ZAIS Insights

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The big housing correction

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The big housing correction

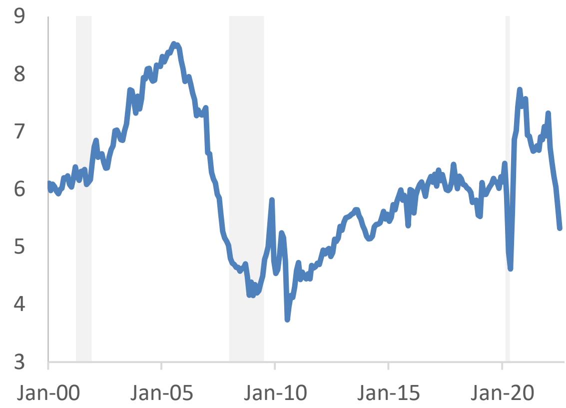
- The plunge in home sales is caused by much deteriorated affordability
- … and not, in our view, a sign of a bursting housing bubble
- The main risk for housing would be a deep and protracted recession
- The surge in house prices is likely to force more households to rent

US home sales plunged more than 25% since the beginning of the year (see Chart 1). In our view, this was triggered by a sharp deterioration in housing affordability rather than as a sign of a collapsing housing bubble.

In particular, we see no lending and building excesses as in the housing bubble that preceded the 2008-09 financial crisis.

Chart 1: Total home sales

Million units saar



Source: US Census and NAR [1]

We anticipate some more downside in home sales in coming months and expect house prices to come under pressure with a lag. We also think housing activity will remain muted in 2023 until affordability conditions improve again.

The main risk to housing, in our judgment, would be a deep and protracted recession with large unemployment increases. This could turn the affordability problem into a solvency crisis. We estimate the probability of a recession in the coming 12 months at about 50% but do not expect a sharp rise in unemployment.

The affordability squeeze

The sharp decline in home sales this year follows a boom in 2020-21 (see Chart 1 again). We attribute the housing boom in 2020-21 to a shift in housing preferences triggered by the Covid pandemic and much improved affordability conditions. While the shift in housing preferences is difficult to quantify,[2] the improvement in affordability can be traced to the fall in mortgage rates and the rise in disposable income linked to the Covid-19 relief packages.[3]

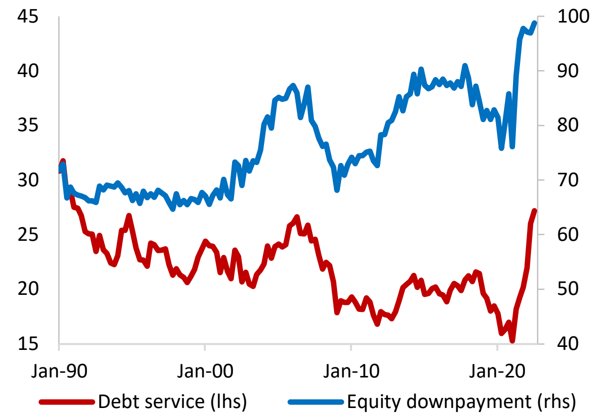
Chart 2 shows housing affordability for a median homebuyer family in the US in terms of the expected debt-service payment and the equity down payment relative to income.

- Debt service payments dropped from 21.6% of median family income in the third quarter of 2018 to a thirty-year low of 15.3% in the first quarter of 2021.[4] We estimate that about half the decline in the debt-service ratio was due to the fall in mortgage rates and the other half due to the income boost from the Covid-relief packages.

- Equity down payments dropped over the same period from 87.2% of median family income to 76.1% as income increases due to the Covid-relief packages far outpaced home price increases.[5]

Chart 2: Housing affordability*

% of median family income



*Housing affordability measures the debt-service and equity down-payment of a median homebuyer family and is calculated based on median home prices, median family income and the 30-year mortgage rate. We assume a loan-to-value ratio of 80% and full amortization of the mortgage over the 30 year duration.

