

VISUAL CAPITALIST **MARKETS**

Visualizing the Recent Explosion in Lumber Prices

Published May 8, 2021

By: Marcus Lu Graphics/Design: harrison

\$50K
WORTH OF
Lumber

OVER THE LAST YEAR,
the price of lumber increased **377%**.

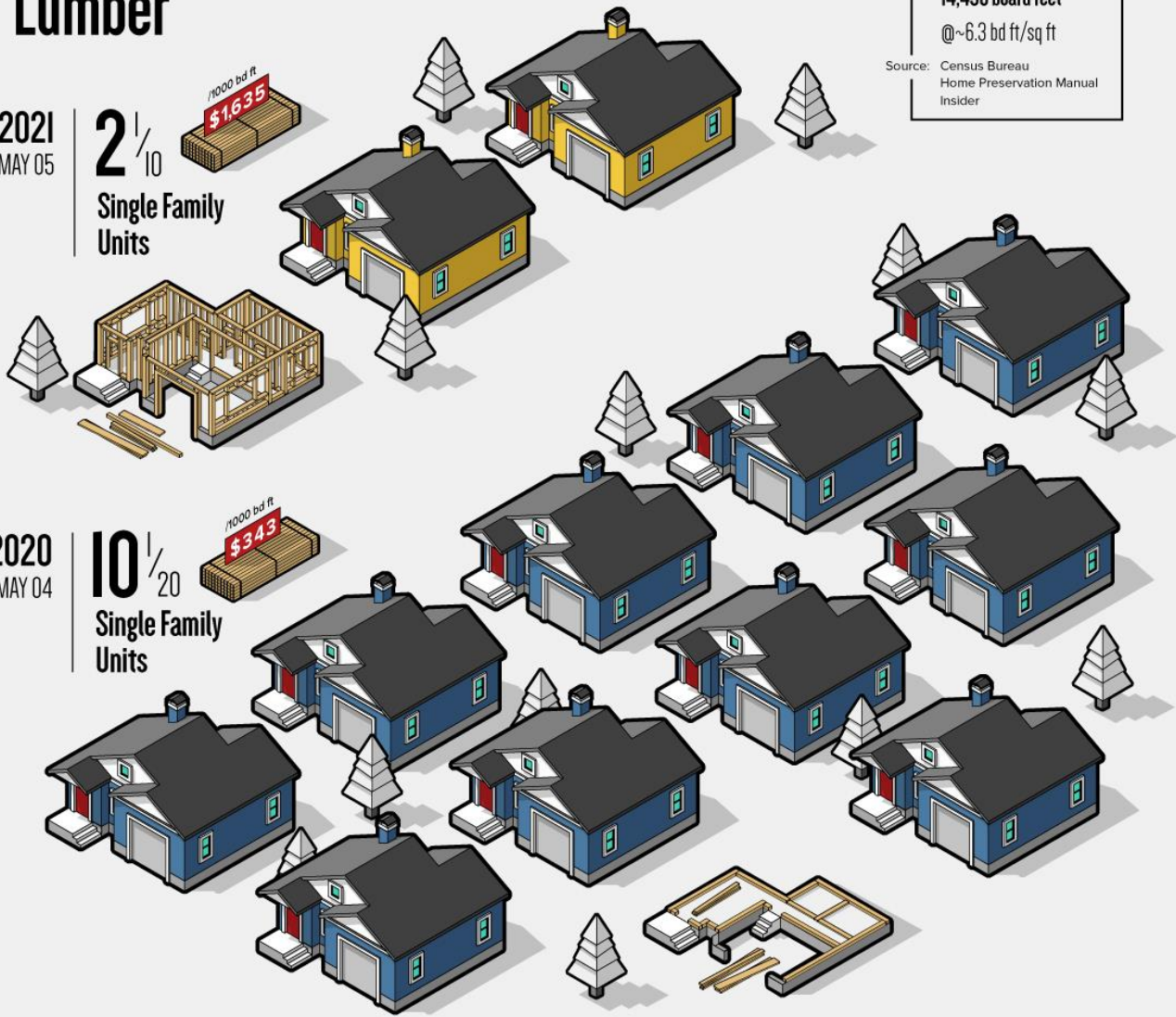
We compare the number of homes
that could be built with \$50,000
worth of lumber, back then and now.

