V. 30-Year Fixed-Rate Mortgages: Is This Uniquely American Feature Causing Issues with the US Housing Market?

A. Introduction

After years of frenzied activity with home prices smashing records across the country, the United States housing market has dramatically slowed over the past year.[1] A key reason for this slowdown is partially the result of a financial instrument that is unique to the United States housing market: the 30-year fixed-rate mortgage ("30-year FRM").[2]

Interest rates for 30-year FRMs hovered between three and five percent throughout the 2010s.[3] Following the COVID-19 pandemic, the government sought to prevent the economy from collapsing by dropping interest rates.[4] By the end of March 2020, the Federal Reserve ("Fed") had lowered the federal funds policy interest rate (Federal Funds Effective Rate, or "DFF") to essentially zero.[5] Interest rates for 30-year FRMs dropped correspondingly over the ensuing year, reaching a low of 2.65 percent in January 2021.[6] The Fed then began to quickly raise the DFF

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[1] Gregory Schmidt, *Home Buyers Are Eager but Sellers Are Scarce, Creating 'Real Gridlock'*, N.Y. TIMES (Apr. 29, 2023), https://www.nytimes.com/2023/04/29/business/spring-housing-market.html (stating that "the market appears stuck in a deep freeze" and has been mired by a stalemate).

[2] Julia Kagan, *Fixed Rate Mortgage: How It Works, Types, vs. Adjustable Rates*, INVESTOPEDIA (July 24, 2023), https://www.investopedia.com/terms/f/fixed-rate_mortgage.asp#citation-1 (defining a fixed-rate mortgage).

[3] 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US), Federal Reserve Economic Data | FRED | St. Louis Fed (last visited Mar. 31, 2024), https://fred.stlouisfed.org/series/MORTGAGE30US (showing the 30-year fixed rate mortgage average in the U.S.).

[4] Daniel Alpert, Opinion, *The Fed Has Put Our Housing Market in Jeopardy*, N.Y. TIMES (Nov. 14, 2023), https://www.nytimes.com/2023/11/14/opinion/federal-reserve-housing-market.html ("When the world's financial system was under existential threat in 2008, and when Covid shut everything down and markets were in disarray, the Fed purchased huge amounts of Treasury bonds and government-guaranteed mortgage bonds to help keep interest rates low, which in turn helped strengthen the economy.").

[5] Federal Funds Effective Rate (FEDFUNDS), Federal Reserve Economic Data | FRED | St. Louis Fed (last visited Mar. 31, 2024), https://fred.stlouisfed.org/graph/?g=1b2FD (showing the Federal Funds Effective Rate).

[6] 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US), *supra* note 3 (displaying the interest rate for 30-year FRMs reaching a low in January 2021).

in an effort to mitigate the resulting inflation which affected the broader economy.[7] In less than eighteen months, the Fed ultimately raised the DFF from nearly zero to over five percent by August 2023.[8] Since fall 2022, the average interest rate for a 30-year FRM has hovered between six and eight percent.[9] As a result, homeowners who bought prior to the spike in interest rates feel "locked in" to their mortgages and are in no rush to relinquish these favorable rates.[10] When combined with inflated housing prices, this has caused the US housing market to grind to a halt.[11]

It is unclear exactly to what extent the 30-year FRM is to blame for the current state of the US housing market. Numerous other issues, chief among them the general unaffordability of houses for most prospective buyers, have undoubtedly also contributed to the current gridlock.[12] However, it is clear that the features that make 30-year FRMs so attractive to homebuyers have also disincentivized owners from selling once they possess one.

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[7] Alpert, *supra* note 4 ("As fears of Covid waned and the engines of the economy restarted with a bang, concerns about runaway inflation prompted the Fed to embark on one of the most extreme changes in prevailing interest rates in history. The central bank raised its key federal funds policy interest rate to a level about 22 times what it was previously in less than 18 months.").

[8] Federal Funds Effective Rate (FEDFUNDS), *supra* note 5 (showing the increase in the DFF from near zero to over five percent).

[9] 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US), *supra* note 3 (showing the changes in the 30-year FRM).

[10] Jessica Dickler, *Why So Many Americans Feel Trapped in Their Homes By Their Low-Rate Mortgages*, CNBC (Aug. 1, 2023), https://www.cnbc.com/2023/08/01/why-many-homeowners-feel-trapped-by-low-rate-mortgages.html ("Nearly 82% of home shoppers said they felt 'locked-in' by their existing low-rate mortgage, according to a recent survey by Realtor.com.").

