18 March 2021

SENT TO LSU AGCENTER/LOUISIANA FOREST PRODUCTS DEVELOPMENT CENTER - FOREST SECTOR / FORESTY PRODUCTS INTEREST GROUP

I hope all is well, and that you and your loved ones had a safe and happy holiday season. Please find attached my latest Market Trends publication. This latest quarter saw a number of indicators for housing remain strong, while wood product prices continued their low earth orbit. Unfortunately for landowners, it hasn't translated into comparable prices for logs. Timberland transaction values reflect the lower volume amidst continued interest, despite the challenges presented by the Covid-19 pandemic. In this edition's Deeper Dive, I share some thoughts on the direct and indirect impacts of the pandemic on US Housing Starts and how things may settle in the longer term.

I know I am happy to have 2020 behind me, and look forward to a less tumultuous 2021, fingers crossed. Best wishes to you and yours for a prosperous and healthy new year.

Best Regards,
Will

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Market Trends

4^{th} Quarter, 2020

Perspectives on the latest market trends and indices impacting the Timber and Wood Products sectors, compliments of WillSonn Advisory, LLC

Q4 2020 Highlights

Market Trends

- Builder sentiment remains high, up from its 8-year low in Q1 (page 4)
- New and Existing home Affordability approach parity for the fist time in more than a decade (page 5)
- Housing Starts continue to rebound from Q2, up nicely from 2019 (page 6)
- New and Existing Housing Inventory levels continue to decline in the fourth quarter (page 7)
- Product Prices remain in record territory in 4^{th} Quarter as supply is constrained (page 8)
- PNW and Southern Log Prices pick up but fail to keep pace with product prices in Q4 (page 9-10)
- Regional gross mill margins remain strong in Q4 as lumber prices stay high (page 11)
- US Timberland Sales values reman firm in 2020 despite the pandemic, volume down (page 12)

Deeper Dive

- Housing Starts in the U.S. during and following the pandemic (page 14-22)

In Case You Missed It

- The FRED Blog: Back and forth between buying and building houses (page 24-25)
- NAHB's report on December Labor (page 26-28)
- NAHB's Consumer Confidence Falls in December (page 29-30)

About WillSonn Advisory, LLC

Section 1: Latest Trends

Builder Sentiment & Private Residential Expenditures

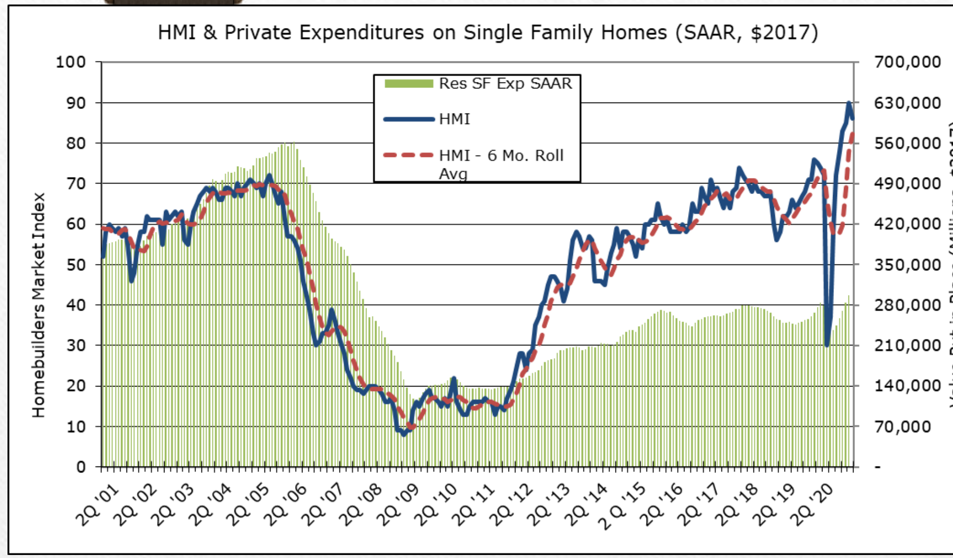
NAHB's **Homebuilder Market Index (HMI)** and **Remodeling Market Index (RMI)** are measures of home builder and remodeling contractor sentiment.

The HMI continued to improve during the 4th quarter, after dropping to 30 in April, hitting an all-time high of 90 in November. Builder sentiment rebounded quickly as home demand proved more resilient to the pandemic than originally feared. The 6-month rolling average improved dramatically to 82 in December, a record high. Likewise, t**he quarterly RMI rebounded in Q3 2020, posting a reading of 82 in Q3, up from 48 in Q1**. NAHB instituted a new survey beginning in Q1 2020, such that comparisons to prior years are meaningless.

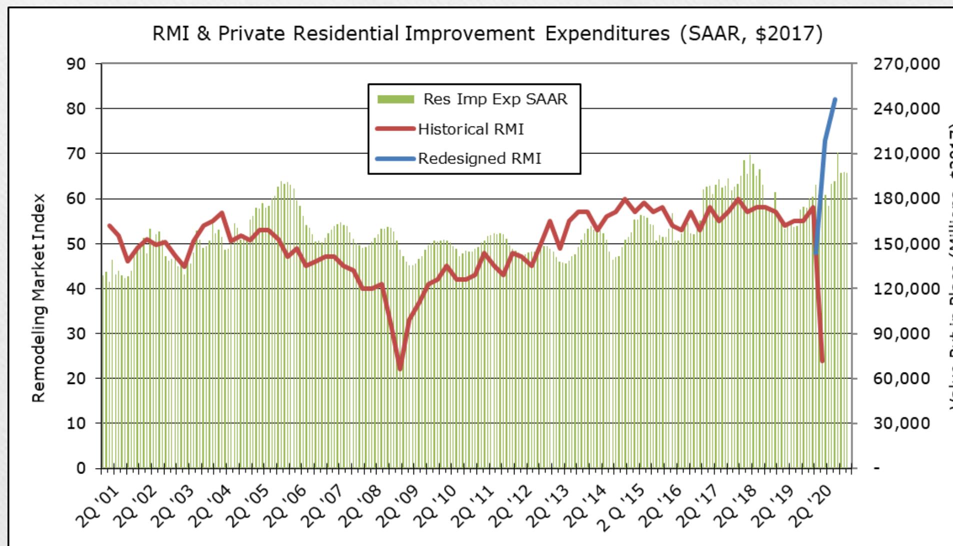
Private Construction Expenditures on Single Family Housing (in constant 2017 dollars, SAAR) **during the first eleven months of 2020 have exceeded 2019 levels by 5.2%. Private Residential Improvement Expenditures have accelerated faster, averaging 12.8% above 2019.** Longer-term, the combination of declining home size, constrained developed lots, extended construction time, and scarce labor and contractor availability have held residential expenditures in check over the past few years, despite rising housing start figures.

*The monthly HMI and quarterly RMI are dispersion indices, measuring the proportion of respondents who have a positive versus negative view (neutral responses are ignored in the calculation). While **a reading over 50 indicates a prevailing positive view of current and future conditions**, it says nothing about the proportion in the neutral camp.*

Seasonally Adjusted Annual Rate expenditure figures in both charts were deflated using the US Census Bureau's "Fixed" Construction Price Index which adjusts for both inflation and home size.



Data Sources: Census Bureau, NAHB, Dept. of Commerce Charts & Analysis: WillSonn Advisory



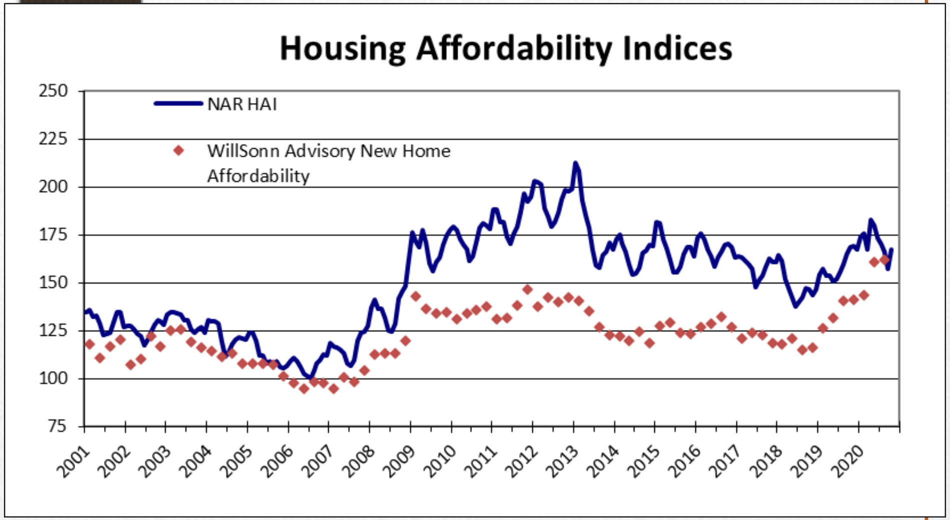
Affordability

The National Association of Realtors (**NAR**) **Housing Affordability Index** ("HAI", top chart) has taken a pause from its upward trend since mid-year 2018, **registering 167 in October 2020.** Affordability had been drifting lower in 2012-18, peak-to-peak, and trough-to-trough, as home price increases outpaced income. In 2018 and 2019, mortgage rates eased and income accelerated, bolstering affordability. Had the dearth of availability in existing homes for sale not driven existing home prices higher, the HAI would have continued to improve.

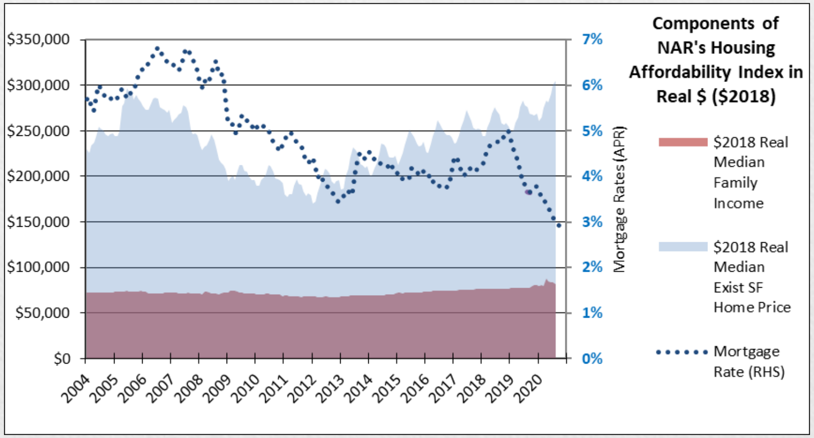
Also depicted in the top chart is my measure of new home affordability, one that incorporates the transaction price of new homes (rather than the listing price of existing homes, as used by NAR). Using NAR's family income and interest rates and Census Bureau median **new** home sale prices, I calculate a New Home Affordability Index of 162 in Q3 2020. **For the first time in more than a decade, New Home Affordability was comparable to Existing Home Affordability, boding well for New Home demand.**

The bottom chart displays the movement in the three components of the NAR Affordability Index – home prices, mortgage rates and family income – **in Real dollar terms.** Though October 2020, compared to full-year 2019, home prices were up 8.5% and Median Family Income was up 6.7%, while Mortgage rates declined -19.6%. As a result, Mortgage Payments, as a percent of Income declined -8.0%, resulting in the higher average 2020 HAI, up 7.9% from 2019.

In December 2020, mortgage rates dropped to an average of 2.68%, 110 bps below the average December 2019 rate. Holding home price and income steady, **a 50-basis point decline in mortgage rates bumps the Affordability Index up about 10 points**.



Data Sources: NAR, Census Bureau,, Dept. of Commerce
Charts & Analysis: WillSonn Advisory



A reading of 100 means that a family with median income would need to spend fully 25% of its monthly income on a mortgage to purchase the median priced existing home. A reading of 140 means that 25% of the median family income is 1.4 times the mortgage payment for the median priced existing home.

