ECONOMIC NEWSLETTER

for the construction industry

CICPAC

CPAs WHO KNOW CONSTRUCTION

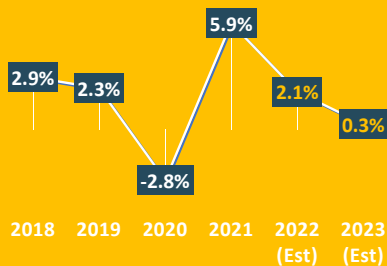# Quarterly Economic Report
Executive Summary – Q2 '23

CICPAC
CPAs WHO KNOW CONSTRUCTION

Selected Indices

REAL GDP

2.9% | 2.3% | -2.8% | 5.9% | 2.1% | 0.3%

2018 | 2019 | 2020 | 2021 | 2022 (Est) | 2023 (Est)

BUSINESS INVESTMENT

6.9% | -0.6% | -8.0% | 12.5% | 8.4% | 3.5%

2018 | 2019 | 2020 | 2021 | 2022 (Est) | 2023 (Est)
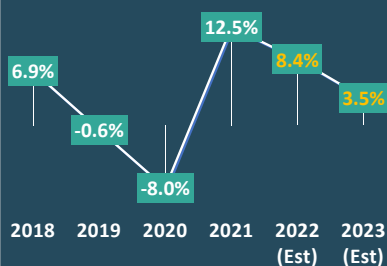
NEW HOUSING STARTS (MILLIONS)

1.2 | 1.3 | 1.4 | 1.6 | 1.6 | 1.1

2018 | 2019 | 2020 | 2021 | 2022 (Est) | 2023 (Est)

INDUSTRIAL PRODUCTION

3.2% | -0.7% | -7.0% | 4.9% | 3.8% | 1.2%

2018 | 2019 | 2020 | 2021 | 2022 (Est) | 2023 (Est)
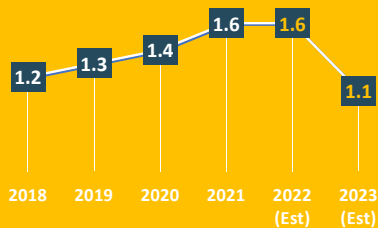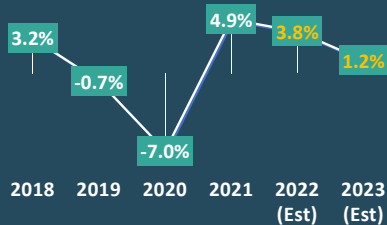
Big Items

Real GDP: The estimates for the last two quarters have been extremely off - and in a good way. The Atlanta Fed GDPNow estimates are showing Q1 growing at just over 3.3%. This is much stronger than what was expected. Current forecasts still show the second, third, and fourth quarter now showing slight contraction. The contraction is not deep and could ultimately turn out to be a soft landing depending on the health of the banking sector and what transpires there.

Raw Material Prices/Availability: Inventories of raw materials spanning copper, zinc, lead, aluminum, nickel, and other key primary metal inventories are at multi-decade lows in global LME warehouses. This is largely getting masked by the slowdown in the global economy, but the shortages of many materials are beginning to create some concern that inflation could easily accelerate and shortages/stockouts of key raw materials may still be a problem despite and slowdowns. Some key indexes that showcase overall raw material demand are surging. The Baltic Dry Index (which measures the cost and volume of raw materials moving in the global maritime sector) is currently up nearly 200% over the past 30 days. This suggests that raw material demand is surging, be alert for resulting tight inventory conditions and resulting price increases as a result.

Labor Situation / Labor Costs: the construction sector Employment Cost Index showed that overall labor costs continue to be at or near all-time highs. The latest data available from Q4 still show it trending 1.4% higher quarter-over-quarter and it was 4.8% higher versus Q4 a year ago. Job openings in the construction sector were also still elevated, they were still at 248,000 through January of 2023. This was down significantly versus the peak hit last year, there down 49.2% month-over-month and were down 37.4% year-over-year. This was a significant drop in openings (driven by the drop in single-family construction), but labor costs have not yet started to materially adjust.

Manufacturing (Materials): 12 countries now have manufacturing sectors in contraction (down from 19 the month before). Looking at manufacturing on a global basis is important because it becomes a clear feeder of materials into the construction sector. At this time, many sectors in China and Europe are just returning from their output disruptions this winter. Restarting full production is slower than expected and there are some uncertainties in supply availability of some materials. Some suppliers are beginning to push order fulfillment projections out further, and that could continue to provide some supply uncertainty. But, seeing manufacturing picking up is a good sign for raw material prices and ultimately it will help with product availability.

Risks

Recession Risk: Recession risk is still a priority concern. Will the Fed keep pushing rates to tame inflation? Traditionally the Fed looks at the jobless rate to determine whether their policies are effective, but unemployment remains very low, and the worker shortage continues to skew this data. Now the Fed looks at factors like housing starts, retail sales, and industrial production. The recent decline in global inflation rates has the market convinced central banks will slow rate hikes and that the Fed will be satisfied with interest rates between 4.5% and 5.0%. This would be higher than they have been since 2007, but this last decade has been the anomaly as far as rates are concerned.

