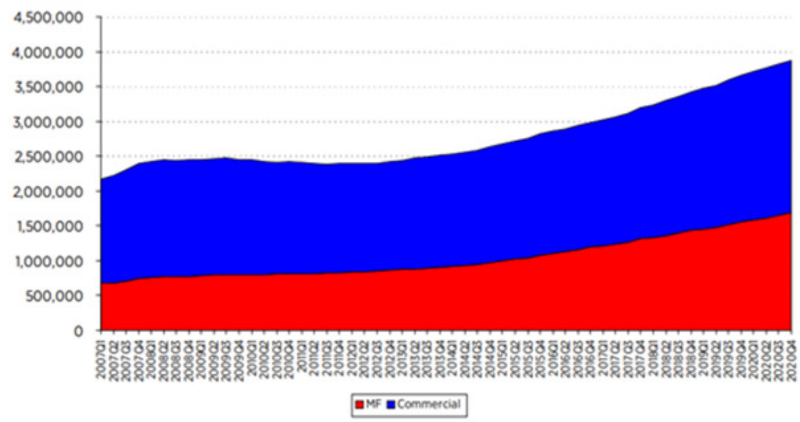
Commercial Real Estate (CRE) has been swelling for the past 10 years. The figure below displays the cumulative debt on CRE, including multi-family, according to the Mortgage Bankers Association's Quarterly Databook.

RISING RATES 2023

BULL VERSUS BEAR SCENARIOS

COMMERCIAL / MULTIFAMILY **QUARTERLY DATABOOK** **Q4** 2020

COMMERCIAL AND MULTIFAMILY MORTGAGE DEBT OUTSTANDING
Total Commercial and Multifamily Mortgage Debt Outstanding, by Quarter
($millions)



Source: MBA, Federal Reserve Board of Governors, Trepp LLC, Wells Fargo Securities, LLC, Intex Solutions, Inc., and FDIC.

An increase in loans and assets is generally a good thing, as long as the collateral is fairly valued, and the underlying fundamentals are solid. Are you wondering who owns nearly $4 trillion in commercial and multi-family mortgage debt? This breakdown is included below.

COMMERCIAL / MULTIFAMILY **QUARTERLY DATABOOK** **Q4** 2020

YEAR END COMMERCIAL AND MULTIFAMILY MORTGAGE DEBT OUTSTANDING
Commercial and Multifamily Mortgage Debt Outstanding, by Sector

	Mortgage Debt Outstanding 2020 Q4 ($millions)	2020 Q4 % of total	Mortgage Debt Outstanding 2019 Q4 ($millions)	2019 Q4 % of total	Change ($millions)	Change Percent	Sector Share of $
Bank and Thrift	1,478,018	38.1%	1,420,126	38.8%	57,892	4.1%	27.3%
Agency and GSE portfolios and MBS	837,867	21.6%	744,191	20.3%	93,676	12.6%	44.1%
Life insurance companies	580,035	15.0%	563,517	15.4%	16,518	2.9%	7.8%
CMBS, CDO and other ABS issues	533,468	13.8%	503,758	13.7%	29,710	5.9%	14.0%
State and local government	126,643	3.3%	123,614	3.4%	3,029	2.5%	1.4%
REITs	93,967	2.4%	90,491	2.5%	3,476	3.8%	1.6%
Federal government	86,477	2.2%	85,700	2.3%	777	0.9%	0.4%
Nonfarm noncorporate business	33,504	0.9%	31,906	0.9%	1,598	5.0%	0.8%
Finance companies	32,908	0.8%	31,827	0.9%	1,081	3.4%	0.5%
Private pension funds	26,333	0.7%	24,458	0.7%	1,875	7.7%	0.9%
Other insurance companies	24,015	0.6%	22,855	0.6%	1,160	5.1%	0.5%
Nonfinancial corporate business	15,756	0.4%	14,684	0.4%	1,072	7.3%	0.5%
State and local government retirement	5,909	0.2%	5,385	0.1%	524	9.7%	0.2%
Household sector	1,235	0.0%	1,187	0.0%	48	4.0%	0.0%
TOTAL	**3,876,135**		**3,663,699**		**212,436**	**5.8%**	

Source: MBA, Federal Reserve Board of Governors, Trepp LLC, Wells Fargo Securities, LLC, Intex Solutions, Inc., and FDIC.

