TIMBERLAND
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A Brighter Outlook for U.S. Housing Over the Next Decade:

Four Demographic Trends Timberland Investors Should Consider

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TIMBERLAND INVESTMENT RESOURCES LLC

Introduction

End-use markets for wood products are a key driver in generating timberland revenues. Consequently, timberland investors pay close attention to the health of the housing market. In this regard, recent economic activity has not been healthy for wood use. New home construction in the U.S. has faced headwinds in the past couple of years. After peaking in 2021 at 1.60 million units, housing starts fell over 3% in 2022 and over 8% in 2023 (Figure 1). At its current pace, home starts are on track to finish 2024 down nearly 4% from the previous year.

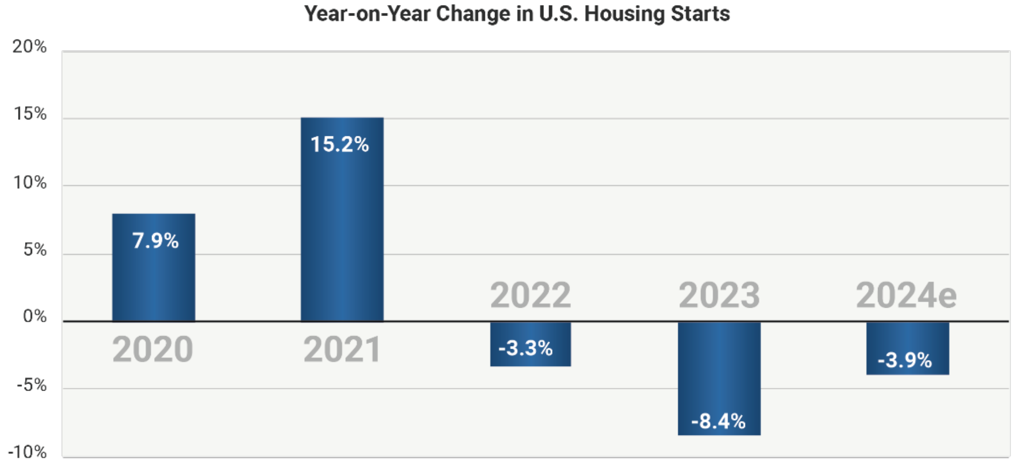

Figure 1. Source: U.S. Census Bureau (historic); Forest Economic Advisors (2024 estimate)

Despite the weakness in the housing sector, timberland investors have little to complain about. Timberland returns have far outperformed those of farmland and real estate over the trailing 1-, 2- and 3-year periods (Figure 2). Naturally, investors with forest holdings in their portfolios have a keen interest in whether this robust track record will continue. It makes sense to ask whether the housing market will be a headwind or tailwind to timberland returns in the coming decade. While the economic outlook is clouded over the near term, we believe several demographic secular trends exist that will support new home construction over the long term and thus drive demand for wood-based building products such as lumber, plywood, and oriented strandboard (OSB).

