

Manufacturing Housing

The Key To More Affordable Housing

Imagine you're in the market for a new automobile. You call the car company, make a deposit, and a work crew shows up at your home to begin work a few weeks later. In your driveway or garage, they piece together your vehicle according to your specifications, with a few available options.

Depending on how busy they are and the vagaries of the weather, it might take a few weeks or months to complete the build. Your neighbors stop by each morning as they walk their dogs, sipping coffee and gazing in amazement as your car goes from a metal frame to a shiny, freshly-painted Toyota Camry before their eyes.

Absurd, right? Why would the car company ship the materials and send an army of highly-skilled workers to construct the car *in your driveway*?

LET'S FACE IT: THE NEW HOME CONSTRUCTION PROCESS IS ANACHRONISTIC. AS A RESULT, WE ALL BEAR THE COSTS IN TERMS OF VASTLY MORE EXPENSIVE HOUSING.

Yet we see this spectacle *every day* in new home construction. The onsite home building process is *so routine* that we don't give it a second thought as we drive past housing developments dotted with the 2" x 4" pieces of lumber that typify a new residential dwelling project.

Let's face it: the new home construction process is anachronistic. Consequently, we bear the costs of vastly more expensive housing. Virtually every other consumer product has been industrialized—mass-produced in factories—and inflation-adjusted prices have fallen *dramatically* over time. Not so for housing

(see Figure 1). So, what's holding factory-built housing back? We are our own worst enemy in the battle for more affordable living.

IT'S NOT ALL BAD

First, before we anger your contractor or the home builder in your stock portfolio, we must admit that home construction *has* progressed by leaps and bounds in recent decades. As a result, homebuilders ship many components to the construction site pre-fabricated.

What's more, a new home in 2022 is a far cry from a new home in, say, 1973. In the U.S., homes are bigger—2,485 square feet today versus just 1,660 square feet in yesteryear.¹ Homes are more energy-efficient. They are decked out with better appliances. More homes have pools. Heating and A/C are now necessities, not luxuries. Ninety-six percent of new homes have A/C compared to just 49% in 1973. In many ways, comparing a new home in 2022 to an existing one built in 1973 is apples to oranges.

Ok, so far, we've been quite charitable. Now we will be less so.

Only 10% of homes are "factory-built" (See Figure 2 on page 2). "On-site" construction accounts for most houses, with 92% of homes built on wood frames. Weather distorts construction activity in parts of the country.

Productivity in single-family home construction has stagnated for decades. Output per hour in single-family construction rose just 10% from 1987 to 2016, or 0.033% annually.² As a consequence, it takes *forever* to build a new home. Ok, not forever, but official data from the Census Bureau shows that in 2021 it took 12.1 months to custom-build a single-family home from the first shovel breaking ground to the owner walking in.

Five decades ago, it took "just" 7.2 months.³

The lack of progress in home construction hinders the overall economy as well. Requiring more resources at higher prices to build a home, housing investment and services continue to make up 15-18% of GDP, whereas a maturing, more efficient industry *falls* as a share of total output in a healthy economy, freeing up resources to be used elsewhere.⁶

It's no surprise then that housing is *expensive*. So what's the alternative, you wonder? Our take: *manufacturing housing*.

HOUSING INVESTMENT AND SERVICES CONTINUE TO MAKE UP 15-18% OF GDP, WHEREAS A MATURING, MORE EFFICIENT INDUSTRY SHOULD BE FALLING AS A SHARE OF TOTAL OUTPUT IN A HEALTHY ECONOMY.

MAKING HOUSING CHEAP AGAIN

We can almost hear the reader's groans. When people hear "manufactured housing," they immediately think of "mobile homes," "trailer parks," and, well, "trailer trash."⁴