Source: US Census, Freddie Mac and own calculations.[6]

These favorable affordability conditions reversed sharply since the second half of last year (see Chart 2 again). Based on our calculations, the debt-service ratio nearly doubled to currently 27%, which is a 30-year high.[7] Put into dollar terms, we estimate that a median family currently has to pay $2060 per month to service a new mortgage for a median-priced home versus just $1225 in 2019, which is an increase of more than 66%. Furthermore, the equity down payment ratio jumped to 99%, which is an increase of more than 20% points and also a 30-year high.[8]

The deterioration of affordability is due to the near doubling of mortgage rates, the phasing out of the Covid-relief packages – which implied a 2.5% decline in incomes in the first half of this year – and still strong home price increases through the first half of this year.[9]

The rise in inflation has further squeezed affordability. Real disposable incomes dropped 8.5% in the first half of the year, forcing households to cut their savings rate and leaving less income to invest in housing.[10]

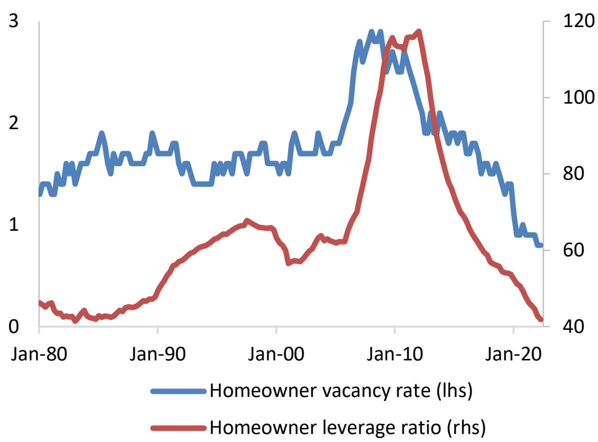
In our view, housing preferences have not made a u-turn and we think that many people are still looking to change their housing situation. However, we believe that the deterioration in affordability conditions is so powerful that most people who are looking to change their housing situation can simply no longer afford it.

But not the collapse of a bubble

Another look at chart 2 shows that the speed and extent of the deterioration in housing affordability is even stronger than in the bubble period before the financial crisis. However, this is no déjà-vu, in our view. As we outlined in previous ZAIS Insights, we see no excesses in mortgage lending and housing construction (see Chart 3).[11]

Chart 3: Homeowner leverage & vacancies

% both scales



Source: US Census and Board of Governors of the Federal Reserve System [12]

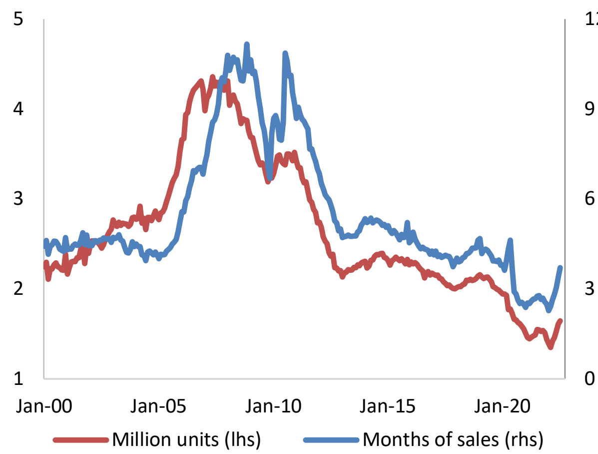
- Households have reduced their mortgage debt burden and actual mortgage debt service payments are at the low side of the range over the last 40 years despite the recent increase in mortgage rates.[13]
- The housing boom in 2020-21 has not led to an oversupply of housing. In fact, the homeowner vacancy rate even continued to fall this year and stands at a historic low.[14]

Housing supply remains tight

The low vacancy rates – the rental vacancy rate is also low by past standards[15] highlight that housing supply remains tight despite the plunge in home sales. The inventory of all houses for sale increased since the start of the year due to the drop in sales but remains very low by past standards both in absolute terms as well as in terms of months of sale (see Chart 4).