Banking Risk: Analysts are still split on the ultimate outcome of the banking sector situation. Whether it becomes a full-blown banking crisis or a mini crisis affecting just a handful of banks will be determined over time. But banking credit conditions are tightening, and statistics showed nearly 50% of banks had already started tightening prior to the current change in banking conditions. With the latest set of banking risk, conditions are likely to tighten further in the coming quarters.

Macroeconomic Viewpoints
- Dr. Chris Kuehl

Yet Another Black Swan? – Nearly every economic assumption and forecast has been thrown into disarray and it is still an evolving situation. What the heck happened to the banks this time and was this as unanticipated as the pandemic or the Russian invasion of Ukraine. In fact, this latest debacle was not altogether unexpected and there had been warnings issued for months by regulators and analysts. It is doubtful that anybody expected the severity and the speed of the meltdown as that is down to the reactions of notoriously fickle investors and depositors. To be honest the vagaries of the banking system have only a tangential impact on the construction world but these issues are reverberating through the economy and that has a significant impact.

The most predictable part of this issue is the reaction to increasing interest rates by the central banks. The motivation for the hike is to combat inflation through the limitation of available money. Loan standards tighten, credit gets more expensive and presumably business becomes more frugal and that usually entails laying people off. It is a blunt instrument at best. It also has a major impact on the bond market as it makes them more expensive. Over the last decade many banks invested heavily in bonds when they were cheap – these formed their asset base. As the price of these bonds rose the banks were in a position of selling off their cheaper bonds and then had to buy more expensive bonds to maintain their asset base. Most banks were able to handle this transition but some were far too exposed and one of these was Silicon Valley Bank. Their business model was high risk to begin with as they specialized in lending to high tech start-ups. The failure rate for tech start-ups is well over 90%. This is not to say that SVB had a loan failure rate that high but they faced more issues than most. More importantly they had been repeatedly warned by the Federal Reserve to change their approach and process. The Fed lacks the ability to force that change but the warnings were issued numerous times.

The collapse of SVB along with others such as Signature Bank and Republic Bank triggered a dual stampede of both investors and depositors fearing big losses. Agencies such as the FDIC and the Fed reacted very quickly to backstop these banks and protect the depositors but mob mentality is hard to influence with logic. The crisis spread to Europe as the long-standing issues affecting Credit Suisse came to a head. This was another badly run bank that had been teetering on the edge for years. These events tipped the scales and forced a sale to UBS but one that involved a major loss for Credit Suisse investors. The anticipated problems in the banking sector finally manifested. What does this mean for the construction community?

The number one question is what this means to inflation fighting. The trigger for this whole mess was the Fed's decision to raise rates – an action they were expected to take and an action they must take. It is their primary weapon against inflation. Everybody also knows that such an action will trigger a variety of responses and most of them will not be good for economic growth. The question now is whether this latest financial sector debacle forces a reversal of central bank strategy. Just a week ago the consensus view was that rates would continue to increase. The Fed would push through another half point hike and similar increases would be taking place with the other central banks. The fear is that ever higher rates will make the banking situation worse and more banks will join the ranks of SVB. On the other hand, there are loud voices insisting that rates continue to rise as long as the inflation threat persists. This is coming from the likes of the OECD, the IMF and many of the central bankers themselves. They assert that much of this bank destruction is the inevitable outcome of "creative destruction". To be blunt the idea behind hiking rates is to force an economic slowdown and that means pressure sufficient to drive banks and businesses out as well as forcing lay-offs. The banks that have been hammered by recent events were not well managed and had not been for years. One could argue that they should have left the scene years ago.

Regional MSA Construction Potential Index

The following section shows the Construction Potential Index developed by Armada in conjunction with Pioneer IQ for the largest Metropolitan Statistical Areas (MSAs) in the country. This index measures growth potential and construction spending per capita to create a construction potential index. The score itself is not as important as the index in relation to all other markets, which is important in understanding and the index incorporates both residential and nonresidential construction potential.

