UNPACKING THE POST PANDEMIC HOUSING MARKET

– Crisis Incoming or the New Normal?

March 2024

HELPING BUSINESSES UNDERSTAND, MITIGATE AND CAPITALIZE ON RISK

Executive Summary

In this report on US mortgage credit risk we explore the post-pandemic market dynamics of tight supply, strong demand and low affordability. Is this new market dynamic an issue of concern or perhaps just a new normal for housing? What are the potential consequences for current and future holders of US mortgage credit risk? The following report unpacks how we got here and where we could be headed.

This report is the first of the Mortgage and Structured Credit team's research initiative. We aim to add value through thought-provoking research that promotes better understanding from all key members of the industry.

"There are many people who have low-rate mortgages and whereas they might want to sell in a normal situation, they're not going to because they have so much value in their mortgage, which means that the **supply of existing homes is really, really tight**, which is keeping prices up."

- Jerome Powell, Chairman, Federal Reserve[1]

"The housing supply and demand imbalance and favorable demographic trends are **expected to provide foundational support to home prices over the longer term."**

- Mark Casale, CEO, Essent Guaranty[2]

"As expected, the mortgage origination and MI markets are smaller this year driven by higher mortgage rates, which has been supportability and led to **fewer homes for sale due to the lock-in effect for borrowers** with lower mortgage rates and significantly reduced refinance activity."

- Tim Mattke, CEO, MGIC[3]

"The supply of **homes available for sale is still tight**, however, there is pent-up demand and demographic trends suggest meaningful long-term MI opportunities."

- Tim Mattke, CEO, MGIC[4]

"Even as housing activity has slowed amid higher borrowing costs, we remain confident in the long-term outlook for housing as well as demand for mortgage insurance. **Home prices continue to be supported by low housing inventory and strong demand**, particularly among first-time homebuyers and mortgage insurance will remain an important tool to help buyers qualify for a mortgage."

- Rohit Gupta, CEO, Enact[5]

"While low inventory and strong market demand continue to create challenges for first-time homebuyers, **these dynamics help to mitigate downside risk in home values**, which is positive for our insured portfolio. And we believe the resulting pent-up demand also provides strong support for future purchase volume, which drives the growth in our large and valuable insurance in-force portfolio."

- Rick Thornberry, CEO, Radian[6]

"The macro environment and housing market in particular, have remained resilient in the face of increasing interest rates. We see a sustained new business opportunity with our lender customers and their borrowers continuing to rely on us in size for critical down payment support."

- Adam Pollitzer, CEO, NMI[7]

[1]Jerome Powell. "Federal Open Market Committee Meeting." July 26, 2023.
[2]Mark Casale. "Essent Group Ltd. Q3 2023 Earnings Call Transcript." November 4, 2023.
[3]Tim Mattke. "Q3 2023 MGIC Investment Corp. Earnings Conference Call." November 1, 2023.
[4]Ibid.
[5]Rohit Gupta. "Q3 2023 Enact Earnings Conference Call." November 2, 2023.
[6]Rick Thornberry. "Q3 2023 Radian Group Earnings Conference Call." November 2, 2023.
[7]Adam Pollitzer. "NMI Holdings, Inc. Third Quarter 2023 Earnings Conference Call." November 1, 2023.

COVID-19: A Tale of Highs and Lows

Tight supply and strong demand are consistent themes throughout the market. These themes have been clearly highlighted throughout recent MI earnings calls and even commented on by Fed Chair Jerome Powell. It is easy to confirm this sentiment by simply looking at a Months of Supply chart (Figure 1), which highlights the wild ride the market took through the pandemic in which national home prices rose 45% (Figure 2) in 18 months and Months of Supply dropped to record lows. The market now seems to be normalizing as higher interest rates (Figure 3) and record home prices have stymied the manic buying experienced throughout the pandemic, but what does this mean for home prices and the broader housing market going forward? Will the pendulum swing too far back the other way? Throughout this paper, we dive deeper into the current supply/demand dynamics, the impact of affordability, and the potential consequences on the housing market as we look towards the future.

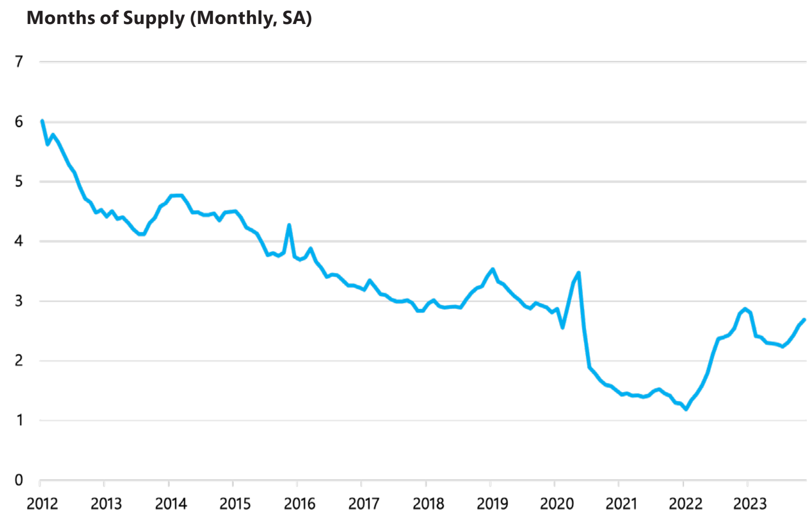


Figure 1 – Months of Supply Monthly, SA[8]

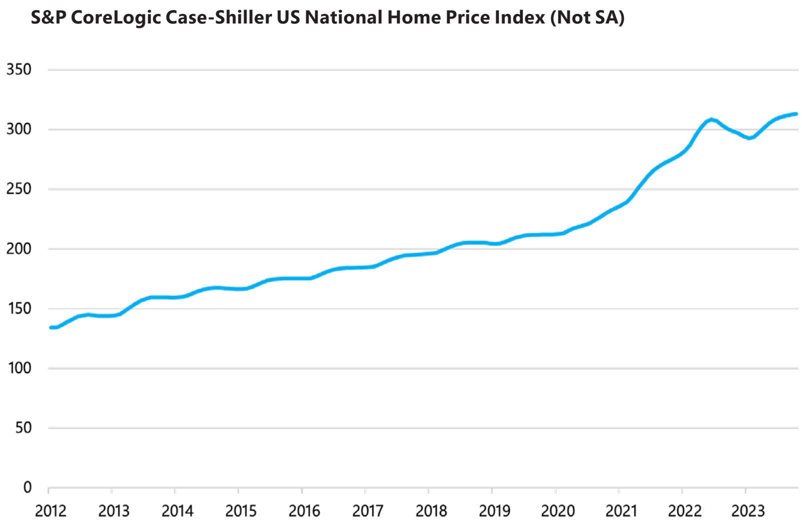


Figure 2 – Case Shiller Home Price Index[9]

[8]Redfin. "Downloadable Housing Market Data." Redfin Real Estate News. December 6, 2023. https://www.redfin.com/news/data-center/.
[9]S&P Dow Jones Indices LLC. "S&P CoreLogic Case-Shiller U.S. National Home Price Index [CSUSHPISA]." Accessed January 28, 2024. https://fred.stlouisfed.org/series/CSUSHPISA.