[11] All Things Considered, *How a Home Mortgage 'Lock In' Impacts the Entire Housing Market*, NPR (Aug. 25, 2023), https://www.npr.org/2023/08/25/1196064429/how-a-home-mortgage-lock-in-impacts-the-entire-housing-market ("But with mortgage rate lock-in, current homeowners don't move because they'd have to give up a low rate for a high one.").

[12] Conor Dougherty, *America's Affordable Housing Crisis*, N.Y. TIMES (Mar. 27, 2024), https://www.nytimes.com/2024/03/27/briefing/affordable-housing-crisis.html#:~:text=Home%20prices%20are%20up%20about,level%20that%20is%20considered%20healthy ("Home prices are up about 60 percent over the past decade . . .").

The home mortgage system in much of the rest of the world looks different than in the United States.[13] In many countries, mortgages are either entirely variable (adjustable rate mortgages, or "ARM"), or variable but with a short initial fixed term of two to five years.[14] However, these mortgage products come with their own list of drawbacks, and have not conclusively produced lower housing prices or greater homeownership among these countries' populations.[15]

B. History & Key Features of the 30-Year FRM

1. History

The percentage of American households that are owner-occupied (homeownership rate) reached 66% as of the first quarter of 2023.16 Nearly 90% of existing US mortgages are fixed-rate.17 In the UK, by contrast, 47% were AJRs, and the remaining 53% had fixed rate terms of five years or less.18 As of 2021, only 2.2% of US mortgages were variable-rate, and approximately 85% of mortgages were 30-year FRMs.19

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[13] Jane Denton, *How Do Mortgages in Other Countries Work? From Germany, to France, Russia and the US, How Home Buying Compares to the UK*, THIS IS MONEY (Feb. 22, 2022), https://www.thisismoney.co.uk/money/mortgageshome/article-10519165/Want-home-UAE-mortgages-work-world.html (describing mortgage systems in various other countries).

[14] *Id.* ("Mortgage terms commonly last 25 years, though these can stretch up to 40 years in some cases.
The interest rate on the loan is usually fixed for an initial period of two or five years, though a small number of products with 10 or 15-year fixed periods are available.").

[15] *Id.* ("[I]n some countries, renting rather than home ownership remains the norm.").

[16] Mia Taylor, *Homeowner Data and Statistics 2023*, BANKRATE (July 24, 2023), https://www.bankrate.com/homeownership/home-ownership-statistics/.

[17] David McMillin, *U.S. Mortgage Statistics and FAQ*, BANKRATE (May 8, 2023), https://www.bankrate.com/mortgages/mortgage-statistics/#term.

[18] Todd Zywicki, *The Behavioral Law and Economics of Fixed-Rate Mortgages (and Other Just-So Stories)*, 21 S. CT. ECON. REV. 157, 160 (2013) ("In the United Kingdom, by contrast, 47 percent of mortgages are variable rate and the remaining 53 percent have fixed rates for five years or less.").

[19] Allison Schrager, *The 30-Year Mortgage Is Saving the US Economy ... or Is It?* WASH. POST (June 27, 2023), https://www.washingtonpost.com/business/2023/06/27/what-s-saving-the-us-housing-market-the-30-year-

The 30-year FRM became the dominant mortgage instrument in the United States following the Great Depression.20 During the Great Depression, the crash in housing prices caused huge numbers of homeowners to default on their mortgages, resulting in a spike in foreclosures which threatened the banking system.21 As part of the New Deal, the federal government stepped in by creating several entities intended to help save threatened banks. 22 These entities included the Home Owner's Loan Corporation (HOLC), the Federal Housing Administration (FHA), and the Federal National Mortgage Association (FNMA, or "Fannie Mae).23 The HOLC bought up defaulted mortgages and reissued them as bundled fixed-rate, long-term loans.24 The FHA provided mortgage insurance to banks so that lenders would be incentivized to offer loans to prospective home purchasers.25 The HOLC, and later Fannie Mae and the Federal Home Loan Mortgage Corporation (FHLMC, or "Freddie Mac"), have continued to offer these assurances

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mortgage/ad2848b0-14dc-11ee-9de3-ba1fa29e9bec_story.html# ("By 2021, only 2.2% of mortgage applications were for adjustable-rate mortgages, while in 2022 85% of mortgages were fixed 30-year.").