Chart 4: Total houses for sale

Million units saar (lhs) & months of sales (rhs)

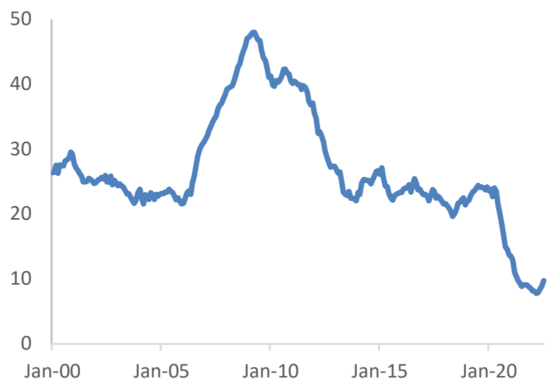


Source: US Census and NAR [16]

The inventory of new houses for sale rose more strongly since the start of the year, but the share of completed new houses for sale remains extremely low (see Chart 5 on the next page). We believe that the backlog of unfinished new houses will gradually decline as supply chain disruptions caused by the Corona pandemic fade but we do not expect a strong increase in new housing supply.

Chart 5: Completed new houses for sale

% of all new houses for sale



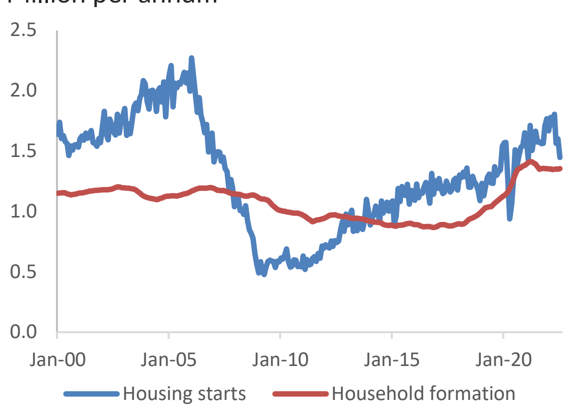
Source: US Census [17]

In our view, labor shortages, limited land supply, increased material costs and tighter financing conditions will continue to limit the construction of new homes. Indeed, housing permits and housing starts have both dropped by around 25% since the start of the year.[18]

The current level of housing starts stands just a touch above the level of new household formation (see Chart 6). Subtracting an estimated quarter million of annual housing demolitions from housing starts, we estimate that net new housing supply runs about 150 thousand units below the demand from new household formation.

Chart 6: Housing starts and household formation

Million per annum



Source: US Census [19]

A deep recession is the main risk

For the rest of the year, we anticipate some more downside in housing activity. We expect existing home sales to drop below 4.5 million but to stabilize above 4 million before the end of the year. We also think that new home sales are likely to drop below 500,000 but not much further. We expect housing activity to stabilize in 2023.

The main risk to our view would be a deep and protracted recession that results in a sharp rise in unemployment. A surge in unemployment would not only worsen the current affordability problem for new home buyers but could also create a solvency problem for existing home owners.

We estimate that the probability of recession over the next 12 months is about 50%. In our view, recession could be triggered by more Fed tightening or external shocks such as recessions in Europe or Asia. However, we also think household and business fundamentals are strong and any recession is unlikely to be deep and protracted.

Thus, while we think the labor market will cool down over the coming 12 months, a sharp rise in unemployment is unlikely in our view. In particular, we think employers will be more cautious to let staff go given the overall shortage of labor and firms' frustrating experience to rehire workers when the Covid pandemic started to fade.

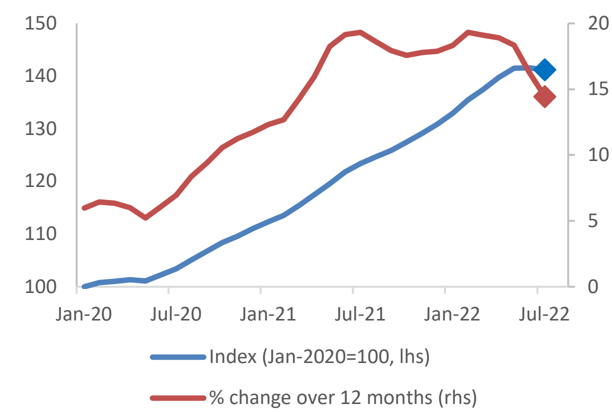
House prices to ease but not to plunge

Overall, we view the current dynamics in the housing market as a cyclical adjustment that moves demand closer to supply. We believe this adjustment will also bring down house price appreciation, albeit with a lag.