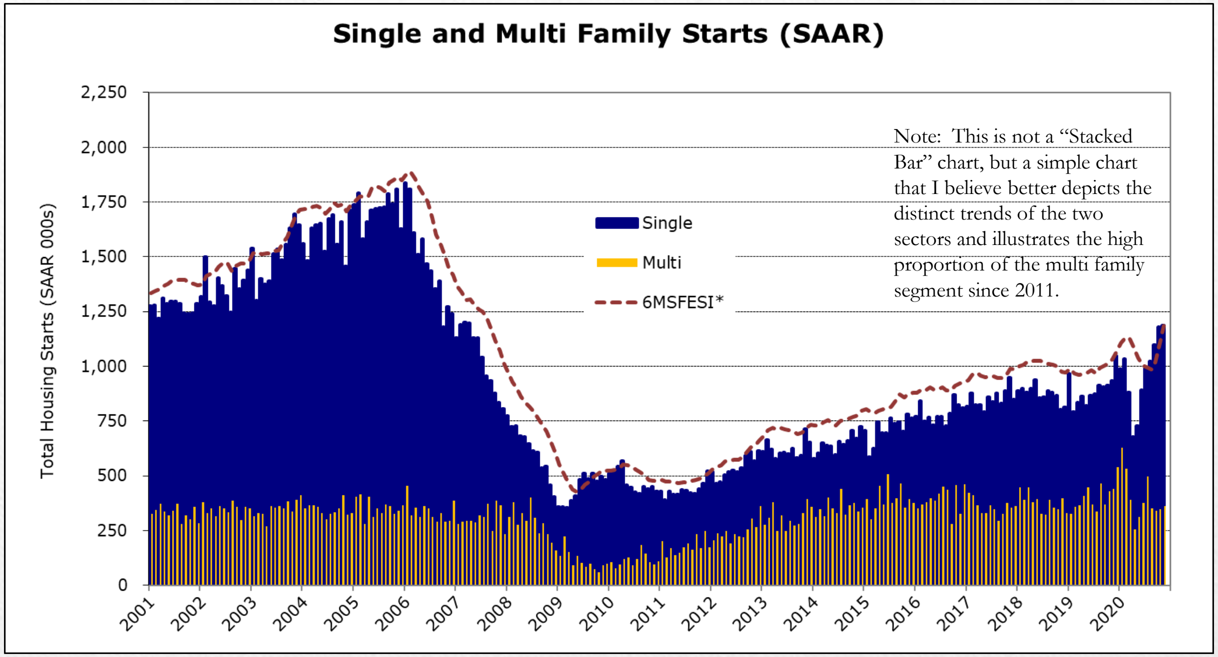
Housing Starts

Total Housing Starts registered 1.547 million units in November (SAAR), **19.2% above the 2019 pace of 1.290 million units**. In November, **Single Family Starts registered 1,186,000 units,** while Multi-Family Starts came in at 361,000 units.

Year-to-date (SAAR) through November, Total Housing Starts have averaged 1.369 million units, a more modest improvement of 5.5% versus full year 2019. **YTD, Single Family Starts are up 8.7%, while Multi Family Starts are down -1.2%, compared to full-year 2019.**

The WillSonn Advisory "6 Month Single Family Equivalent Start Index," recasts a multi-family unit into a single-family unit based on relative wood use, so a better measure of Housing Start demand for wood. After 10 years below 1 million, the six-month rolling average temporarily breached that level in 2018, then again in September 2019. November's **1,186,000 unit reading represents 63% of the 2006 peak of 1.9 million SFES's.**

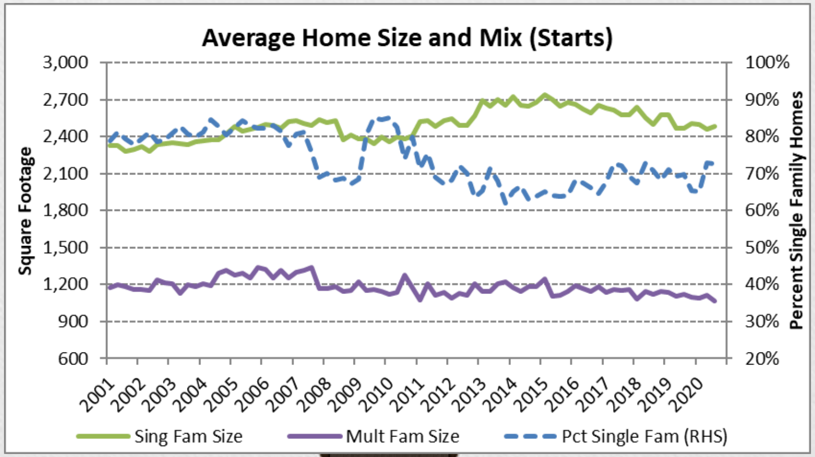
Multi-family units use approximately 2/3 as much wood per square foot compared to a Single Family Unit, and since Multi-Family Units are about half the size of Single Family homes, I count them as a 1/3 single family equivalent.



*6MSFESI = 6 Month Single Family Equivalent Start Index

Data Source: U.S. Census Bureau

Charts & Analysis: WillSonn Advisory



The size of Single-Family Home Starts in Q3 2020 averaged 2,484 sq. ft., down modestly (-0.7%) from 2019's average of 2,500 sq. ft. The average size of Multi-Family Units started in Q3 2020 averaged 1,065 sq. ft., down -4.2% from the 2019 average of 1,112. Single Family units made up 73% of Total Starts in Q3 2020, 4% higher than 2019's 69% figure and 9 points below the pre-bust average of 82%.

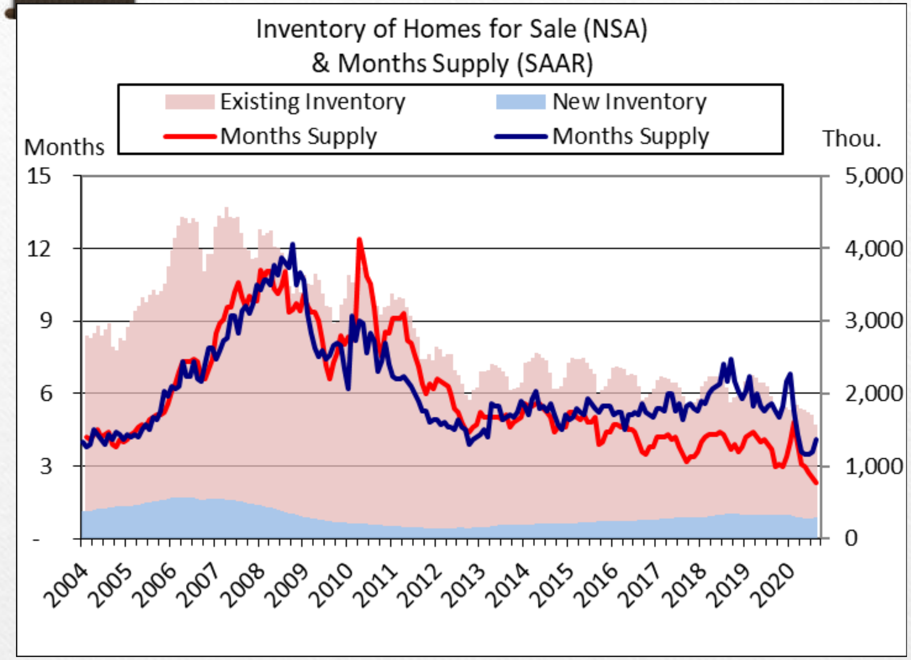
Home Sales Trends

The Inventory of Homes For Sale (Existing + New) totaled 1.567 million units in November, down 150,000 units from December 2019, and down 20% (398,000 units) from November 2019. Separately, Existing Home Inventories are down 360,000 units, while New Home inventories are down 38,000 units, compared to November 2019.

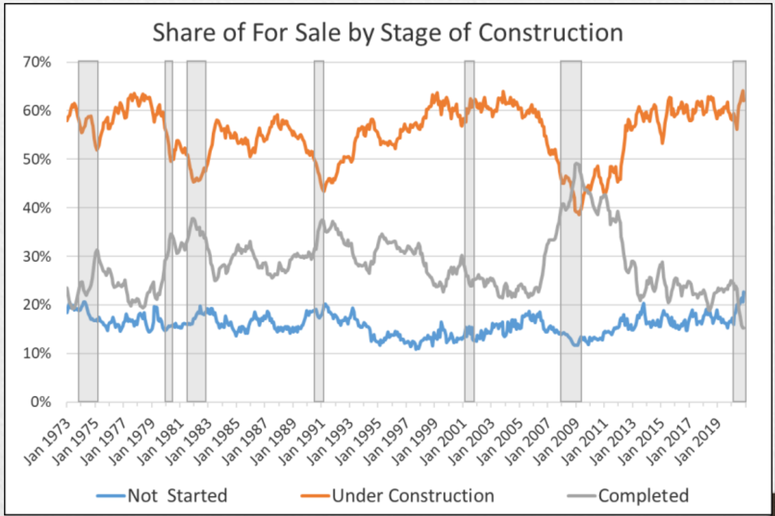
At their respective current pace of sales, there are a scant 2.3 months of sales in Existing Home inventories, and 4.8 months of sales in New Home inventories. Relative to historical levels, expressed in Months of Sales and in absolute numbers, both New and Existing Home inventories have tightened significantly in 2020.

Of the 287,000 New units for sale at the end of November 2020 (close to a three-year low), 15% were Completed (a 47-year low), 62% were Under Construction, and 23% had Not Yet Started.

Note: "Existing Homes" include both Single Family and Multi-Family units. "New Homes" include only Single Family Homes.



Data Source: U.S. Census Bureau, NAR Charts & Analysis: WillSonn Advisory



In the chart to the left, I've plotted the share of homes for sale, by stage of construction going back to 1973. Also shown on the chart are the US recessions, in grey bars. What I notice in this chart is that a US recession is typically accompanied by a buildup (to 30%+) in the share of Completed Homes for Sale. What I also see is that the longer the recession, the more pronounced the shift in share of Completed Homes becomes. These patterns are typically mirrored by a decline in the share of homes Under Construction (as builders got stuck with more completed homes on hand).

With the onset of the pandemic, and its impact on construction activity (slowed) and demand (heightened) we saw the for-sale inventory of homes Completed decline, while the share of for-sale homes Not Yet Started climb. Thus, in the current market, we saw the share of for-sale units Not Yet Started rise to 23% in November (a 47-year high).

