



The Federal Reserve (the Fed) has two mandates: sustainable employment and price stability (i.e., inflation). It's not an easy task, but one they have been responsible for since 1913. The levers the Fed can pull to address these two mandates are the interest rate paid on funds that banks hold in their reserve balance accounts at their Fed bank (essentially the Fed Funds rate) and managing the money supply through trading government securities.

Over the course of the last 70 years, after its independence from the treasury in 1951, the Fed has used monetary policy to navigate the booms and busts of the U.S. economy, striving to bring the economy out of a recession as quickly as possible and piloting an overheated economy to a 'soft landing,' with mixed results.

Shortly after World War I, the U.S. economy experienced an economic expansion as the country shifted from wartime production to consumer spending. The nation experienced both the lowest inflation and unemployment rates to date. There was a resulting rise in the middle class, who were thrilled to benefit from new technological advancements, including jet engines in commercial air travel, the home microwave, the credit card (Diners Club), and, of course, Mr. Potato Head.

The post-war economic boom lasted through the Korean War, ending in 1953. Afterwards, however, due to reduced government spending and a slowdown in industrial production, a recession followed. The Fed responded by cutting the funds rate from 2.5% in 1953 to 1.75% by the end of 1954 and increased the money supply by buying securities to provide market liquidity. Then, to avoid an overheating economy, the Fed began tightening its monetary policy with modest increases in the discount rate and a more cautious approach to money supply growth.

¹ Congress amended the Federal Reserve Act or 1913 in 1977 to include maximum employment as one of The Fed's goals.

By 1957, the economy faced another slowdown due to the tight monetary policy. This roller- coaster effect, known as "the business cycle," would repeat itself with stomach-churning consistency through the decades.

The Booms and Busts of the U.S. Economy Through the Decades



Although different factors caused the booms and busts, the tightening and loosening of the Fed's monetary policy in response through interest rates changes and securities trading would impact the economy to varying degrees until the stock market crash on October 19, 1987. After taking the helm, Fed Chair Alan Greenspan subsequently oversaw the longest period of economic expansion to date, from 1991 to 2001. In fact, it is during this period alone that the Fed orchestrated the only "soft landing" the U.S. economy has ever experienced.

In early 1994, the economy was approaching its third year of recovery following the 1990-91 recession. By February 1994, the unemployment rate fell from 7.8% to 6.6%. CPI inflation sat at 2.8% and the federal funds rate hovered around 3%. The market was ecstatic.

With the economy growing and unemployment shrinking, the Fed turned toward a potential pick-up in inflation and raised interest rates preemptively. It raised rates seven times that year, doubling the funds rate from 3% to 6%, then cut the rate three times early in 1995 when the economy began softening. The result? A soft landing.

Greenspan was dubbed "the Maestro" by his admirers. Others would argue that his laissez-faire policies caused the dot-com bubble and subprime mortgage crisis. (Fun facts: Greenspan was part of the author and philosopher Ayn Rand's inner circle and read initial drafts of her famous book *Atlas Shrugged*? He married the famous abstract expressionist painter, Joan Mitchell (annulled a year later) and studied tenor saxophone at Julliard, later touring the country in a jazz band).

² Canterbery, E. Ray (2006), Alan Greenspan: The Oracle Behind the Curtain, Singapore: World Scientific.

 $^{^{\}rm 3}$ Crisis and Response: An FDIC History, 2008–2013. Ch 1; Federal Deposit Insurance Corporation

⁴ A Crisis Caused by Housing Policies, Not Lack of Regulation. American Enterprise Institute, Peter J. Wallison. 2017.



Aside from Greenspan's predilections, the important fact to note is that during each of these monetary policy counter measures, the Fed's Open Market Operations policy (the buying and selling of securities) pertained strictly to treasury securities. However, in late 2007, to address the emerging global financial crisis, the Fed made a radical change which would significantly impact the real estate market, hurling us toward where we are today.

Leading up to the crisis, driven by increased demand for higher-yielding investments and the laissez-faire polices of the Fed, banks issued many high-risk mortgages, known as subprime mortgages, and bundled them into complex financial products as part of the broader category of mortgage-backed securities (MBS). In 2006 alone, \$1.2 trillion worth

of MBS, or nearly half of all MBS, were issued through nonagency, private-label securitization, which did not carry a government-backed credit guarantee, indicating they were primarily subprime. Additionally, there were government housing policies, such as Affordable Housing Goals, which required Fannie Mae and Freddie Mac to meet annual purchasing quotas of low- and moderate-mortgages, exacerbating the situation by creating more demand for higher-risk MBS and increasing prices.

