#### The Virginia Tech–USDA Forest Service Housing Commentary: Section I May 2021

# VIRGINIA TECH.

#### **Delton Alderman**

USDA Forest Service Statistics, Life Cycle Analysis, and Economics Research (FPL-4851)

Forest Products Laboratory



Madison, WI 304.431.2734



delton.r.alderman@usda.gov

# Virginia Virginia Tech • Virginia State University

#### **Urs Buehlmann**

Department of Sustainable Biomaterials College of Natural Resources & Environment Virginia Tech Blacksburg, VA 540.231.9759 buehlmann@gmail.com

2021 Virginia Polytechnic Institute and State University

VCE-ANR

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Jewel E. Hairston, Administrator, 1890 Extension Program, Virginia State, Petersburg.

# **Table of Contents**

- Slide 3: <u>Opening Remarks</u> Slide 4: <u>Housing Scorecard</u>
- Slide 5: <u>Wood Use in Construction</u>
- Slide 8: <u>New Housing Starts</u>
- Slide 15: <u>Regional Housing Starts</u>
- Slide 21: <u>New Housing Permits</u>
- Slide 25: <u>Regional New Housing Permits</u>
- Slide 29: Housing Under Construction
- Slide 31: <u>Regional Under Construction</u>
- Slide 36: Housing Completions
- Slide 38: <u>Regional Housing Completions</u>

Slide 43: <u>New Single-Family House Sales</u>

Slide 43: <u>New Single-Family House Sales</u> Slide 46: <u>Region SF House Sales & Price</u> Slide 52: <u>New SF Sales-Population Ratio</u> Slide 64: Construction Spending Slide 67: Construction Spending Shares Slide 70: <u>Remodeling</u> Slide 80: Existing House Sales Slide 83: U.S. Housing Prices & Finance Slide 99: Forest Products Markets Slide 103: Summary Slide 104: Virginia Tech Disclaimer Slide 105: USDA Disclaimer

This report is a free monthly service of Virginia Tech. Past issues are available at: <u>http://woodproducts.sbio.vt.edu/housing-report.</u>

 $To \ request \ the \ commentary, please \ email: \ buehlmann @gmail.com \ or \ delton.r. alderman @usda.gov$ 

# **Opening Remarks**

The month-over-month housing data for May' were varied and all data were positively robust yearover-year – in all categories. Declines were reported for total-, single- and multi-family permits; total- and single-family completions, and existing house sales.

The July 16th Atlanta Fed GDPNow<sup>TM</sup> model forecast was an aggregate 9.1% decrease for total residential investment spending for June 2021. New private permanent site expenditures were projected at -0.6%; the improvement spending forecast was -3.8%; and the manufactured/mobile expenditures projection was 14.1% (all: quarterly log change and at a seasonally adjusted annual rate).<sup>1</sup>

"With the wild price run that has been in effect since about June of 2020, it is starting to become more obvious that the North American wood products supply chain is completely strained. While COVID-19 might be considered the cause for surging demand and lagging production, the answer is always more complicated than that. While a temporary shortage of lumber, OSB and plywood has occurred at various times in the last year, it is more a function of short-term constraints throughout the supply chain from loggers to mill workers to logistics (trucks, rail and ocean containers), right through to distributors, retailers and home builders. Many constraints have impacted the supply side during this strong demand cycle, so hence the runaway commodity wood products prices.... The simple math is this: US demand will probably grow by around 3 billion board feet in 2021 and 2.5 billion bf in 2022.....<sup>22</sup> – Russ Taylor, President, Russ Taylor Global.

This month's commentary contains applicable housing data, remodeling commentary, a note on forest products markets, and United States housing market observations. Section I contains relevant data, remodeling, and housing finance commentary. Section II includes regional Federal Reserve analysis, private firm indicators, demographic, and economic information.

Sources: <sup>1</sup> www.frbatlanta.org/cqer/research/gdpnow.aspx; 7/16/21; <sup>2</sup> https://mydigitalpublication.com/publication/?m=66280&i=712420&view=articleBrowser&article\_id=4061463&ver=html5; 7/8/21

### May 2021 Housing Scorecard

	M/M	$\mathbf{Y}/\mathbf{Y}$
Housing Starts	<b>▲</b> 3.6%	<b>▲</b> 50.3%
Single-Family (SF) Starts	<b>4.2%</b>	<b>▲</b> 49.8%
Multi-Family (MF) Starts*	<b>2.</b> 4%	<b>▲</b> 51.4%
Housing Permits	▼ 2.9%	<b>▲</b> 35.1%
SF Permits	▼ 1.2%	▲ 50.6%
MF Permits*	▼ 6.2%	<b>▲</b> 11.4%
Housing Under Construction	<b>▲</b> 0.5%	<b>▲</b> 12.3%
SF Under Construction	<b>▲</b> 1.2%	<b>▲</b> 27.8%
Housing Completions	▼ 4.1%	<b>▲</b> 16.1%
SF Completions	▼ 2.6%	<b>▲</b> 17.0%
New SF House Sales	▼ 5.9%	<b>▲</b> 9.2%
Private Residential Construction Spending	<b>▲</b> 0.2%	▲ 28.7%
SF Construction Spending	<b>▲</b> 0.8%	<b>▲</b> 46.1%
Existing House Sales <sup>1</sup>	▼ 1.4%	<b>4</b> 6.9%

\* All multi-family (2 to  $4 + \ge 5$ -units)

M/M = month-over-month; Y/Y = year-over-year; NC = No change

### New Construction's Percentage of Wood Products Consumption



### New SF Construction Percentage of Wood Products Consumption



#### Repair and Remodeling's Percentage of Wood Products Consumption



**Return TOC** 

# **New Housing Starts**

	<b>Total Starts*</b>	SF Starts	MF 2-4 Starts**	MF ≥5 Starts
May	1,572,000	1,098,000	9,000	465,000
April	1,517,000	1,054,000	16,000	447,000
2020	1,046,000	733,000	8,000	305,000
M/M change	3.6%	4.2%	-43.8%	4.0%
Y/Y change	50.3%	49.8%	12.5%	52.5%

\* All start data are presented at a seasonally adjusted annual rate (SAAR).

\*\* US DOC does not report 2 to 4 multi-family starts directly; this is an estimation ((Total starts – (SF + 5-unit MF)).

# **Total Housing Starts**



US DOC does not report 2 to 4 multi-family starts directly; this is an estimation: ((Total starts – (SF +  $\geq$  MF)).

\* Percentage of total starts.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Sources: https://fred.stlouisfed.org/series/USREC, 3/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 6/16/21

# **Total Housing Starts: Six-Month Average**



# SF Housing Starts: Year-over-Year Change



# **SF Housing Starts: Six-Month Average**



# **New SF Starts**



#### New SF starts adjusted for the US population

From May 1959 to July 2007, the long-term ratio of the total US non-institutionalized population to new SF starts is 0.0066; in May 2021 it was 0.0042 – no change from April. The long-term ratio of non-institutionalized population, aged 20 to 54 is 0.0103; in May 2021 was 0.0075 – an increase from April (0.0072). From a population worldview, new SF construction is less than what is necessary for changes in population (i.e., under-building).

Sources: http://www.census.gov/construction/nrc/pdf/newresconst.pdff and The Federal Reserve Bank of St. Louis; 6/16/21

#### **Nominal & SAAR SF Starts**



#### Nominal and Adjusted New SF Monthly Starts

Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

The apparent expansion factor "... is the ratio of the unadjusted number of houses started in the US to the seasonally adjusted number of houses started in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

# **New Housing Starts by Region**

	NE Total	NE SF	NE MF**
May	118,000	63,000	55,000
April	152,000	73,000	79,000
2020	70,000	35,000	35,000
M/M change	-22.4%	-13.7%	-30.4%
Y/Y change	68.6%	80.0%	57.1%
	MW Total	MW SF	MW MF
May	<b>MW Total</b> 239,000	<b>MW SF</b> 169,000	<b>MW MF</b> 70,000
May April	<b>MW Total</b> 239,000 184,000	<b>MW SF</b> 169,000 145,000	<b>MW MF</b> 70,000 39,000
May April 2020	MW Total   239,000   184,000   144,000	MW SF 169,000 145,000 99,000	70,000 39,000 45,000
May April 2020 M/M change	MW Total   239,000   184,000   144,000   29.9%	MW SF169,000145,00099,00016.6%	70,000 39,000 45,000 79.5%

All data are SAAR; NE = Northeast and MW = Midwest.