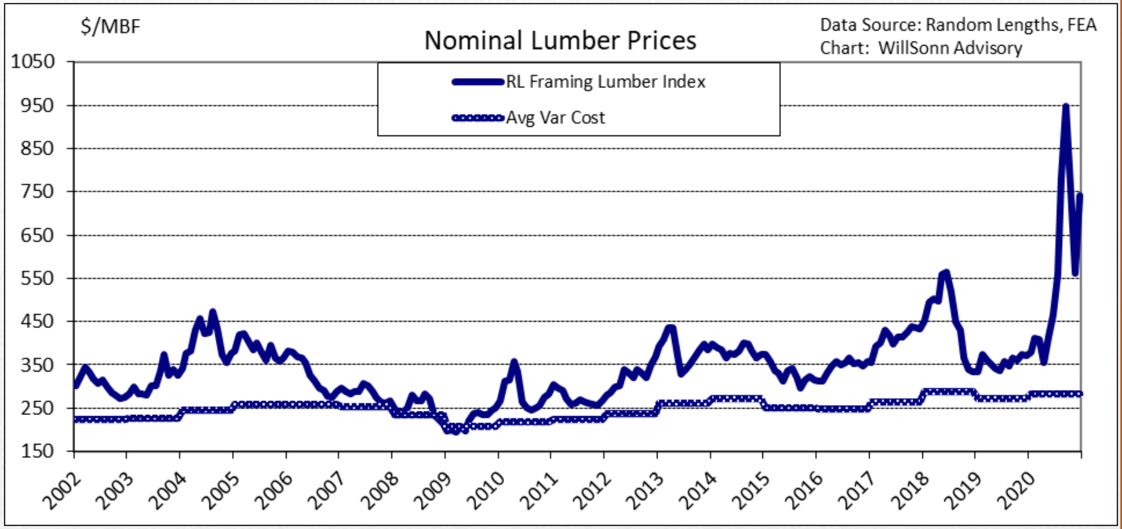
Wood Product Prices

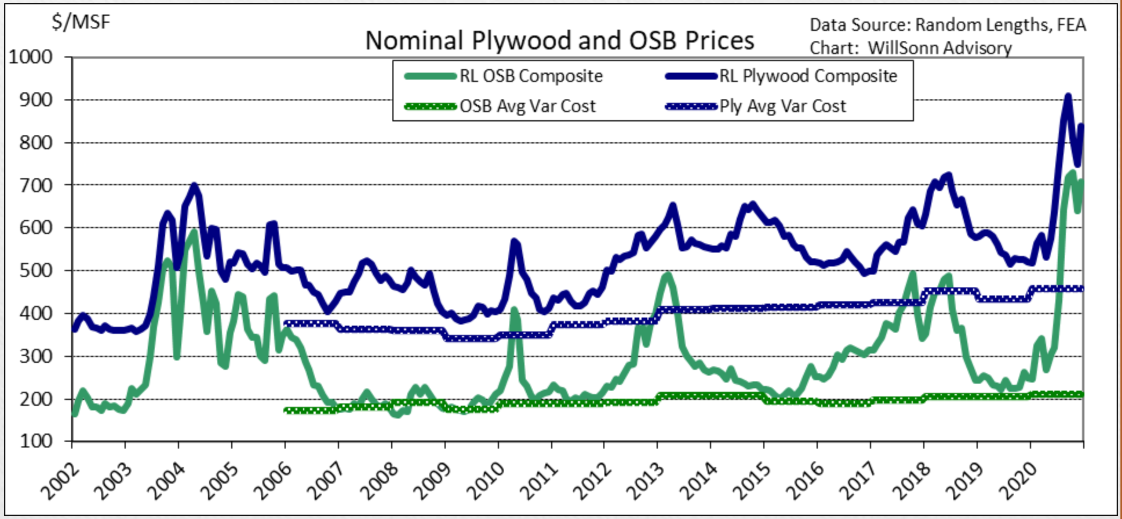
The last six months of 2020 saw product prices rocket to the stratosphere in Q3, then flirt with re-entry only to return to low-earth orbit in Q4! Early in the year, strong housing starts drove prices higher, only to be dashed by initial reactions to stay-at-home orders related to Covid-19. When home center demand surprised on the upside, and residential construction resumed in short order, producers fell behind in shipments. Extreme prices have prevailed.

The Random Length Framing Lumber Composite Index in Q4 2020 retreated 10% from Q3 to register 93% above full year 2019. Regionally in Q4 2020 relative to Q3 2020, West Coast lumber mills saw an -1% drop in Dry Dimension and a 6% rise in Green DF prices, Inland mills saw prices gain 11%, while Southern sawmills saw prices fall -19%. Canadian components of the Random Lengths Framing Composite Index saw S-P-F prices moderate -8% and -6% in the West and the East, respectively.

Plywood pricing was more modest, losing just 5% in Q4 from Q3, to a level 45% above FY 2019 levels. Fourth quarter movements were uneven regionally, with the Southern Plywood prices down -10% and Western Plywood up 6% during the quarter.

OSB continued to notch price gains in Q4, moving up another 16%, following a 102% increase registered in Q3. Relative to FY 2019, Q4 OSB prices were up an astronomical 190%, or nearly 3x 2019.





PNW Log Prices

Historically, western lumber prices (with about a one-quarter lag) remain the primary driver in West Coast domestic log pricing, though changes in demand and export log prices do exert some influence.

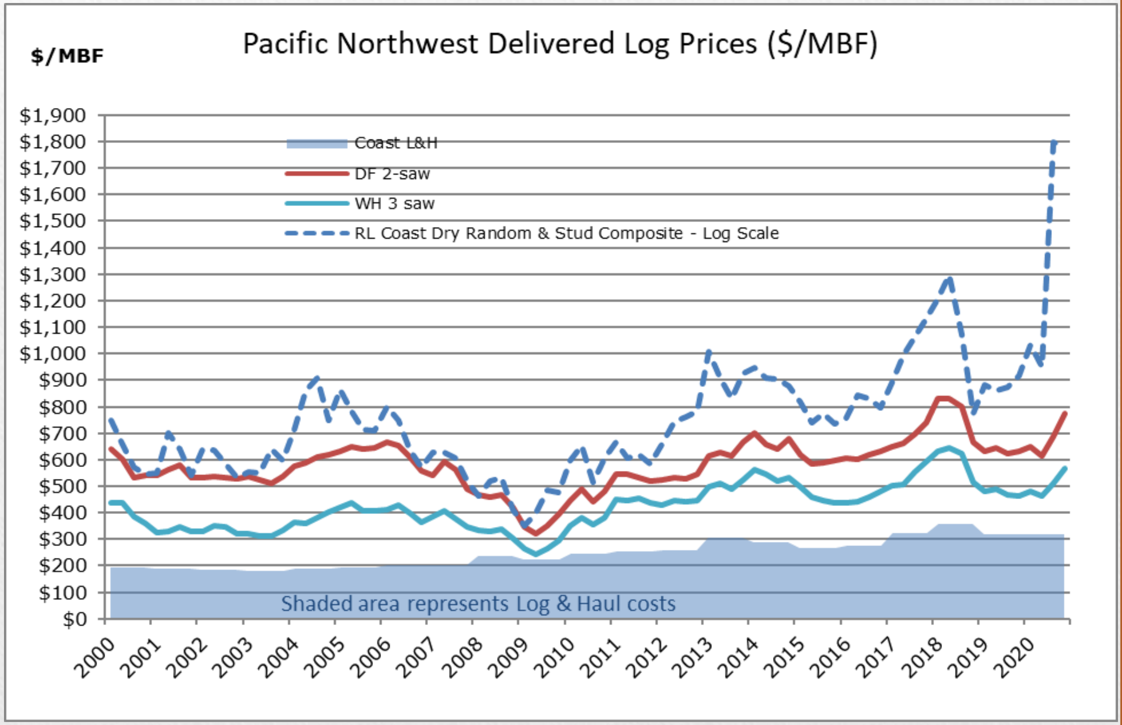
Delivered log prices moved up smartly in the fourth quarter and now sit 19-23% above full year 2019 prices. During Q4, **Douglas-fir 2saw improved 13% while western hemlock 3saw log prices gained 11%.** Over the past 10 years, DF log prices have typically gained $7/MBF while WW lost $10/MBF in the fourth quarter, on average, so this year's gains of $89 and $67 were a marked improvement. First quarter price movement is usually positive, in the $21-$22 range over the past 10 years.

After adjustments for lumber recovery, the Random Lengths Coast Dry Random & Stud Composite price (on a log scale) remained in the stratosphere, losing just $21/MBF (-1%) after gaining $845/MBF in Q3.

For the year, log prices were up 6-8% while lumber prices were up 56%.

Extensive fires throughout the West in 2020 surpassed 4 million acres in California, more than 1 million acres in Oregon, and over 700,000 acres in Washington. Supply chains will be disrupted as access in the forest is limited in the short-term, and salvage operations raise costs and volumes and lower log quality in the intermediate term.

Log & Haul costs were expected to remain relatively flat in 2020, absent the fire situation.



Data Source: Oregon DOF, WA DNR, Random Lengths, FEA, Log Lines
Charts & Analysis: WillSonn Advisory

Southern Pine Log Prices

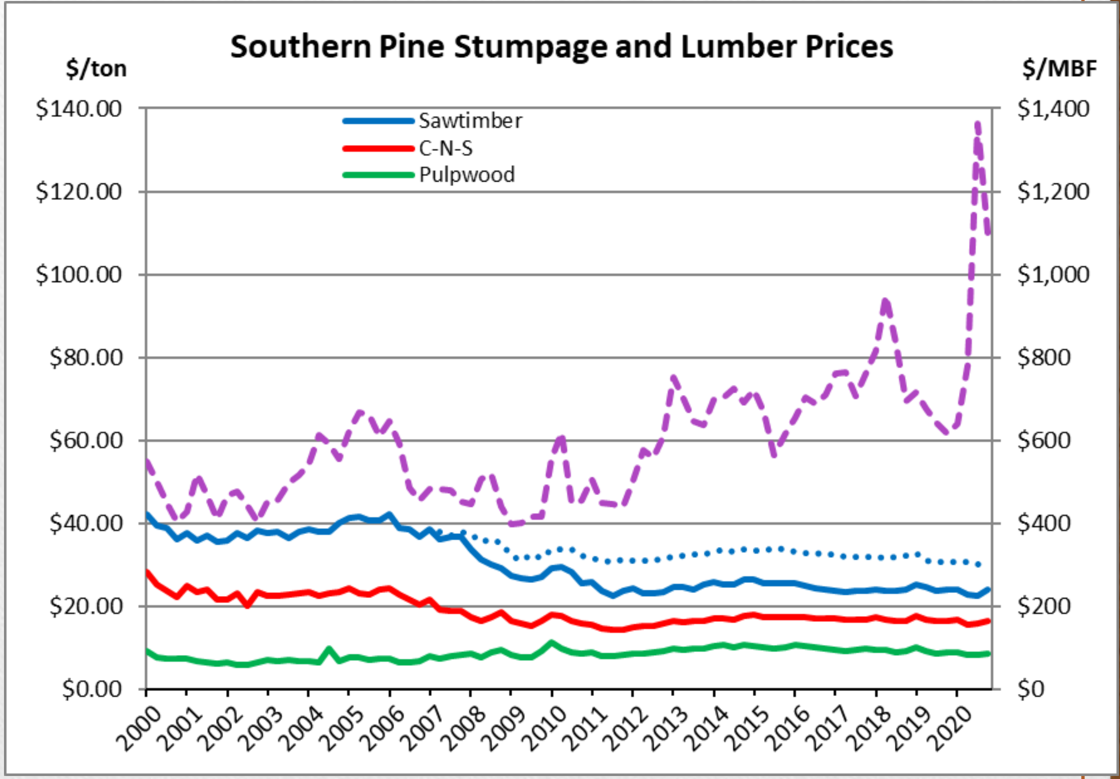
Fourth Quarter Southern Yellow Pine stumpage prices made gains across the spectrum. SYP Sawtimber prices gained $1.53/ton in the fourth quarter (+7%), Chip-n-saw stumpage prices were up $0.63/ton (+4%) and pine pulpwood was up $0.47/ton (+6%). Relative to full year 2019, fourth quarter PST and CNS prices are down 1-2% while PPW prices are off 7%. For the full year, PST and CNS were down 4% while PPW was down 8% (vs lumber, up 45%).

Q4 typically sees modest price gains, and 2020 was not an exception, with seasonal wet harvesting conditions and improved manufacturing demand. Q1 prices typically see $0.30-$0.40 per ton price gains.

The Random Lengths SYP Lumber Composite, adjusted for lumber recovery, was down -19% in Q4 '20 compared to Q3 '20, but still ended the year 66% above full year 2019 prices.

Sawtimber to Pulpwood price ratios remain tight, averaging 2.8:1 in Q4, up modestly from the 2.5:1 ratio of the last few years. Unfortunately, the improved ratio comes from weaker pulpwood prices rather than stronger sawtimber prices. 2.8:1 is well below the bellwether ratio of >4:1, a level not seen since mid-2008!

My view that SYP sawtimber prices will remain under pressure for an extended period has not changed. The combination of modest housing starts, increased plantation productivity, and incremental improvements in mill recoveries will work against significant gains in southern log prices.