> Inventory has recovered from record lows but still sits ~32% below where it was pre-COVID despite new homes completed steadily increasing. The reduced inventory can be attributed to a decrease in existing homes for sale due to the current rate environment.

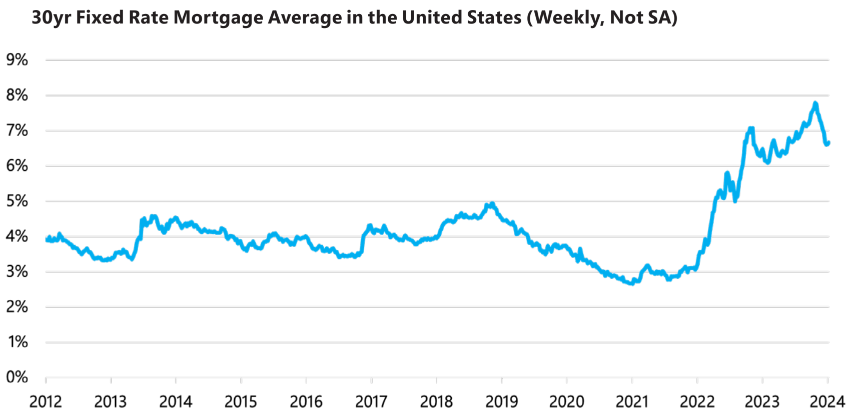


Figure 3 – 30yr Fixed Rate Mortgage[10]

Historically Low Supply

In 2021, US housing inventory hit a 50+ year low (Figure 4) and is currently at less than half the historical average (1.0M units today vs. 2.2M units on average historically). 2021 inventory stands in stark contrast to the supply glut caused by the Global Financial Crisis ("GFC"). Coming out of the GFC, the US housing market had an inventory of ~4M units, ~2x the historical average. The excess of supply led to a major pullback in new home building, and by 2012, inventories had come back down to the historical norm. Since then, new building slowly increased (Figure 5), but continued to lag historical averages until around 2018. As Figure 4 highlights, inventory stabilized at ~1.5M units in 2018 and ticked up to ~1.6M units before the pandemic hit and then plummeted to less than 800k units. Inventory has recovered from record lows but still sits ~32% below where it was pre-COVID despite new homes completed steadily increasing (Figure 6). The reduced inventory can be attributed to a decrease in existing homes for sale due to the current rate environment.

[10] Freddie Mac. "30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US]." Accessed January 28, 2024. https://fred.stlouisfed.org/series/MORTGAGE30US.

Inventory (Monthly, SA)

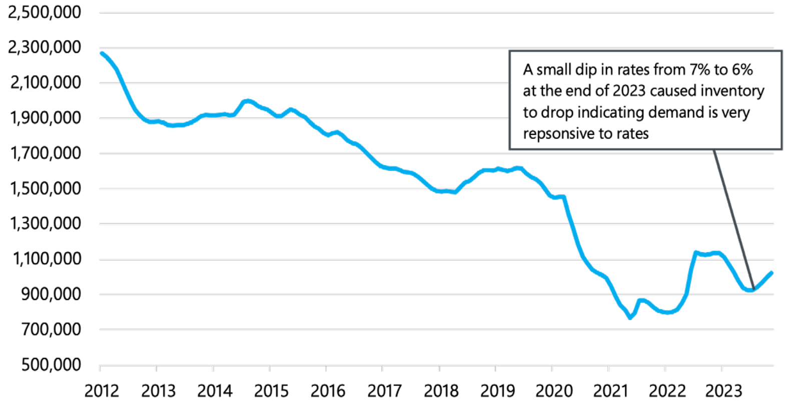


Figure 4 – Inventory Monthly, SA[11]

Homes Started & Completed (3 Month Rolling Average, SA, 000s)

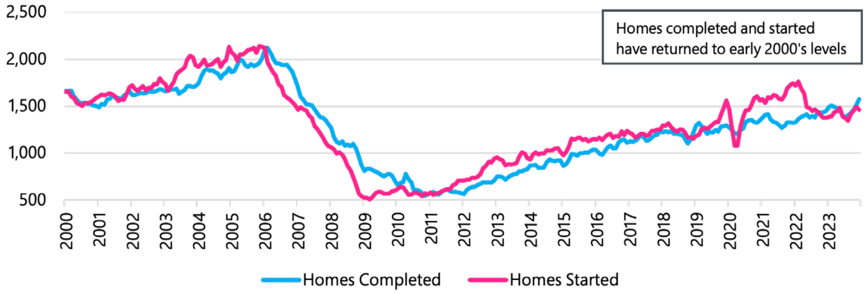


Figure 5 – Homes Started & Completed[12]

Home Inventory Waterfall US 2019-2023

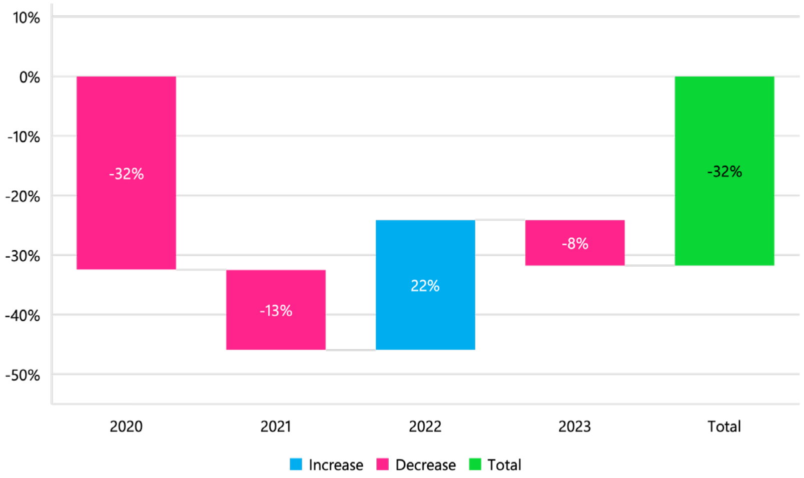


Figure 6 – Home Inventory Waterfall[13]

[11]Redfin. "Downloadable Housing Market Data."
[12]U.S. Census Bureau. "New Residential Construction." U.S. Census Bureau Data. January 18, 2024. https://www.census.gov/construction/nrc/historical_data/index.html
[13]Redfin. "Downloadable Housing Market Data."