\*\* US DOC does not report multi-family starts directly; this is an estimation (Total starts - SF starts).

# **New Housing Starts by Region**

	S Total	S SF	<b>S MF</b> **
May	814,000	591,000	223,000
April	784,000	575,000	209,000
2020	510,000	403,000	107,000
M/M change	3.8%	2.8%	6.7%
Y/Y change	59.6%	46.7%	108.4%
	W Total	W SF	W MF
May	<b>W Total</b> 401,000	<b>W SF</b> 275,000	<b>W MF</b> 126,000
May April	W Total 401,000 397,000	W SF 275,000 261,000	W MF 126,000 136,000
May April 2020	W Total 401,000 397,000 322,000	W SF 275,000 261,000 196,000	W MIF 126,000 136,000 126,000
May April 2020 M/M change	W Total 401,000 397,000 322,000 1.0%	W SF 275,000 261,000 196,000 5.4%	W MIF 126,000 136,000 126,000 -7.4%

All data are SAAR; S = South and W = West.

\*\* US DOC does not report multi-family starts directly; this is an estimation (Total starts - SF starts).

# **New Housing Starts by Region**



NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family starts directly; this is an estimation (Total starts – (SF  $+ \ge 5$  MF starts).

\* Percentage of total starts.

### **Total SF Housing Starts by Region**



NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family starts directly; this is an estimation (Total starts – (SF  $+ \ge 5$  MF starts).

\* Percentage of total starts.

# **MF Housing Starts by Region**



NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family starts directly; this is an estimation (Total starts – (SF  $+ \ge 5$  MF starts).

\* Percentage of total starts.

### SF vs. MF Housing Starts (%)



NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Sources: https://fred.stlouisfed.org/series/USREC, 3/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 6/16/21

# **New Housing Permits**

	Total Permits*	SF Permits	MF 2-4 unit Permits	MF ≥ 5 unit Permits
May	1,683,000	1,134,000	58,000	491,000
April	1,733,000	1,148,000	50,000	535,000
2020	1,246,000	753,000	44,000	449,000
M/M change	-2.9%	-1.2%	16.0%	-8.2%
Y/Y change	35.1%	50.6%	31.8%	9.4%

\* All permit data are presented at a seasonally adjusted annual rate (SAAR).

## **Total New Housing Permits**



\* Percentage of total permits.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

#### **Nominal & SAAR SF Permits**



#### Nominal and Adjusted New SF Monthly Permits

Presented above is nominal (non-adjusted) new SF start data contrasted against SAAR data.

The apparent expansion factor "...is the ratio of the unadjusted number of houses started in the US to the seasonally adjusted number of houses started in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

# **New Housing Permits by Region**

	<b>NE Total*</b>	NE SF	NE MF**
May	156,000	71,000	85,000
April	168,000	76,000	92,000
2020	112,000	47,000	65,000
M/M change	-7.1%	-6.6%	-7.6%
Y/Y change	39.3%	51.1%	30.8%
	MW Total*	MW SF	MW MF**
May	<b>MW Total*</b> 223,000	<b>MW SF</b> 138,000	<b>MW MF**</b> 85,000
May April	<b>MW Total*</b> 223,000 228,000	<b>MW SF</b> 138,000 159,000	<b>MW MF**</b> 85,000 69,000
May April 2020	MW Total*223,000228,000172,000	MW SF 138,000 159,000 102,000	<b>MW MF**</b> 85,000 69,000 70,000
May April 2020 M/M change	MW Total*   223,000   228,000   172,000   -2.2%	MW SF 138,000 159,000 102,000 -13.2%	<b>MW MF**</b> 85,000 69,000 70,000 23.2%

NE = Northeast; MW = Midwest

\* All data are SAAR

\*\* US DOC does not report multi-family permits directly; this is an estimation (Total permits - SF permits).

# New Housing Permits by Region

	S Total*	S SF	<b>S MF</b> **
May	898,000	678,000	220,000
April	918,000	649,000	269,000
2020	681,000	441,000	240,000
M/M change	-2.2%	4.5%	-18.2%
Y/Y change	31.9%	53.7%	-8.3%
	W Total*	W SF	WMF**
May	<b>W Total*</b> 406,000	<b>W SF</b> 247,000	<b>W MF**</b> 159,000
May April	W Total* 406,000 419,000	WSF 247,000 264,000	WMF** 159,000 155,000
May April 2020	W Total* 406,000 419,000 281,000	WSF 247,000 264,000 163,000	WMF** 159,000 155,000 118,000
May April 2020 M/M change	W Total* 406,000 419,000 281,000 -3.1%	WSF 247,000 264,000 163,000 -6.4%	WMF** 159,000 155,000 118,000 2.6%

S = South; W = West

\* All data are SAAR

\*\* US DOC does not report multi-family permits directly; this is an estimation (Total permits - SF permits).

## **Total Housing Permits by Region**



\* Percentage of total permits.

# **SF Housing Permits by Region**



NE = Northeast, MW = Midwest, S = South, W = West

\* Percentage of total permits.

# **MF Housing Permits by Region**



NE = Northeast, MW = Midwest, S = South, W = West

\* Percentage of total permits.

### New Housing Under Construction (HUC)

	Total Under Construction*	SF Under Construction	MF 2-4 unit** Under Construction	MF ≥ 5 unit Under Construction
May	1,324,000	652,000	13,000	659,000
April	1,318,000	644,000	13,000	661,000
2020	1,179,000	510,000	12,000	657,000
M/M change	0.5%	1.2%	0.0%	-0.3%
Y/Y change	12.3%	27.8%	8.3%	0.3%

All housing under construction data are presented at a seasonally adjusted annual rate (SAAR).

\*\* US DOC does not report 2-4 multi-family units under construction directly; this is an estimation

((Total under construction – (SF + 5-unit MF)).

#### **Total Housing Under Construction**



US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under constructions – (SF  $+ \ge 5$  MF under construction).

\* Percentage of totalhousing under construction units.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

#### New Housing Under Construction by Region

	NE Total	NE SF	NE MF**
May	190,000	61,000	129,000
April	188,000	60,000	128,000
2020	174,000	54,000	123,000
M/M change	1.1%	1.7%	0.8%
Y/Y change	9.2%	13.0%	4.9%
	MW Total	MW SF	MW MF
May	<b>MW Total</b> 170,000	<b>MW SF</b> 96,000	<b>MW MF</b> 74,000
May April	<b>MW Total</b> 170,000 170,000	<b>MW SF</b> 96,000 93,000	<b>MW MF</b> 74,000 77,000
May April 2020	MW Total   170,000   170,000   170,000   147,000	<b>MW SF</b> 96,000 93,000 73,000	<b>MW MF</b> 74,000 77,000 74,000
May April 2020 M/M change	MW Total   170,000   170,000   170,000   147,000   0.0%	MW SF96,00093,00073,0003.2%	<b>MW MF</b> 74,000 77,000 74,000 -3.9%

All data are SAAR; NE = Northeast and MW = Midwest.

\*\* US DOC does not report multi-family units under construction directly; this is an estimation (Total under construction – SF under construction).

#### New Housing Under Construction by Region

	S Total	S SF	<b>S MF</b> **
May	585,000	314,000	271,000
April	586,000	314,000	272,000
2020	520,000	240,000	280,000
M/M change	-0.2%	0.0%	-0.4%
Y/Y change	12.5%	30.8%	-3.2%
	W Total	W SF	W MF
May	<b>W Total</b> 379,000	<b>W SF</b> 181,000	<b>W MF</b> 198,000
May April	W Total 379,000 374,000	W SF 181,000 177,000	W MF 198,000 197,000
May April 2020	W Total 379,000 374,000 338,000	WSF 181,000 177,000 143,000	W MF 198,000 197,000 195,000
May April 2020 M/M change	W Total 379,000 374,000 338,000 1.3%	WSF 181,000 177,000 143,000 2.3%	W MF 198,000 197,000 195,000 0.5%

All data are SAAR; S = South and W = West.

\*\* US DOC does not report multi-family units under construction directly; this is an estimation (Total under construction – SF under construction).

#### Total Housing Under Construction by Region



NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family under construction directly; this is an estimation (Total under construction – (SF +  $\geq$  5 MF under construction).

\* Percentage of total housing under construction units.

# SF Housing Under Construction by Region



NE = Northeast, MW = Midwest, S = South, W = West.

US DOC does not report 2 to 4 multi-family under construction directly, this is an estimation (Total under construction – (SF +  $\geq$  5 MF under construction).