Data Source: Timber Mart South, Random Lengths, FEA
Charts & Analysis: WillSonn Advisory

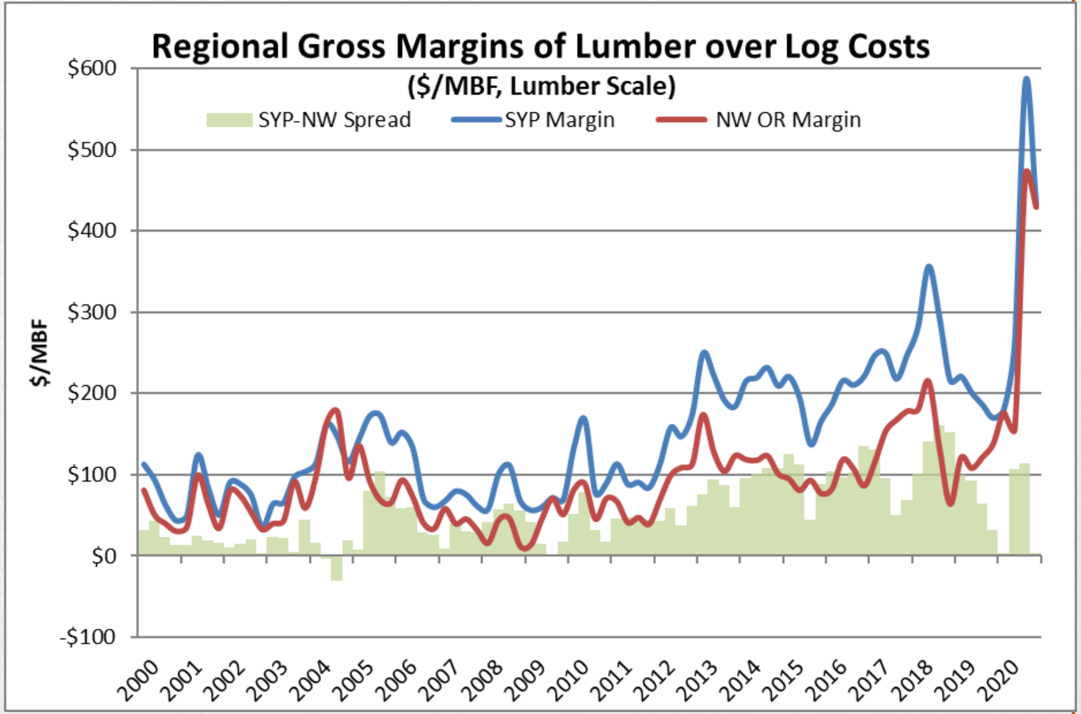
Regional Gross Margins

Sawmill Gross Margins (lumber price minus delivered raw material costs) in the Northwest and South were derived from the figures on the previous two pages. The difference between the two regions is the "spread."

The gross margin spread between Southern and PNW sawmills returned to near parity ($4/MBF), after it notched two quarters above $100/MBF is 2020. This compares to an average spread in 2019 of $72/MBF. Gross margins moved downward this quarter, from $470/MBF to $430/MBF in the PNW, and from $584/MBF to $434/MBF in the South. Southern sawmills have enjoyed gross margins over $200/MBF in 23 of the last 32 quarters since 2013, while PNW mill gross margins hit that mark only three times.

Since the beginning of 2012, log export markets and declining Interior BC lumber production pushed PNW log prices to historical highs. In the South, persistent excess inventories of mature sawtimber on the stump have kept downward pressure on log prices, even as lumber prices improved. The net result has been that the gap between the PNW's and South's gross margin has swelled to an average of $66/MBF over the last eight quarters, about 2x the 2000-2012 average of $33/MBF.

I expect the spread between the PNW and South to return to the ~$100/MBF level when lumber markets settle down and will persist until standing sawtimber inventories are worked down in the South, or until expanded SYP lumber production pulls lumber prices down.



Assumptions: 67/33 weight of DF2saw and WH3saw in the PNW, and a 75/25 weight for S/T and CNS in the South (using 7.5 tons/MBF, along with FEA's estimates of Cut & Haul cost for S/T and CNS). All figures are lumber scale, and regional differences in lumber recovery factors are incorporated.

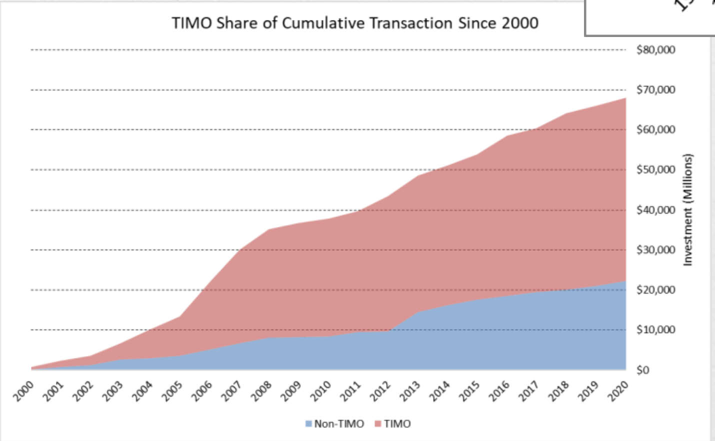
Data Sources: Timber-Mart South, Random Lengths, FEA, Oregon DOF, WA DNR
Chart & Analysis: WillSonn Advisory

Closings and announced sales in 2019 totaled $1.99 billion on 2.8 million acres.

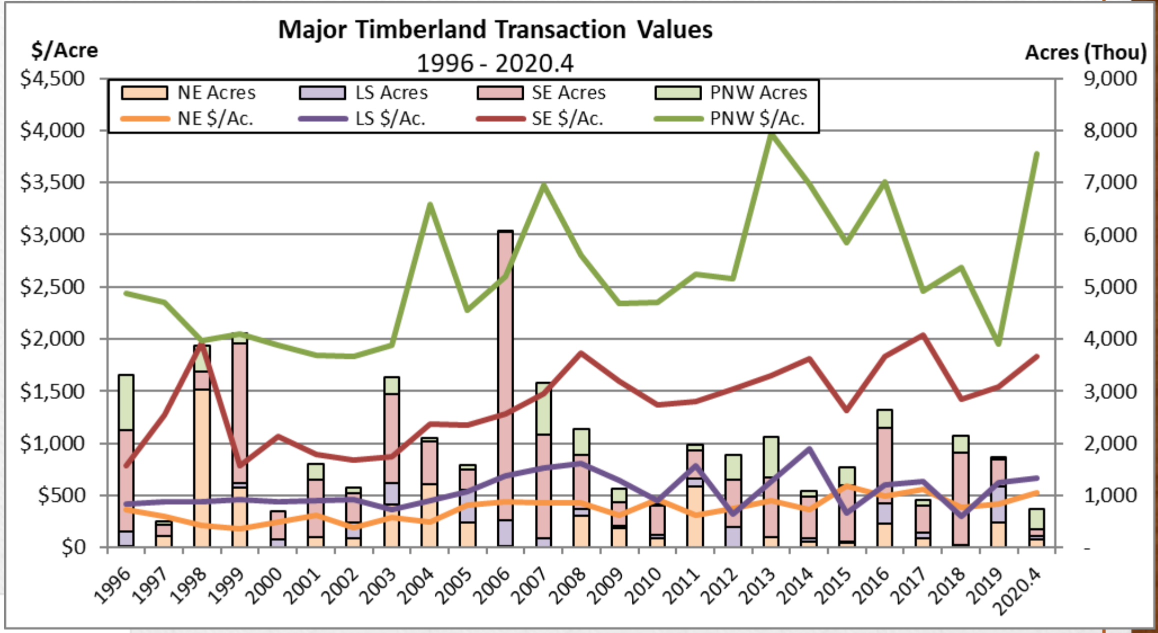
Through the first eleven months of 2020, (and the first nine months of the pandemic) 874,000 acres have sold, for total proceeds of $2.036 billion. Regional timberland prices have generally moved higher in 2020 and in general, remain below highs from a few years ago. Prices in the Pacific Northwest stand out as significantly higher in 2020, as average values were dominated by the acquisition of Pope Resource by Rayonier and some Hancock lands by Weyco.

Activity over the last month of 2020 and in early 2021 may be muted as travel restrictions and/or concerns due to Covid-19 hamper due diligence efforts and investor appetite.

By investment sector, Timberland Investment Management Organizations ("TIMOs") have funded 68% of the acquisitions from 2016 to 2020, well above the 25% captured in the 2013-2015 period. By comparison, TIMO buyers acquired 78% of US timberlands sold (by dollar) in the previous 13 years (2000-2012).



Regional Transaction Values



NE: Northeast LS: Lake States

SE: Southeast PNW: Pacific Northwest

Not Shown: Appalachia and Inland Northwest

Data Source: TMS, TMR, Press Releases Charts & Analysis: WillSonn Advisory

Section 2: Deeper Dive

Housing Starts in the U.S. during and following the Pandemic

- The health and pace of US Housing starts is subject to a great number of supply and demand factors, as well as pressures exerted by outside factors
- Many of these factors have been thrown into disarray by the COVID-19 pandemic
  - High uncertainty remains regarding the ultimate severity and duration of pandemic's impact on the economy in general and on housing starts in particular

Finan-cing
- Purchasers
- Builders
- Lenders

Demand
- Demographics
- Wealth & Employment
- Confidence

Supply
- New Homes
- Existing Homes
- Raw Materials

Labor
- Construction
- Immigration
- Productivity

Alterna-tives
- Multi-Generational
- Multi-Family

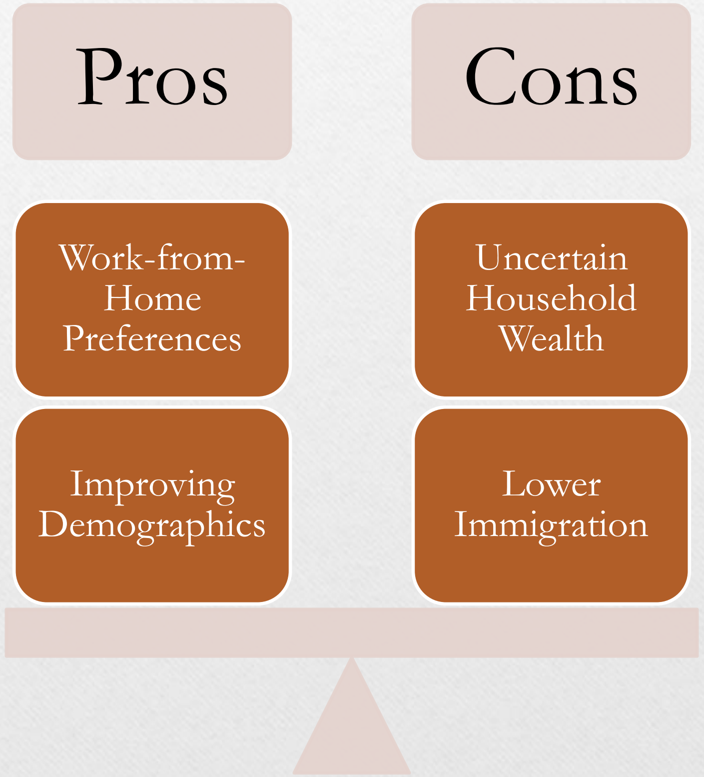
Gov't Policy
- Tax Regimes
- Permitting & Inspections
- Stimulus/Relief

Financing

- Interest rates are at historically low levels, which on the surface bodes well for financing residential sales and construction
- In addition (and somewhat counterintuitively), the Personal Savings Rate increased early in the pandemic (Bottom chart on page 21)
  - Historically, this was viewed as funds available for prospective home buyers needed down payments, but under the current economy, this is less probable, more likely hunkering down for the lean times ahead
  - Reduced consumption and massive federal stimulus/relief payments more than offset the lower earnings, yielding the rise in savings rates
- However, the proportionate demand for loans has increased for refinancing and decreased for purchases (Chart DD1 on page 22)
  - Refinancing offers both lower mortgage payments and the possibility of a cash infusion for borrowers, a boon for repair and remodel investments
  - However, refinancing may delay the sale of a home in the near-term as refi fees are recouped, keeping a lid on the inventory of Existing homes for sale
  - Without the equity freed up by the sale of existing homes (due to recent refinancing), less demand for new homes may occur
- A weaker economy may cause lenders to make less funds available for the housing sector as mortgage defaults and forbearance rates increase once pandemic-related moratoriums are lifted
  - The availability of construction loans has tightened, as lenders view the housing market as particularly vulnerable to weakness in the overall economy (**Top chart on page 21**)
  - Landlords, many of whom have outstanding mortgages on their rental properties, are facing cash crunches as evictions are prohibited and renters fall further and further behind