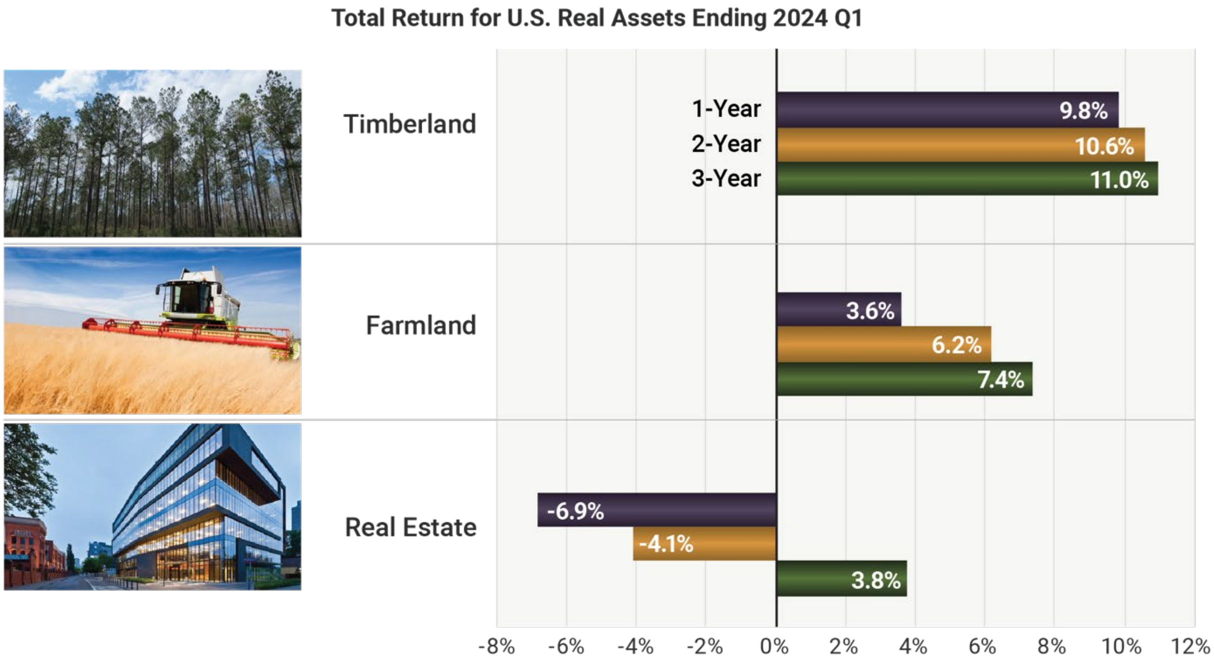

Figure 2. Source: National Council of Real Estate Fiduciaries (NCREIF). Timberland is represented by the Timberland Property Index; farmland is represented by the Farmland Property Index and real estate is represented by the National Property Index.

Outlined below are four important demographic trends that we expect will lay a foundation for rising timber demand over the course of the next decade. By driving timber markets, these trends should benefit long-term timberland investors. The four secular trends include:

1. **Housing Deficit:** New home construction has fallen short of household formation since the Global Financial Crisis ("GFC") of 2007, turning a housing surplus into a housing deficit.

2. **Rebound in Population Growth:** Net population growth for the U.S. has recovered from Covid-pandemic lows.
3. **More First-Time Home Buyers:** A significant portion of the population has entered the age where they want to purchase their first home.
4. **Domestic Migration:** There is regional migration to the U.S. South that has continued during and after the Covid-19 pandemic.

Housing Surplus Turned to Deficit

One of the key reasons new home construction is predicted to show a strong recovery in the coming years is because a large shortfall of homes has developed. In the decade following the GFC of 2007 and the bursting of the U.S. housing bubble, the country has underbuilt houses relative to its fundamental demand. If you assume a starting baseline at 1999 and use U.S. Census estimates of household formations and new home completions, we have a net deficit of around 2.5 million units. We can see this in the waterfall chart (Figure 3) and outlined in Table 1. Each year, a green bar marks a period when more homes were built than fundamental demand. An orange bar marks a period when not enough homes were built to meet that fundamental demand. We define fundamental demand as simply household formation as calculated by the U.S. Census Bureau plus the need to replace some of the aging housing stock due to tear downs or damage (e.g., floods, tornadoes, fires, etc.). In addition, there is also a small number of homes needed for the secondary or vacation home market.

As we can observe from Figure 3, housing was overbuilt during the Housing Bubble in the early half of 2000s. However, we significantly fell short of the demographic need for housing since 2009. That meant a couple million or more households had to find shelter by living with their parents or doubling up with friends through a shared apartment or rental home.