Approximately 70% of homeowners had a mortgage with a rate of 4% or less as of Q1 2023 (Black Knight data via Bloomberg[14]). Given the 30yr mortgage rate has not been below 6% since Q3 2022, new inventory from existing homes has been a major constraint in the market. Constricted inventory is evidenced in Figure 7 by the steep reduction in new listings starting in June 2022, when the 30yr mortgage rate jumped to nearly 6%. As a result, New Listings are down ~28% in comparison to 2019 with most of the decrease coming from 2023 when rates were at their peak (Figure 8). Given the current market dynamic and rate environment, new inventory will likely be even more reliant on new homes to meet market demand.

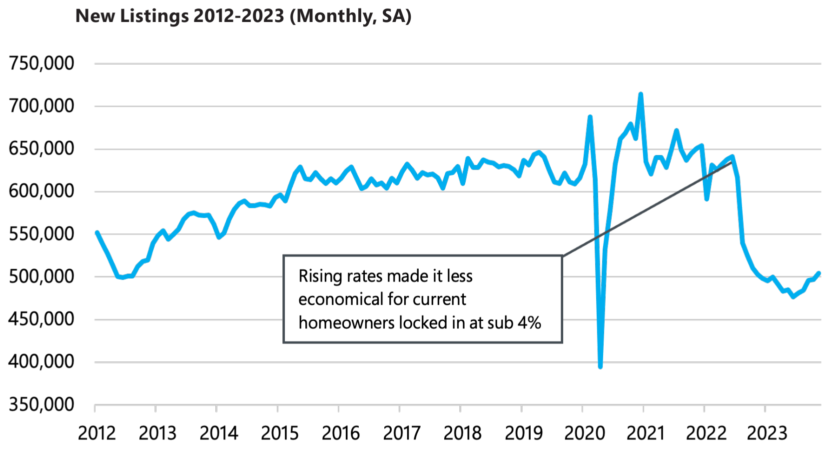


Figure 7 – New Listings 2012-2023[15]

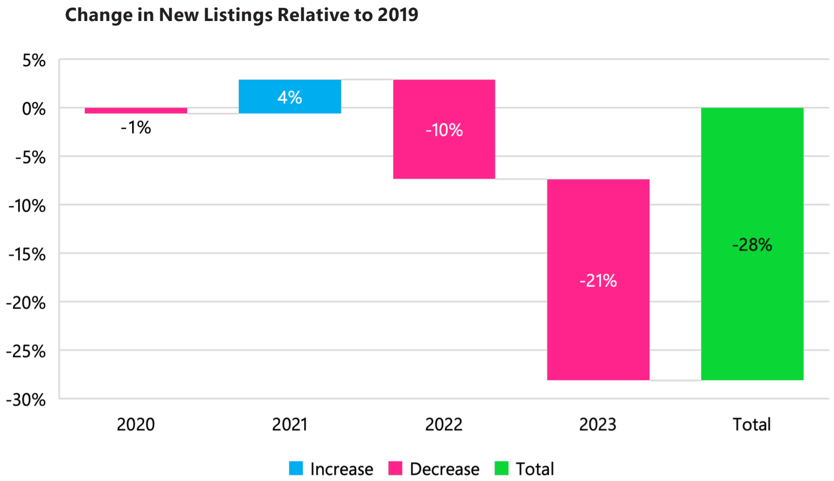
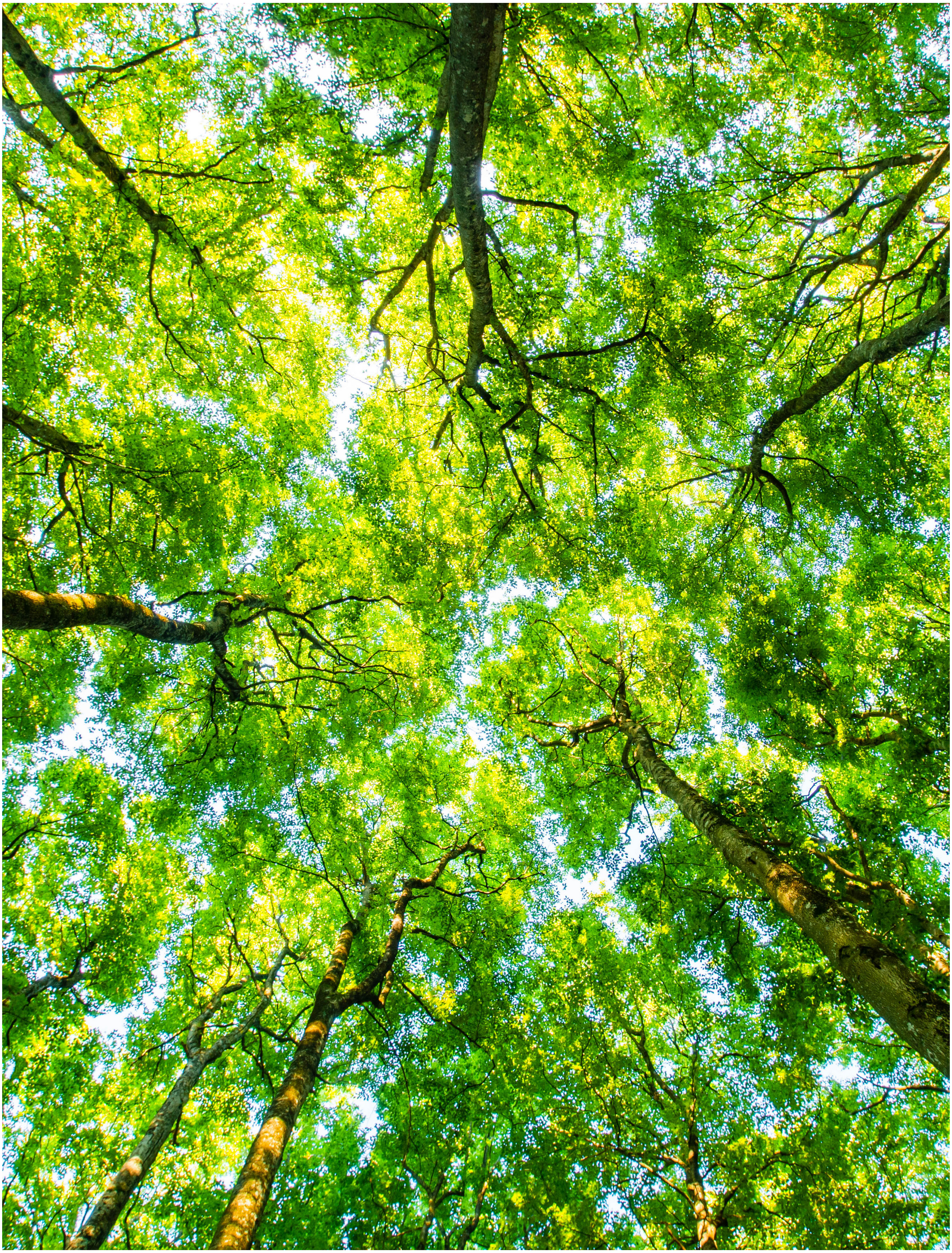