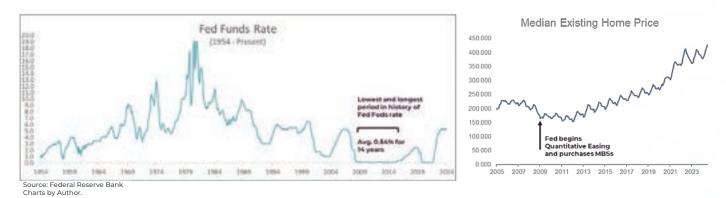
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In turn, financial institutions like AIG created and traded various complex financial products such as credit default swaps, which insured other mortgage-linked financial products called collateralized debt obligation against default. No wonder no one could keep it all straight. People were buying houses they could not afford (on adjustable-rate mortgages no less), financial institutions were packaging risky payment streams into investment products, and the market was greedy for high-return products, ignoring the credit quality of the underlying mortgage asset and borrower.

As interest rates increased, so did mortgage defaults, and the value of these products plummeted. So did home values, causing more defaults and massive losses. Financial institutions like AIG had to pay out on what they promised to cover, all triggering significant economic downturn in the global financial crisis.

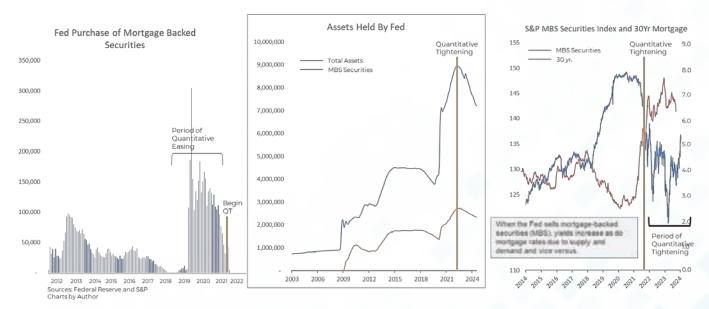
In response, the Fed cut interest rates drastically. By the end of 2008, it reduced the target from a level of 5.25% to a range of 0.0 to 0.25%, remaining at that level for 14 years. The average funds rate was 0.54% between July 2008 and June 2022, and at no point was the rate higher than 2.42%. This created a significant demand for houses, and, in turn, home prices increased steadily.

The Federal Funds Rate and Home Prices



With more work required to balance the economy and the funds rate near zero, the Fed turned to a less-conventional policy of quantitative easing, the purchasing of large amounts of assets to provide additional liquidity to the market. For the first time in its history, the Fed included the purchase of MBS, buying them from Fannie Mae and Freddie Mac. Starting in 2008, the Fed's MBS portfolio ballooned from \$0 to \$1.1 trillion by the end of 2010, representing almost 50% of the overall asset base.

History of the Fed's MBS Purchases



From 1913 until 2008, the Fed owned zero mortgage-backed securities. During that time, the Fed's monetary policy decisions impacted the housing and mortgage markets indirectly through the influence the Fed's purchases and sales of treasury securities had on market interest rates. But when the Fed bought MBS directly, it bid up the price. This, in turn, lowered the rate of interest that the securities paid to holders, which resulted in lower mortgage rates.





The "temporary" policy response to the global financial crisis was the Fed's foray into direct intervention in the housing market.

The Fed's massive MBS purchases coincided with large reductions in mortgage interest rates, which dropped from 6.43% in June 2008 to a low of 2.68% in December 2020. Low mortgage rates increased the pool of potential buyers, stimulating housing demand. And, when the interest rate stimulus got overheated (with both historically low interest rates and massive purchases of MBSs for the first time in history), excess demand pushed up home prices.

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Between 2008 and 2020, seasonally adjusted existing home prices increased 66%, a meaningful jump.⁵ However, because of the drop in the 30-year mortgage rate, the National Association Realtor Affordability Index increased from 132% in the first quarter of 2008, prior to the Fed initiating the Quantitative Easing (QE) program, to 185% in the fourth quarter of 2010.

Although the Fed diminished its level of MBS purchasing, assets held remained around \$1.7 trillion (Total assets ~ \$4 trillion) until 2019, when the economy was impacted by COVID-19, and once again, the Fed launched a massive QE effort.