National house prices continued to rise strongly for the first five months of the year while home sales were already falling (see Chart 7). In June, however, house prices suddenly stalled with prices actually falling in five of the nine Census Divisions (only the South-East Central and Middle Atlantic Divisions reported ongoing strong price increases in June).[20] For July, CoreLogic reports that US house prices fell 0.3% from June.[21]

Chart 7: National house price index

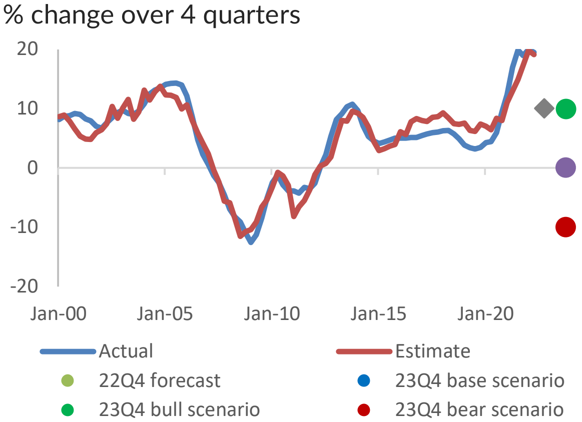
Index (lhs) and % change (rhs)



Source: FHFA, the last observation for July 2022 is based on the latest house price data from Corelogic [22]

Chart 8: House price appreciation

% change over 4 quarters



Source: S&P/Case Shiller and own estimates [23]

Based on our analysis house, prices respond to changes in affordability, leverage and supply conditions with lags between two and six quarters. Chart 8 shows our estimate of the house price appreciation rate since 2000. Given our estimates of the adjustment lags, we forecast that the house price appreciation rate will ease to 10% by the end of this year. Looking into next year, we see three possible scenarios.

- **Base scenario**: The Fed hikes the funds rate to 4.5% triggering a mild recession. Housing affordability in terms of debt-service payments stabilizes at around 25% of median family incomes, housing leverage stays flat, and housing supply stabilizes at around five months of total home sales. In this scenario, we estimate that house price appreciation will move to zero by the end of next year.
- **Bull scenario**: The Fed stops rate hikes at the end of this year with a possible easing later in 2023 and recession is avoided. Debt-service payments fall to 20% of median family incomes, housing leverage increases and housing supply stays between three and four months of total home sales. In this scenario, we estimate that house price appreciation will stay at about 10% next year.
- **Bear scenario**: The Fed hikes the funds rate to 7% triggering a severe recession. Debt-service payments rise to 30% or more of median family income, housing leverage declines and housing supply increases to about seven months of total home sales. In this scenario, we estimate that house price appreciation will turn negative and finish next year at -10%.

Assessing the likelihood of the scenarios is difficult given current uncertainties. We view the base scenario as the most likely and the bear scenario as the least likely. In any event, we think housing fundamentals remain robust given the health of household balance sheets and limited housing supply.

Thus, we expect housing activity to recover faster than after the financial crisis.

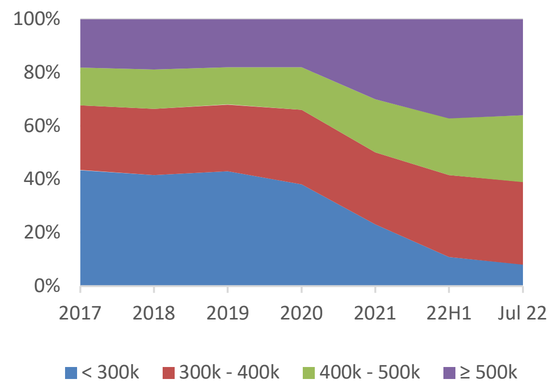
Crowding out effect

One restraint that is likely to stay, however, is affordability for lower-income families. The strong increase in house prices since the middle of 2020 has not only contributed to the overall deterioration in housing affordability but has also significantly changed the distribution of house prices. In the three years prior to the Covid pandemic, new houses costing less than $300,000 accounted for more than 40% of all new houses sold. Now that share has dropped to below 10%, while the share of houses costing $500,000 and more has doubled (see Chart 9).