Figure 8 – Change in New Listings Relative to 2019[16]

[14]Ben Holland. "Sorry, Fed, Most US Mortgage Rates Were Locked In During Pandemic Lows." Bloomberg Economics. March 3, 2023. https://www.bloomberg.com/news/articles/2023-03-03/most-us-mortgages-are-pandemic-vintage-locked-beyond-fed-reach.
[15]Redfin. "Downloadable Housing Market Data."
[16]Ibid.



Strong Demand Under Pressure from Affordability

Another product of the GFC was a reduction in demand for owning a home. The narrative of "Generation Rent" consistently floated around from scholarly articles and the mass media, highlighting that it was in fact better to rent than own, given greater affordability, greater flexibility, and reduced responsibility. Additionally, those who lived through the GFC saw families and fortunes ruined through the housing market, leaving many reluctant to pursue purchasing a home. Fortunately, by 2016, market activity had significantly picked back up with ~500k homes selling each month (Figure 9, Seasonally Adjusted), and remained relatively stable through 2019.

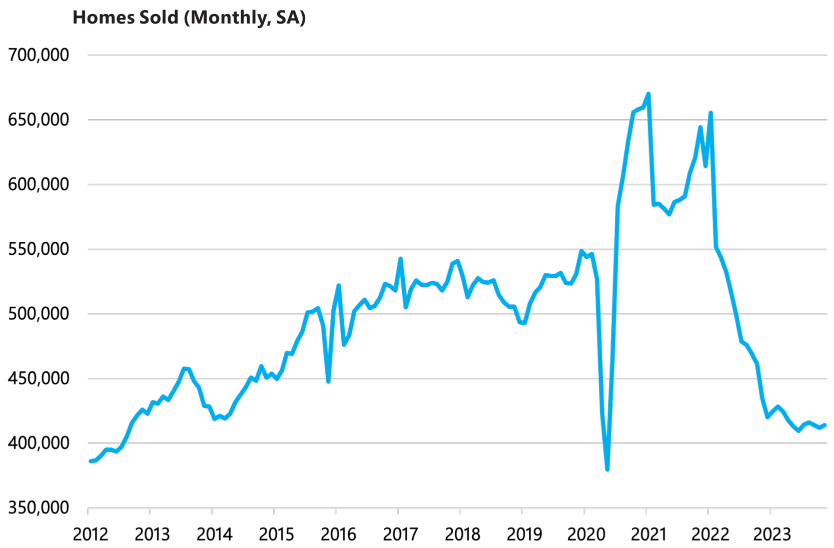


Figure 9 – Homes Sold, SA[17]

Looking across other data sets related to home sales also confirms that the market was relatively stable from 2016 through 2019. Median Days on Market (Figure 10) generally stayed between 40 and 50 days, and % of Homes Sold Above Ask (Figure 11) floated between 22% and 25%. Stability was disrupted once the pandemic hit, causing significant volatility and an extreme imbalance between demand and available supply.

"Rate hikes coupled with home price appreciation have significantly reduced housing affordability, resulting in reduced market activity. Monthly home sales sat near 400k throughout 2023, resulting in a 27% reduction of total annual volume vs pre-COVID 2019."

[17]Redfin. "Downloadable Housing Market Data."

To combat this, the Federal Reserve aggressively hiked rates starting in March of 2022. In all, the Federal Reserve hiked rates 11 times from March 2022 to July 2023, taking the Federal Discount Rate from 0% to 5.25%+ (Federal Reserve[18]). Rate hikes coupled with home price appreciation have significantly reduced housing affordability, resulting in reduced market activity. Monthly home sales sat near 400k throughout 2023, resulting in a 27% reduction of total annual volume vs pre-COVID 2019 (Figure 12). However, demand still seems strong relative to pre-COVID levels based on metrics such as Median Days on Market (Figure 10) and % of Homes Sold Above Ask (Figure 11).

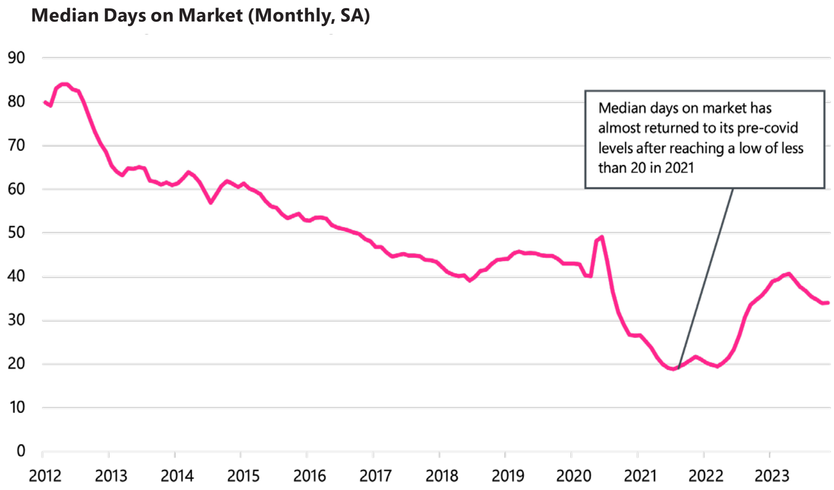


Figure 10 – Median Days on Market[19]