\* Percentage of totalhousing under construction units.

#### MF Housing Under Construction by Region



NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family under construction directly; this is an estimation (Total under construction – (SF +  $\geq$  5 MF under construction).

\* Percentage of total housing under construction units.

# **New Housing Completions**

	Total Completions*	SF Completions	MF 2-4 unit** Completions	MF ≥ 5 unit Completions
May	1,368,000	978,000	3,000	387,000
April	1,426,000	1,004,000	3,000	419,000
2020	1,178,000	836,000	14,000	328,000
M/M change	-4.1%	-2.6%	0.0%	-7.6%
Y/Y change	16.1%	17.0%	-78.6%	18.0%

\* All completion data are presented at a seasonally adjusted annual rate (SAAR).

\*\* US DOC does not report multi-family completions directly; this is an estimation ((Total completions – (SF  $+ \ge 5$ -unit MF)).
## **Total Housing Completions**



NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Sources: https://fred.stlouisfed.org/series/USREC, 3/1/21; http://www.census.gov/construction/nrc/pdf/newresconst.pdf; 6/16/21

### New Housing Completions by Region

	NE Total	NE SF	NE MF**
May	67,000	43,000	24,000
April	101,000	51,000	50,000
2020	95,000	51,000	44,000
M/M change	-33.7%	-15.7%	-52.0%
Y/Y change	-29.5%	-15.7%	-45.5%
	MW Total	MW SF	MW MF
May	<b>MW Total</b> 192,000	<b>MW SF</b> 119,000	<b>MW MF</b> 73,000
May April	<b>MW Total</b> 192,000 176,000	<b>MW SF</b> 119,000 118,000	<b>MW MF</b> 73,000 58,000
May April 2020	MW Total       192,000         176,000       176,000         185,000       185,000	MW SF         119,000         118,000         114,000	<b>MW MF</b> 73,000 58,000 71,000
May April 2020 M/M change	MW Total192,000176,000185,0009.1%	MW SF119,000118,000114,0000.8%	<b>MW MF</b> 73,000 58,000 71,000 25.9%

NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family completions directly; this is an estimation (Total completions – SF completions).

\* Percentage of total housing completions

### New Housing Completions by Region

	S Total	S SF	<b>S MF**</b>
May	824,000	599,000	225,000
April	815,000	584,000	231,000
2020	619,000	484,000	135,000
M/M change	1.1%	2.6%	-2.6%
Y/Y change	33.1%	23.8%	66.7%
	W Total	W SF	W MF
May	W Total 285,000	<b>W SF</b> 217,000	W MF 68,000
May April	W Total 285,000 334,000	W SF 217,000 251,000	W MF 68,000 83,000
May April 2020	W Total 285,000 334,000 279,000	W SF 217,000 251,000 187,000	W MF 68,000 83,000 92,000
May April 2020 M/M change	W Total 285,000 334,000 279,000 -14.7%	W SF 217,000 251,000 187,000 -13.5%	W MF 68,000 83,000 92,000 -18.1%

NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family completions directly; this is an estimation (Total completions – SF completions).

\* Percentage of total housing completions

### Total Housing Completions by Region



All data are SAAR; NE = Northeast and MW = MidwestS = South, W = West

\*\* US DOC does not report multi-family unit completions directly; this is an estimation (Total completions - SF completions).

### SF Housing Completions by Region



NE = Northeast, MW = Midwest, S = South, W = West

US DOC does not report 2 to 4 multi-family completions directly; this is an estimation (Total completions - SF completions).

\* Percentage of total housing completions

## MF Housing Completions by Region



NE = Northeast, MW = Midwest, S = South, W = WestUS DOC does not report 2 to 4 multi-family completions directly; this is an estimation (Total completions – SF completions).

<sup>\*</sup> Percentage of total housing completions

## New Single-Family House Sales

	New SF Sales*	Median Price	Mean Price	Month's Supply
May	769,000	\$374,400	\$430,600	5.1
April	817,000	\$365,300	\$420,900	4.6
2020	704,000	\$317,100	\$368,700	5.3
M/M change	-5.9%	2.5%	2.3%	10.9%
Y/Y change	9.2%	18.1%	16.8%	-3.8%

\* All new sales data are presented at a seasonally adjusted annual rate (SAAR)<sup>1</sup> and housing prices are adjusted at irregular intervals<sup>2</sup>.

New SF sales were substantially less than the consensus forecast<sup>3</sup> of 868 m (range: 830 m to 920 m). The past three month's new SF sales data also were revised:

February initial: March initial: April initial: 775 m, revised to 823 m; 1,021 m, revised to 886 m. 863 m, revised to 817 m.

Sources: <sup>1</sup> https://www.census.gov/construction/nrs/index.html; 6/23/21; <sup>2</sup> https://www.census.gov/construction/nrs/pdf/newressales.pdf <sup>3</sup> http://us.econoday.com/; 6/23/21



\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

## New SF Housing Sales: Six-month average & monthly



### New SF House Sales by Region and Price Category

	NE		MW	r	S		W
May	52,00	)0	95,00	)0	432,00	0 19	0,000
April	39,00	00	95,00	00	505,00	0 17	8,000
2020	33,00	)0	74,000		419,00	0 17	8,000
M/M change	33.39	%	0.0%	6	-14.5%	6	.7%
Y/Y change	57.69	%	28.4	%	3.1%	6	.7%
	≤\$150m	\$150- \$199.9m	\$200 - 299.9m	\$300 - \$399.9m	\$400 - \$499.9m	\$500 - \$749.9m	≥\$750m
May <sup>1,2,3,4</sup>	1,000	1,000	16,000	20,000	15,000	12,000	5,000
April	1,000	1,000	19,000	26,000	9,000	14,000	5,000
2020	1,000	7,000	20,000	18,000	8,000	8,000	3,000
M/M change	0.0%	0.0%	-15.8%	-23.1%	66.7%	-14.3%	0.0%
Y/Y change	0.0%	-85.7%	-20.0%	11.1%	87.5%	50.0%	66.7%
New SF sales: %	1.4%	1.4%	23.2%	29.0%	21.7%	17.4%	7.2%

NE = Northeast; MW = Midwest; S = South; W = West

<sup>1</sup> All data are SAAR

<sup>2</sup> Houses for which sales price were not reported have been distributed proportionally to those for which sales price was reported;

<sup>3</sup> Detail May not add to total because of rounding.

<sup>4</sup> Housing prices are adjusted at irregular intervals.

 ${}^{5}$  Z = Less than 500 units or less than 0.5 percent

Sources: <sup>1,2,3</sup> https://www.census.gov/construction/nrs/index.html; 6/23/21; <sup>4</sup> https://www.census.gov/construction/cpi/pdf/descpi\_sold.pdf



\* Total new sales by price category and percent.

## New SF House Sales by Region



NE = Northeast; MW = Midwest; S = South; W = West

\* Percentage of total new sales.

\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

### New SF House Sales by Price Category



\* Sales tallied by price category, nominal dollars.



### New SF Sales: ≤ \$299m and ≥ \$400m: 2002 – May 2021

The sales share of \$400 thousand plus SF houses is presented above<sup>1,2</sup>. Since the beginning of 2012, the upper priced houses have and are garnering a greater percentage of sales. A decreasing spread indicates that more high-end luxury homes are being sold. Several reasons are offered by industry analysts; 1) builders can realize a profit on higher priced houses; 2) historically low interest rates have indirectly resulted in increasing house prices; and 3) purchasers of upper end houses fared better financially coming out of the Great Recession.

Source: <sup>1</sup> https://www.census.gov/construction/nrs/index.html; <sup>2</sup> https://www.census.gov/construction/cpi/pdf/descpi\_sold.pdf 6/23/21



### New SF Sales: ≤ \$ 200m and ≥ \$500m: 2002 to May 2021

The number of  $\leq$  \$200 thousand SF houses has declined dramatically since 2002<sup>1,2</sup>. Subsequently, from 2012 onward, the  $\geq$  \$500 thousand class has soared (on a percentage basis) in contrast to the  $\leq$  \$200m class. One of the most off mentioned reasons for this occurrence is builder net margins.