Single Family Unit (U.S. AVG)
2,301 square feet
14,496 board feet
@~6.3 bd ft/sq ft

Source: Census Bureau
Home Preservation Manual
Insider

2021
MAY 05

2 ¹/₁₀
Single Family
Units



2020
MAY 04

10 ¹/₂₀
Single Family
Units



Visualizing the Recent Explosion in Lumber Prices

Lumber is an important commodity used in construction, and refers to wood that has been processed into beams or planks.

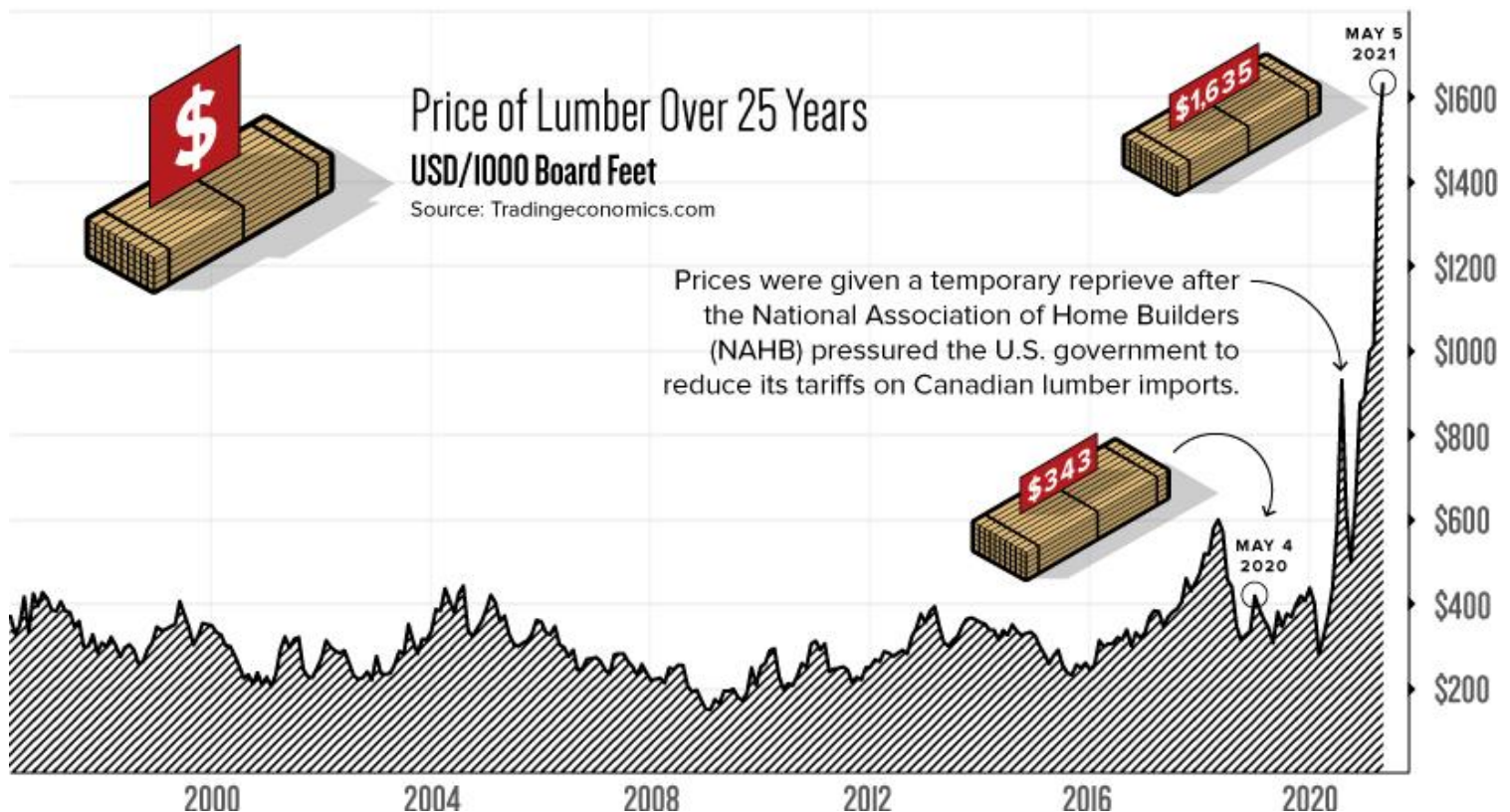
Fluctuations in its price, which is typically quoted in USD/1,000 board feet (bd ft), can significantly affect the housing industry and in turn, influence the broader U.S. economy.