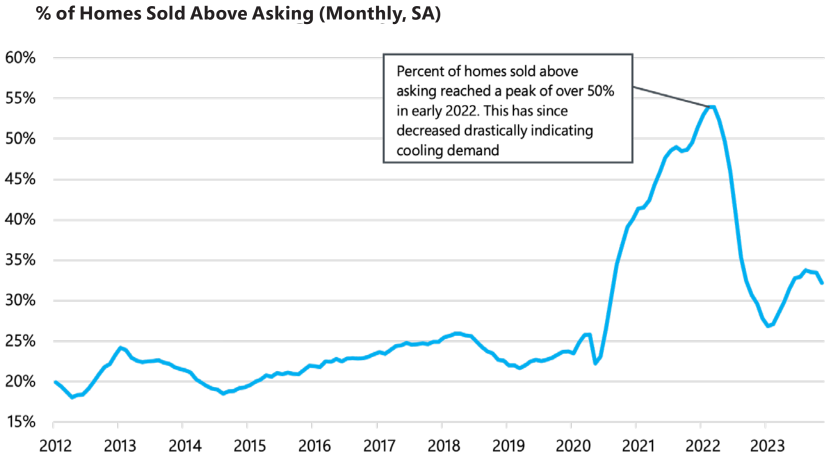


Figure 11 – % of Homes Sold Above Asking[20]

[18]Board of Governors of the Federal Reserve System. "Open Market Operations." Federal Reserve Policy Tools. July 26, 2023. https://www.federalreserve.gov/monetarypolicy/openmarket.htm.
[19]Redfin. "Downloadable Housing Market Data."
[20]Ibid.

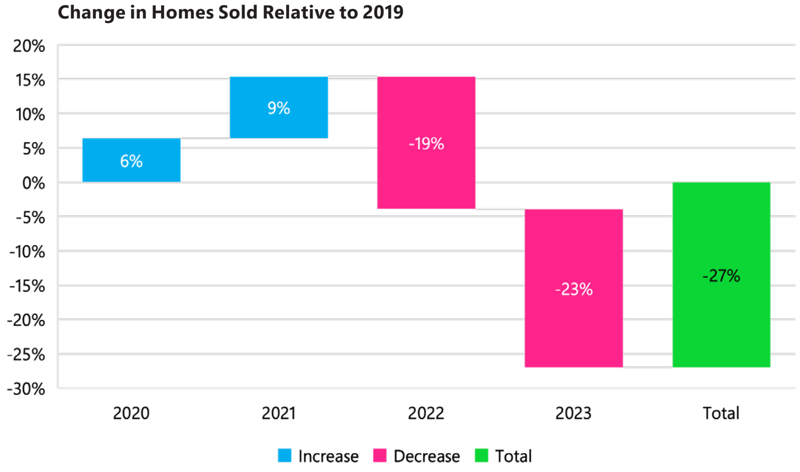


Figure 12 – Change in Homes Sold Relative to 2019[21]

Support is still very strong for demographically driven demand. The typical age of the first-time home buyer has ticked up from 31 years old a decade ago to 35 years old today (NAR[22]). The increase in first-time homebuyer age provides a strong tailwind of demand in the years to come, as the population aged 30-34 years old is the largest age demographic in the US (Figure 13), providing additional longer-term support for home prices.

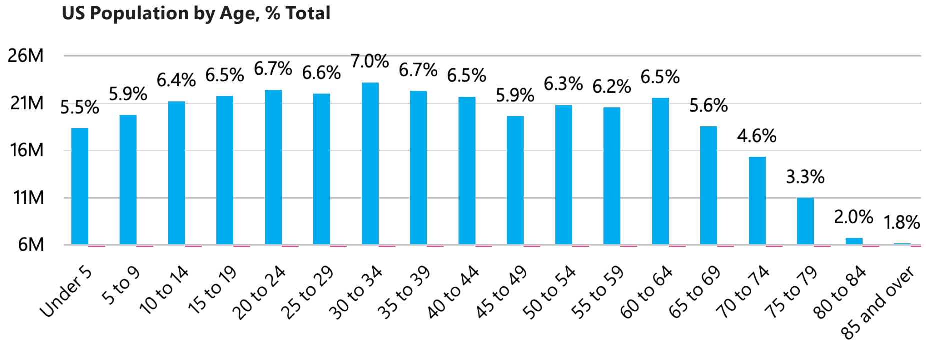


Figure 13 – US Population by Age[23]

[21]Redfin. "Downloadable Housing Market Data."
[22]National Association of Realtors. "Typical Home Buyer's Household Income at Record High." November 9, 2023. https://www.nar.realtor/newsroom/nar-finds-typical-home-buyers-annual-household-income-climbed-to-record-high-of-107000.
[23]U.S. Census Bureau. "Age and Sex, American Community Survey, ACS 1-Year Estimates Subject Tables, Table S0101." U.S. Census Bureau Data. 2022. https://data.census.gov/table/ACSST1Y2022.S0101?q=population by age.

"

Looking at the relative change since 2015, there has been an increase of ~45% in median household income compared to a 140% increase in monthly mortgage payment indicating home payments have outpaced wage inflation by over 300%.

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Low Affordability Pricing Drives Many Prospective Buyers Out of Market

As highlighted previously, a key factor driving a recent decrease in market activity is housing affordability. To understand the current affordability landscape, consider the monthly payment of four different groups (Figure 14):

- First Time Homebuyers (Average Downpayment: 13%)
- Repeat Buyers (Average Downpayment: 21%)
- All Renters
- Single Family Renters

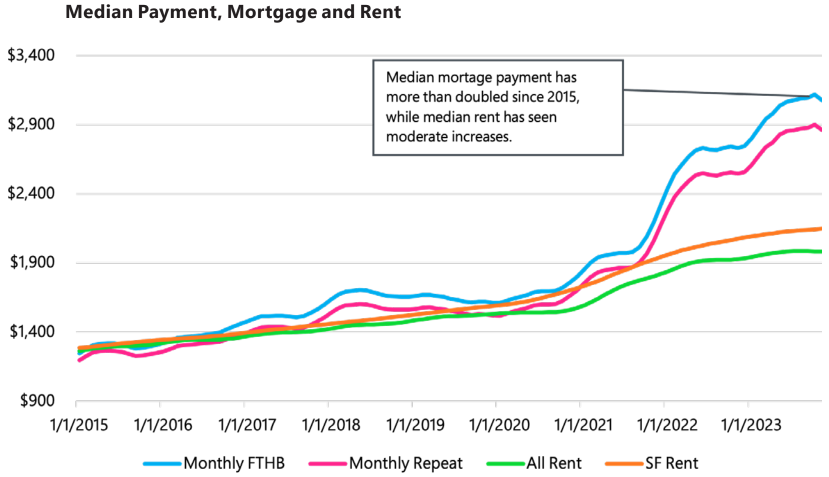

Figure 14 - Median Payment, Mortgage and Rent[24]

Looking back to 2015, the median monthly housing payment was tight between all groups: ~$1,300 (including insurance and taxes for homeowners). Starting in 2021, the rapid increase in home prices created a large divergence between the monthly payment of homeowners and renters. Affordability was pushed even lower by rate hikes beginning in Q1 2022 and by the end of 2023, the median monthly payment for homeowners more than doubled to $3,100 for first time buyers and $2,850 for repeat buyers.