Presumably, banks have been diligent in underwriting CRE loans and those loans do not pose a risk to the system, so long as the assets retain or appreciate in value and customers continue to make payments. The risks to CRE going forward are defined below.

1. Change(s) in habits post-Covid result in lower values for commercial property. This may be lower foot traffic in retail outlets, increased defaults, evictions and vacancy for multi-family, and reduced demand for office space as remote and/or hybrid work conditions take over.
2. Change(s) in the fundamentals of the CRE market spill over into the secondary or securitized market for commercial mortgages, resulting in a similar ripple effect to the 2008 crisis; residential mortgage defaults reduced the value of MBS.

The $1.47 trillion held by banks and thrifts are the primary market and the majority of the remaining $2.4 trillion is either held by GSEs or securitized. CRE mortgages for office buildings, warehouses, apartment complexes, etc. can be bundled and securitized into what is called a Commercial Mortgage-Backed Security (CMBS). These are similar to the MBS used for residential real estate. The total CMBS market is a popular exchange for buying and selling groups of CRE mortgages. The CMBS market has increased from $503 billion to $533 billion over the past year. Securitization provides a good vehicle for liquidity and margin, so long as the market is efficient and fairly valued.

The SEC produced a research paper in 2016, sounding the alarm that the CMBS market was too concentrated on a small number of firms. It is important to note that the largest holders of residential MBS in 2007 were Lehman Brothers, Bear Stearns, and Merrill Lynch. A significant factor in the implosion of the securitized mortgage market was not just the concentration or leverage, but the inaccurate ratings on those securities.

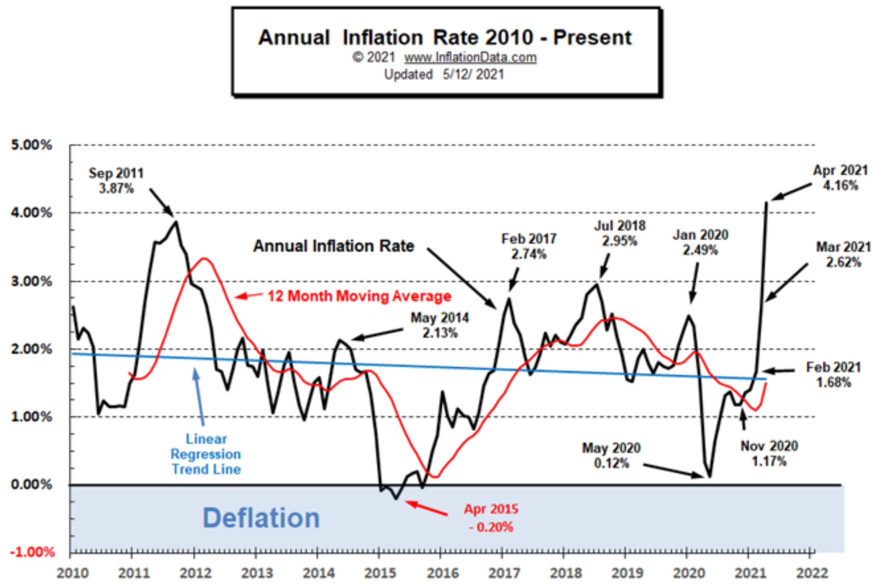
In September 2020, the SEC issued a $2MM action against the Kroll Bond Rating Agency for the rating of Commercial MBS and alleged:

> "KBRA permitted analysts to make adjustments that had material effects on the final ratings but did not require any analytical method for determining when and how those adjustments should be made. Further, the order finds that there was no requirement for recording the rationale for those adjustments."

In other words, CMBS was receiving ratings that differed from the prescribed ratings methodology, which could have consequences in the secondary market for commercial mortgages. These mortgages and ratings were all issued *before* the Covid-19 pandemic altered the landscape for commercial real estate. Since many regional and community banks have large commercial real estate franchises, we should expect any correction in CRE to have an impact on banks' loss rates and capital reserves, as well as the trajectory of an economic recovery.