[20] Zywicki, *supra* note 18 ("First introduced as an emergency measure to respond to plummeting housing prices and accompanying foreclosures in the midst of the Great Depression, the American market has subsequently standardized on the product, which, despite its drawbacks, has remained the dominant home financing tool in the American economy since that time.").

[21] *Id.* at 162 ("Typically borrowers would refinance the loan at the time the balloon payment was due, but as a result of the crash in real estate values during the Great Depression (housing prices fell by 50 percent or more in much of the country) refinancing became difficult.").

[22] *Id.* ("The federal government responded with a number of programs to stabilize the housing finance market, including the Home Owner's Loan Corporation (HOLC), the Federal Housing Administration (FHA), and the Federal National Mortgage Association (FNMA).").

[23] *Id.* ("The federal government responded with a number of programs to stabilize the housing finance market, including the Home Owner's Loan Corporation (HOLC), the Federal Housing Administration (FHA), and the Federal National Mortgage Association (FNMA).").

[24] *Id.* ("The HOLC raised funds to purchase defaulted mortgages from financial institutions and reinstated them, converting variable-rate, short-term, nonamortizing mortgages into fixed-rate, long-term (twenty-year), fully amortizing mortgages.").

[25] *Id.* ("The FHA was introduced to provide mortgage insurance so that investors would be willing to buy these restructured mortgages from the government despite their now high loan-to-value ratios.").

to banks, allowing them to continue offering long-term fixed-rate loans to home buyers.26

2. *Benefits*

The 30-year FRM has traditionally been thought to be an incredible deal for homeowners.[27] The key feature of the 30-year FRM is that they provide the homeowner with a "fixed" interest rate for the life of the mortgage.[28] This provides homeowners with protection from inflation and rising interest rates, as their rate will not change.[29] But if inflation or interest rates fall, homeowners have the ability to refinance to a lower rate due to their right to pre-payment "call option".[30] Additionally, the long-term amortization schedule of the FRM breaks up the repayment term over 30 years, making the monthly payment affordable to most households.[31] Other benefits include the homeowner's ability to prepay the mortgage without penalty, the certainty of fixed monthly payments, the flexibility to refinance, and the stability and confidence that the homeowner will own her home outright at the mortgage's maturity date.[32]

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[26] *Id.* ("[T]he persistent dominance of the thirty-year fixed-rate mortgage rests on the unique position of the federal government in promoting it through the subsidy provided by GSEs such as Fannie Mae and Freddie Mac.").

[27] David Min, *How Government Guarantees Promote Housing Finance Stability*, 50 HARV. J. ON LEGIS. 437, 445 (2013) ("[T]he federal government's support of the mortgage markets can have an important impact in directing capital towards products that are highly favorable to consumers, including the [30-year FRM] . . .").

[28] *Id.*

[29] Kagan, *supra* note 2 ("The main benefits of having a fixed-rate mortgage include protection against interest rate volatility and predictability.").

[30] Zywicki, *supra* note 18 at 165 ("The ability to prepay, and thus refinance, the mortgage provides homeowners with a call option to reduce their interest rates if rates fall.").

[31] Min, *supra* note 27 at 480-81 ("As discussed above, one of the major impacts of the government guarantee in the mortgage markets was transformation of the standard mortgage from a product that was very onerous for consumers--such as a 5-year, interest-only bullet loan with a high interest rate--into a product that is very beneficial to consumers--the 30-year fixed-rate, self-amortizing mortgage that has been the standard American mortgage for many decades now.").