[24]Zillow. "Housing Data - Zillow Research." Zillow Research. April 25, 2023. https://www.zillow.com/research/data/.; Redfin. "Downloadable Housing Market Data."; Freddie Mac. "Single Family Loan-Level Dataset." June 30, 2024. https://www.freddiemac.com/research/datasets/sf-loanlevel-dataset.; U.S. Census Bureau. "Data." Explore Census Data. 2024. https://data.census.gov/.

This massive increase in a short period is eye opening, but it is only one part of the affordability picture. According to US Census data, annual median household income has increased from $55,000 in 2015 to $75,000 in 2022. Assuming a 5.5% wage inflation as reported in the recent BLS Quarterly report[25], median annual household income for 2023 is about $79,000 (Figure 15). Looking at the relative change since 2015, there has been an increase of ~45% in median household income compared to a 140% increase in monthly mortgage payment indicating home payments have outpaced wage inflation by over 300%. To understand the impact this is causing on prospective homebuyers, we can look at the ratio of median monthly housing payment to median monthly gross household income to calculate mortgage burden. During the pre-COVID period from 2015-2020, mortgage burden of home buyers was stable and affordable: between 25-30% of gross income. Starting in 2021, massive home price inflation coupled with rising interest rates have pushed the mortgage burden of first-time homebuyers up to 45% and repeat homebuyers to 40% (Figure 16).

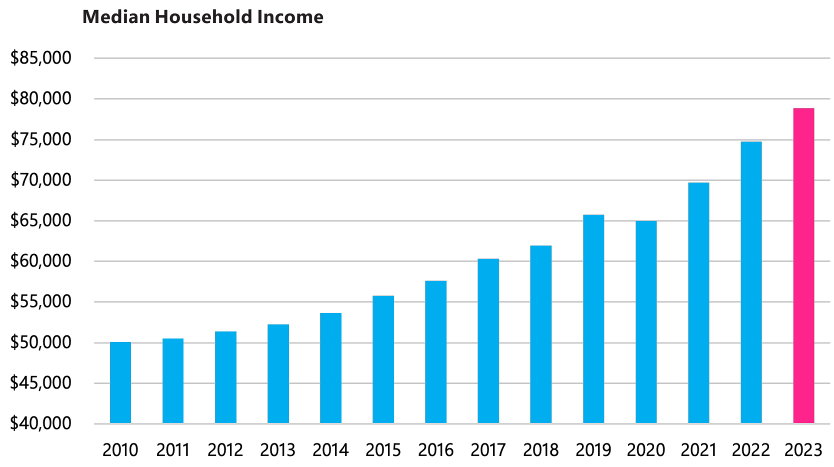

Figure 15 – Median Household Income. 2023 projected at a 5.5% increase[26]

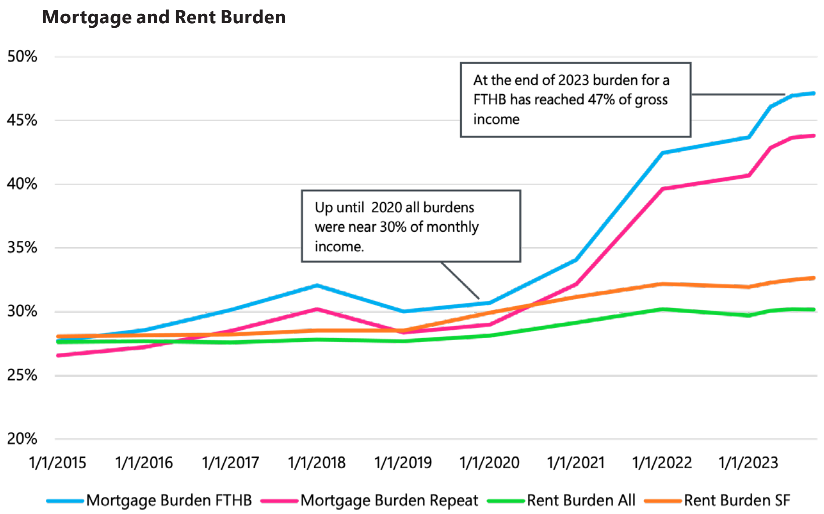

Figure 16 – Mortgage and Rent Burden[27]

[25]US Bureau of Labor Statistics. "Usual Weekly Earnings Of Wage And Salary Workers Fourth Quarter 2023." January 18,2023. https://www.bls.gov/news.release/pdf/wkyeng.pdf.
[26]Gloria Guzman and Melissa Kollar, U.S. Census Bureau. "Income in the United States: 2022." U.S. Government Publishing Office, Washington, DC. September 2023. https://www.census.gov/library/publications/2023/demo/p60-279.html#:~:text=Real%20median%20household%20income%20was,and%20Table%20A%2D1).
[27]Zillow. "Housing Data - Zillow Research."; Redfin. "Downloadable Housing Market Data."; Freddie Mac. "Single Family Loan-Level Dataset; U.S. Census Bureau. "Data."

Comparing these numbers through the lens of the "30% rule"[28], a common rule of thumb stating housing costs should not exceed 30% of gross income to be considered affordable, mortgage payments have reached an unaffordable level for both first time home buyers and repeat homebuyers. In the pre-COVID era, a median income household could generally afford to buy a median priced home (Figure 17). Moving to 2023, the household income required to meet the "30% rule" as a first-time homebuyer is $125,000, over 50% higher than the current median income level.

Translating these numbers to income percentiles from the annual U.S. Census Bureau report, about 55% of the population could comfortably afford a median priced home between 2015-2020. Since Q1 2022, these numbers have decreased drastically for new buyers. Today, less than 30% of the population can afford a home as a first-time home buyer. Rent has remained relatively affordable, however, with close to half of the population able to afford the median rent (Figure 18).