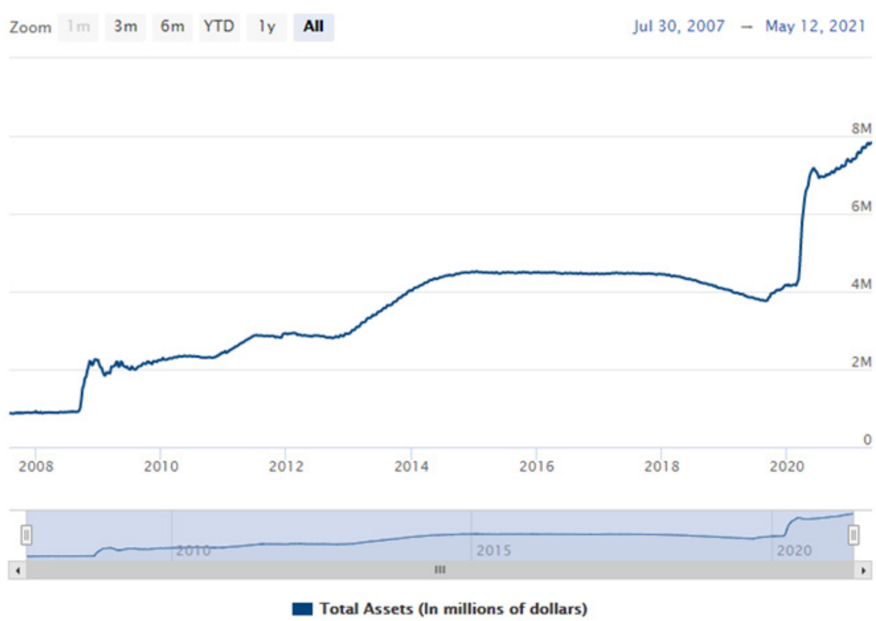
Inflation and The Fed Balance Sheet

It is well known that inflation data for March and April 2021 have been high, but as illustrated below, the 12-month moving average is still below the regression trend line. Depending on the May 2021 inflation reading, we may finally cross the trend line and feel additional pressure on increasing rates.



Source: InflationData.com.

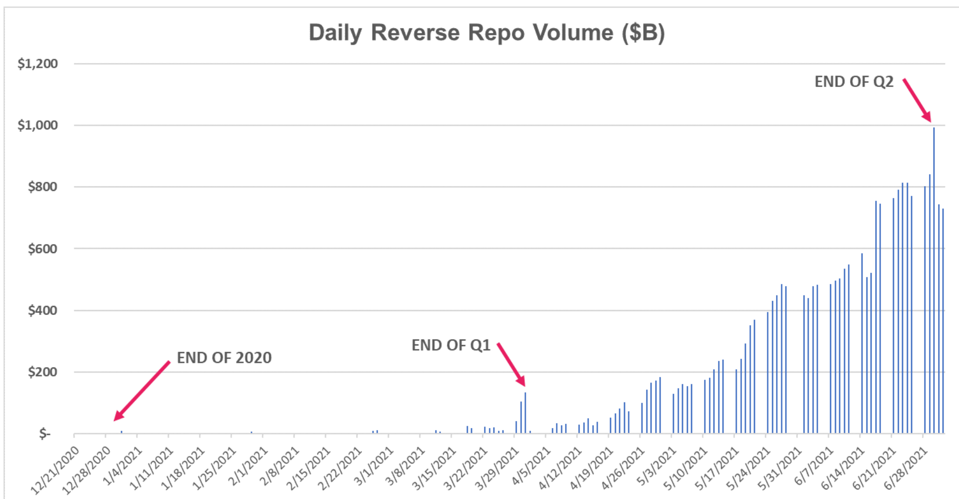
The conundrum for the Federal Reserve is the timing of winding down QE programs such as bond buying and low rates. The Federal Reserve's balance sheet has grown significantly in the past year while rates have been kept near zero. This trajectory of growth brings into question the sustainability of the growth curve, pictured below.



Source: Federal Reserve Bank - balance sheet growth.