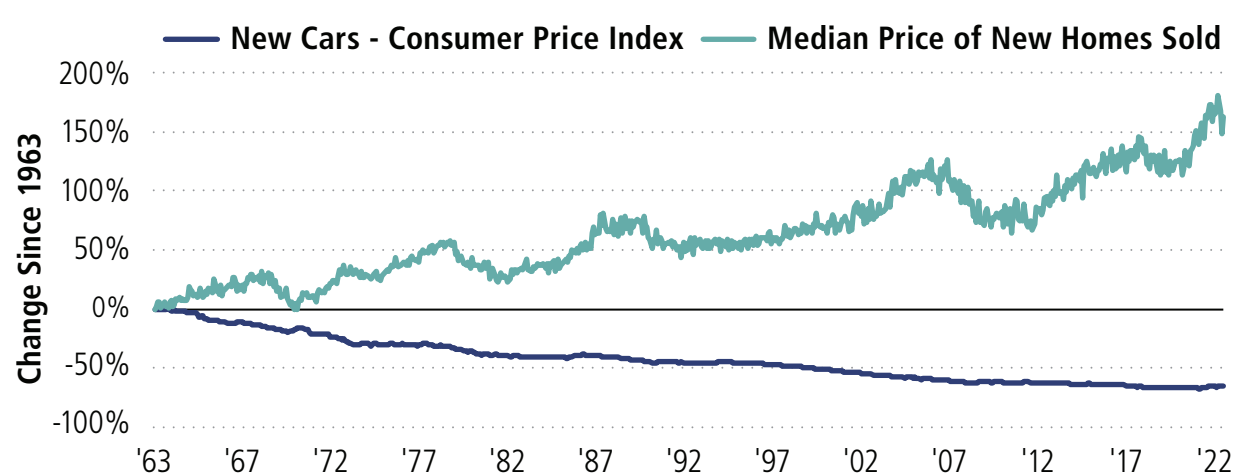
But, put aside your biases for a moment. Manufactured homes are "built entirely in the factory, transported to the site, and installed under a federal building code administered by the U.S. Department of Housing and Urban Development (HUD)."

Since 1976, the Federal Manufactured Home Construction and Safety Standards (commonly known as the HUD Code) "have overseen manufactured housing design and construction, strength and durability, transportability, fire resistance, energy efficiency, and quality. The HUD Code also sets performance standards for the heating, plumbing, air conditioning, thermal and electrical systems." So newer manufactured homes are not necessarily less safe, less durable, or less equipped than site-built alternatives.

Moreover, manufactured homes *are* cheaper—and in some cases *far* more affordable—than the stick-built single-family dwellings that likely dot your community. According to the Manufactured Housing Survey, a new manufactured home, including installation, cost \$66.97 per square foot in 2021 compared to \$143.83 for site-built units (see Figure 3 on page 2).⁵

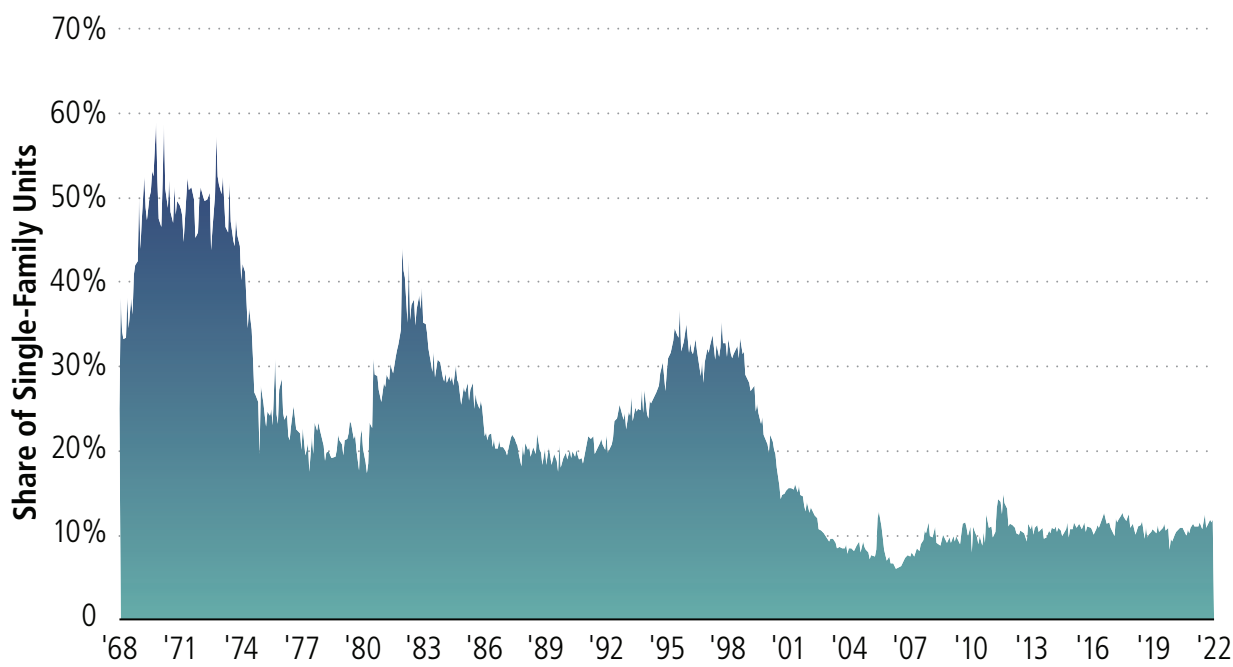
Housing experts have been calling for more productive and cheaper production for decades. Back in 1937, the chief engineer of the Federal