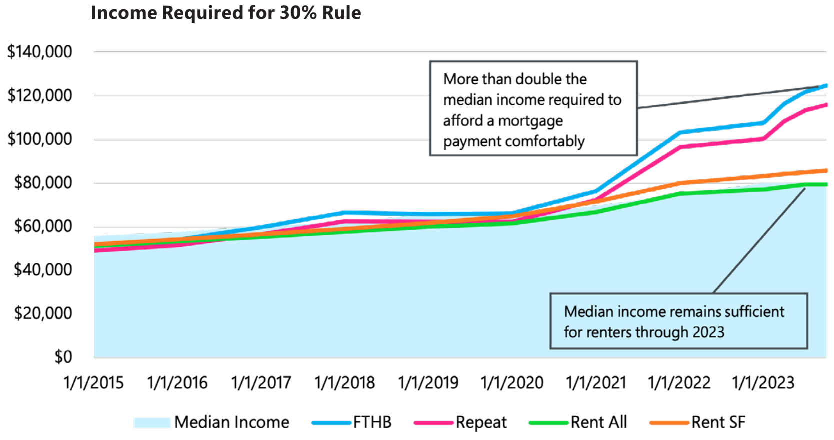

Figure 17 – Income Required for 30% Rule[29]

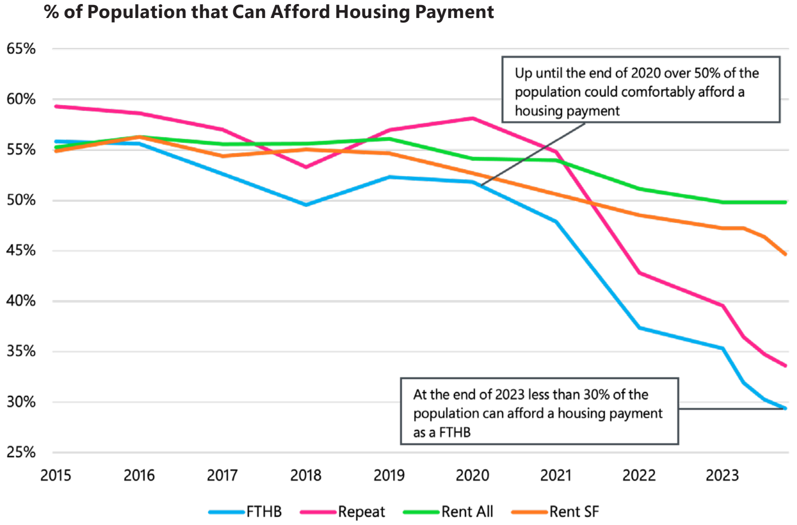

Figure 18 - % of Population that can Afford Housing Payment[30]

[28]A benchmark of housing affordability developed by the United States Department of Housing and Urban Development (HUD) in 1981, and codified via the Brooke Amendment to the Housing and Urban Development Act of 1969.
[29]Zillow. "Housing Data - Zillow Research."; Redfin. "Downloadable Housing Market Data."; Freddie Mac. "Single Family Loan-Level Dataset; U.S. Census Bureau. "Data."
[30]Ibid.

Persistent Demand Will Continue to Support Home Prices

As evidenced throughout this paper, the current market is constrained from a supply perspective, and strong demand is being curtailed by higher home prices and higher rates. While affordability is slowing demand, the constrained supply is keeping the market relatively balanced. Therefore, constrained supply has ultimately led to a stable market at reduced volume.

If we consider the impact of affordability, there is a clear point around the end of Q1 2022 where the frenzy ended, and demand tapered off. In Figure 19, we combine Median Days on Market and % of Homes Sold Over Asking to help illustrate this tipping point. Referencing our affordability analysis, the Q1 2022 inflection point corresponds with a mortgage burden of ~35%, slightly higher than the United States Department of Housing and Urban Development (HUD[31]) determined "30% rule." To decrease the mortgage burden to this level that would bring buyers back to the market, mortgage payments would have to decrease by 16%. This can be accomplished through a 16% decrease in home price or a drop in the 30-year mortgage rate to 4.5%. Realistically, these two things do not act in a vacuum and a more reasonable scenario would involve some combination of both factors moving lower. According to the SOFR Forward Curve (Figure 21), rates are expected to drop 1.5% over the next 12 months. If we assume mortgage rates perform in line with this expectation, then the 30-year fixed rate mortgage will approach 5%-5.5% by the end of 2024. Assuming the mid-point of this range, a rate of 5.25%, it would only take a 6% drop in current home prices to reach the affordability level where demand began to decrease sharply. If more buyers are needed to support the market it would likely only require a mild correction in home prices as opposed to a full-blown housing crisis.

Supply will continue to be held hostage until rates decrease, unlocking the ~70% of homeowners who have mortgages of 4% or less. As rates come down to more attractive levels over time, we believe originations will return to their pre-pandemic state as existing homeowners re-enter the market. Regardless of the path rates take on the way down, we are confident that strong support for home prices will persist driven by real demand at multiple levels of affordability.

[31]Edson, Charles L. "Affordable Housing—An Intimate History." Journal of Affordable Housing & Community Development Law 20, no. 2 (2011): 193–213. http://www.jstor.org/stable/41429169.

Homes Sold Above List and Median Days on Market

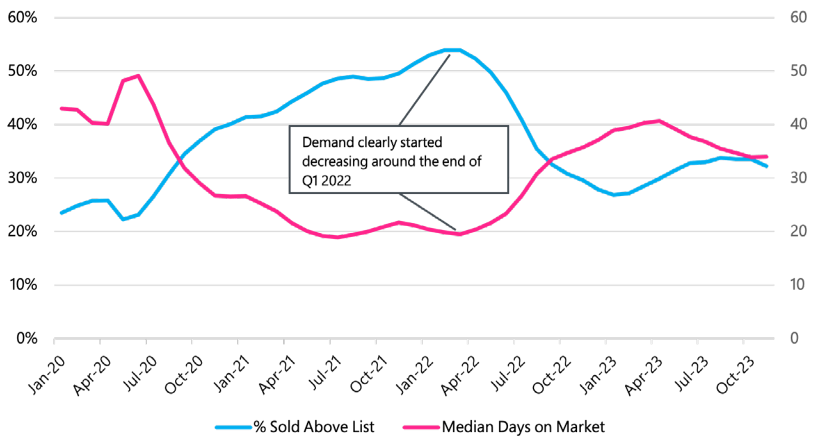

Figure 19 – Homes Sold Above List and Median Days on Market[32]