Note: Sales values are not adjusted for inflation.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Source: <sup>1</sup> https://www.census.gov/construction/nrs/index.html; <sup>2</sup> https://www.census.gov/construction/cpi/pdf/descpi\_sold.pdf 6/23/21



### New SF sales adjusted for the US population

From May 1963 to May 2007, the long-term ratio of new house sales to the total US non-institutionalized population was 0.0039; in May 2021 it was 0.0029 – a decrease from April (0.0031). The non-institutionalized population, aged 20 to 54 long-term ratio is 0.0062; in May 2021 it was 0.0052 – also a decrease from April (0.0056). All are non-adjusted data. New house sales for the 20 to 54 class exceeded population growth for the second time in more than a decade. From a total population world view, new sales remain less than the long-term average.

### Nominal vs. SAAR New SF House Sales



#### Nominal and Adjusted New SF Monthly Sales

Presented above is nominal (non-adjusted) new SF sales data contrasted against SAAR data. The apparent expansion factor "...is the ratio of the unadjusted number of houses sold in the US to the seasonally adjusted number of houses sold in the US (i.e., to the sum of the seasonally adjusted values for the four regions)." – U.S. DOC-Construction

### **New SF Houses Sold During Period**

	Total	Not started	Under Construction	Completed
May	769,000	276,000	305,000	188,000
April	817,000	277,000	318,000	222,000
2020	704,000	157,000	266,000	281,000
M/M change	-5.9%	-0.4%	-4.1%	-15.3%
Y/Y change	9.2%	75.8%	14.7%	-33.1%
Total percentage		35.9%	39.7%	24.4%

SAAR

# New SF House Sales: Sold During Period



\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

### New SF House Sales: Percentage Not Started & Sold During Period



\* NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

# New SF Houses for Sale at End of Period

### New SF Houses for Sale at the end of the Period

Total	Not started	Under Construction	Completed
330,000	97,000	197,000	36,000
315,000	89,000	193,000	33,000
312,000	62,000	176,000	74,000
4.8%	9.0%	2.1%	9.1%
5.8%	56.5%	11.9%	-51.4%
	29.4%	59.7%	10.9%
	Total         330,000       315,000       312,000       4.8%       5.8%	Not started           330,000         97,000           315,000         89,000           312,000         62,000           4.8%         9.0%           5.8%         56.5%           29.4%	NotUnder ConstructionTotalStartedConstruction330,00097,000197,000315,00089,000193,000312,00062,000176,0004.8%9.0%2.1%5.8%56.5%11.9%29.4%59.7%

#### Not SAAR

Of houses listed for sale (330m) in May, 10.9% (36m) have been built. Lastly, 97m (29.4%) were offerings in which the ground had not been broken for construction.

# New SF House Sales: For Sale at End of Period



New SF Houses for Sale at the end of the Period by Region*						
	Total	NE	MW	S	W	
May	330,000	26,000	31,000	185,000	89,000	
April	316,000	27,000	31,000	174,000	85,000	
2020	308,000	25,000	31,000	173,000	79,000	

2020	308,000	25,000	51,000	175,000	79,000
M/M change	4.4%	-3.7%	0.0%	6.3%	4.7%
Y/Y change	7.1%	4.0%	0.0%	6.9%	12.7%

\* Not SAAR

## New SF Houses for Sale at End of Period by Region



NE = Northeast; MW = Midwest; S = South; W = West

\* Percentage of new SF sales.

NBER based Recession Indicator Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

# Months' Supply and New House Inventory<sup>a</sup>



The months supply of new houses for sale was 5.1 months at the end of May.

### U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



Carloads of Canadian + U.S. lumber and wood shipments to the U.S. are contrasted above to U.S. housing metrics. Annual SF starts, SF Permits, and New sales are compared to carload lumber and wood shipments. The intent is to learn if lumber shipments relate to future SF starts, SF permits, and new SF sales. It is realized that lumber and wood products are trucked; however, to our knowledge comprehensive and timely trucking data is not available. Note that 2021 data is on a monthly basis.

\* In thousands

Sources: \*Association of American Railroads, Rail Time Indicators report-May 2021; http://www.census.gov/construction/; 6/16/21 & 6/23/21

### U.S.-Canada Lumber & Wood Shipments vs. SF Starts, Permits, and New Sales



Carloads of Canadian + U.S. lumber and wood shipments to the U.S. are contrasted above to U.S. housing metrics. SF starts are off-set 6-months (a typical time-frame from permit issuance to actual start); Permits are off-set 3-months; and New sales are off-set 1-year. The intent is to discern if lumber shipments relate to future SF starts, SF permits, and New sales. It is realized that lumber and wood products are trucked; however, to our knowledge comprehensive and timely trucking data is not available.

\* In thousands

Sources: \*Association of American Railroads, Rail Time Indicators report-May 2021; http://www.census.gov/construction/; 6/16/21; & 6/23/21

### May 2021 Construction Spending

	<b>Total Private</b>			
	<b>Residential</b> *	SF	MF	Improvement**
May	\$751,747	\$402,271	\$99,304	\$250,172
April	\$750,253	\$399,176	\$99,312	\$251,765
2020	\$584,171	\$275,397	\$79,082	\$229,692
M/M change	0.2%	0.8%	0.0%	-0.6%
Y/Y change	28.7%	46.1%	25.6%	8.9%

\* billions.

<sup>\*</sup> The US DOC does not report improvement spending directly, this is a monthly estimation: ((Total Private Spending – (SF spending + MF spending)). All data are SAARs and reported in nominal US\$.

Total private residential construction spending includes new single-family, new multi-family, and improvement (AKA repair and remodeling) expenditures.

New single-family: new houses and town houses built to be sold or rented and units built by the owner or for the owner on contract. The classification excludes residential units in buildings that are primarily nonresidential. It also excludes manufactured housing and houseboats.

New multi-family includes new apartments and condominiums. The classification excludes residential units in buildings that are primarily nonresidential.

Improvements: Includes remodeling, additions, and major replacements to owner occupied properties subsequent to completion of original building. It includes construction of additional housing units in existing residential structures, finishing of basements and attics, modernization of kitchens, bathrooms, etc. Also included are improvements outside of residential structures, such as the addition of swimming pools and garages, and replacement of major equipment items such as water heaters, furnaces and central air-conditioners. Maintenance and repair work is not included.

Source: http://www.census.gov/construction/c30/pdf/privsa.pdf; 7/1/21

### Total Construction Spending (nominal): 2000 – May 2021



Reported in nominalUS\$.

The US DOC does not report improvement spending directly, this is a monthly estimation for 2020.

# Total Construction Spending (adjusted): 1993-May 2021



Reported in adjusted US\$: 1993 - 2020 (adjusted for inflation, BEA Table 1.1.9); May 2021 reported in nominal US\$.

Sources: \* http://www.bea.gov/iTable/iTable.cfm; 6/24/21; http://www.census.gov/construction/c30/pdf/privsa.pdf; 7/1/21

# **Construction Spending Shares:** 1993 to May 2021



Sources: \* https://fred.stlouisfed.org/series/USREC, 7/1/21; http://www.census.gov/construction/c30/pdf/privsa.pdf; 7/1/21 a nd http://www.bea.gov/iTable/iTable.cfm; 6/24/21

### Adjusted Construction Spending: Y/Y Percentage Change, 1993 to May 2021



### Nominal Residential Construction Spending: Y/Y percentage change, 1993 to May 2021

Presented above is the percentage change of inflation adjusted Y/Y construction spending. SF, MF, and RR expenditures were positive on a percentage basis, year-over-year and month-over-month (May 2021 data reported in nominal dollars).

\* NBER based Recession Bars for the United States from the Period following the Peak through the Trough (FRED, St. Louis).

Sources: \* https://fred.stlouisfed.org/series/USREC, 7/1/21; http://www.census.gov/construction/c30/pdf/privsa.pdf; 7/1/21 a nd http://www.bea.gov/iTable/iTable.cfm; 6/24/21

### Adjusted Construction Spending: Y/Y Percentage Change, 1993 to May 2021



Sources: http://www.census.gov/construction/c30/pdf/privsa.pdf; 7/1/21 and http://www.bea.gov/iTable/iTable.cfm; 6/24/21

**Return TOC** 

## Remodeling

### Retail Sales: Building materials, Garden Equipment, & PRO Supply Dealers



### Building materials, Garden Equipment, & PRO Supply Dealers: NAICS 444

NAICS 444 sales decreased 1.1% in May 2021 from April 2021 and improved 10.1% in May 2021 from May 2020 (on a non-adjusted basis).

## Remodeling

### **Retail Sales: Hardware Stores**



#### Hardware Stores: NAICS 44413

NAICS 44413 retail sales increased 8.2% in April 2021 from March 2021 and improved 11.1% in April 2021 from April 2020 (on a non-adjusted basis).