fig 1. PRICE GOUGING: REAL (INFLATION-ADJUSTED) PRICE OF NEW VEHICLES VERSUS REAL HOME PRICES



Source: Bureau of Labor Statistics, U.S. Census Bureau

fig 2. HOME SWEET HOME? FACTORY-BUILT HOUSING AS A SHARE OF TOTAL SINGLE-FAMILY HOME CONSTRUCTION



Source: U.S. Census Bureau, Payden Calculations

Housing Administration, A.C. Shire, weighed in, saying, “in an age of large-scale financing, power, and mass production, we have the anachronism that the oldest and one of the largest of our industries, concerned with the production of one of the three essentials of life... follows practices developed in the days of handwork...is bogged down by waste and inefficiency, [and] is unable to benefit by advancing productive techniques in other fields.”

He continued, “Unlike other widely used commodities, shelter is not made in a factory or plant organized for its production...”

Decades later, in 1970, the cover story of the American Legion Magazine asked, “Why Can’t People Get Homes?” In this article, L.A. Knight discussed how returning Vietnam veterans had difficulty finding housing. Knight wrote, “It almost seems silly to explain that mass production to standard specifications in a factory is the key to producing any goods, including houses, at prices far below what hand labor at the customer’s site can meet. Housing is about the only common product that has escaped the industrial revolution and still hews to basic procedures that are 400 years old.”

If factory-built housing presents a good option, what’s holding it back? Two key factors: financing and zoning restrictions.

FINANCED OUT

The eagle-eyed reader viewing Figure 2 (above) will no doubt notice the steep plunge in manufactured housing shipments as a share of total single-family home production beginning around 1970. What happened? In 1968, the U.S. Department of Housing and Urban Development (HUD) introduced a series of programs that subsidized the construction of stick-built housing (but not factory-built housing). One famous program, the so-called “Section 235,” provided mortgages at interest rates as low as one percent for buyers purchasing a home built on-site. Buyers of factory-built homes, specifically manufactured homes, were not eligible. These subsidies shifted

demand to inefficient technology, the stick-built technology, and away from factory homes.

Further, manufactured homes are not classified as real property but as “personal property,” making them ineligible for mortgage loans. Instead, buyers financing the purchase of manufactured homes take out “chattel loans” at higher rates and shorter maturities than government-subsidized, 30-year fixed-rate mortgages available to site-built homes (e.g., 1970 saw the birth of Freddie Mac).

ZONED OUT

Building methods are one thing, but even if you can build efficiently, you can’t build anywhere and make it easy for buyers to finance purchases, so you may *still* have a problem. Unfortunately, local policymakers are so clueless on the housing front that it is difficult to take them seriously.

Zoning is enough to put most readers to sleep, so we’ll provide a quick summary: zoning ordinances implemented across the country restrict what can be built and where. In the U.S., apartments are banned in at least 70% of residential areas of major cities and typically higher in the suburbs

if allowed at all. For example, in San Jose, one of America’s least affordable cities, 94% of residential areas restrict construction to detached single-family homes only.⁷ No wonder shelter is pricey!

Manufactured housing is even more challenging to build than apartments. As a result, zoning often bans factory-built homes outright, confines them to “housing parks,” or restricts them by requiring builders to apply for expensive conditional use permits.

We get it. Local officials, like aspiring homeowners, want spacious single-family homes with large kitchens, backyards, garages, and gardens (so do your authors!). But, in effect, local zoning ordinances put a floor under house prices in cities. By disallowing small apartments, mobile homes, manufactured homes, and the like, “zoning has merely locked out everyone who cannot clear that floor.”⁸