The Fed has doubled its balance sheet in the past year, but what happens when the growth slows or stops? If the Fed decides to reduce bond buying (tapering) or reduce its balance sheet (quantitative tightening), we could see significant increases in mortgage rates. This could then reverse the trend in the housing market and impact fee income for banks, increase stock volatility or worse, trigger additional margin calls like Archegos and lower bond yields that occurred when tapering was announced in 2013.

The Fed may already be experimenting with tapering. They have stated publicly that they are not ready to wind down the $120 billion per month bond buying program, but there has been a significant increase in activity on the Fed's Reverse Repo desk. A Reverse Repo occurs when the Fed takes cash from a bank and provides a treasury bond in return, effectively removing cash from the monetary system and reducing the money supply. What is curious, is why the Fed chooses to use the overnight Reverse Repo desk, which is now approaching $500 billion in daily activity and is increasing rapidly.



Source: Federal Reserve Bank of New York Repo and Reverse Repo Operations.

Increasing inflation and the improvement in job numbers will soon force the Fed's hand more broadly. The question that is unanswerable at this point is whether the market will take the Fed movements in stride, or if the movement will trigger a chain reaction in equities, bonds, mortgage rates, or other areas of the economy.

Concluding Thoughts: Lower for Longer

As noted in Part I of this white paper, the theories of the bearish case are below:

- Low treasury yields are driving yield-seeking behavior and inflating asset prices.
- Equities are overvalued and overdue for a correction.
- Margin debt is at an all-time high.
- Direct government stimulus is coming to an end.
- Forbearance on mortgages, student loans, and moratoriums on evictions will end soon.
- Inflation is increasing and may force the Fed to raise rates.
- The Federal Reserve balance sheet growth is unsustainable and QE programs will taper soon.
- Commercial real estate has not yet felt the impact of vacancy or moratoriums.

Now, let's review the Federal Reserve's guidance once again:

> "These vulnerabilities often interact with each other. For example, elevated valuation pressures tend to be associated with excessive borrowing by businesses and households because both borrowers and lenders are more willing to *accept higher degrees of risk* and leverage when asset prices are appreciating *rapidly*. The associated debt and leverage, in turn, make the risk of outsized declines in asset prices *more likely and more damaging*. Similarly, the risk of a run on a financial institution and the consequent *fire sales of assets* are greatly amplified when significant leverage is involved."

I confess, I do have more of a bearish outlook on the future. I do expect the Federal Reserve will increase rates and banks will get at least a short-term windfall from increases in variable rate lending products, but I do not expect that deposit rates will achieve meaningful increases before the Fed is forced to cut rates again. If the bearish scenario does play out, we may not experience rising deposit interest rates until 2025 or later. In this case, banks will need to be more creative and customer-focused to drive deeper relationships, gain share of wallet, and reduce the cost of acquisition for customers' balances.

"Hope" is Not a Strategy

Whether you believe the bearish or bullish case for the future, this much is clear: waiting for NIM expansion will not improve your bank's performance today. Rather, the ability to deliver personalized, contextual rates and offers to clients in both deposits and lending will separate the new "relationship" banks from those of the past. Client expectations have increased for what banks can and should deliver, both proactively and reactively as their needs change.

ABOUT THE AUTHOR

Dustin Allen brings more than 15 years of FinTech, banking, and analysis expertise to his position as Senior Director of Consulting Services at Nomis Solutions. In his current role, Dustin leads an international team of SaaS consultants and data scientists to deliver greater value and customer success to a wide range of national, regional banks. Dustin's focus on data-driven price optimization, analytics, execution, and monitoring has enabled Nomis' client base to build a true competitive advantage through a more scientific and strategic approach to retail banking, resulting in a significant improvement in profitability, engagement, CSAT scores, and revenue growth totaling multi-billions of dollars.

ABOUT NOMIS SOLUTIONS

Nomis Solutions is a global, industry-leading pricing and profitability management solutions provider that delivers competitive intelligence to bankers and mortgage lenders to facilitate more advanced pricing strategies. The company's analytics platform and end-to-end pricing tools enable retail banks and mortgage lenders to achieve customer- and borrower-centric pricing backed by real-time, actionable data. The platform also supports banks and mortgage lenders in their understanding and anticipation of the evolving demands of customers and borrowers, competitors, and ever-changing market conditions. For more information, please visit www.nomissolutions.com.