We believe that means that disproportionally fewer households in the lower-income range will be able to afford a house. The high rate of inflation compounds this crowding out effect, in our view, as lower-income households are less able to save income to purchase a home.

Chart 9: New houses sold by sales price

% of total



Source: US Census [24]

As a result, we expect that more households will be forced to rent rather than buy a home. We think this shift from buying to renting will also become visible in the inflation data, with primary rental inflation to stay stronger relative to owners'-equivalent rental inflation.

More information

As always, we are available to discuss our views with you. Please contact your Client Relations representative at +1 732 978 9722 or zais.clientrelations@zaisgroup.com

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[1] U.S. Census Bureau and U.S. Department of Housing and Urban Development, New One Family Houses Sold: United States [HSN1F], retrieved from FRED, Federal Reserve Bank of St. Louis; September 8, 2022.

https://fred.stlouisfed.org/series/HSN1F

National Association of Realtors, Existing Home Sales [EXHOSLUSM495S], retrieved from FRED, Federal Reserve Bank of St. Louis; September 8, 2022.

https://fred.stlouisfed.org/series/EXHOSLUSM495S

[2] For research on the impact of COVID-19 on housing preferences in the US see the following publications.

Did the pandemic advance new suburbanization? Yung Chun, Tyler Haupert, Stephen Roll, Sophia R. Fox-Dichter, and Michal Grinstein-Weiss; Brookings; May 23, 2022.

https://www.brookings.edu/blog/up-front/2022/05/23/did-the-pandemic-advance-new-suburbanization/

Americans Are Less Likely Than Before COVID-19 To Want To Live In Cities, More Likely To Prefer Suburbs; PEW RESEARCH CENTER; DECEMBER 16, 2021.

https://www.pewresearch.org/social-trends/2021/12/16/americans-are-less-likely-than-before-covid-19-to-want-to-live-in-cities-more-likely-to-prefer-suburbs/

US Housing Market during COVID-19: Aggregate and Distributional Evidence; Yunhui Zhao ; IMF Working Paper WP/20/212; September 25, 2020.

https://www.imf.org/en/Publications/WP/Issues/2020/09/25/US-Housing-Market-during-COVID-19-Aggregate-and-Distributional-Evidence-49775

Covid-19 impact on US housing markets: evidence from spatial regression models; Jim Lee & Yuxia Huang (2022); Spatial Economic Analysis, 17:3, 395-415, DOI: 10.1080/17421772.2021.2018028.

https://doi.org/10.1080/17421772.2021.2018028

[3] Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022. https://fred.stlouisfed.org/series/MORTGAGE30US

U.S. Bureau of Economic Analysis, Disposable Personal Income: Per capita: Current dollars [A229RC0], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/A229RC0

[4] The figures are the values for 2018-Q3 and 2021-Q1 for the debt-service payment from Chart 2.

[5] U.S. Bureau of Economic Analysis, Disposable Personal Income: Per capita: Current dollars [A229RC0], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

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S&P Dow Jones Indices LLC, S&P/Case-Shiller U.S. National Home Price Index [CSUSHPINSA], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

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[6] U.S. Census Bureau and U.S. Department of Housing and Urban Development, Median Sales Price of Houses Sold for the United States [MSPUS], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/MSPUS

U.S. Census Bureau, Median Family Income in the United States [MEFAINUSA646N], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/MEFAINUSA646N

Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022. https://fred.stlouisfed.org/series/MORTGAGE30US

[7] Debt service payments exceeded 27% of median family income the last time in the second quarter of 1991)see chart 2).

[8] The equity downpayment ratio reached only 90% in prior highs in 2006 and 2017 (see chart 2).

[9] Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022. https://fred.stlouisfed.org/series/MORTGAGE30US

U.S. Bureau of Economic Analysis, Disposable Personal Income: Per capita: Current dollars [A229RC0], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

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https://fred.stlouisfed.org/series/CSUSHPINSA

[10] U.S. Bureau of Economic Analysis, Real Disposable Personal Income: Per Capita [A229RX0], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/A229RX0

[11] ZAIS Insights; No Housing Bubble Yet; April 2021; https://www.zaisgroup.com/no-housing-bubble-yet.html

[12] U.S. Census Bureau, Homeowner Vacancy Rate in the United States [RHVRUSQ156N],

retrieved from FRED, Federal Reserve Bank of St. Louis; September 4, 2022.

https://fred.stlouisfed.org/series/RHVRUSQ156N

Homeowner leverage is the ratio of homeowners' mortgage debt to homeownera' equity in real estate.