When the pandemic emerged in late 2019 and impacted the economy, the Fed funds rate was already at a low 1.58% in February 2020. After the rate dropped to 0.65% in early March, with little room in the funds rate, the Fed announced that it would conduct a new, massive QE program and increased agency assets by \$1.6 trillion (MBS holdings by \$200 billion). From March 2020 through November 2021, the Fed increased its agency MBS holdings from \$1.4 trillion to \$2.6 trillion. The purchasing amounts went from \$283 million in June 2019 to an average of \$150 billion a month. By the end of 2021, the Fed had doubled the money supply in the market and its balance sheet would hold almost \$9 trillion in assets, 30% of which were MBS.

With a declining funds rate and the Fed's demand for securities, 10-year treasury security and MBS prices increased. As a result, the 30-year mortgage rate declined almost 70% from March 2019 to October 2021. The real estate market boomed – new homes, existing homes, and refinancing. New, low mortgage rates allowed homeowners to lock in 30-year rates at historic lows; today, almost two-thirds of homeowners have mortgage rates below 4 percent, potentially creating a 'lock-in' effect (the reluctance of homeowners to sell their home given the financial impact of switching from a low mortgage rate to a much higher one).

With the market flooded in liquidity, the funds rate again near zero, and employment showing signs of recovery, inflation rocketed 225% in June 2020, continued to increase, then doubled in March and April 2021, the largest one-month increases since 1953. Inflation reached 9% in June 2022 while average home prices almost doubled in the same period.

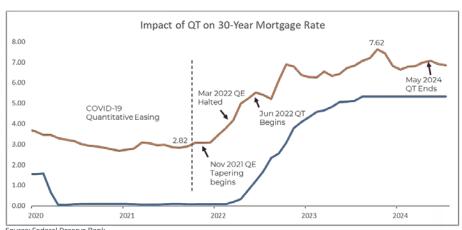
⁵ Source: National Association of Realtors Seasonally Adjusted Existing Home price data

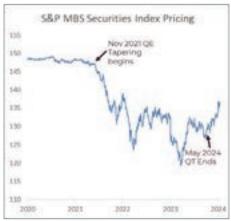
⁶ Excluding minor changes off low bases in 1950's, 2009, 2015, and 2016.

As expected, and still painfully fresh to the market, the Fed started to increase the funds rate in March 2022. But first, they began a period of quantitative tightening (QT), the selling of (or stopping or not replacing maturing bonds) large amounts of assets to pull liquidity out of the market, five months in advance. It was an approach not truly tested in a real-world application – certainly not with a portfolio that included MBS.

In those first five months, the 30-year mortgage rate increased 36% and eventually reached a high of 7.62% in October 2023. During the QT period, the Fed reduced its balance sheet by about \$1.4 trillion, with MBS reduced by \$215 billion.

The Impact of QE on the 30-year Mortgage Rate





Source: Federal Reserve Bank Charts by Author.

QT had a direct impact on the 30-year mortgage rate, with significant upticks at each stage of the program. The combined effect of interest rate hikes and QT had a damaging impact on cost of homeownership and affordability. With the Fed no longer buying treasuries and MBS, Fannie Mae and Freddie Mac limited due to conservatorship, and investment firms no longer buying the securities due to concerns of both "payoff risk" (risk involved when borrowers payoff their mortgages, or premature return of principal on the MBS, by refinancing as interest rates drop. When prepayment occurs, investors must reinvest at current market interest rates, which are usually substantially lower) and Basel III capital requirements, there is no market. When there is additional risk and a lack of liquidity in the market, mortgage rates are elevated to compensate.

By the second quarter of 2023, the NAR Composite Housing Affordability Index had fallen to 95% from 150% in November 2021, just prior to Fed funds rate increases and QE. In May 2024, the Fed ended QT, allowing the MBS portfolio to run off naturally.



Where Do We Go From Here?

The Fed's participation and investment in MBS and QE has helped keep mortgage rates low, arguably artificially low, in the decade following the global financial crisis and pandemic. But the initial impact of the reverse, QT, may have resulted in artificially high mortgage rates and a damaging effect on homeownership affordability. One would deduce that if the Fed buys 10-year treasuries and MBS, mortgage rates go down, then the opposite must be true when the Fed sells. And the Fed must sell to create buying capacity for the next recession when we ride the roller coaster again.

The question is, how does the Fed unwind what is now a \$7 trillion asset balance, \$2.5 trillion of which are MBS,7 without impacting the real estate market – one that already has tight supply and two-thirds of homeowners with a mortgage rate below 4%? Where will the mortgage liquidity come from in order to ease rates if the Fed is no longer a buyer?

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⁷ Source: Federal Reserve Bank

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