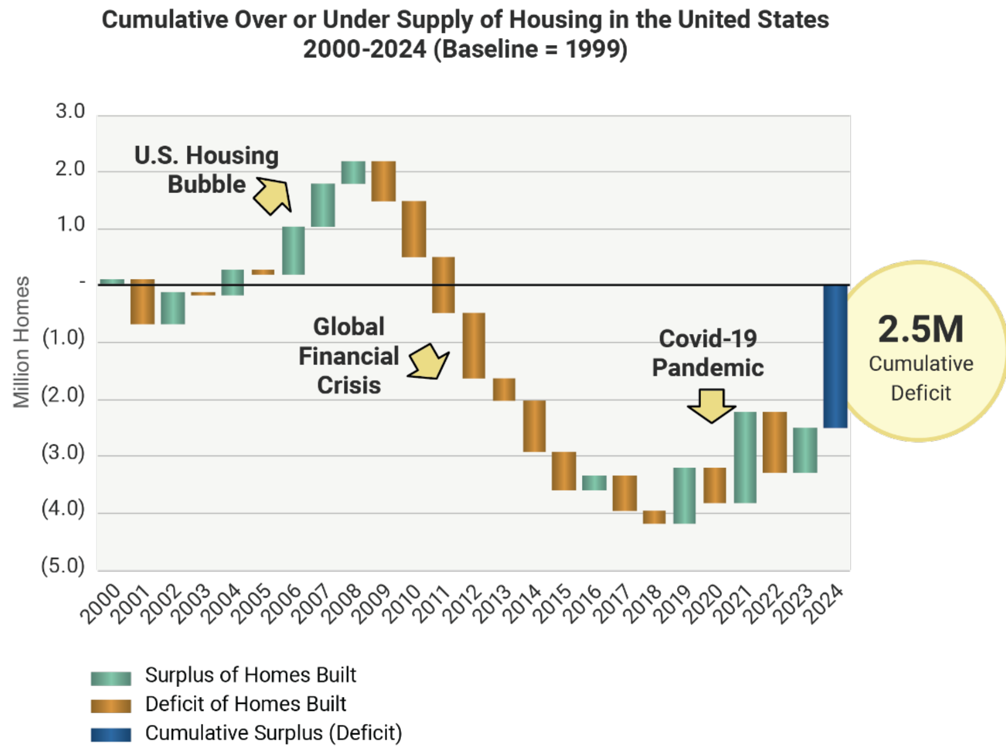

Figure 3. Sources: U.S. Census Bureau (for household formations and housing completions); Forest Economic Advisors (for removals and 2nd home demand)

While our rough estimate is a 2.5 million shortfall, some estimates from other research groups show an even higher value. Back in 2021, Freddie Mac – a leading aggregator of home mortgages for securitization – estimated that the pent-up demand for housing may have reached as high as 3.8 million units at the end of 2020.[1] In June 2024, the research arm of Zillow, a national on-line realty, calculated a housing gap of 4.5 million units.[2] Regardless of the true number, most analysts are in general agreement that there is a meaningful shortfall of housing in the U.S. that needs to be made up eventually.

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[1] Freddie Mac: "Housing Supply: A Growing Deficit" (May 7, 2024) https://www.freddiemac.com/research/insight/20210507-housing-supply

[2] Zillow: "Affordability Crisis: Housing Shortage Worsened Despite Pandemic Construction Boom" (June 18, 2024) https://www.zillow.com/research/affordability-housing-shortage-34153

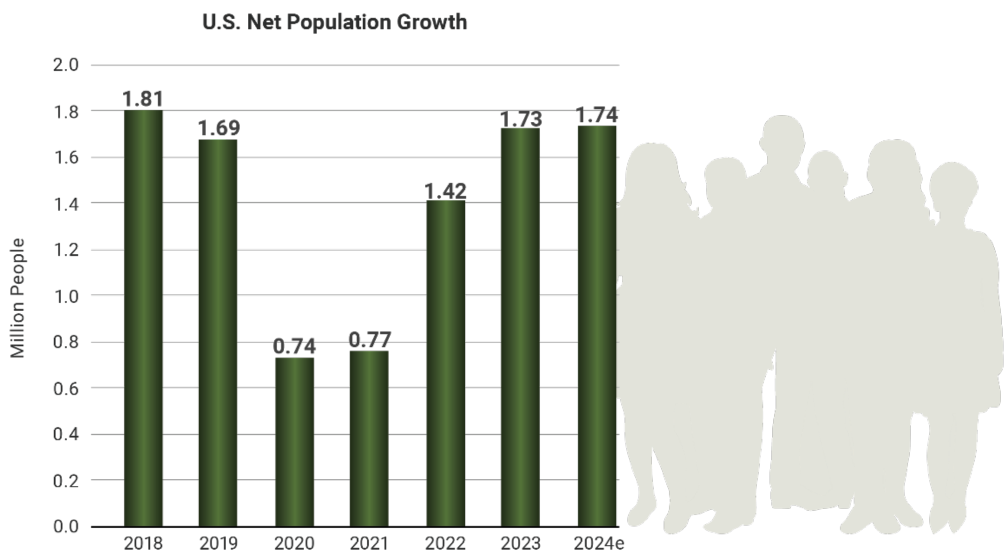
Calculating Net Housing Deficit - Million Units	Annual Average	Total 2000-2023
Net Household Formation	0.97	23.23
+ Losses from Existing Housing Stock (age or damage)	0.33	8.02
+ Second Homes	0.06	1.54
= Fundamental Demand for Housing	**1.37**	**32.79**
- Homes Built	(1.26)	(30.27)
= Housing Deficit	0.10	2.51

Table 1. Sources: same as Figure 3

Net Population Growth Has Recovered

In addition to the backlog of housing that has yet to be built, more is needed each year due to population growth. Net population growth is a long-term driver of new housing demand and is the underlying factor why the housing starts in the U.S. averaged 1.4 million a year for the past half century.