New Housing Demand

- In general, evolving demographics are favorable to improved housing starts
  - Demand by first time buyers is expected to improve as Millennials reach prime home-buying age in the intermediate term
  - The percent of Millennials forming households has improved in recent months
  - How the pandemic has accelerated or slowed down changes that were underway in the months prior is still an unknown
- A sustained preference for single family homes and broader acceptance of Work From Home ("WFH") arrangements could develop as households shy away from crowded urban centers in pursuit of larger homes (with offices) and back yards (instead of crowded city parks)
- Household finances are being strained, particularly for lower income households, and the impact of the pandemic on the US economy may worsen as infections increase before the vaccines are broadly administered
  - A prolonged preference for multi-family (rental) housing bodes poorly for wood products consumption, as a multi-family unit uses ~1/3 as much wood products (lumber, plywood, OSB, etc.) as a single family start
- Tighter restrictions on immigration tend to undermine the demand for housing starts, both multi and single-family units
- If refinancing delays existing owners from looking for a new home, demand for new homes could be undermined

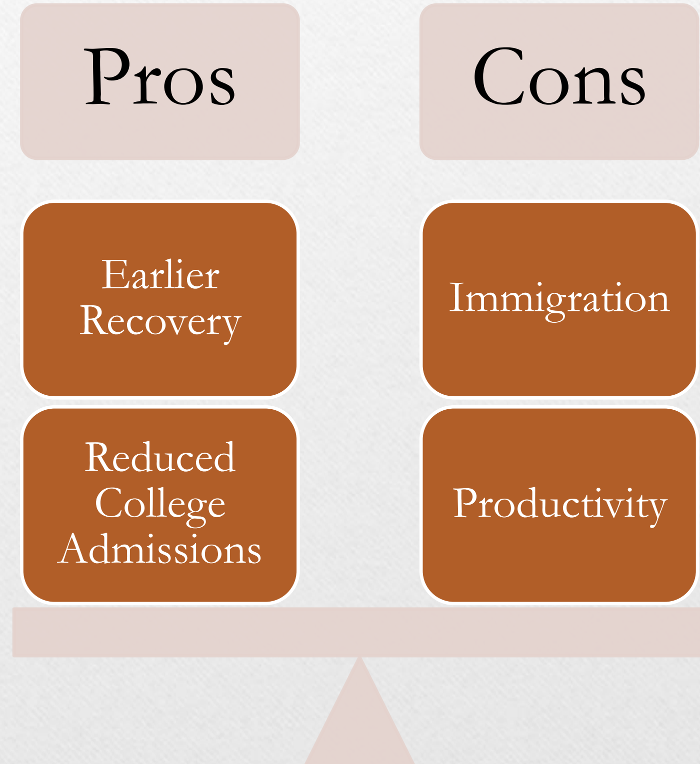


Supply

- The inventory of New Homes for Sale has been declining in 2020, unlike it was going into the Great Recession
  - The resurgent demand in 2020 along with longer construction times have slowed the pace of building, contributing further to the supply shortage of new homes
  - Also note the change in the mix of New Homes for Sale – page 7
- Existing Homes inventories are very low as well, as homeowner tenure has increased from ~6-7 years to 10-11 years
  - See charts on page 7
- Building Material producers have been challenged to meet demand as manufacturers have faced hurdles to increase production
  - Early generous federal supplemental unemployment payments aimed at keeping people home to contain the spread of the virus may have discouraged some mill workers from returning to work
  - As a result, building material prices have increased, increasing the cost of new homes, which may price some buyers out of the market and/or push average home size lower
- Other long-running supply constraints may persist, most importantly available building lots
  - If demand shifts to more single-family homes in the suburbs and the exurbs (a reversal of recent trends), builders may have a mismatch of inventory to demand for lots
  - Constraints on construction and development loans can only make this worse

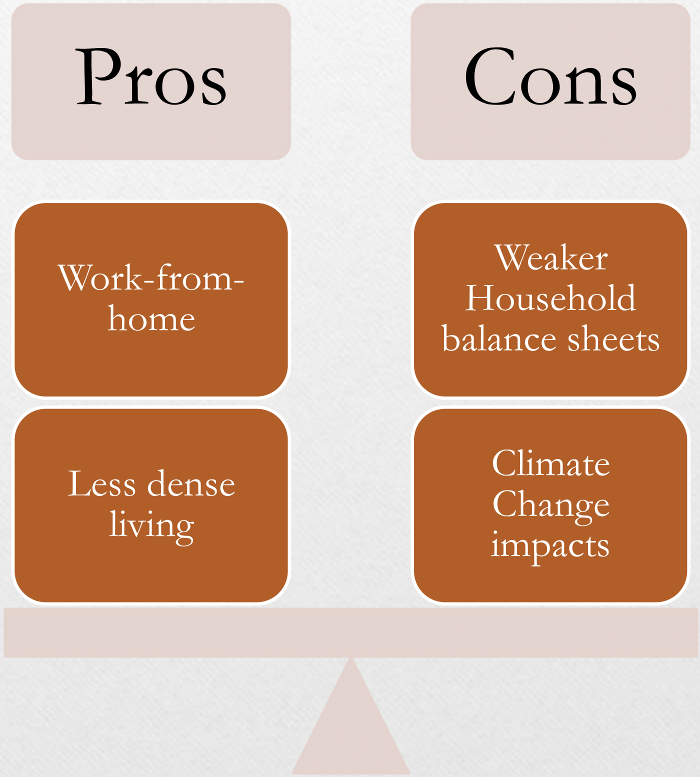
Labor

- To build more houses, you need more labor and/or more productive workers
    - Construction labor availability has been the number one concern among builders for the last few years
        - Productivity is off ~25% from the early 2000's (see prior Deep Dives)
- Residential Constructions has been allowed to continue in most states, though with some modifications, but has recovered to pre-pandemic levels as of December 2020 (chart on page 28)
    - Residential Construction Employment was not immune from the pandemic, losing 415,000 jobs in April 2020
    - Regulations vary by state, where in some states, covid-safety personnel are required on-site and modifications to on-site work arrangements have been mandated to accommodate social distancing
- High school graduates deferring (or forgoing) college may have added to the ranks of construction labor in the past year
    - Some of these workers may leave once in-person classes resume
- Immigration reductions have undermined construction labor availability (as well as housing demand), delaying a near-term recovery in labor productivity
    - Under a new administration, this may change, though admittedly, this is not pandemic related



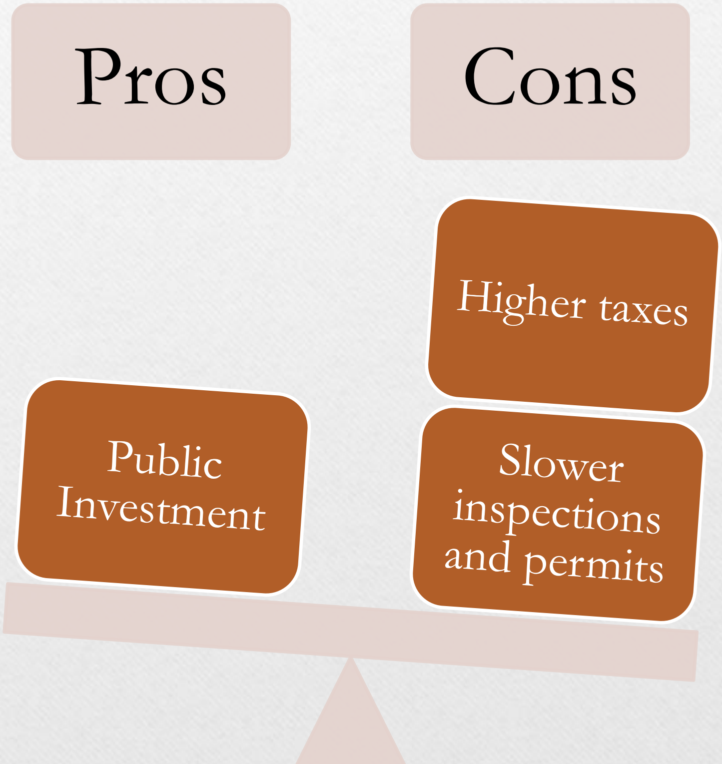
Alternatives

- The downturn in housing that started in 2007 had a profound impact on housing trends
  - A higher percentage of 20-somethings lived at home
  - The share of Multi-family starts grew from18% to 30-35%
  - Home-owners remained in their homes longer; bad for housing starts, but good for repair and remodeling expenditures
  - Lenders tightened lending criteria for home buyers
- Similarly impactful shifts could occur as a result of the pandemic, though it will require more time for trends to be expressed in the data
  - Some already mentioned above: increased work-from-home employment, homes with offices and yards, migration away from densely populated urban areas, etc.
  - The loss of jobs in lower-wage occupations, particularly in the leisure and hospitality sectors may have long-lasting impacts on household formations
  - But depending on the duration of mitigation efforts, the durability of the above-mentioned trends, and the amount of damage done to household balance sheets, alternatives sought for American households could be minor or major, long-lived or short-lived
- Some of the emerging trends could run counter to measures fighting Climate Change, while some may run in its favor
  - Less commuting leads to lower transportation-caused pollution but moving further from the urban core (and the office) may increase commuting time and fuel consumption
  - Once the pandemic is behind us, Climate Change mitigation efforts are expected to reemerge as a high priority