## Remodeling

	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	
Lumber and Building Materials							
Structural Lumber	-4%	9%	4%	60%	79%	95%	
Decking	25%	13%	8%	25%	38%	25%	
Insulation	-1%	2%	-1%	8%	1%	25%	
Roofing	0%	-5%	-6%	8%	33%	34%	
Siding	5%	8%	-2%	11%	19%	23%	
Windows and Doors	1%	9%	-5%	10%	15%	17%	
Wallboard	-4%	-2%	3%	2%	8%	11%	
HVAC	7%	6%	-2%	12%	9%	21%	
Interior Finishes							
Plumbing	6%	4%	-6%	14%	15%	30%	
Cabinets	1%	4%	-12%	9%	10%	14%	
Countertops and Surfaces	7%	6%	-35%	-20%	-17%	18%	
Flooring	-4%	-8%	-17%	-3%	6%	11%	
Paint	5%	6%	0%	7%	10%	12%	
Water Heaters	0%	-2%	-10%	6%	7%	2%	
Appliances	-1%	-6%	-16%	0%	8%	16%	
Distribution							
New Construction	7%	10%	3%	20%	37%	51%	Revenue Growt
Home Centers	4%	9%	26%	25%	26%	29%	> 10%
Specialty Retailers	14%	11%	-14%	26%	30%	32%	5%-10%
Installation Services	6%	9%	2%	4%	8%	12%	0%-4%
Weighted Average of Segments	3%	5%	16%	19%	25%	30%	< 0%

Growth figures reflect relevant reporting segments of publicly traded building product companies. For detailed list of companies analyzed, please see methodology section at the end of the report.

Source: John Burns Real Estate Consulting, LLC, public earnings transcripts (Data: 1Q21, Pub: Jun-21)

### John Burns Real Estate Consulting

"This chart has so many interesting takeaways from the remodeling boom last year. Here are 3:

- 1) Installation services didn't grow much, but it still grew.
- 2) Countertops were absolutely essential, so replacements only began growing this year.
- 3) Roofing boom." John Burns, CEO; John Burns Real Estate Consulting, LLC

Source: https://twitter.com/johnburnsjbrec/status/1407315041108570112/photo/1; 6/22/21
#### John Burns Real Estate Consulting



Source: https://twitter.com/johnburnsjbrec/status/1413113246190551045/photo/1;7/8/21

### HOME IMPROVEMENTS



Source: https://www.census.gov/library/visualizations/2021/demo/2019-home-improvements.html; 6/22/21

### American Institute of Architects (AIA) Renovation opportunities expand

"Throughout the pandemic-induced downturn and subsequent recovery, we have heard that a large portion of design work has been for renovations, rehabilitations, retrofits, additions, and historic preservation to existing facilities, versus new construction, so this month we asked survey respondents about what they have seen. Responding firms indicated that since the beginning of the year, slightly more than half of their firm's billings (53%) have been from work on existing buildings, with 28% of firms indicating that this work has accounted for at least three-quarters of their billings during that period.

Due to older building stock in those regions, firms located in the Northeast and Midwest reported a much larger share of their billings from projects on existing buildings (61% and 57%, respectively) in contrast to firms located in the Midwest and West (49% and 47% of billings, respectively). Firms with an institutional specialization also reported a higher share of their billings from existing buildings (58%), with nearly four in 10 firms (37%) reporting at least 75% of their billings from those projects in the last six months, versus 53% of billings for firms with a commercial/industrial specialization, and 46% of billings for firms with a multifamily residential specialization." – Katharine Keane, Senior Associate Editor, The American Institute of Architects

### American Institute of Architects (AIA) Renovation opportunities expand

"Firms in the Midwest and Northeast were also most likely to report that the share of billings at their firm from projects dealing with renovations, rehabilitations, retrofits, additions, and historic preservation to existing facilities has increased in 2021 compared to pre-pandemic levels, with 35% of firms in the Midwest and 34% of firms in the Northeast reporting an increase, versus 31% of firms overall. Firms with a commercial/industrial specialization were also more likely to report that the share of their billings from work on existing buildings had increased post-pandemic, with 36% of those firms reporting an increase versus just 28% of firms with a multifamily residential specialization.

Firms were also asked about changes to work on existing facilities in 2021 by specific building types. Manufacturing and distribution facilities were the building type that the largest share of firms reported an increase, with 41% indicating that work on existing facilities has increased this year. In addition, 34% of firms reported that work on existing correctional facilities has increased, followed by existing healthcare facilities (30%), existing multifamily residential (29%), existing K-12 education (28%), and existing food service buildings (25%). However, firms also reported that they have seen a decrease in the amount of work they're doing on other types of existing facilities this year, with 41% reporting a decrease on existing retail facilities, 31% on existing lodging facilities, 29% on existing office facilities, and 27% on existing travel and tourism facilities." – Katharine Keane, Senior Associate Editor, The American Institute of Architects

### **HBS Dealer**

#### NPD Stat of the Week: Look who's buying lumber

**"STAT**: This past year, the lumber and building material buyer was most likely to be age 55 or older, live in a household without children, and have an income over \$100,000. They were also predominantly white, at 75% of industry buyers.

**ANALYSIS**: "Consumers age 55 and up were among the leading purchasers across the home Industry," said NPD's Joe Derochowski. "Home improvement projects were a way to keep active while at home, but they were also thinking about the future as they hit key life moments like empty-nesting and retirement. Do they upsize, downsize, or remodel? Do they move to a different city? Do they buy a second home? The life-stage of the 55+ consumer primed them for home improvement projects that involve lumber and building materials."" – HBSDealer Staff

### Harvard Joint Center for Housing Studies

#### Further Strengthening Expected For Home Remodeling

"Annual gains in homeowner improvement and maintenance spending are set to accelerate in the second half of the year and remain elevated through mid-year 2022, according to our latest <u>Leading</u> <u>Indicator of Remodeling Activity (LIRA)</u>. The LIRA projects annual growth in home renovation and repair expenditures will reach 8.6 percent by the second quarter of next year.

Home remodeling will likely grow at a faster pace given the ongoing strength of home sales, house price appreciation, and new residential construction activity. A significant rise in permits for home improvements also indicates that owners are continuing to invest in bigger discretionary and replacement projects. Larger gains in retail sales of building materials suggest the remodeling market continues to be lifted by DIY activity as well. By the middle of next year, annual remodeling expenditures to owner-occupied homes are expected to surpass \$380 billion.

A year after the unprecedented changes to the US economy brought on by the pandemic, many economic indicators are showing extreme percent changes from pandemic-induced lows. To reduce the immense growth rate volatility generated by these year-over-year comparisons, the projection for 2022-Q2 utilizes smoothed data for two leading model inputs: residential remodeling permits and single-family housing starts. Using unsmoothed inputs in the LIRA model would have projected an unlikely annual growth rate roughly twice as large as reported. The Remodeling Futures Program will continue to monitor input volatility." – Abbe Will, Research Associate & Associate Project Director, Remodeling Futures Program, Harvard Joint Center for Housing Studies

#### Leading Indicator of Remodeling Activity – Second Quarter 2021



Notes: Improvements include remodels, replacements, additions, and structural alterations that increase the value of homes. Routine maintenance and repairs preserve the current quality of homes. Historical estimates since 2019 are produced using the LIRA model until American Housing Survey benchmark data become available.

© PRESIDENT AND FELLOWS OF HARVARD COLLEGE

Joint Center for Housing Studies of Harvard University JCHS

Source: https://www.jchs.harvard.edu/blog/further-strengthening-expected-home-remodeling; 7/15/21

# **Existing House Sales**

### National Association of Realtors May 2021 sales: 5.800 thousand

	Existing Sales	Median Price	Mean Price	Month's Supply
May	5,800,000	\$350,300	\$371,900	2.5
April	5,850,000	\$340,600	\$364,100	2.4
2020	4,010,000	\$283,500	\$317,900	4.6
M/M change	-0.9%	2.8%	2.1%	4.2%
Y/Y change	44.6%	23.6%	17.0%	-45.7%

All sales data: SAAR

# **Existing House Sales**

	Exist	ing S	<b>F</b> Median	SF Mean				
	SF Sa	ales	Price	Price				
May	5,080	,000	\$356,600	\$376,000				
April	5,130	,000	\$346,200	\$367,500				
2020	3,650	,000	\$286,600	\$320,000				
M/M change	-1.0	%	2.8%	2.3%				
Y/Y change	39.2	2%	24.4%	17.5%				
	NE	MW	S	W				
May	720,000	1,310,00	00 2,590,000	1,180,000				
April	730,000	1,290,00	0 2,600,000	1,230,000				
2020	490,000	1,030,00	0 1,760,000	730,000				
M/M change	-1.4%	1.6%	-0.4%	-4.1%				
Y/Y change	46.9%	27.2%	47.2%	61.6%				

All sales data: SAAR.