Figure 4. Source: U.S. Census Bureau, *Monthly Population Estimates of the United States* (NA-EST2023-POP)



Only a few years ago, population growth fell. The lockdowns and restrictions resulting from the Covid-19 pandemic in 2020 precipitated a severe drop-off in births and immigration (Figure 4). Annual net population growth fell to a post-World War II low of three-quarters of a million people for 2020 and 2021. However, it has since rebounded to pre-pandemic levels. While fertility rates among women have continued to trend lower, it has been compensated for by a surge of immigration – both legal and illegal – into the country.

The age and income levels of the added residents of the U.S. will determine the year-to-year demand for housing. Nevertheless, the rebound in population growth signals the need to build new homes at rates similar to the 1990s and 2000s to house the additional people entering the population every year.

More Potential First-Time Home Buyers

A third underlying driver for future rising housing demand is the growing portion of the population that will want to purchase their first home. Most people buy their first home between the ages of 25 and 39. Millennials (born 1981-1996) and the older segments of Generation Z (born 1997-2012) have reached that stage of their lives where many form families and become homeowners – if they have not done so already. According to a recent study by Redfin, just one-fourth (26%) of Generation Z of adult age and 55% of Millennials owned their own house in 2023.[3] That is much lower than the 72% homeownership rate of Generation X (born 1965-1980) and the 79% ownership for Baby Boomers (born 1946-1964).

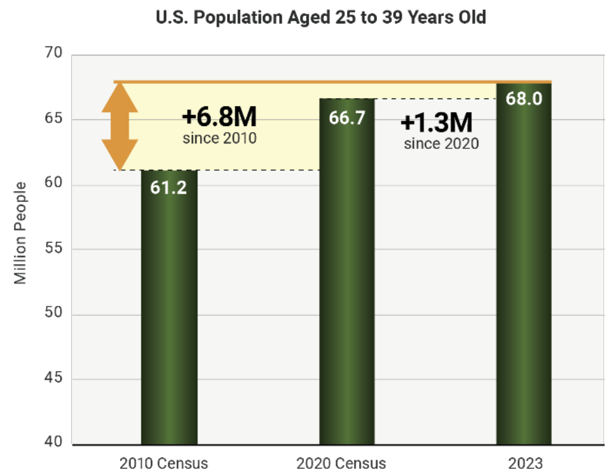


Figure 5. Source: U.S. Census Bureau (NC-EST2023-AGESEX)

Not only is there a larger percentage of potential new home buyers among Millennials and Gen-Z, but there are more Millennials and Gen-Z in number than previous generations. The U.S. Census estimates there are 1.3 million more people in the 25-39-year age group in 2023 compared to the 2020 Census and 6.8 million more than the 2010 Census (see Figure 5). This bulge in the young adult population could help propel the construction of new single-family homes for the next decade.

[3] Dana Anderson of Redfin, "Gen Zers and Young Millennials Took Out 40% of U.S. Mortgages in 2023" (May 20, 2024) https://www.redfin.com/news/gen-z-millennial-mortgages-2023/

Continued Migration to the U.S. South

The fourth major demographic pillar supporting new home construction is the continued movement of people within the U.S. More specifically, many people in all parts of the U.S. are choosing to move to the South to live and work. People are attracted to the region for its lower cost of living, greater availability of housing, and strong job growth. That domestic migration to the South did not diminish during the Covid-19 pandemic and has continued since (Figure 6). According to the U.S. Census Bureau, 706,000 people moved to the South from the Northeast, Midwest and West in the year ending July 1, 2023. That is comparable to the migration numbers of 868,000 for 2022 and 658,000 for 2021.