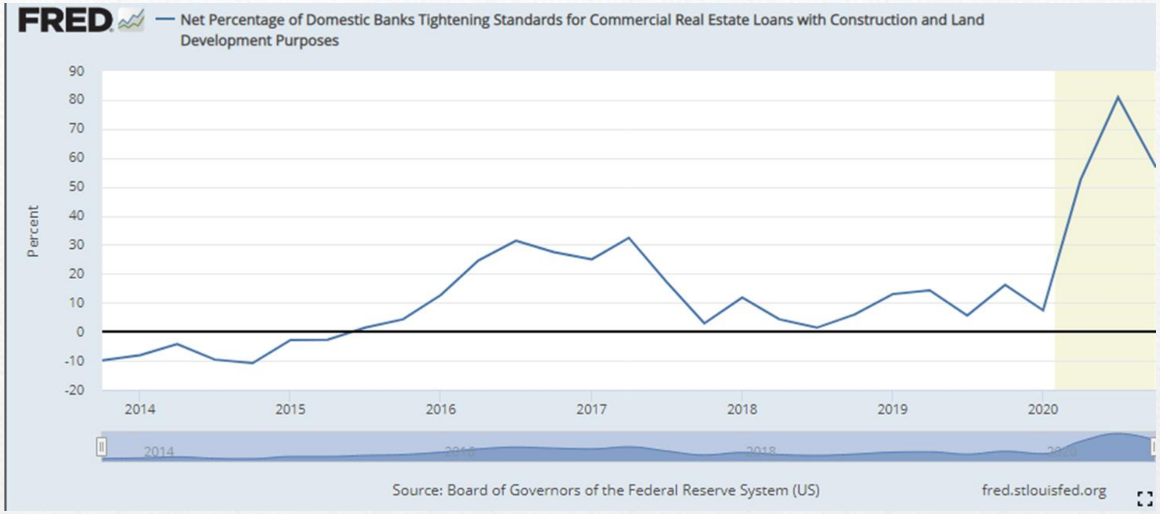
Government Policy

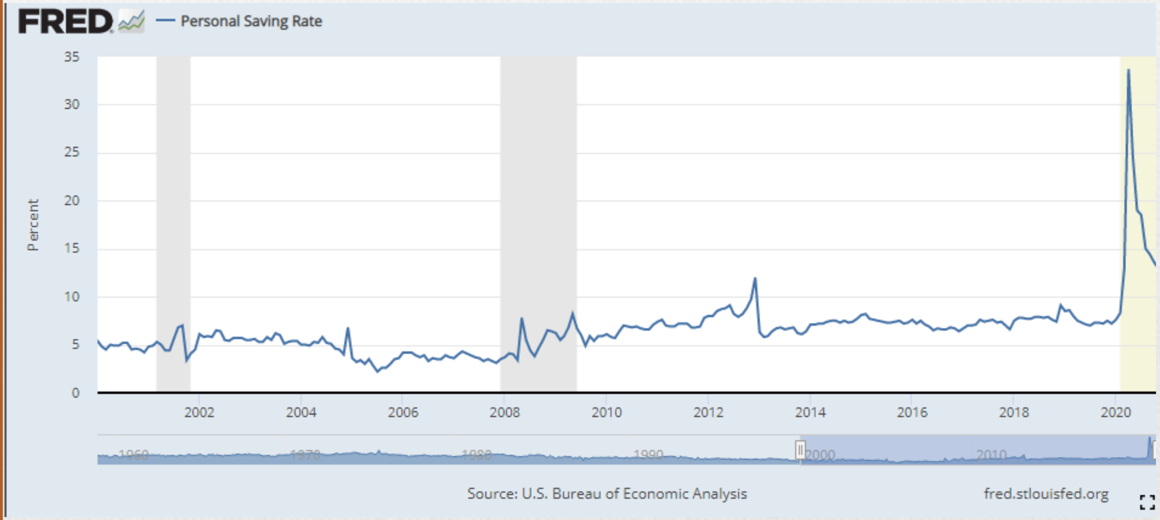
- With ~$2-3 trillion in stimulus and relief spending at the federal level in 2020 and the prospect of additional expenditures in 2021, the American taxpayer should expect tax rates to increase, or benefits to be cut, or both, over the intermediate and long-term
  - With the outcome of the presidential and congressional elections now settled, the likelihood, speed and extent of these changes are expected to increase
  - Depending on how and to what extent these changes are implemented, housing could be negatively impacted
- Payment of unemployment benefits and reduced receipts have blown state and local operating budgets, with layoffs, pay-freezes, and deferred state investments to be expected
  - During the Great Recession, slower home inspections and issuance of building permits were experienced – to be expected again
  - Pay freezes and layoffs in government, education and emergency services will also hurt household incomes for these workers, many of whom are prime home buyers
- Public Investments in total could go either way, but are more likely to contribute to the economy, and thus housing demand, in the intermediate-term
  - Fewer funds available for public work projects at the state level
  - Infrastructure investments at the federal level (long overdue and discussed) could be one tool used to stimulate the economy
  - Investments in climate change technology and infrastructure, and the jobs that come with it, could gain momentum in the intermediate-term



Relevant charts from the FRED website

Board of Governors of the Federal Reserve System (US), **Net Percentage of Domestic Banks Tightening Standards for Commercial Real Estate Loans with Construction and Land Development Purposes** [SUBLPDRCSC], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/SUBLPDRCSC, January 8, 2021.

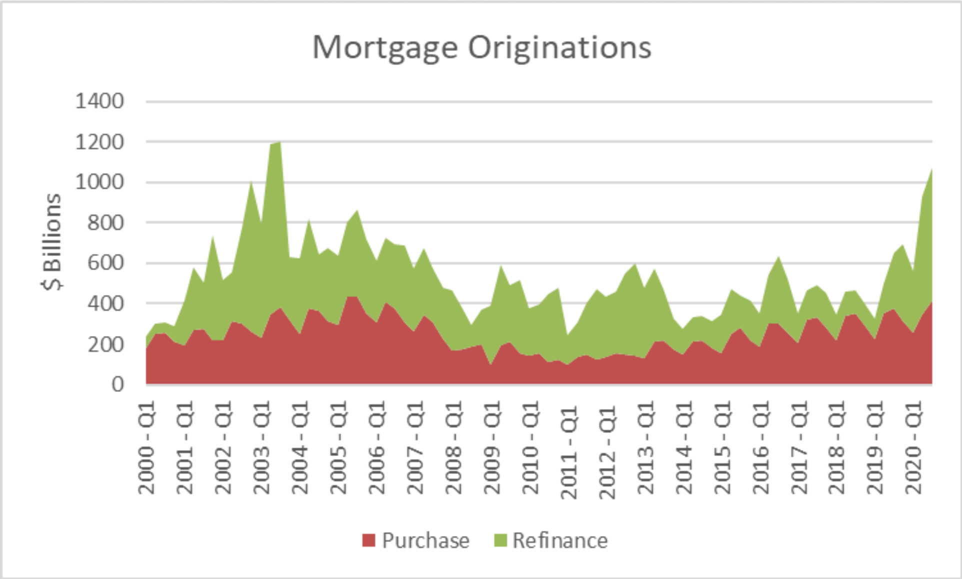




Personal saving as a percentage of disposable personal income (DPI), frequently referred to as "the personal saving rate," is calculated as the ratio of personal saving to DPI. Personal saving is equal to personal income less personal outlays and personal taxes; it may generally be viewed as the portion of personal income that is used either to provide funds to capital markets or to invest in real assets such as residences.

U.S. Bureau of Economic Analysis, **Personal Saving Rate** [PSAVERT], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PSAVERT, January 9, 2021.

Chart DD1: Mortgage Originations by Purpose



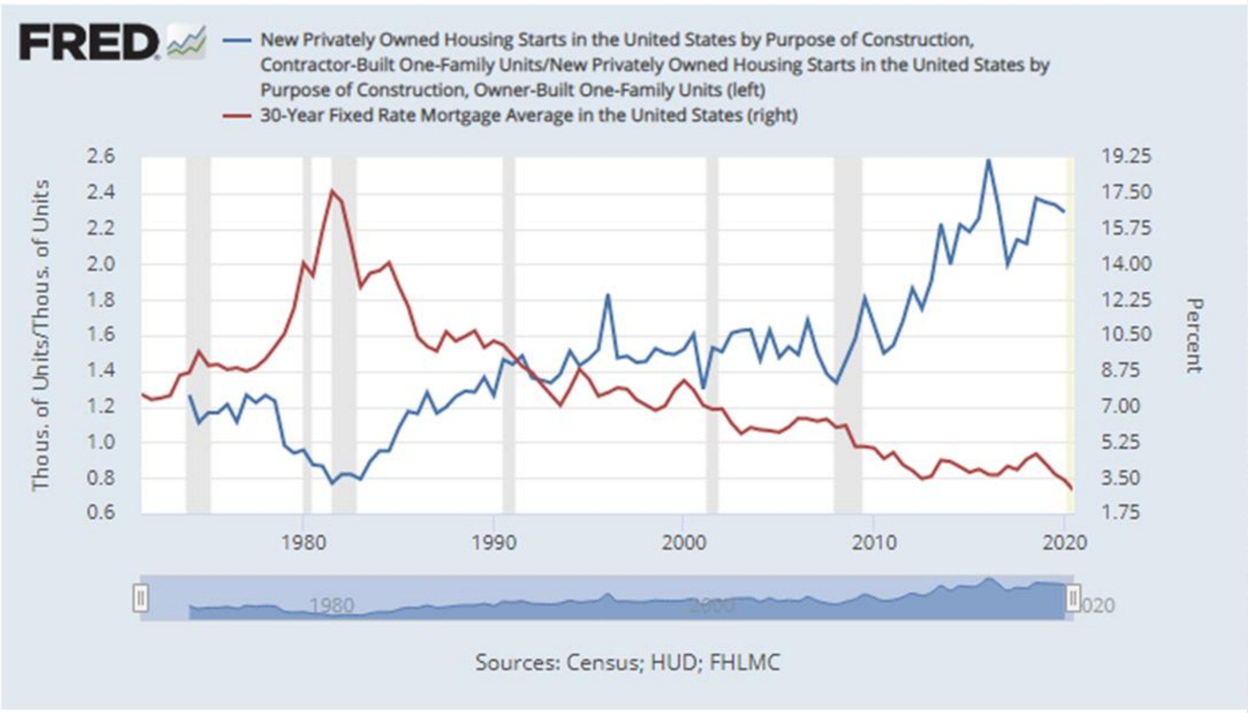
Section 3: In Case You Missed It

The FRED® Blog

Back and forth between buying and building houses
What's behind two different responses in the housing market?

Posted on December 5, 2019

Monetary policy affects interest rates, which affect mortgages, which affect decisions in the housing market. That may be easy to understand, but the housing data may not have such clear-cut patterns. Let's see what FRED has to show us.



The red line in the graph is the average 30-year fixed-rate mortgage (right axis) from the early 1970s to 2019. The blue line in the graph is the ratio of housing starts built by contractors over housing starts built by owners (left axis) for the same period.

From 1985 to 2007, this ratio was generally flat, around 1.5, implying contractors built approximately 60% of housing starts. But during episodes of macroeconomic turbulence, the ratio has diverged from its historical average. But not in a consistent way… In the late 1970s and early 1980s, this ratio declined sharply, to below 1.0. This implies individual owners built more housing starts than developers during this period. But during the Great Recession, this ratio increased sharply, to over 2.0, peaking at 2.6 in 2016, which implies contractors built 72% of housing starts.

Why would the ratio plummet in the late 1970s and rise sharply in the late 2000s? In both cases, GDP declined and unemployment rose, but this housing measure behaved differently.

Maybe you've already seen it, but a clear difference between these two episodes is the level of mortgage rates: Rates were much higher in the 1970s and 80s and much lower leading up to and through the Great Recession. As mortgage rates go up, the ratio goes down and vice versa. A potential reason is that, as the price of mortgages increases, the cost of purchasing a new home from a contractor increases relative to the cost of building one's own home. And, if the costs are basically the same, many would-be homeowners might choose to build their own home rather than purchase one that someone else built.

The late 1970s was a period of high inflation; in an effort to reduce inflation, the Federal Reserve imposed higher interest rates, which included mortgage rates. In contrast, during the Great Recession, the Federal Reserve slashed interest rates and, by extension, mortgage rates. It looks like homeowners respond to changes in these interest rates: building their own houses to try to economize on the financing during periods of high rates and purchasing new houses from contractors during periods of low rates.

https://fredblog.stlouisfed.org/2019/12/back-and-forth-between-buying-and-building-houses/?utm_source=series_page&utm_medium=related_content&utm_term=related_resources&utm_campaign=fredblog