# **Existing House Sales**



NE = Northeast; MW = Midwest; S = South; W = West

\* Percentage of total existing sales.

## **U.S. Housing Prices**

### Federal Housing Finance Agency U.S. House Price Index Report – June 2021 Significant Findings

"House prices rose nationwide in April, up **1.8 percent** from the previous month, according to the latest Federal Housing Finance Agency House Price Index (FHFA HPI<sup>®</sup>). House prices rose **15.7 percent** from April 2020 to April 2021. The previously reported 1.4 percent price change for March 2021 was revised upward to a 1.6 percent increase.

For the <u>nine census divisions</u>, seasonally adjusted monthly house price changes from March 2021 to April 2021 ranged from +**1.2 percent** in the West North Central division to +**2.6** percent in the Mountain and Middle Atlantic divisions. The 12-month changes ranged from +**13.0** percent in the West North Central to +**20.6 percent** in the Mountain division." – Raffi Williams and Adam Russell, FHFA

"House prices recorded another monthly and annual record in April. This unprecedented price growth persists due to strong demand, bolstered by still-low mortgage rates, and too few homes for sale." – Dr. Lynn Fisher, Deputy Director of the Division of Research and Statistics, FHFA

## **U.S. Housing Prices**



## **U.S. Housing Prices**

#### S&P CoreLogic Case-Shiller Index Shows Annual Home Price Gains Surged to 14.6% in April

"... Data for April 2021 show that home prices continue to increase across the U.S. More than 27 years of history are available for these data series, and can be accessed in full by going to <u>www.spdji.com</u>.

#### Year-Over-Year

The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index, covering all nine U.S. census divisions, reported a 14.6% annual gain in April, up from 13.3% in the previous month. The 10-City Composite annual increase came in at 14.4%, up from 12.9% in the previous month. The 20-City Composite posted a 14.9% year-over-year gain, up from 13.4% in the previous month.

Phoenix, San Diego, and Seattle reported the highest year-over-year gains among the 20 cities in April. Phoenix led the way with a 22.3% year-over-year price increase, followed by San Diego with a 21.6% increase and Seattle with a 20.2% increase. All 20 cities reported higher price increases in the year ending April 2021 versus the year ending March 2021.

#### Month-Over-Month

"Before seasonal adjustment, the U.S. National Index posted a 2.0% month-over-month increase, while the 10-City and 20-City Composites both posted increases of 2.0% and 2.2% respectively in March. After seasonal adjustment, the U.S. National Index posted a month-over-month increase of 1.5%, and the 10-City and 20-City Composites both posted increases of 1.4% and 1.6%, respectively. In March, all 20 cities reported increases before and after seasonal adjustments." – Craig J. Lazzara, Managing Director and Global Head of Index Investment Strategy, S&P Dow Jones Indices

### **S&P/Case-Shiller Home Price Indices**



**Return to TOC** 

## **U.S. Housing Affordability & Prices**



#### **AEI Housing Center**

#### For the 2<sup>nd</sup> time in 20 years the Fed's Monetary Punchbowl is Fueling Rampant Home Price Appreciation, Resulting in a Disparate Impact

"Mortgage rates dropping from 10% in 1990 to 6% in 2007, along with policy-induced credit easing, led to a massive home price boom and bust, with millions of foreclosures for low income families. Since 2012 rates have dropped from 4.5% to under 3%. Combined with policy induced credit loosening, a lack of supply, and WFH, the result has been a second massive home price boom.

Preliminary national HPA rate for May 2021 was 15.3%, up from 6% a year ago. With prices increasing much faster than incomes, the Fed's policy will have a disparate impact. Higher income households will be able to take advantage of WFH to improve their housing situation, while low income ones will be increasingly crowded out of home buying. This disparate impact will likely be long lasting as today's high HPA will become incorporated into future price levels, which will slow gains in racial integration and further increase socio-economic stratification."- Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Source: https://www.aei.org/housing/housing-market-indicators/; 6/28/21

15.3%

6.0%

18

# **U.S. Housing Affordability & Prices**



#### **AEI Housing Center**

#### Home Price Appreciation by Price Tier

"Since 2012 a large gap in HPA has developed between the lower and upper end of the market (left panel). Preliminary numbers for May 2021 indicate that the low price tier continued to have strong HPA, although the med-high and high price tiers, which are more dependent on the monetary punch bowl, are showing the strongest rates of appreciation. This is a trend reversal, since historically the low price tier has shown the fastest y-o-y HPA." – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

# Housing Affordability



#### **Urban Institute**

#### National Mortgage Affordability Over Time

"Despite historic low interest rates, increases in home prices have pushed affordability to the worst levels since 2008. As of April 2021, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 26.1 percent; with 3.5 percent down it is 29.9 percent. These numbers are well above the 2001-2003 median, and represent a sharp worsening in affordability over the past year. ... " – Laurie Goodman, Vice President, Urban Institute

Source: https://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-june-2021; 6/28/21

### **First-Time House Buyers**



Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute. Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

#### Urban Institute First-Time Home Buyer Share

"In April 2021, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 84.5percent. The FTHB share of VA lending in April was 50.7 percent. The GSE FTHB share increased in April relative to March, to 51.4 percent. The bottom table shows that based on mortgages originated in April 2021, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and have a higher LTV, thus paying a higher interest rate." – Bing Lai, Research Associate, Housing Finance Policy Center

## **U.S. Housing Finance**



1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 042020

#### GSE Channel



The trend toward greater credit availability in the GSE channel began in Q2 2011. From Q2 2011 to Q1 2020, the total risk taken by the GSE channel had nearly doubled, from 1.4 percent to 2.7 percent. This is still very modest by

#### **Urban Institute** Housing Credit Availability Index

"The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The HCAI stood at 5.1 percent in Q4 2020, up slightly from a historic low in Q3 of just below 5.0 percent. Note that we updated the methodology as of Q2 2020, see new methodology here. Credit loosening from Q3 to Q4 2020 was led by increased borrower default risk among government channel originations, as well as a shift in market composition, with the GSE channel making up a smaller portion of total purchase originations. ..."- Gideon Berger, Senior Policy Program Manager, Urban Institute

Source: https://www.aei.org/housing/housing-market-indicators/; 6/7/21

## **U.S. Housing Supply**



Sources: Realtor.com, Census Bureau, and AEI Housing Center, www.AEI.org/housing.

#### AEI Housing Center Supply Is Being Depleted

"Supply is at an all time low in 2021 and is most depleted in less dense areas. For the foreseeable future, it will be difficult to replenish or increase supply: (i) baby boomers are tending to stay put more, (ii) it takes time to acquire land, entitle, and build even in places like North Carolina and Texas, (iii) adding supply will face the usual difficulties in the Northeast and much of the West, & (iv) new construction supply has fallen from 5.3 months in May 2020 to 5.1 months (SA) in May 2021." – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

Source: https://www.aei.org/housing/housing-market-indicators/; 6/28/21

## **Housing Supply**



Note: Months' supply measures how long it would take for the existing level of inventory to be sold off at the current sale'space. While the listings data come from the MLS, the sales numbers come from the public records Sources: Realtor.com, Zillow, and AEI Housing Center, www.AEI.org/housing.

#### AEI Housing Center Months' Supply by Price Tiers

"Starting with June 2020, months' supply started to drop precipitously across all price tiers. In May 2021, overall months' supply stood at 0.9 months. While supply remains lowest in the low (0.7 months) and low-med tiers (0.8 months), the drop in the med-high and high price tiers are especially noteworthy. The high tier has fallen from 9.4 months in May 2020 to 2.2 months in May 2021 and med-high tier has fallen from 4.2 to 1.1." – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

## **U.S. Housing Finance**



Note: Rate locks are limited to lenders who joined Optimal Blue Dec. 2018 or earlier. Source: Optimal Blue and AEI Housing Center, www.AEI.org/housing.

