US Housing Outlook: Housing recovery making inflation more sticky

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Ten facts about the US housing market

1. Traffic of prospective homebuyers is rebounding
2. Homebuilder and homebuyer confidence are rebounding
3. Existing home sales and new home sales are rebounding
4. Average number of offers received per sold property is currently 3, up from 2 six months ago
5. Housing inventory is very low, about 1/3 of what it was in 2007
6. US households move to a new address less than they did 10, 20, and 30 years ago
7. The effective mortgage rate for US households at 4% is much lower than a new mortgage at 7%
8. 60% of all mortgages outstanding were issued after 2018
9. It currently takes 8 months to build a single-family home
10. Investors account for 18% of all single-family homes sold, up from 10% in 2006
Why is housing rebounding despite higher mortgage rates?

1. Low housing supply
2. Solid job growth
3. Solid wage growth
4. Excess savings

Source: Apollo Chief Economist
Leading indicators of the housing market
Active listings still at very low levels, very low inventory of homes for sale
Homesellers don’t want to sell their house at a discount: The stock of total existing homes for sale moving down
Structural decline in the share of the US population moving to a new address
Effective outstanding mortgage rate vs the 30-year mortgage rate on a new mortgage

Source: Freddie Mac, BEA, Bloomberg, Apollo Chief Economist. The effective interest rate (%) reflects the amortization of initial fees and charges over a 10-year period, which is the historical assumption of the average life of a mortgage loan.
Traffic of prospective homebuyers starting to improve

Source: National Association of Homebuilders, Bloomberg, Apollo Chief Economist
Confidence improving for homebuyers and homebuilders

Source: University of Michigan, NAHB, Haver Analytics, Apollo Chief Economist
Home sales starting to recover

Source: Census Bureau, NAR, Haver, Apollo Chief Economist; Forecast is Bloomberg consensus.
Consumers saying “This is a good time to sell a house” rebounding
Inventory falling across price tiers

Source: American Enterprise Institute, Haver, Apollo Chief Economist
House price inflation stabilizing

[Graph showing YoY home price appreciation index for different price tiers from January 2018 to May 2023.]

Source: American Enterprise Institute, Haver, Apollo Chief Economist
Home price inflation expectations rising

Source: University of Michigan, Haver Analytics, Apollo Chief Economist
Bidding wars are coming back

Source: NAR, Apollo Chief Economist
Despite high prices, homebuyer sentiment improving

Current Conditions for Buying Houses: Bad: High Prices

Source: University of Michigan, Apollo Chief Economist
Housing affordability at 2007 levels but starting to bottom

Source: Bloomberg, Apollo Chief Economist
Homebuyer sentiment about mortgage rates and credit conditions getting better

Source: University of Michigan, Apollo Chief Economist
Mortgage refi applications stabilizing

Source: Mortgage Bankers Association, Bloomberg, Apollo Chief Economist
Newly listed homes very low

Source: Realtor.com. Apollo Chief Economist
Fewer people listing their home for sale in a down market

Source: Redfin, Haver Analytics, Apollo Chief Economist.
Vacant housing units held off market coming down

Source: Census Bureau, Haver Analytics, Apollo Chief Economist
New houses for sale under construction is coming down

Source: Census Bureau, Apollo Chief Economist
Housing starts also showing signs of bottoming

Source: Bloomberg, Apollo Chief Economist
Upside risks to residential investment

Source: BEA, NAHB, Haver Analytics, Apollo Chief Economist
It currently takes 8 months on average to build a single-family house

Source: Census, Haver Analytics, Apollo Chief Economist. Note: Single family homes are 1 unit buildings.
Median home sales price now $417K

Source: Census Bureau, Apollo Chief Economist
ARM share of total mortgage applications at 8%

Adjustable-rate mortgage share of conventional applications

Source: MBA, Bloomberg, Apollo Chief Economist (Note: It is 5-year ARM)
Mortgage rates moving higher

Source: Bloomberg, Apollo Chief Economist
60% of all mortgages outstanding were issued after 2018

Share of active US mortgages by issue date

Source: Bloomberg, Apollo Chief Economist. Note: Data comes from MTGS <GO> screen on Bloomberg
With the housing market recovering, housing inflation will be more sticky
New versus existing homes
House prices are down a bit for new homes but up for existing homes

Median Sales Price: Total Existing Homes
Median Sales Price: New 1-Family Houses

Source: Census, Apollo Chief Economist
New privately owned housing units under construction starting to peak
Consensus is forecasting a rebound in home sales

Source: Census Bureau, NAR, Haver, Apollo Chief Economist; Forecast is Bloomberg consensus
Our US house price model
US house price model

US home price (%YoY, t) = 25.49 - 3*mortgage rates(12 m change, t-12) -5.2*Existing home sales inventory(t) - 1.6*Unemployment rate(t)
1) Housing Demand: Higher mortgage rates and high home prices slowing demand
Plans to buy a home stabilizing

Source: Conference Board, Apollo Chief Economist
Monthly mortgage payments on new mortgages still very high