Board of Governors of the Federal Reserve System (US), Households; Owners' Equity in Real Estate as a Percentage of Household Real Estate, Level [HOEREPHRE], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022.

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Board of Governors of the Federal Reserve System (US), Households; Owners' Equity in Real Estate, Level [OEHRENWBSHNO], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022.

https://fred.stlouisfed.org/series/OEHRENWBSHNO

[13] Note that the mortgage debt-service payment ratio applies to existing mortgage debt and not new mortgages as in the affordability calculations.

Board of Governors of the Federal Reserve System (US), Mortgage Debt Service Payments as a Percent of Disposable Personal Income [MDSP], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022.

https://fred.stlouisfed.org/series/MDSP

[14] The homeowner vacancy rate fell in the first half of the year to 0.8%, which is a historical low since the beginning of the statistic in 1956.

U.S. Census Bureau, Homeowner Vacancy Rate in the United States [RHVRUSQ156N], retrieved from FRED, Federal Reserve Bank of St. Louis; September 4, 2022.

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[15] U.S. Census Bureau, Rental Vacancy Rate in the United States [RRVRUSQ156N], retrieved from FRED, Federal Reserve Bank of St. Louis; September 7, 2022.

https://fred.stlouisfed.org/series/RRVRUSQ156N

[16] U.S. Census Bureau and U.S. Department of Housing and Urban Development, New One Family Homes for Sale in the United States [HNFSEPUSSA], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/HNFSEPUSSA

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[17] U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Houses for Sale by Stage of Construction, Completed [NHFSEPCS], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

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[18] U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Privately-Owned Housing Units Authorized in Permit-Issuing Places: Single-Family Units [PERMIT1], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/PERMIT1

U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Privately-Owned Housing Units Started: Single-Family Units [HOUST1F], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/HOUST1F

[19] U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Privately-Owned Housing Units Started: Total Units [HOUST], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/HOUST

U.S. Census Bureau, Household Estimates [TTLHHM156N], retrieved from FRED, Federal Reserve Bank of St. Louis; September 12, 2022.

https://fred.stlouisfed.org/series/TTLHHM156N

[20] Monthly FHFA House Price Index® for Census Divisions and U.S.; Purchase-Only Index; https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index-Datasets.aspx#mpo

[21] CoreLogic; U.S. Home Price Insights September 2022.

https://www.corelogic.com/intelligence/u-s-home-price-insights-september-2022/#:~:text=The%20CoreLogic%20HPI%20Forecast%20indicates,July%202022%20to%20July%202023.

[22] Monthly FHFA House Price Index® for Census Divisions and U.S.; Purchase-Only Index; https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index-Datasets.aspx#mpo

CoreLogic; U.S. Home Price Insights – September 2022.

https://www.corelogic.com/intelligence/u-s-home-price-insights-september-2022/#:~:text=The%20CoreLogic%20HPI%20Forecast%20indicates,July%202022%20to%20July%202023

[23] S&P Dow Jones Indices LLC, S&P/Case-Shiller U.S. National Home Price Index [CSUSHPINSA], retrieved from FRED, Federal Reserve Bank of St. Louis; September 13, 2022.

https://fred.stlouisfed.org/series/CSUSHPINSA

[24] U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Houses Sold by Sales Price in the United States. August 23, 2022 - The U.S. Census Bureau and the U.S. Department of Housing and Urban Development jointly announced the following new residential sales statistics for July 2022.

https://www.census.gov/construction/nrs/pdf/newressales.pdf

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ZAIS Group, LLC's registrations with the Securities and Exchange Commission (the "SEC") and the Commodity Futures Trading Commission (the "CFTC"), and ZAIS Group (UK) Limited's status as an appointed representative of Infinity Asset Management LLP (which is authorized by the United Kingdom's Financial Conduct Authority ("FCA"), does not imply a certain level of skill or training.