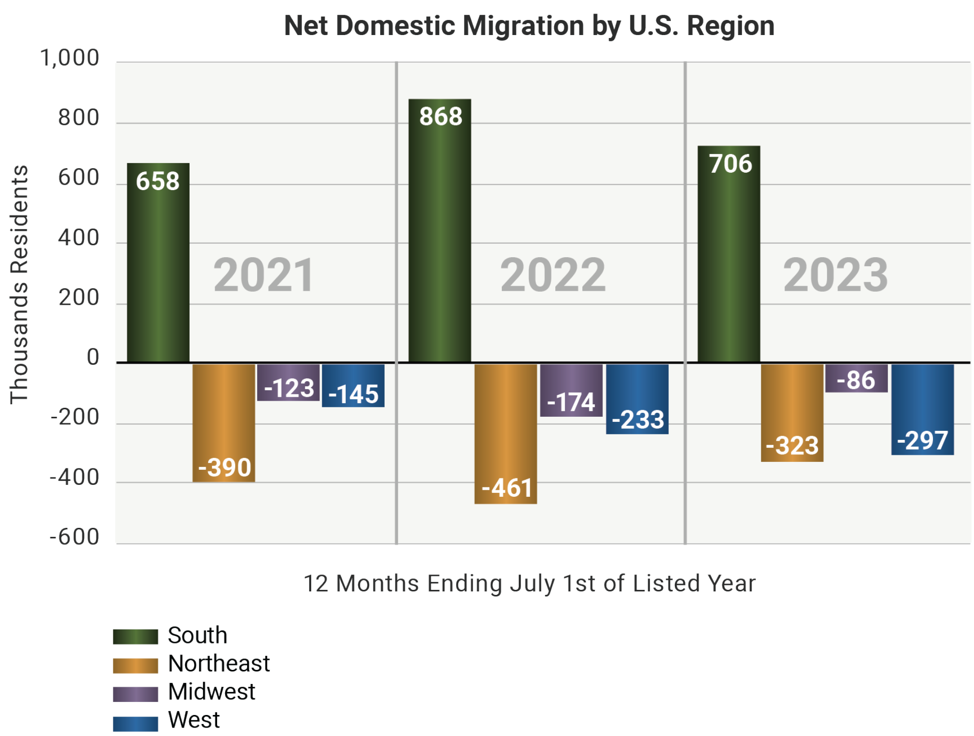


Figure 6. Source: U.S. Census Bureau, *Annual and Cumulative Estimates of the Components of Population Change* (NST-EST2023-COMP)

Because of the movement of people to the South, 87% of net population growth in the U.S. for the year of July 1, 2022 – July 1, 2023 comes just from the South, with all other parts of the country making up the remaining 13% (Figure 7).

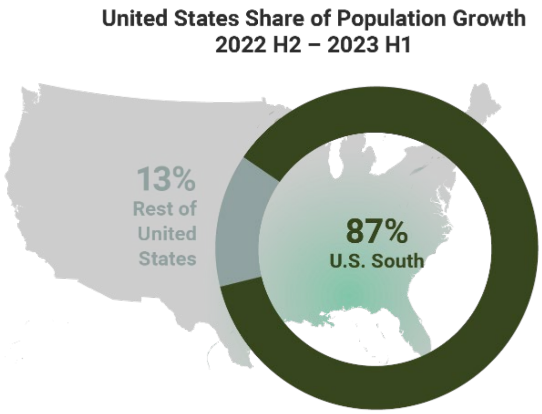


Figure 7. Source: U.S. Census Bureau, *Annual and Cumulative Estimates of the Components of Population Change* (NST-EST2023-COMP)

This is important because net immigration drives new home construction. If people move from one region of the country to another, more houses will be needed in that target region to accommodate the new residents. That demand for homes adds (a) the overall housing deficit, (b) population growth, and (c) the rise of first-time home buyers discussed earlier.

Impact on Wood Product Markets

There is current uncertainty of how the U.S. economy will play out over the next year or two and going forward. Elevated interest rates, weakening consumer finances, and a softening job market are headwinds for the housing sector. However, beyond the current economic cycle, we see the four demographic trends discussed taking hold and giving strong positive support to the housing market through 2030 and beyond. For these reasons, many economists project an eventual recovery in both (a) new home construction and (b) home repair and remodeling.