Source: NAR, Haver Analytics, Apollo Chief Economist
Mortgage payment reached an all time high

Source: Bloomberg L.P., Apollo Chief Economist (Note: Calculation of monthly payment using the 30-year purchase loan application size and the 30-yr effective rate.)
Mortgage purchase applications weaker than usual
Availability of mortgage credit continues to tighten

Source: Mortgage Bankers Association, Bloomberg, Apollo Chief Economist
Mortgage originations coming down to pre-pandemic levels
Mortgage originations normalizing for households with high credit scores
Households are running down their excess savings, but still about $1.2trn left

Note: Bloomberg, Apollo Chief Economist
Demographics are a tailwind to housing demand

Source: UN, Haver, Apollo Chief Economist
Household formation rising

Source: Census Bureau, Haver, Apollo Chief Economist
The number of renter occupied housing units getting elevated
Homeownership rate moving gradually higher

Source: Bloomberg, Apollo Chief Economist
Low unemployment is a significant tailwind to housing demand

Source: BLS, Haver Analytics, Apollo Chief Economist
Delinquent mortgages still low

Source: Bloomberg, Apollo Chief Economist
Investors accounting for 18% of all home purchases

Source: Redfin, Apollo Chief Economist (Definition of Investor market share: the percentage of total home sales in which an investor was the buyer)
Investor share of multi family trending higher

Source: Redfin, Apollo Chief Economist (Definition of Investor market share: the percentage of total home sales in which an investor was the buyer)
Migration out of California and migration into Florida during the pandemic

Source: Census Bureau, Apollo Chief Economist
2) Housing Supply: Housing supply is low, construction coming down from record-high levels
US housing inventory falling
Homeowner and Rental vacancy rates very low

Source: Bloomberg, Apollo Chief Economist
Residential construction spending coming down from recent peak

Source: Census, Apollo Chief Economist
New housing units authorized near record highs
The biggest decline in non-residential construction has been in lodging.
3) House Prices: Home price inflation stabilizing
Home price inflation stabilizing

Source: NAR, Haver, Apollo Chief Economist
House price inflation slowing across price tiers

Source: American Enterprise Institute, Haver, Apollo Chief Economist
Home price inflation has peaked

Source: Haver Analytics, BLS, S&P, Apollo Chief Economist
Home price to rent ratio significantly above 2006 levels

Source: FHFA, BLS, Apollo Chief Economist. Note: the series is indexed ratio of FHFA monthly purchase only house price index divided by the OER component of the CPI.
4) Housing Outlook: **High mortgage rates, high home prices, strong supply pipeline, and high building costs are risks to this housing cycle**
Housing construction costs are high

PPI: inputs to residential construction, goods less foods & energy inputs

Source: Bureau of Labor Statistics, Apollo Chief Economist
Inflation in input costs for home builders declining
Manhattan median rent at a new high at $4360 in May 2023

Source: Elliman, Apollo Chief Economist
Manhattan rents up 11% year-over-year

Source: Elliman, Apollo Chief Economist
Manhattan rents above pre-pandemic levels

% difference from Feb 2020

Manhattan: median monthly rent (including concessions)

% difference from Feb 2020

Source: Elliman, Apollo Chief Economist
Rising mortgage rates generally associated with lower home price inflation

Source: FRED, Apollo Chief Economist
New foreclosures, by age of homeowner

Source: FRBNY Consumer Credit Panel, Equifax, Haver Analytics, Apollo Chief Economist
Median distance between the home that recent buyers purchased and the home they moved from at 50 miles in 2022

Source: NAR, Apollo Chief Economist
Home improvement spending near all-time high levels

Source: Census Bureau, BEA, Bloomberg, Apollo Chief Economist
Areas that need to build more houses in order to keep up with the increased demand

Source: NAR, Apollo Chief Economist
Comparing the current housing slowdown to previous housing slowdowns
The current decline in existing home sales in line with previous housing slowdowns
The current rise in mortgage rates is similar to what we saw during the Volcker disinflation.
The current decline in housing starts follows pattern of previous slowdowns.
This is the fastest Fed-driven housing slowdown on record

Source: NAR, Haver Analytics, Apollo Chief Economist
Post Covid, homes were sold for less than the list price

Source: Redfin, Haver Analytics, Apollo Chief Economist. (The sale-to-list ratio is the final sale price (what a buyer pays for the home) divided by the last list price expressed as a percentage. If it’s above 100%, the home sold for more than the list price.)
Intent of housing starts

Source: US Census Bureau, Apollo Chief Economist
Torsten Slok joined Apollo in August 2020 as Chief Economist and he leads Apollo's macroeconomic and market analysis across the platform.

Prior to joining, Mr. Slok worked for 15 years as Chief Economist at Deutsche Bank where his team was top ranked in the annual Institutional Investor survey for a decade. Prior to joining Deutsche Bank Mr. Slok worked at the IMF in Washington, DC and at the OECD in Paris.

Mr. Slok has a Ph.D in Economics and has studied at the University of Copenhagen and Princeton University.