#### AEI Housing Center Purchase Activity Outlook with Higher Rates

"Despite somewhat higher mortgage rates, purchase activity continued strongly in the first half of 2021 compared to 2019. At today's median rate level of 3.25%, purchase volume continues to be strong, with week 25 running 6% above the same week in 2019. 2019 was the strongest origination year during the 2012-2019 period. We compare to 2019 to avoid the base effect associated with 2020. We expect the seasonal decline in rate locks after the peak of the spring buying season to continue. Note that week 25 refers to June 19-25." – Edward Pinto, Resident Fellow; Director and Tobias Peter, Research Fellow and Director of Research, AEI Housing Center

## **U.S. Housing Finance**

### Mortgage Bankers Association (MBA) Mortgage Credit Availability Increased in May

"Mortgage credit availability increased in May according to the Mortgage Credit Availability Index (MCAI), a report from the Mortgage Bankers Association (MBA) that analyzes data from Ellie Mae's AllRegs® Market Clarity® business information tool.

The MCAI rose by 1.4 percent to 129.9 in May. A decline in the MCAI indicates that lending standards are tightening, while increases in the index are indicative of loosening credit. The index was benchmarked to 100 in March 2012. The Conventional MCAI increased 3.5 percent, while the Government MCAI decreased by 0.3 percent. Of the component indices of the Conventional MCAI, the Jumbo MCAI increased by 5.1 percent, and the Conforming MCAI rose by 1.6 percent.

Mortgage credit availability in May increased to its highest level since near the start of the pandemic, but still remained at 2014 levels. The increase was driven by a 3 percent gain in the conventional segment of the market, with a rise in the supply of ARMs and cash-out refinances. This is consistent with the uptick in mortgage rates and a slowing refinance market, as well as MBA's Weekly Applications Survey data showing increased interest in ARMs. The jumbo index jumped 5 percent last month, but even with increases over the past two months, the index is still around half of where it was in February 2020. A rapidly improving economy and job market has freed up jumbo credit, as banks have deposits to utilize. However, there is still plenty of restraint, as many sectors have not fully returned to pre-pandemic capacity, and there are around 2 million borrowers still in forbearance." – Joel Kan, Associate Vice President of Economic and Industry Forecasting, MBA

# U.S. Housing Finance Mortgage Credit Availability (MBA)



Source: Mortgage Bankers Association; Powered by Ellie Mae's AllRegs® Market Clarity®

**Return TOC** 

## **MBA Mortgage Finance Forecast**

#### MBA Mortgage Finance Forecast

June 18, 2021

	2020				2021					202	22					
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022	2023
Housing Measures																
Housing Starts (SAAR, Thous)	1,485	1,086	1,440	1,575	1,602	1,556	1,522	1,544	1,590	1,632	1,664	1,706	1,397	1,556	1,648	1,720
Single-Family	981	774	1,041	1,220	1,156	1,096	1,132	1,172	1,240	1,302	1,354	1,406	1,004	1,139	1,326	1,440
Two or More	504	312	399	356	446	460	390	372	350	330	310	300	393	417	323	280
Home Sales (SAAR, Thous)																
Total Existing Homes	5,483	4,313	6,137	6,777	6,303	5,994	6,042	6,172	6,251	6,292	6,325	6,389	5,678	6,128	6,314	6,556
New Homes	701	703	973	873	959	895	888	908	950	996	1,040	1,087	813	912	1,018	1,115
FHFA US House Price Index (YOY % Change)	6.2	5.7	8.0	10.9	12.7	10.2	10.4	10.3	10.0	9.5	9.0	8.4	10.9	10.3	8.4	6.0
Median Price of Total Existing Homes (Thous \$)	272.4	288.3	309.2	311.7	313.5	345.0	339.3	329.5	324.9	325.4	316.5	313.2	295.4	331.8	320.0	312.6
Median Price of New Homes (Thous \$)	329.6	322.8	333.2	354.3	353.4	360.3	359.9	354.3	356.3	358.0	355.3	352.0	335.0	357.0	355.4	351.9
Interest Rates																
30-Year Fixed Rate Mortgage (%)	3.5	3.2	3.0	2.8	2.9	3.0	3.2	3.5	3.7	3.9	4.1	4.2	2.8	3.5	4.2	4.9
10-Year Treasury Yield (%)	1.4	0.7	0.6	0.9	1.3	1.6	1.8	2.0	2.1	2.3	2.4	2.5	0.9	2.0	2.5	3.1
Mortgage Originations																
Total 1- to 4-Family (Bil \$)	563	928	1,076	1,261	1,094	1,050	743	578	516	623	620	602	3,828	3,465	2,361	2,378
Purchase	257	348	418	410	320	460	443	433	362	469	463	446	1,433	1,656	1,740	1,775
Refinance	306	580	658	851	774	590	300	145	154	154	157	156	2,395	1,809	621	603
Refinance Share (%)	54	63	61	67	71	56	40	25	30	25	25	26	63	52	26	25
FHA Originations (Bil \$)													350	268	179	162
Total 1- to 4-Family (000s loans)	1,869	3,052	3,497	3,578	3,146	3,116	2,162	1,634	1,395	1,732	1,676	1,569	11,996	10,058	6,372	6,013
Purchase	891	1,203	1,427	1,343	974	1,428	1,331	1,248	1,002	1,329	1,277	1,187	4,864	4,981	4,795	4,579
Refinance	978	1,848	2,070	2,235	2,172	1,688	831	385	393	402	399	383	7,132	5,077	1,577	1,434
Refinance Share (%)	52	61	59	62	69	54	38	24	28	23	24	24	59	50	25	24
Nederson Data Catalandian																
Late 4 Femily (Bill S)	10.775	10.975	10.994	11 125	11 297	11 442	11 594	11 755	11 014	12.081	12.254	12 424	11 125	11 755	12 424	13.100
re to secondly (bit \$)	10,775	10,673	10,704	11,135	11,277	11,442	11,376	11,755	11,710	12,001	12,204	12,424	11,155	11,755	12,924	13,100

#### Notes:

Housing starts and home sales are seasonally adjusted at annual rate.

Total existing home sales include condos and co-ops.

Mortgage rate forecast is based on Freddie Mac's 30-Yr fixed rate which is based on predominantly home purchase transactions.

The 10-Year Treasury Yield and 30-Yr mortgage rate are the average for the quarter, but annual columns show Q4 values.

Total 1-to-4-family originations and refinance share are MBA estimates. These exclude second mortgages and home equity loans.

The FHFA US House Price Index is the forecasted year over year percent change of the FHFA Purchase-Only House Price Index.

The mortgage debt outstanding forecast is for 1-4 unit mortgage debt and excludes home equity loans. Annual MDO numbers reflect EOP values. Copyright 2020 Mortgage Bankers Association. All rights reserved.

THE HISTORICAL DATA AND PROJECTIONS ARE PROVIDED "AS IS" WITH NO WARRANTIES OF ANY KIND.



MORTGAGE BANKERS ASSOCIATION

## **MBA Economic Forecast**

#### **MBA Economic Forecast**

June 18, 2021

	2020				2021					202						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022	2023
Percent Change, SAAR																
Real Gross Domestic Product	-5.0	-31.4	33.4	4.3	6.4	10.8	7.5	6.0	3.9	2.8	2.2	2.0	-2.4	7.7	2.7	1.7
Personal Consumption Expenditures	-6.9	-33.2	41.0	2.3	11.3	12.6	4.4	3.4	3.7	2.6	2.2	2.0	-2.7	7.9	2.6	1.5
Business Fixed Investment	-6.7	-27.2	22.9	13.1	10.8	5.9	6.6	6.7	5.4	5.0	4.8	4.5	-1.4	7.5	4.9	3.8
Residential Investment	19.0	-35.6	63.0	36.6	12.7	1.2	0.5	0.8	3.9	6.0	4.6	5.7	14.3	3.7	5.1	1.6
Govt. Consumption & Investment	1.3	2.5	-4.8	-0.8	5.8	9.6	-0.4	1.1	0.0	0.1	-1.1	-0.5	-0.5	3.9	-0.4	0.0
Net Exports (Bil. Chain 2012\$)	-650.7	-649.0	-859.6	-948.3	-1011.8	-1025.0	-1043.5	-1054.7	-1020.1	-997.8	-976.6	-959.7	-776.9	-1033.8	-988.6	-911.8
Inventory Investment (Bil. Chain 2012\$)	-68.8	-244.0	-3.2	52.8	-79.0	-87.6	84.7	207.2	197.5	181.2	166.4	143.6	-65.8	31.3	172.2	111.4
Consumer Prices (YOY)	2.1	0.4	1.3	1.2	1.9	4.3	3.6	3.4	3.0	2.3	2.2	2.1	1.2	3.4	2.1	2.1
Percent																
Unemployment Rate	3.8	13.0	8.8	6.7	6.2	5.9	5.2	4.5	4.4	4.3	4.1	4.0	8.1	5.5	4.2	4.0
Federal Funds Rate	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.625
10-Year Treasury Yield	1.4	0.7	0.6	0.9	1.3	1.6	1.8	2.0	2.1	2.3	2.4	2.5	0.9	2.0	2.5	3.1

#### Notes:

The Fed Funds Rate forecast is shown as the mid point of the Fed Funds range at the end of the period. All data except interest rates are seasonally adjusted

The 10-Year Treasury Yield is the average for the quarter, while the annual value is the Q4 value

Forecast produced with the assistance of the Macroeconomic Advisers' model

Copyright 2021 Mortgage Bankers Association. All rights reserved.