[32] Zywicki, *supra* note 18 at 165 ("The positive attributes of the American mortgage are obvious. Its long term and self-amortizing features provide

In addition to its benefits to individual consumers, the 30-year FRM has also been considered the cornerstone of the broader American housing market's stability.[33] During the aftermath of the 2008 housing crisis, "prime fixed-rate mortgages (which include 30-year FRMs and other fixed-rate loans) had a 4.74% serious delinquency rate, as opposed to 11.76% for prime ARMs."[34] The 30-year FRM is an incredibly borrower-friendly instrument, as the lender takes on a large amount of risk in the event that interest rates rise.[35] The 30-year FRM has also been credited with increasing price stability in the housing market.[36] Its favorable terms have allowed vast swathes of the US population access to home ownership.[37]

3. Drawbacks

However, some commentators have recently criticized the 30-year FRM.[38] They argue that homeowners are paying thousands of dollars in excess interest over the long lifetime of these loans because banks charge higher rates than if the mortgages were variable-rate.[39] Homeowners are also overpaying for insurance against interest rate fluctuations, for up to 30 years, because it is rare for a homeowner to

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payment stability for consumers over time with the confidence that they will own the home at the end of the thirty-year period. The ability to prepay, and thus refinance, the mortgage provides homeowners with a call option to reduce their interest rates if rates fall.").

[33] Min, *supra* note 27 at 445 ("The proliferation of these consumer-friendly products provides an important stabilizing force for housing markets . . .").

[34] Min, *supra* note 27 at 483.

[35] *Id.* at 481 ("The thirty-year FRM carries a very large amount of interest rate risk for lenders (or investors) and, in the words of one prominent critic of the government's role in mortgage finance, 'has to be a creation of government intervention, and not the market, [because] it is a one-sided loan arrangement that bestows huge benefits on the borrower, but with almost no compensating benefits for the lender/bank/thrift, i.e., it's 'pro-borrower and anti-lender.'").

[36] *Id.* at 445 ("The 30-year fixed-rate mortgage . . . also plays an important role in limiting price volatility in housing markets.").

[37] *Id.* at 482 ("These features have been extolled as important for extending homeownership to a broader swath of American families, but the extent to which they also promote housing market stability has largely been ignored.").

[38] Zywicki, *supra* note 18 at 159 (describing the various consumer drawbacks associated with the 30-year FRM).

[39] *Id.* at 165 ("And while fixed interest rates protect consumers against payment increases when interest rates rise, they may also lock in consumers to higher payments when interest rates fall.").

live in their homes for that long.[40] The ability to refinance when interest rates drop is unavailable to underwater homeowners (those who owe more on their mortgages than the current value of their homes).[41] Less-sophisticated homeowners, who are less likely to refinance, can end up paying more interest when rates drop, than they would with an ARM.[42] The traditional high down payment of 20% ties up a large amount of a buyer's liquidity in their home, and reduces the diversification of their investment portfolios.[43] Lastly, the right to prepayment comes at the cost of higher interest rates.[44]

Despite these criticisms, the 30-year FRM remains by far the dominant mortgage instrument in the United States.[45]

C. The Recent History of the United States Housing Market

Prior to the 2008 housing crisis, the housing market was defined by the increase in "subprime lending".[46] Banks began engaging in questionable lending practices, offering mortgages to buyers with poor

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[40] *Id.* at 167 ("Moreover, the traditional mortgage requires borrowers not only to buy expensive payment insurance but to do so every month for up to thirty years. In America today very few homeowners actually keep their current house and their mortgage for thirty years.").

[41] *Id.* at 172 ("But the potential harm to homeowners from the cost and potential from error from refinancing may pale compared to a larger concern: that homeowners may be unable to refinance at all because their homes are 'underwater,' i.e., she owes more on the mortgage than the current appraised value of the home.").

[42] *Id.* ("Homeowners who have negative equity in their homes can find themselves locked into higher-rate fixed-rate mortgages and unable to refinance to take advantage of lower interest rates.").

[43] *Id.* at 167 ("The traditional requirement of a 20 percent down payment also can be very expensive for homeowners . . . Higher down payments or other features that increase home equity essentially create dead capital because it is difficult to use those resources for diversified investment purposes, even for a simple savings account at a bank.").

[44] *Id.* at 169 ("The option to prepay also comes at a cost to consumers, even though many consumers will never exercise it.").

[45] Zywicki, *supra* note 18 at 158 ("the American market has subsequently standardized on the product, which, despite its drawbacks, has remained the dominant home financing tool in the American economy . . .").