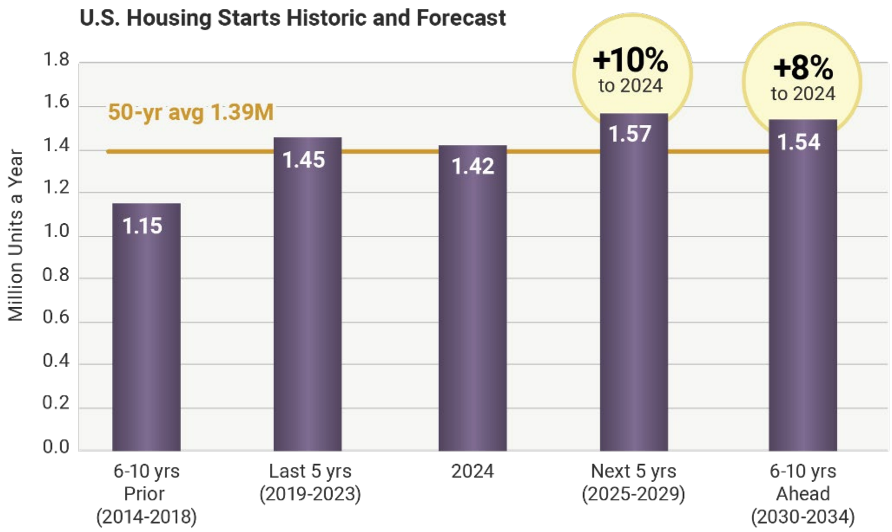


Figure 8. U.S. Census Bureau (historic); Forest Economic Advisors, *Timber Quarterly Forecast 2024 Q2* (May 31, 2024) (forecast). 50-year average starts calculated through May 2024.

To illustrate, we picked the forecast of a representative independent forecast group: Forest Economic Advisors (FEA). Its housing forecast illustrated in Figure 8, shows housing starts rising by 10% on average for the next five years through 2029 at 1.57 million a year. FEA then expects starts to remain comfortably above 50-year historic levels of 1.4 million for the rest of the decade. The pent-up demand for homes and other demographic factors could support starts at a much higher level – probably closer to 2 million a year. However, many builders and developers face supply-side constraints that prevent them from building more homes. Impediments to home construction include the difficulty in hiring skilled labor in the construction trades, on top of the challenges in procuring buildable lots and getting them permitted. Thus, housing starts are not likely to reach beyond 1.4 to 1.7 million a year.

New home construction makes up roughly one-third of total softwood lumber demand in the U.S. Another third comes from home repair and remodeling. Here, analysts, including FEA, predict steady gains in home improvement activity over the next 10 years, on par with housing starts (Figure 9). In large measure, the gains reflect the limited supply of new homes being built. Other tailwinds include an expected decline in interest rates (which lowers the cost of home equity loans) and an ageing housing stock (where the average age of a house is 42 years compared to just 37 years back in 2013).[4] When households cannot buy a new home, they often will choose to remodel or expand an existing home.

[4] U.S. Census Bureau: *American Housing Surveys*

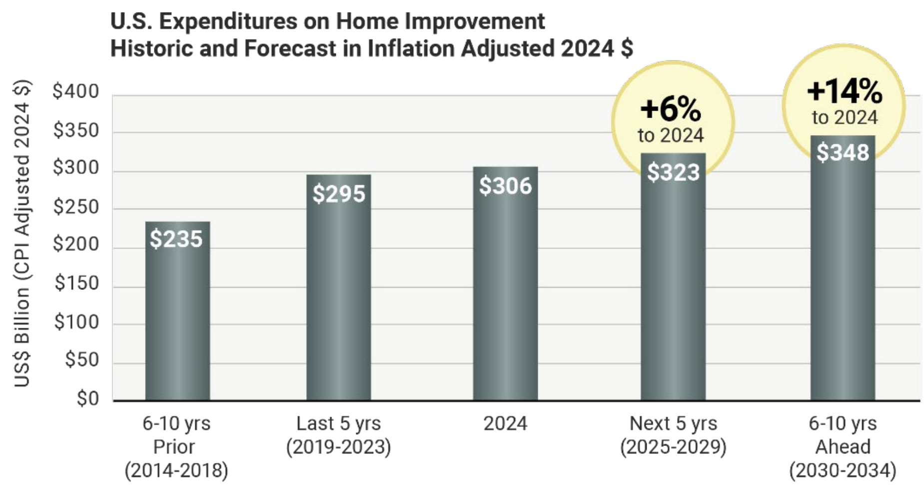


Figure 9. U.S. Bureau of Economic Analysis (historic); Forest Economic Advisors, *Timber Quarterly Forecast 2024 Q2* (May 31, 2024) (forecast)

The long-term gains in residential construction can boost long-run demand for building products made from timber such as lumber, plywood, and oriented strandboard (or OSB). We could see gains of 7% over the first half of the decade with further gains before the decade is out (Figure 10). That will, in turn, drive demand for timber higher, to the benefit of timberland owners across many parts of the U.S.