THE HISTORICAL DATA AND PROJECTIONS ARE PROVIDED "AS IS" WITH NO WARRANTIES OF ANY KIND.



MORTGAGE BANKERS ASSOCIATION

### **Trucker Loggers Association Market Report**

#### Do We Have Enough Lumber to Meet North American Demand In 2021 and 2022?

"With the wild price run that has been in effect since about June of 2020, it is starting to become more obvious that the North American wood products supply chain is completely strained. While COVID-19 might be considered the cause for surging demand and lagging production, the answer is always more complicated than that. While a temporary shortage of lumber, OSB and plywood has occurred at various times in the last year, it is more a function of short-term constraints throughout the supply chain from loggers to mill workers to logistics (trucks, rail and ocean containers), right through to distributors, retailers and home builders. Many constraints have impacted the supply side during this strong demand cycle, so hence the runaway commodity wood products prices.

#### Supply vs. Demand

The simple math is this: US demand will probably grow by around 3 billion board feet in 2021 and 2.5 billion bf in 2022. The incremental production available in North America will be about 1 billion bf each year in the US South. Other incremental increases will come from Canada as well as the US West — with such high prices, perhaps another 1 billion bf. This leaves a gap of 1 billion bf for this year. European and southern hemisphere imports could increase incrementally by about half a billion board feet. So, that leaves a gap of half a billion board feet. The gap can be narrowed by reducing exports offshore — something that has been happening in Canada and the US since 2013; then we get close. However, Canadian consumption is also increasing, and that will reduce the potential of exports from Canada to the US. So, it's a complex balancing act." – Russ Taylor, President, Russ Taylor Global

### **Trucker Loggers Association Market Report**

"It appears that if demand grows by more than about 2.5 billion bf this year and in 2022, then there will be a potential gap and that will create more ongoing price volatility. This is exactly what happened in the second half of 2020 and so far in the first half of 2021, where US lumber consumption is on pace to grow by about 3 billion bf, creating a 12-month supply gap with crazy prices. This has slowly attracted more domestic and imported supply, given that supply chains are fragile, and it took until late May 2021 before we saw 2x4 SPF lumber prices peak at US\$1,630/MBF.

#### Demand

US and Canadian housing starts have continued to surge since the early days of the pandemic and into the first half of 2021, fuelling the lumber price rally. US sales of existing homes fell for a third straight month in April due to an acute shortage of properties for sale, which has driven home prices to a record high.

A recent report by the National Association of Home Builders shows that in May 2021, builders were short of almost all building materials. Three of the top four items were framing lumber (92 per cent short), OSB (92 per cent), and plywood (90 per cent); only appliances were higher at 95 per cent. The only concern relates to repair and remodelling. Despite a surge in sales in 2021-Q1 at Home Depot (comparable sales were up 30 per cent) and Lowe's (total sales up by 24 per cent), cracks are starting to appear. With sticker shock a growing factor and more Americans vaccinated it is anecdotally being reported that recreational sales have slowed after the US Memorial Day weekend. However, they are expected to rebound in the fall as larger projects are started, especially if prices have come off." – Russ Taylor, President, Russ Taylor Global

### Trucker Loggers Association Market Report Supply

"The only region in North America that has added any significant new lumber capacity in North America is the US South. There continues to be a huge surplus of plantation pine timber, which has allowed for new sawmill projects and expansions of many other mills for many years. Between 2018 and 2020, there were at least 24 projects totalling 3.7 billion bf of new capacity; from 2021 to 2023, there are at least 18 projects announced that could add up to 3 billion bf, with more projects expected. The winners in the US South have been the sawmills (including the 50+ mills owned by BC-based companies) during this rally (and since 2006, as the housing bubble started to burst). With a glut of timber, the price of sawlogs for southern yellow pine timberland owners has remained flat since 2008. All the windfall from high lumber prices has gone to the sawmills where earnings (EBITDA) were over 60 per cent on sales in 2021-Q1 and they will be even higher in Q2.

The US has increased lumber imports from Europe as incremental supply, but further increases could be limited as European companies try to allocate tight volumes to other customers. With a global shortage of lumber, now is not the time to chase high prices and lose long-term customers in core markets. So, it's a real balancing act for sawmills all over the world these days. Prices starting in June 2020, and fuelled by COVID-19, the wood products industry has been in a perfect storm. Historically we would expect to see SPF prices more in the US\$350 to \$400/MBF range. In early June, at the time of writing, 2x4 SPF prices had peaked at US\$1,630/MBF in late May and were starting to move rapidly lower to \$1,260 on June 11, 2021." – Russ Taylor, President, Russ Taylor Global

### **Trucker Loggers Association Market Report**

#### Do We Have Enough Lumber to Meet North American Demand In 2021 and 2022?

"We all know that when commodity prices go way up that they will eventually have to come down. We do not know how the outcome will play out, but it is both exciting and stressful for buyers and sellers, that is for sure. However, I do not believe prices are going to crash and burn. I believe we are going to see a retrenchment to lower prices over the course of this year, but perhaps not below \$1,000/MBF. Prices will eventually stabilize and will be selling at elevated levels over those of the 2010 decade. There is still good news ahead for sawmillers." – Russ Taylor, President, Russ Taylor Global

# **Summary**

#### In conclusion:

The month-over-month housing data for May' were varied and all data were positively robust yearover-year – in all categories. Declines were reported for total-, single- and multi-family permits; totaland single-family completions, and existing house sales.

The new SF housing construction sector is where the majority of value-added forest products are utilized, and this housing sector has ample room for improvement.

#### **Pros:**

- 1) Historically low interest rates remain in place;
- 2) Select builders are beginning to focus on entry-level houses;
- 3) Housing affordability indicates improvement;

#### **Cons:**

- 1) COVID19;
- 2) Construction material constraints;
- 3) Lot availability and building regulations (according to several sources);
- 4) Laborer shortages;
- 5) Household formations still lag historical averages;
- 6) Job creation is improving and consistent, but some economists question the quantity and types of jobs being created;
- 7) Debt: Corporate, personal, government United States and globally;
- 8) Other global uncertainties.

#### Virginia Tech Disclaimer

#### Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by Virginia Tech. The views and opinions of authors expressed herein do not necessarily state or reflect those of Virginia Tech, and shall not be used for advertising or product endorsement purposes.

#### **Disclaimer of Liability**

With respect to documents sent out or made available from this server, neither Virginia Tech nor any of its employees, makes any warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

#### **Disclaimer for External Links**

The appearance of external hyperlinks does not constitute endorsement by Virginia Tech of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Virginia Tech does not exercise any editorial control over the information you May find at these locations. All links are provided with the intent of meeting the mission of Virginia Tech's web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

#### Nondiscrimination Notice

Virginia Tech prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the author. Virginia Tech is an equal opportunity provider and employer.

#### U.S. Department of Agriculture Disclaimer

#### **Disclaimer of Non-endorsement**

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, and shall not be used for advertising or product endorsement purposes.

#### **Disclaimer of Liability**

With respect to documents available from this server, neither the United States Government nor any of its employees, makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

#### **Disclaimer for External Links**

The appearance of external hyperlinks does not constitute endorsement by the U.S. Department of Agriculture of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, the Department does not exercise any editorial control over the information you May find at these locations. All links are provided with the intent of meeting the mission of the Department and the Forest Service web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

#### Nondiscrimination Notice

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202.720.2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call 800.795.3272 (voice) or 202.720.6382 (TDD). The USDA is an equal opportunity provider and employer.