To understand the impact that lumber prices can have, we've visualized the number of homes that can be built with \$50,000 worth of lumber, one year apart.

A Story of Supply and Demand

Before discussing the infographic above, it's important to understand the market's current environment.

In just one year, the price of lumber has increased **377%**—reaching a record high of **\$1,635** per 1,000 bd ft. For context, lumber has historically fluctuated between \$200 to \$400.



To understand what's driving lumber prices to new heights, let's look at two economic elements: supply and demand.

Shortened Supply

U.S. lumber supplies came under pressure in April 2017, when the Trump administration raised tariffs on Canadian lumber. Since then, lumber imports have fallen and prices have experienced significant volatility.

After a brief stint above **\$600** in April 2018, lumber quickly tumbled down to sub **\$250** levels, causing a number of sawmills to shut down. The resulting decreases in production capacity (supply) were estimated to be around 3 billion board feet.

Once COVID-19 emerged, labor shortages cut production even further, making the lumber market incredibly sensitive to demand shocks. The U.S. government has since reduced its tariffs on Canadian lumber, but these measures appear to be an example of too little, too late.

Pent-up Demand

Against expectations, COVID-19 has led to a significant boom in housing markets, greatly increasing the need for lumber.

Lockdowns in early 2020 delayed many home purchases until later in the year, while increased savings rates during the pandemic meant Americans had more cash on hand. The demand for homes was further amplified by record-low mortgage rates across the country. Existing homeowners needed lumber too, as many Americans suddenly found themselves requiring upgrades and renovations to accommodate their new stay-at-home lifestyles.

How Many Homes Can You Build With \$50K of Lumber?

To see how burgeoning lumber prices are impacting the U.S. housing market, we've calculated the number of single family homes that could be built with \$50,000 worth of lumber. First, we established the following parameters:

- Lumber requirements: **6.3** board feet (bd ft) per square foot (sq ft)
- Median single family house size: **2,301** sq ft
- Total lumber required per single family house: **14,496** bd ft

Based on these parameters, here's how many single family homes can be built with \$50,000 worth of lumber:

Date*	Lumber Price	Total Lumber Purchased	Total Homes Built
2021-05-05	\$1,635 per 1,000 bd ft	30,581 bd ft	2.11
2020-05-04	\$343 per 1,000 bd ft	145,773 bd ft	10.05
2015-05-01	\$234 per 1,000 bd ft	213,675 bd ft	14.74
2010-05-01	\$270 per 1,000 bd ft	185,185 bd ft	12.77

*Exact matching dates were not available for past years.
Source: Insider*

As lumber prices continue to set record highs, the National Association of Home Builders (NAHB) has reported that the cost to build a single family home has increased by **\$36,000**. Most of this cost can be passed down to the consumer, but extremely tight supplies mean homebuilders are unable to start more projects.

The Clock is Ticking

Despite their best efforts to increase output, it's likely that sawmills across the U.S. will continue playing catch-up in 2021.

“There was a great fear among sawmills to prepare for a downturn. When home buying surged, they could not open up capacity quickly enough.”

– LAWRENCE YUN, NATIONAL ASSOCIATION OF REALTORS

Analysts are now warning that lumber prices could reach a flashpoint, where affordability becomes so limited that demand suddenly falls off. This has led the NAHB to ask the Biden administration for a temporary pause on Canadian lumber tariffs, which currently sit at **9%**.

U.S. tariffs on Canadian lumber were first introduced in 1982, and represent one of the longest lasting trade wars between the two nations. The U.S. is currently appealing a World Trade Organization (WTO) ruling that states its 2017 tariff hike was a breach of global trading rules.