[46] Ryan Boykin, *The Great Recession's Impact on the Housing Market*, INVESTOPEDIA (Aug. 31, 2023), https://www.investopedia.com/in

credit, often requiring very little money down.[47] Many of these loans were ARMs, offering buyers a low "teaser rate" for a short period, before transforming into a variable-rate mortgage.[48] Beginning in 2006, home prices began to fall and mortgage interest rates rose.[49] As their initial low fixed rates expired, many holders of ARMs were unable to afford, or refinance, their mortgages and began to default.[50]

These "subprime" mortgages were thought to be safe investments because they were bundled into "mortgage-backed securities".[51] When enough homeowners defaulted, entire tranches of these securities essentially became worthless.[52] Small banks went under, and the large ones that had bought these securities were left holding the bag.[53] The government initiated a bailout of the US financial system.[54]

Following the Great Recession, the Federal Reserve held interest rates low for close to a decade.[55] As a result, many homeowners were able to obtain 30-year FRMs with favorable interest rates for the decade

vesting/great-recessions-impact-housing-market/ ("In 2006, the housing market started to collapse due to rising home prices, loose lending practices, and an increase in subprime mortgages pushing up real estate prices to unsustainable levels.").

[47] *Id.* ("Sub-prime mortgages—basically home loans given to risky borrowers—were approved to take advantage of the millions of dollars that were pouring in. A risky borrower might have a less-than-stellar credit history, questionable income stability, and a high debt-to-income ratio.").

[48] *Id.* ("Subprime lenders offered consumers mortgages with low interest rates for a short period. However, the interest rates jumped considerably once the initial period was over.").

[49] *Id.* ("Many Americans faced financial disaster as the value of their homes dropped well below the amount they had borrowed, and subprime interest rates spiked.").

[50] *Id.* ("In most cases, borrowers were better off defaulting on their mortgage loans than paying more for a home that had dropped precipitously in value.").

[51] *Id.* ("In a practice that began in the 1960s, mortgages were securitized into mortgage-backed securities (MBS) and sold to investors as collateralized mortgage obligations . . . which act as a hedge against the risk of default.").

[52] *Id.* ("As the crisis grew, numerous foreclosures and defaults crashed the housing market, vastly depreciating the value of the deliberately obscure financial securities directly tied to subprime mortgages.").

[53] *Id.* ("Banks in the United States and around the world began to fail because they were heavily invested in these securities and swaps.").

[54] *Id.* ("Ultimately, the U.S. federal government intervened to mitigate the damage.").

[55] *Id.* (To stimulate and stabilize economic growth, the Federal Reserve . . . slashed the federal funds rate to near zero.").

between 2009-2019.[56] Rates for 30-year FRMs hovered between three-and-a-half and five percent during this period.[57]

The COVID-19 pandemic ignited a home-buying frenzy.[58] In March 2020, the Federal Reserve dropped interest-rates to near-zero in an effort to prevent the economy from collapsing.[59] Mortgage rates correspondingly plummeted, reaching as low as 2.65% in January 2020.[60] These low interest rates enticed homebuyers, resulting in a sharp increase in demand in the housing market.[61] Additionally, many people sought to leave the cities and take advantage of the opportunities presented by remote work.[62] Bidding wars, as well as buyers making all-cash offers and offering to waive inspections, were common in many suburbs of major cities.[63] Home prices rose dramatically nationwide during this period.[64] The average home sale in the US went from $384,600 in Q4 2019, peaking at $552,600 in Q4 2022, an increase of 43.7%.[65]

In an effort to bring down high inflation throughout the broader economy, the Federal Reserve began raising interest rates starting in

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[56] Schrager, *supra* note 19 ("A decade of low rates . . . brought mortgage rates to historic lows in 2020 and 2021.").

[57] 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US), *supra* note 3 (displaying the interest rate for 30-year FRMs following the Great Recession).

[58] Rae Hartley Beck, *How Did COVID Affect the Housing Market?* BANKRATE (Aug. 23, 2023), https://www.bankrate.com/real-estate/covid-impact-on-the-housing-market/ ("The coronavirus pandemic had profound impacts on the housing market. The initial lull in home sales at the very start of the pandemic quickly turned into a white hot seller's market, and the rise of remote work meant that many former city-dwellers suddenly found themselves searching for more space in less urban, lower-cost areas.").

[59] Federal Funds Effective Rate (FEDFUNDS), *supra* note 5.

[60] 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US), *supra* note 3.

[61] Beck, *supra* note 58 ("Back then, record low interest rates, families feeling cramped in quarantine and supply chain issues worsening the housing shortage all combined to create an extraordinarily hot housing market.").