Mortgage Burden All Homebuyers

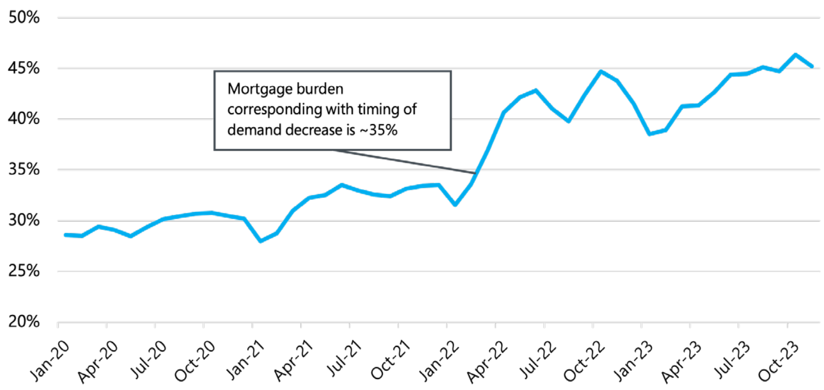

Figure 20 – Mortgage Burden All Homebuyers[33]

Pensford SOFR Forward Curve

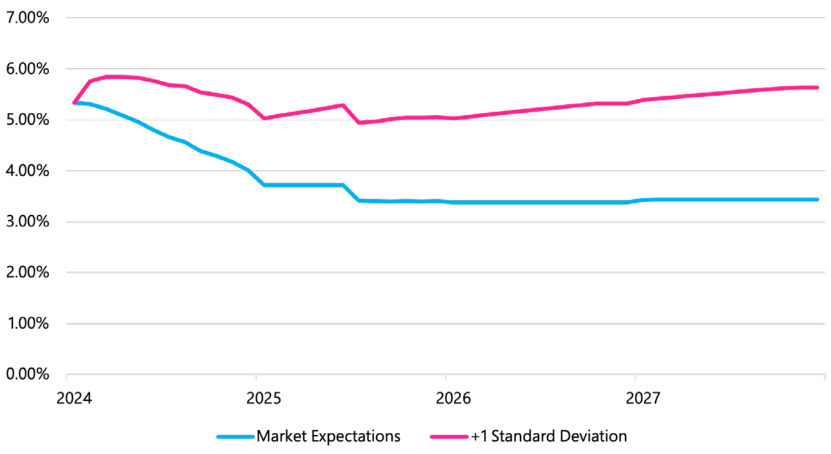

Figure 21 – SOFR Forward Rate Curve[34]

[32]Redfin. "Downloadable Housing Market Data."
[33]Zillow. "Housing Data - Zillow Research."; Redfin. "Downloadable Housing Market Data."; Freddie Mac. "Single Family Loan-Level Dataset; U.S. Census Bureau. "Data."
[34]Pensford. "Forward Curve." January 23, 2024. https://www.pensford.com/resources/forward-curve.

About Lockton Re (locktonre.com)

Lockton Re, the reinsurance business of Lockton, helps businesses understand, mitigate, and capitalize on risk. With over 350 colleagues in 18 locations globally, the business is continuing to grow, pushing the reinsurance industry forward with smarter solutions that leverage new technologies—delivered by people empowered to do what's right for clients.

Lockton Re Insights

Lockton Re's reports, market commentary and insights focus on key topics, occurrences or changes in the (re) insurance and broking market place which impact our clients and partners. In order to help guide relevance for the reader we categorize this content in four areas – Perils, Exposures, Risk Transfer and Placement.

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Board of Governors of the Federal Reserve System. “Open Market Operations.” Federal Reserve Policy Tools. July 26, 2023. https://www.federalreserve.gov/monetarypolicy/openmarket.htm.

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Freddie Mac. “30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US].” Freddie Mac 30-Year Fixed Rate Mortgage Average in the United States. Accessed January 28, 2024. https://fred.stlouisfed.org/series/MORTGAGE30US.

Freddie Mac. “Single Family Loan-Level Dataset.” June 30, 2024. https://www.freddiemac.com/research/datasets/sf-loanlevel-dataset.

Gloria Guzman and Melissa Kollar, U.S. Census Bureau. “Income in the United States: 2022.” U.S. Government Publishing Office, Washington, DC. September 2023. https://www.census.gov/library/publications/2023/demo/p60-279.html#:~:text=Real%20median%20household%20income%20was,and%20Table%20A%2D1).

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Mark Casale. “Essent Group Ltd. Q3 2023 Earnings Call Transcript.” November 4, 2023.

National Association of Realtors. “Typical Home Buyer’s Household Income at Record High.” November 9, 2023. https://www.nar.realtor/newsroom/nar-finds-typical-home-buyers-annual-household-income-climbed-to-record-high-of-107000.

Pensford. “Forward Curve.” Pensford. January 23, 2024. https://www.pensford.com/resources/forward-curve.

Redfin. “Downloadable Housing Market Data.” Redfin Real Estate News. December 6, 2023. https://www.redfin.com/news/data-center/.

Rick Thornberry. “Q3 2023 Radian Group Earnings Conference Call.” November 2, 2023.

Rohit Gupta. “Q3 2023 Enact Earnings Conference Call.” November 2, 2023.

S&P Dow Jones Indices LLC. “S&P CoreLogic Case-Shiller U.S. National Home Price Index [CSUSHPISA].” Accessed January 28, 2024. https://fred.stlouisfed.org/series/CSUSHPISA.

Tim Mattke. “Q3 2023 MGIC Investment Corp. Earnings Conference Call.” November 1, 2023.

U.S. Census Bureau. "Age and Sex, American Community Survey, ACS 1-Year Estimates Subject Tables, Table S0101.” U.S. Census Bureau Data. 2022. https://data.census.gov/table/ACSST1Y2022.S0101?q=population by age.

U.S. Census Bureau. “Data.” Explore Census Data. 2024. https://data.census.gov/.

U.S. Census Bureau. “New Residential Construction.” U.S. Census Bureau Data. January 18, 2024. https://www.census.gov/construction/nrc/historical_data/index.html.

US Bureau of Labor Statistics. “USUAL WEEKLY EARNINGS OF WAGE AND SALARY WORKERS FOURTH QUARTER 2023.” January 18,2023. https://www.bls.gov/news.release/pdf/wkyeng.pdf.

Zillow. “Housing Data - Zillow Research.” Zillow Research. April 25, 2023. https://www.zillow.com/research/data/

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