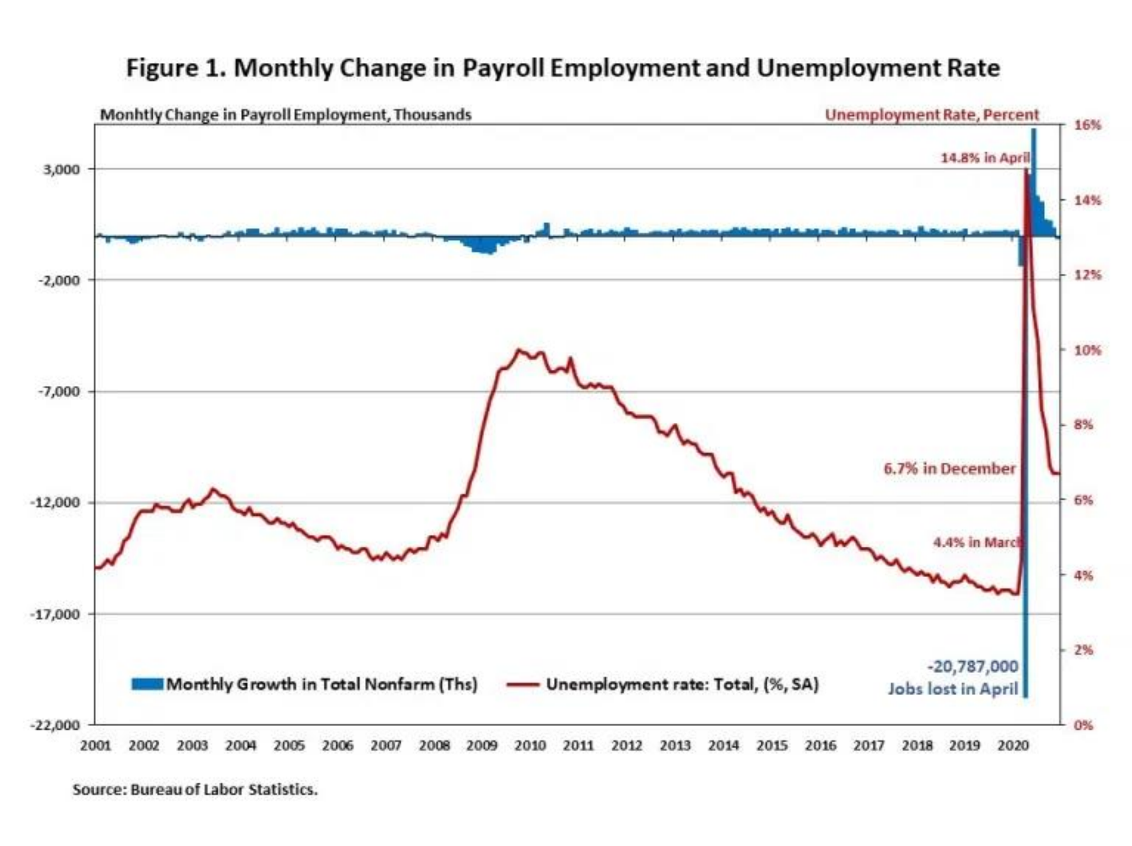
Residential Construction Offsets All the Jobs Lost in March and April

NAHB: BY JING FU on JANUARY 8, 2021

After seven consecutive months' job gains, nonfarm payroll employment fell by 140,000 in December as virus cases surged. The unemployment rate was unchanged at 6.7% in December.

Total construction industry (both residential and non-residential) employment totaled 7.4 million in December. Residential construction employment rose by 22,700 in December to 3.0 million. In the past eight months, residential construction added 472,500 jobs in total. By the end of 2020, job gains in residential construction offset all the jobs lost in March and April, while only 61% of non-residential construction jobs lost in March and April were recovered.

In December, total nonfarm payroll employment declined by 140,000, reported in the Employment Situation Summary. It marks the first decline after seven consecutive months' increases since May 2020. The October increase was revised up by 44,000 from 610,000 to 654,000, and the November increase was revised up by 91,000 from 245,000 to 336,000.

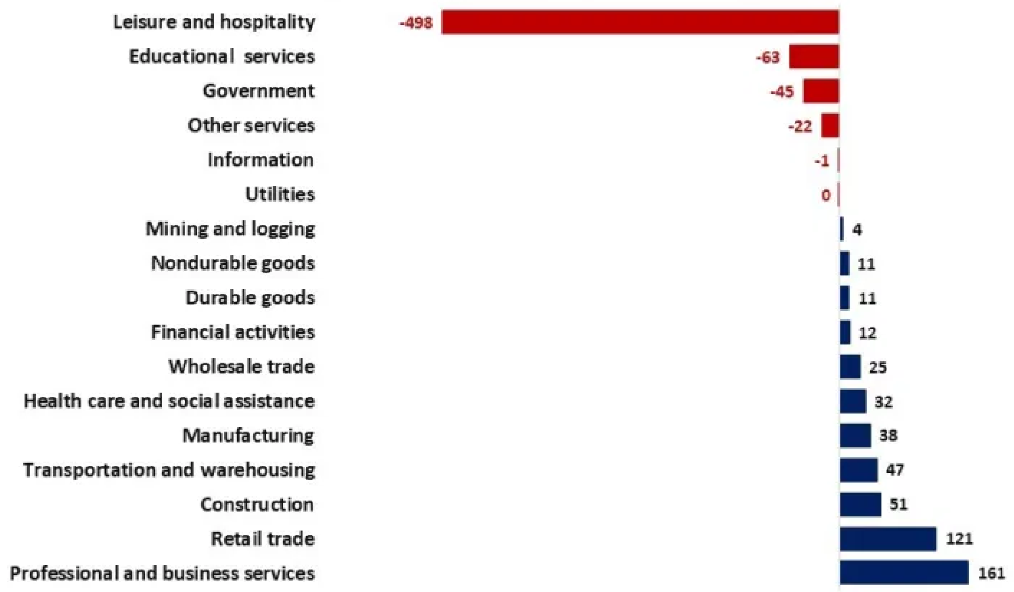


Looking back at 2020, a year like no other, the economy lost 1.4 million jobs in March and 20.8 million jobs in April due to the impact of the COVID-19 pandemic and efforts to contain it. The April job loss was unprecedented in the history of data series since 1939. From May to November, 12.5 million jobs have been created. For the year of 2020, the average monthly employment growth was negative (-781,000), compared to the average monthly growth of 178,000 over all of 2019.

Meanwhile, the unemployment rate was unchanged at 6.7% in December. This was 8.1 percentage points lower than its recent high of 14.8% in April and 3.2 percentage points higher than the rate in February. The number of unemployed persons was unchanged at 10.7 million. The labor force participation rate, the proportion of the population either looking for a job or already with a job, was unchanged at 61.5% in December.

The December job loss reflected the increasing COVID-19 cases and efforts to contain the pandemic. While employments in leisure and hospitality, educational services, government, and other services declined, professional and business services, retail trade, construction, and transportation and warehousing had job gains. Employment in leisure and hospitality declined by 498,000 in December. Almost three quarters of these drop occurred in food services and drinking places.

Figure 2. December Employment Changes by Selected Industry (month-over-month change, in thousands)



Source: Bureau of Labor Statistics.

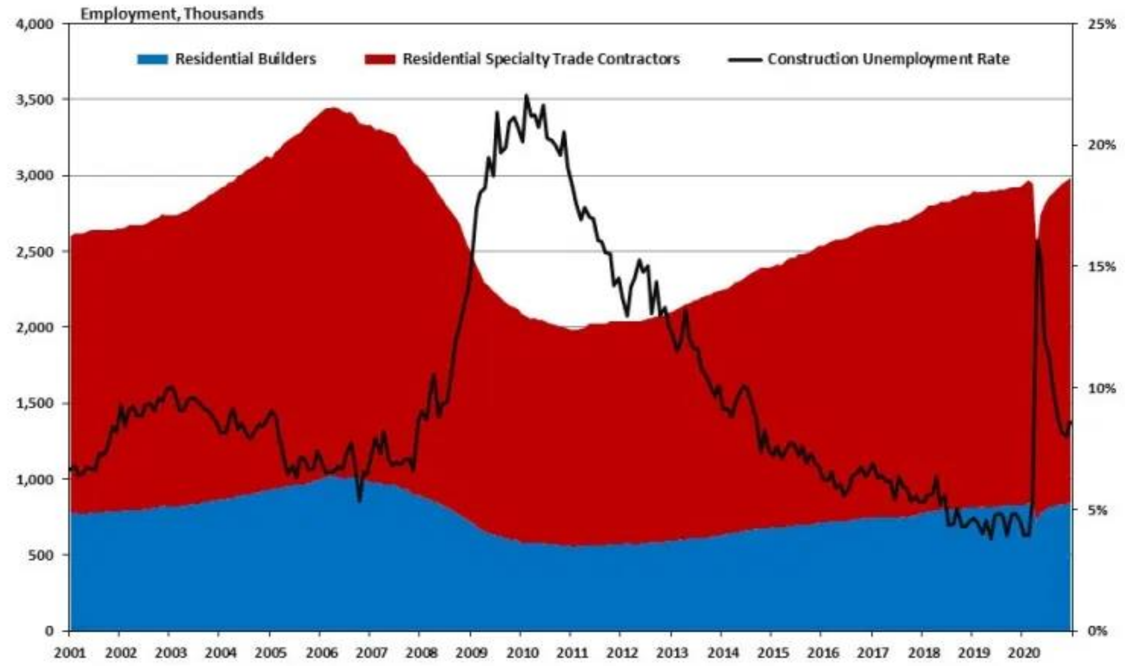
Additionally, according to the Household Survey supplemental data, which come from questions added to the Current Population Survey (CPS) since May 2020, 23.7% of employed persons teleworked or worked at home in the last 4 weeks specifically because of the coronavirus pandemic in December, up from 21.8% in November. In December, 15.8 million persons reported that they had been unable to work at some point in the last 4 weeks because their employer closed or lost business due to the coronavirus pandemic. Among those who reported that they were unable to work due to pandemic related closures, 12.8% received at least some pay from their employer for the hours not worked.

Employment in the overall construction sector increased by 51,000 in December, after a revised increase of 29,000 jobs in November. The number of residential construction jobs rose by 22,700 in December, faster than an increase of 15,800 in November. In the past eight months, 472,500 residential construction jobs were created, offsetting all the 456,800 residential construction jobs lost in March and April due to the pandemic.

Residential construction employment now stands at 3.0 million in December, broken down as 848,000 builders and 2.1 million residential specialty trade contractors. The 6-month moving average of job gains for residential construction was 27,000 a month. Over the last 12 months, home builders and remodelers added 57,200 jobs on a net basis. Since the low point following the Great Recession, residential construction has gained 999,300 positions.

In December, the unemployment rate for construction workers was unchanged at 6.7% on a seasonally adjusted basis. After hit 14.8% in April due to the impact of the COVID-19 pandemic, the unemployment rate for construction workers has been trending downward for the past eight months.

Figure 3. Residential Construction Employment and Unemployment Rate



Source: Bureau of Labor Statistics.

Note: As pointed out in previous Deep Dives, recognize that Residential *Construction employment, approaching 3.0 million in December 2020, is above the 2001-04 employment levels, a period during which annual housing starts averaged 1.78 million units (also a period with a higher percentage of single-family units), suggesting lower productivity (starts per employee)*

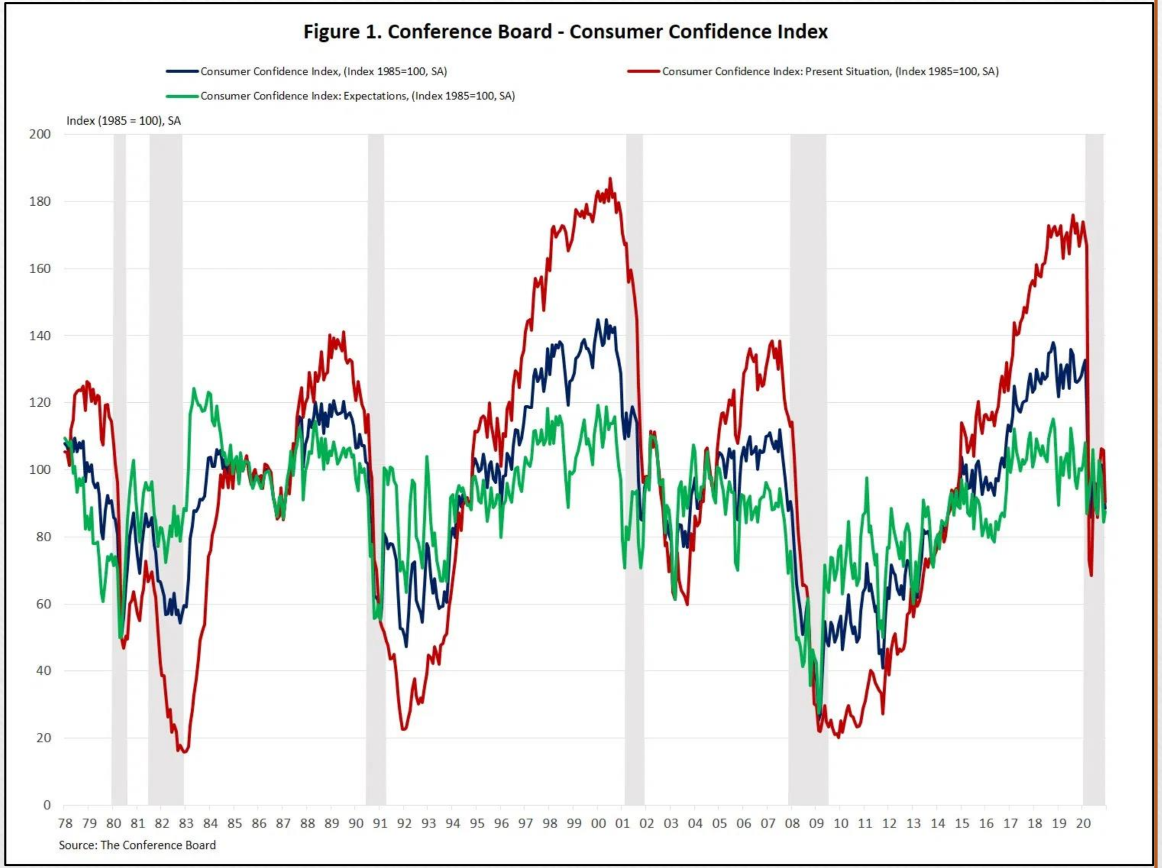
Consumer Confidence Falls to 4-month Low in December

NAHB: BY FAN-YU KUO on JANUARY 5, 2021

After a strong rebound in September, consumer confidence fell for the second consecutive month in December, as job growth continued to slow and more states re-imposed restrictions on business due to resurgence of COVID-19.