[62] *Id.*

[63] *Id.* ("Houses were under contract for over asking price within hours of hitting the market.").

[64] *Id.* ("[T]he median home price in the U.S. has shot up remarkably.").

[65] Average Sales Price of Houses Sold for the United States (ASPUS), Federal Reserve Economic Data | FRED | St. Louis Fed (last visited Mar. 31, 2024), https://fred.stlouisfed.org/series/ASPUS (showing the increase in the average home sales price).

March 2022.[66] Combined with the continued strong demand for housing, this caused mortgage rates to spike.[67] The average interest rate for a 30-year FRM reached nearly eight percent in October 2023.[68] Despite dropping modestly in recent months, rates remain north of 6.5% as of this writing.[69]

D. Mortgage "Lock-In"

The combined effects of constrained housing supply and high interest rates have caused the US housing market to nearly grind to a halt.[70] Many homeowners have little motivation to sell, given that they will need to trade in their low-interest mortgages for a much-higher one; the term "lock in" has come to describe this phenomenon.[71] Nearly nine out of every ten current US homeowners have a mortgage rate lower than six percent.[72] Even for homeowners who would be otherwise motivated to sell, because of a desire to move or otherwise, the prospect of losing the security provided by their low-rate 30-year FRM makes selling unappealing.[73]

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[66] Alpert, *supra* note 4.

[67] Beck, *supra* note 58 ("But over time, as inflation raged and the Federal Reserve persistently raised interest rates in an effort to tame it, mortgage rates rose — and rose, and rose.").

[68] 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US), *supra* note 3 (showing the average interest rate for a 30-year FRM).

[69] *Id.* (showing the average interest rate for a 30-year FRM).

[70] Schmidt, *supra* note 1 (stating that "the market appears stuck in a deep freeze" and has been mired by a stalemate).

[71] All Things Considered, *supra* note 11 ("But with mortgage rate lock-in, current homeowners don't move because they'd have to give up a low rate for a high one.").

[72] Lily Katz, *The Lock-in Effect: 89% of People With Mortgages Have an Interest Rate Below 6%, Down From a Record 93% in 2022*, REDFIN (Jan. 12, 2024), https://www.redfin.com/news/mortgage-rate-lock-in-housing-2023/ ("Nationwide, 88.5% of U.S. homeowners with mortgages have an interest rate below 6%, down from a record high of 92.8% in mid-2022.").

[73] Dickler, *supra* note 10 ("'Dampened affordability remains an issue for interested homebuyers and homeowners seem unwilling to lose their low rate and put their home on the market,' said Sam Khater, Freddie Mac's chief economist.").

This "lock in" will have profound effects for the US economy, beyond making housing more unaffordable.[74] As one expert put it, "[i]t will be harder for people to move, for a better job or to be closer to their families, and there will be less inventory and higher prices for aspiring buyers."[75]

E. Comparison with Other Countries

The home-mortgage system in the rest of the world looks very different from the system in the United States.[76] The predominant mortgage instruments in other countries, including many in Europe, frequently have variable (or adjustable) rates, with initial fixed periods lasting between one and ten years.[77] After this initial period, the loan either changes to a different rate set by the lender, or is indexed to the market.[78] Because homeowners' mortgage rates adjust to the market every few years, homeowners have no incentive to hang on to a mortgage with a preferable rate, and thus do not suffer from the "lock-in" phenomenon affecting US homeowners.[79] However, despite some advantages, borrowers with adjustable-rate mortgages can be placed

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[74] Schrager, *supra* note 19 ("That constrains supply and keeps prices from falling very much.").
[75] *Id.*
[76] Zywicki, *supra* note 18 ("The United States is virtually unique in the world in featuring a standard mortgage with the particular characteristics that have traditionally dominated the American mortgage market.").
[77] Michael Lea, *International Comparison of Mortgage Product Offerings*, RSCH. INST. FOR HOUS. AMERICA 1, 18 (2010) ("Australia, Ireland, Korea, Spain and the United Kingdom (U.K.) are dominated by variable-rate mortgages often with a short-term initial fixed rate.").
[78] *Id.* ("Spain, Korea and the United States have indexed ARMs with rate changes determined by changes in the underlying index. Recently, "tracker" mortgages, which are indexed ARMs, have become common in the U.K.").
[79] Schrager, *supra* note 19 ("Homeowners aren't so lucky in other countries, where long-term fixed-rate mortgages are far less common. . . But in the long term, the US housing market will be much less fluid because people are tied to their mortgages. It will be harder for people to move, for a better job or to be closer to their families, and there will be less inventory and higher prices for aspiring buyers.").