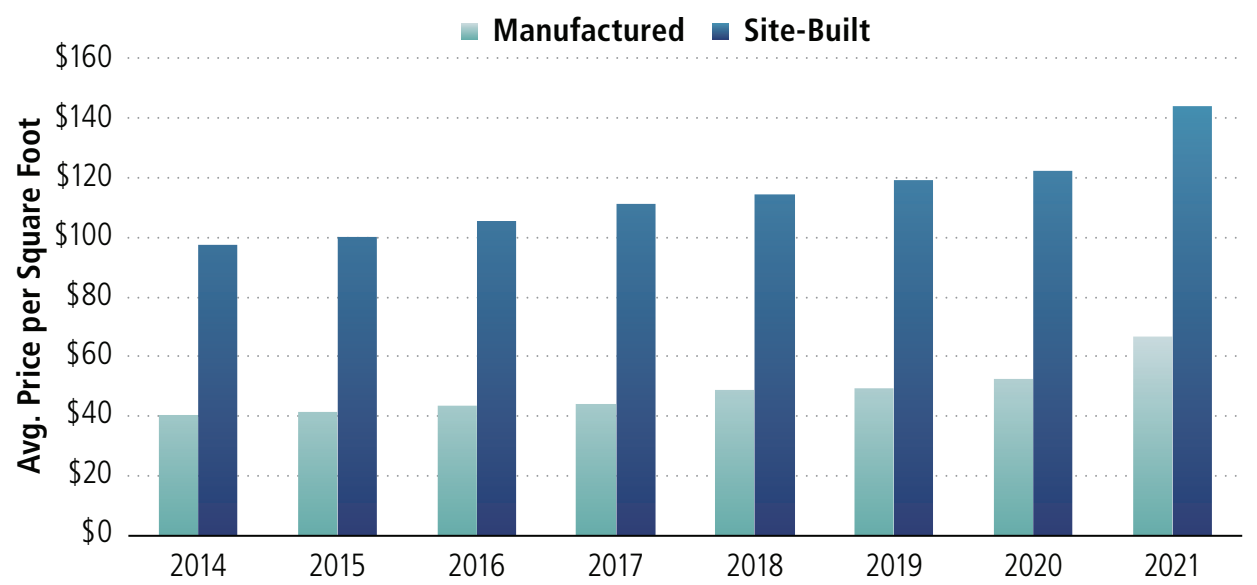
WE GET IT. LOCAL OFFICIALS, LIKE ASPIRING HOMEOWNERS, WANT SPACIOUS SINGLE-FAMILY HOMES WITH LARGE KITCHENS, BACKYARDS, GARAGES, AND GARDENS (SO DO YOUR AUTHORS!).

“WHY WE HAVE A HOUSING MESS”

In 1947, Thurman Arnold, who had been President Roosevelt’s Assistant Attorney General for Antitrust, and the namesake for the Arnold-Simons model of monopoly, the predecessor of the Cournot model mentioned above, wrote an article in *Look* magazine called “Why We Have A Housing Mess.”

Arnold asked, “Why can’t we have houses like Fords? For a long time, we have heard about the mass production of marvelously efficient post-war dream houses, all manufactured in one place and distributed like Fords. Yet nothing is happening. The low-cost mass production house has bogged

fig 3. THE PRICE ISN'T RIGHT: COST OF BUILDING A SINGLE FAMILY MANUFACTURED HOME VERSUS SITE-BUILT HOME




Source: Manufactured Housing Survey - U.S. Census Bureau

**“SO ARE YOU SERIOUS
ABOUT MAKING HOUSING
MORE AFFORDABLE?”**

down. Why? The answer is this: When Henry Ford went into the automobile business, he had only one organization to fight [an organization with a patent] . . . But when a Henry Ford of housing tries to get into the market with a dream house for the future, he doesn't find just one organization blocking him. Lined up against him are a staggering series of restraints and private protective tariffs.”⁹

Since 1947, staunch interests have been lined up against progress in housing. Our contention is NOT that everyone should live in a trailer or a flimsy, cheaply built mobile abode. Instead, we want to burst the notion of what constitutes housing production (i.e., only expensive, single-family dwellings far afield from areas of commerce). Doing so could unleash untold possibilities about what can be built, how quickly, by whom, and where.

So, are you serious about making housing more affordable? 

ENDNOTES

1. “Characteristics of New Housing.” *United States Census Bureau*, Accessed September 14, 2022.
2. Leo Sveikauskas, Samuel Rowe, James D. Mildenerger, Jennifer Price, and Arthur Young, “Measuring productivity growth in construction,” *Monthly Labor Review*, U.S. Bureau of Labor Statistics, January 2018, <https://doi.org/10.21916/mlr.2018.1>
3. “Average Length of Time from Authorization to Start.” *New Residential Construction*, U.S. Census Bureau, https://www.census.gov/construction/nrc/pdf/avg_starttocomp.pdf.
4. While “manufactured” housing can't shake the mobile home stigma, other factory-built options may. For example, modular housing is factory built but does not arrive on a chassis. Same for panel-built options.
5. “Manufactured Housing Survey.” *Cost & Size Comparisons: New Manufactured Homes and New Single-Family Site-Built Homes, 2014-2021*. *U.S. Census Bureau*
6. “Housing's Contribution to Gross Domestic Product.” *NAHB*. Accessed September 14, 2022.
7. M. Nolan Gray. “Arbitrary Lines: How Zoning Broke The America City And How To Fix It.” Washington: Island Press Books, 2022.
8. Gray, 57.
9. James A. Schmitz, Jr. “Solving the Housing Crisis Will Require Fighting Monopolies in Construction.” *Federal Reserve Bank of Minneapolis*. Accessed September 14, 2022.