The Consumer Confidence Index, reported by the Conference Board, dropped 4.3 points from 92.9 to 88.6 in December, the lowest level since August 2020. The Present Situation Index plunged 15.6 points from 105.9 to 90.3, while the Expectation Situation Index increased 3.2 points from 84.3 to 87.5.

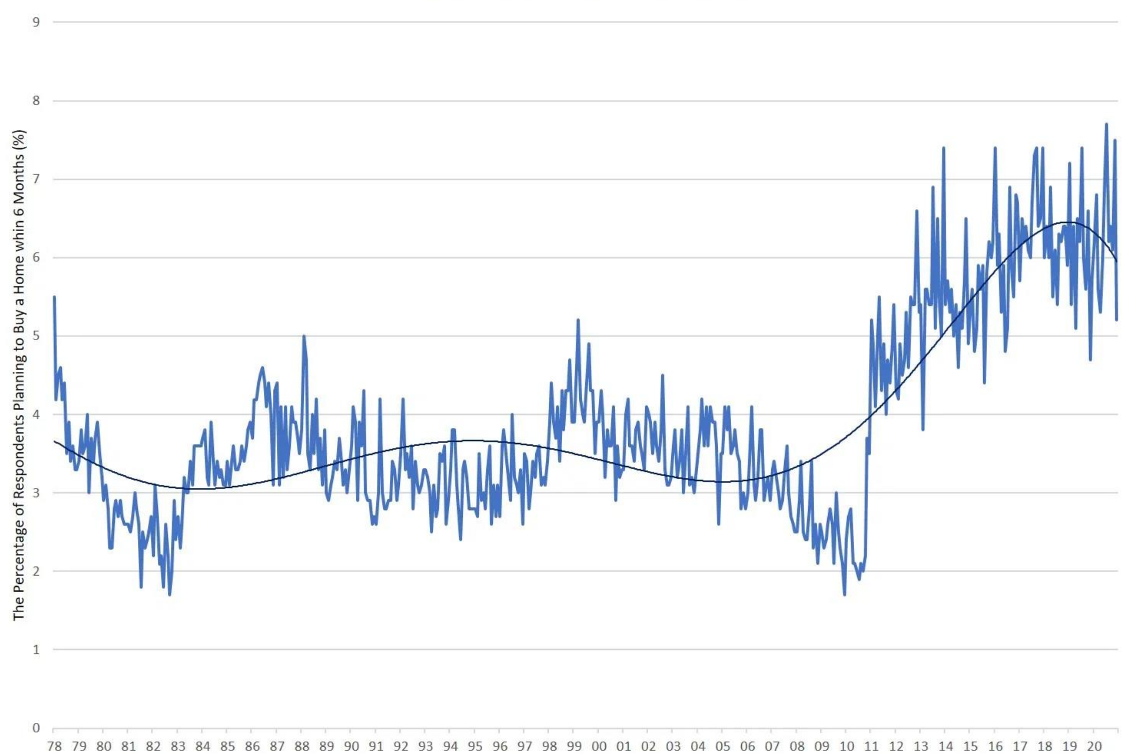
Consumers' assessment of current business conditions deteriorated in December. The shares of respondents rating business conditions "good" fell by 2.8 percentage points to 16.0%, while those claiming business conditions "bad" rose by 4.6 percentage points to 39.5%. Meanwhile, consumers' assessment of the labor market was also less favorable. The share of respondents reporting that jobs were "plentiful" decreased by 4.5 percentage points, while those saw jobs as "hard to get" increased by 2.6 percentage points.



Consumers, however, were moderately more optimistic about the short-term outlook. The share of respondents expecting business conditions to improve increased from 26.5% to 29%, while those expecting business conditions to deteriorate fell from 22.5% to 21.9%. Similarly, expectations of employment over the next six months improved. The share of respondents expecting “more jobs” rose by 2.5 percentage points to 27.5%, while those anticipating “fewer jobs” marginally increased by 0.6 percentage points to 22.2%.

The Conference Board also reported the share of respondents planning to buy a home within six months. Despite the low mortgage rates, surging home prices and lack of inventory started to harm affordability and hinder ownership opportunity. The share of respondents planning to buy a home fell to 5.2% in December. The share of respondents planning to buy a newly constructed home slightly decreased to 0.9%, and for those who planning to buy an existing home declined to 3.3%.

Figure 2. Conference Board Consumer Confidence - Respondents Planning to Buy a Home



Source: The Conference Board

Section 4: About WillSonn Advisory, LLC

WillSonn Advisory

Critical Experience for Critical Endeavors

WillSonn Advisory brings senior management experience, across multiple sectors of the wood products industry, with expertise in leading an array of strategic initiatives

Sectors

- Timber, Manufacturing, Bioenergy
- Private Industry & Institutional Investment
- Corporate Lending
- Consulting
- Domestic and International

Experience

- Mergers, Acquisitions & Divestitures
- Timberland Operations
- Finance & Planning, Financial Reporting
- Loan Origination & Underwriting
- Operations Support

Expertise

- Strategic Planning
- Asset Valuations and Due Diligence
- Project Management
- Contract Negotiations
- Budgeting & Forecasting

WillSonn Advisory Services

- Timberland & Mill Valuations
- Acquisition "Post Mortem" Audits
- Conversion of Acquisition Pro Forma to Lender Financial Projections
- Acquisition and Operational Due Diligence
- Development of Company Enterprise Valuations
- Incorporating Economic Forecasts

Business Assessments & Due Diligence Services

- Acquisition and Divestiture Process Management
- Conduct Regional or Global Market Studies
- Plan and Oversee Inventory & GIS Projects and/or Audits
- Independent Review of Harvest Flow Projections and Processes
- Prepare Offering Memorandums and Prospectuses

Project Management Services

- Fiber/Log Supply Agreements
- Purchase & Sale Agreements
- Timber Deeds and Leases
- Conservation Easements & Carbon Projects
- Service and Offtake Agreements
- Joint Ventures & Partnerships
- Contract Negotiating Strategies

Contract Structuring and Negotiation Services

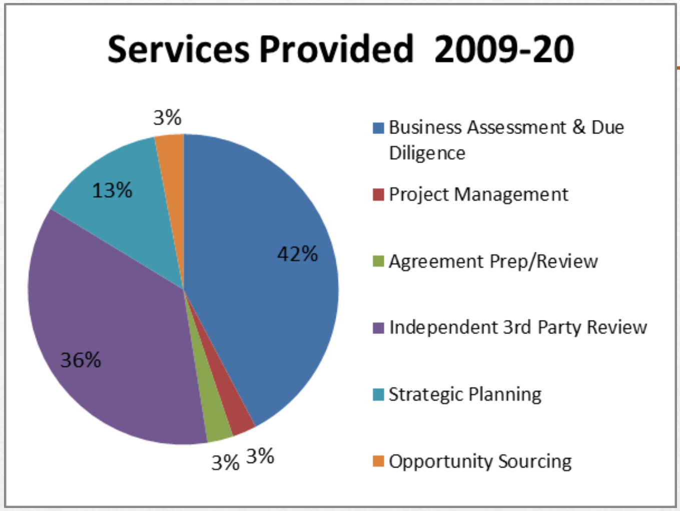
- Strategic Plan Process Design, Facilitation and Documentation
- Company Specific Price, Supply and/or Demand Forecast Development
- Contingency Plan Development and Monitoring
- Financial Planning and Capital Restructuring
- Work-out Strategy Development
- Capital Investment Assessments

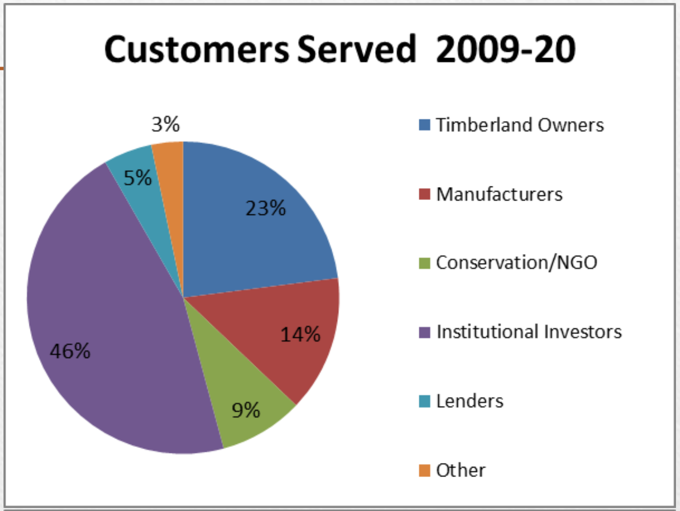
Strategic Planning & Business Restructuring Services

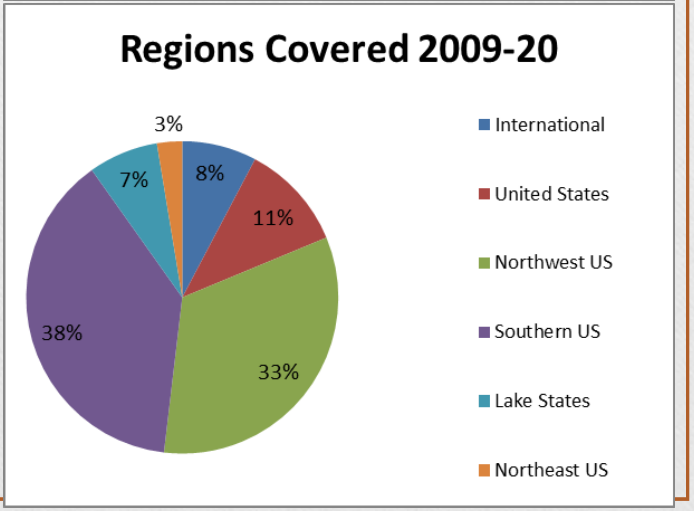
- Validate Acquisition Valuations & Due Diligence Procedures
- Evaluate Existing or Proposed Agreements or Easements
- Interpret Annual Management Plans & Appraisals
- Examine Proposed Transfers of Ownership
- Review Divestiture Timing & Strategies
- Track Investment Performance

Institutional Investor Services

Engagement Profiles







Since 2009, Will Sonnenfeld has been pleased to provide a broad range of consulting services to dozens of clients across the full spectrum of industry sectors in all regions of the US and abroad.

I look forward to your comments and questions, and welcome the opportunity to serve your consulting needs.

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