into unsustainable financial positions when their interest rates suddenly rise.[80]

Perhaps the country with the mortgage system most similar to that of the United States is Denmark.[81] Like the United States, the Danish residential housing market also contains a large percentage of long-term FRMs, and these mortgages can be prepaid without penalty.[82] However, the Danish system also contains some key differences that have prevented its housing market from suffering from the same freeze caused by the "lock-in" effect.[83]

The Danish mortgage system operates on a concept called "Balance of Principal".[84] In this system, mortgages are financed through the issuance of "covered bonds" by specialized mortgage banks.[85] These

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[80] *To Fix Broken Mortgage Markets, Look to Denmark*, THE ECONOMIST (Aug. 31, 2023) https://www.economist.com/leaders/2023/08/31/to-fix-broken-mortgage-markets-look-to-denmark ("Buyers have been left competing for the much smaller stock of new homes, sales of which are nearly a third higher than a year ago. And house prices, having dipped briefly after rates first rose, are once again reaching all-time highs.").

[81] Lea, *supra* note 77 at 8 ("The only other country that utilizes the FRM is Denmark.").

[82] Jesper Berg, Morten Baekmand Nielsen, & James Vickery, *Peas in a Pod? Comparing the U.S. and Danish Mortgage Finance Systems*, FED. RESERVE BANK OF N.Y. ECON. POL'Y REV. 24, No. 3, Dec. 2018, at 68 https://www.newyorkfed.org/medialibrary/media/research/epr/2018/epr_2018_us-danish-mortgage-finance_berg.pdf ("As in the United States, the traditional mortgage contract in Denmark is a fixed-rate mortgage that fully amortizes over thirty years and may be prepaid at any time without penalty.").

[83] THE ECONOMIST, *supra* note 80 ("In Denmark homebuyers can borrow at 30-year fixed rates, and mortgages are prepayable. About half of borrowers fix for three decades. Yet there is no problem of "locked in" homeowners because a seller can end a mortgage by buying it back at its market value, which falls when rates rise, thereby cashing out the value of their interest-rate fix.").

[84] Lea, *supra* note 77 at 22 ("The Danish system is based on the Principle of Balance (POB) [Realkreditrådet 2009].").

[85] Berg et al., *supra* note 82 at 64 ("In the Danish model, mortgages are financed through the issuance of 'covered bonds' (bonds collateralized by a cover pool of mortgages or other debt) by a small number of specialized mortgage banks.").

mortgage credit institutions ("MCI") are banks whose only purpose is to issue and distribute mortgages.[86] In this system,

> [T]he covered bonds match the maturity and cash flows of the underlying pool of mortgages funded by the bond, and payments by mortgage borrowers are passed directly through to covered bond investors. Thus, interest rate risk and prepayment risk are borne by investors rather than by the mortgage bank that issues the covered bond. However, ownership of the mortgages is retained by the mortgage bank throughout its life, and the bank bears any credit losses on the mortgages.[87]

"Cash flows pass directly from borrowers to covered bond investors, with the mortgage bank acting as servicer."[88] The covered bond investors are highly secured, and the market is highly regulated.[89]

What all this means is that this system not only allows Danish homeowners to refinance their mortgages if rates fall (as in the U.S.), but also allows them to "buy-back" their mortgages at a discount if rates rise. Mortgages can be repurchased below par because

> Danish mortgage-backed bonds are pure pass-through securities: each specific mortgage can be traced directly to a bond that is traded in the secondary market. This means that when a mortgagor wants to terminate the loan, it is possible to identify the bond it was financed through and buy back an equivalent portion at the prevailing market price.[90]

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[86] Aziz Sunderji, *Why Denmark's Housing Market Works Better than Ours*, LINKEDIN (Sept. 30, 2023) https://www.linkedin.com/pulse/why-denmarks-housing-market-works-better-than-ours-aziz-sunderji#:~:text=Mortgage%20lock%2Din%20doesn%27t,at%20par%20but%20no%20lower ("Danish mortgage banks are specialized institutions that only issue and distribute mortgages without maturity transformation (a form of narrow banking).").