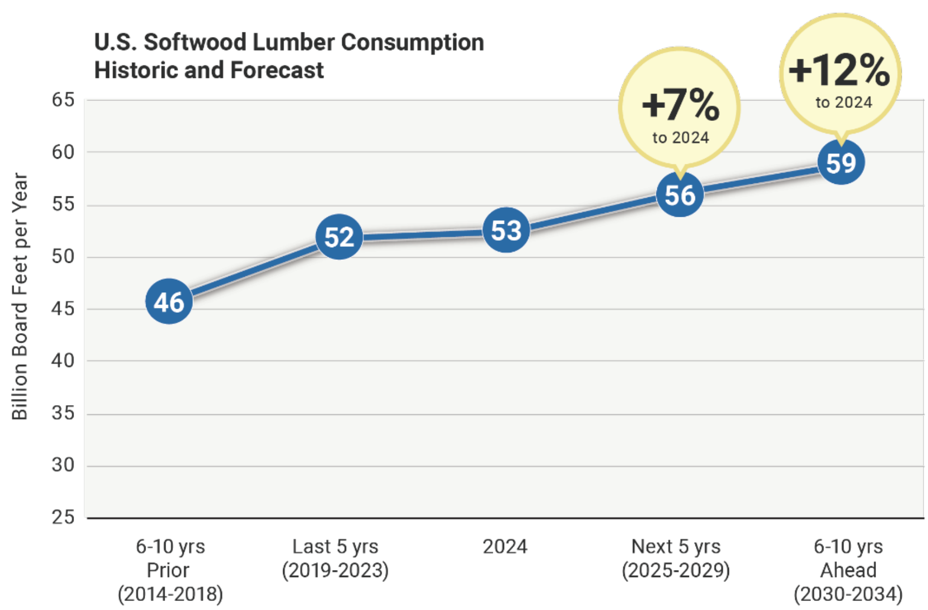


Figure 10. Forest Economic Advisors, *Timber Quarterly Forecast 2024 Q2* (May 31, 2024)

Conclusions and Recommendations

In the near term, the recent softening of home construction activity in the U.S. may cause demand for timber to continue to slow. Importantly, we think timberland investors should focus on the long-term and understand the market fundamentals that are likely to drive performance in the asset class across economic cycles. As highlighted, four important demographic trends are expected to drive the demand for timber: (1) the large housing shortfall created by a decade of underbuilding following the GFC; (2) the return of steady population growth; (3) Millennials and parts of Gen-Z entering the period in their lives when purchasing a first home becomes a priority; and (4) the continuing large-scale relocation of people across the U.S. to the South.

As a perpetual, renewable resource, timberland is well suited for the patient investor. A distinctive feature is timberland's ability to "store on the stump," which means a timberland manager can delay harvest in anticipation of better future timber markets. That delay minimizes *opportunity cost* and increases *optionality* because trees that are not harvested continue to grow in size, and volume, which adds to their value. When demographic trends generate a new up-cycle for housing, the patient timberland investor will be favorably positioned.

With that in mind, an investor should build or adjust their timberland portfolio in anticipation of improved housing markets that could span a decade. That includes keeping a portfolio of forest assets that is well diversified across geography, species, and maturity. We recommend adding forest assets in areas that have, or will see, strong investments in mill capacity – as those markets can best leverage the increasing demand for timber when housing markets recover. Avoid areas with excess timber capacity and that feature poor mill infrastructure unless there are good alternative sources of non-timber income – such as the ability to (a) add solar farms, (b) develop and sell credits from environmental mitigation banks, (c) carve out conservation easements, or (d) offer carbon credits through carbon capture and storage. Known as *natural capital solutions*, non-timber alternative income sources such as carbon credits can be a significant contributor to the return of a growing portfolio of forest investments.

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