[87] Berg et al., *supra* note 82 at 64.

[88] Sunderji, *supra* note 86.

[89] *Id.* ("Covered bond investors are highly secured: they have exclusive recourse to the segregated cover pool of assets on the issuing bank's balance sheet, and (nonexclusive) recourse to the overall assets of the issuer.").

[90] *Id.*

After an interest rate increase, if a borrower notices their loan trading below par in a secondary market, they can

> ask the originating bank to retire the loan from the cover pool, and repurchase the equivalent portion of the covered bond which referenced the mortgage in secondary markets. The funds for the repurchase are provided by the bank (which is incentivized to offer the repurchase financing, since the bank holds the credit risk and the repurchase lowers the borrower's risk profile). In practice, the bank extends a new loan for a smaller amount than the original loan (since it is trading below par), but at the prevailing interest rate (which is higher than the interest rate on the original loan). In effect, the borrower ends up with a new loan with a smaller principal than the original loan, but a higher coupon. She is relieved of her original mortgage, has a new loan, and her monthly payments are unchanged.[91]

Furthermore, unlike mortgages in the U.S., Danish mortgages are normally "assumable", meaning that "a homeowner can transfer his or her mortgage to a buyer as part of a property sale."[92]

When combined, these factors reduce the tendency for homeowners to become "locked in" to their mortgages.[93] Because Danish homeowners can "buy back" their mortgages, they have no incentive to not sell their homes when interest rates rise.[94] The Danish system has been described as a "middle ground" between the 30-year FRMs in the United States and the fully adjustable rate mortgages present in the rest of Europe.[95]

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[91] *Id.*

[92] Berg et al., *supra* note 82 at 6.

[93] *Id.* ("These features are useful in an environment of rising interest rates, since they reduce the tendency for the homeowner to become "locked in" to a mortgage with a below-market interest rate."); Sunderji, *supra* note 86.

[94] Sunderji, *supra* note 86.

[95] THE ECONOMIST, *supra* note 80 ("Fortunately there is a proven middle ground between the distorted American system and a floating-rate free-for-all. In Denmark homebuyers can borrow at 30-year fixed rates, and mortgages are prepayable. About half of borrowers fix for three decades. Yet there is no problem of "locked in" homeowners because a seller can end a mortgage by buying it back at its market value, which falls when rates rise, thereby cashing

F. Conclusion

The 30-year FRM is the predominant mortgage instrument in the United States. It provides homeowners the security and flexibility of low monthly payments. However, it has also played a role in the latest issue with the U.S. housing market.

The Federal Reserve rapidly dropped interest rates during the COVID-19 pandemic. In the aftermath, the Fed then quickly raised them to combat inflation. This caused mortgage interest rates to spike. After a flurry of activity during the pandemic, the number of housing transactions has nearly ground to a halt. In addition to high prices, many prospective buyers are being iced out of the housing market because of insufficient inventory. Sellers who would otherwise like to sell are prevented, because doing so would mean giving up their low interest rate for a much higher one. These homeowners are "locked in" to their mortgages, which has ramifications for the broader economy. This "lock in" effect is causing a lack of mobility among the U.S. population and preventing new homeowners from being able to purchase.

Denmark offers a clue for how to make the housing and mortgage system work better. In Denmark, under the "balance principle" system, mortgages are financed by "covered bonds" issued by specialized banks, which are purchased by investors. The mortgagees are able to refinance when rates fall, but can also directly "buy back" their mortgages when rates rise. Danish mortgages are also assumable by the purchaser. These factors mean that Danish homeowners are not "locked in" to their long-term FRMs whenever rates rise. As a result, while home sales have declined in Denmark since 2020, they have not done so nearly to the extent that they have in the United States. Denmark shows how a tweak to the mortgage system can allow for homeowners to enjoy the benefits of the 30-year FRM, while still maintaining flexibility in the housing market as a whole.

Graham Steele-Perkins[96]

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out the value of their interest-rate fix. Alternatively they can transfer their mortgage to the home's new owners. The result is greater dynamism: in the first quarter of 2023 housing transactions were down by only 6% on a year earlier, compared with 22% for existing homes in America.").

[96] Student, Boston University School of Law (J.D. 2025).