Rank	MSA	Construction Scoring System			Change in Gross Construction GDP		BEA Region
		.40 Construction GDP Estimate Index	.60 Population Growth 2015-2020 Index	Construction Potential Score	Q3 2022 Q/Q Change in Gross Construction GDP	Q3 2022 Y/Y Change in Gross Construction GDP	
1	Dallas-Fort Worth-Arlington, TX	39.7	8.8	2,116.5	2.7%	9.0%	SW
2	Houston-The Woodlands-Sugar Land, TX	37.4	7.7	1,956.7	2.7%	9.0%	SW
3	Chicago-Naperville-Elgin, IL-IN-WI	48.9	-1.7	1,852.2	2.0%	2.7%	GL
4	Washington-Arlington-Alexandria, DC-VA-MD-WV	40.9	3.4	1,842.4	2.1%	3.6%	ME
5	Los Angeles-Long Beach-Anaheim, CA	49.2	-2.4	1,826.8	2.4%	6.4%	FW
6	New York-Newark-Jersey City, NY-NJ-PA	72.9	-18.2	1,826.7	0.8%	0.1%	ME
7	Phoenix-Mesa-Scottsdale, AZ	24.2	7.0	1,390.9	3.1%	18.2%	SW
8	Atlanta-Sandy Springs-Roswell, GA	24.6	5.8	1,332.7	1.4%	7.0%	SE
9	San Francisco-Oakland-Hayward, CA	28.5	1.4	1,223.6	2.4%	6.4%	FW
10	Miami-Fort Lauderdale-West Palm Beach, FL	24.1	2.9	1,138.2	2.4%	9.9%	SE
11	Seattle-Tacoma-Bellevue, WA	20.6	4.6	1,102.5	2.4%	1.1%	FW
12	Boston-Cambridge-Newton, MA-NH	22.8	1.9	1,024.5	1.9%	6.8%	NE
13	Minneapolis-St. Paul-Bloomington, MN-WI	21.3	2.2	983.5	2.8%	0.9%	GL
14	Denver-Aurora-Lakewood, CO	18.3	2.9	903.0	2.0%	5.7%	RM
15	Riverside-San Bernardino-Ontario, CA	17.9	3.0	897.1	2.4%	6.4%	FW
16	Las Vegas-Henderson-Paradise, NV	17.6	2.9	874.3	3.9%	11.9%	FW
17	Baltimore-Columbia-Towson, MD	20.4	0.0	817.9	1.8%	0.2%	ME
18	Austin-Round Rock, TX	13.0	4.3	774.9	2.7%	9.0%	SW
19	Orlando-Kissimmee-Sanford, FL	13.0	4.2	770.4	2.4%	9.9%	SE
20	Portland-Vancouver-Hillsboro, OR-WA	15.9	1.9	751.6	2.7%	4.5%	FW
21	Tampa-St. Petersburg-Clearwater, FL	12.2	4.1	735.9	2.4%	9.9%	SE
22	Salt Lake City, UT	14.3	1.2	642.4	3.8%	7.7%	RM
23	Sacramento-Roseville-Arden-Arcade, CA	13.4	1.7	636.5	2.4%	6.4%	FW
24	Nashville-Davidson-Murfreesboro-Franklin, TN	12.0	2.0	595.3	1.6%	16.9%	SE
25	Indianapolis-Carmel-Anderson, IN	12.4	1.6	592.9	1.6%	6.5%	GL
26	San Diego-Carlsbad, CA	13.6	0.7	587.9	2.4%	6.4%	FW
27	Charlotte-Concord-Gastonia, NC-SC	8.5	4.0	575.7	2.4%	10.8%	SE
28	Columbus, OH	10.2	1.9	520.3	1.8%	4.8%	GL
29	St. Louis, MO-IL	13.2	-0.2	517.0	2.1%	1.9%	P
30	San Antonio-New Braunfels, TX	8.1	3.1	513.5	2.7%	9.0%	SW
31	Raleigh, NC	9.4	2.2	506.3	2.4%	10.8%	SE
32	Detroit-Warren-Dearborn, MI	12.3	0.2	500.9	1.7%	4.1%	GL
33	San Jose-Sunnyvale-Santa Clara, CA	11.4	0.3	471.9	2.4%	6.4%	FW
34	Kansas City, MO-KS	8.8	1.3	431.6	2.2%	8.0%	P
35	Cincinnati, OH-KY-IN	8.8	1.2	424.1	1.6%	6.2%	GL
36	Jacksonville, FL	7.1	2.1	409.1	2.4%	9.9%	SE
37	Baton Rouge, LA	8.3	0.5	361.2	0.2%	-8.0%	SE
38	Provo-Orem, UT	6.3	1.2	320.9	3.8%	7.7%	RM
39	Charleston-North Charleston, SC	5.9	1.1	302.1	1.7%	10.2%	SE

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40	Boise City, ID	5.4	1.4	297.3	2.3%	19.1%	RM
41	Richmond, VA	6.1	0.4	268.5	2.4%	7.3%	SE
42	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5.5	0.6	257.3	1.6%	0.1%	ME
43	Louisville-Jefferson County, KY-IN	6.7	-0.3	252.7	1.5%	7.6%	SE
44	North Port-Sarasota-Bradenton, FL	4.4	1.3	251.5	2.4%	9.9%	SE
45	Grand Rapids-Wyoming, MI	5.1	0.7	249.6	1.7%	4.1%	GL
46	Cape Coral-Fort Myers, FL	4.2	1.3	245.4	2.4%	9.9%	SE
47	Reno, NV	5.3	0.5	241.1	3.9%	11.9%	FW
48	Des Moines-West Des Moines, IA	3.8	1.4	236.4	1.5%	8.9%	P
49	Ogden-Clearfield, UT	4.7	0.8	233.9	3.8%	7.7%	RM
50	Milwaukee-Waukesha-West Allis, WI	5.6	0.0	225.2	3.0%	8.2%	GL
51	Urban Honolulu, HI	6.3	-0.5	223.2	1.6%	-6.1%	FW
52	Greenville-Anderson-Mauldin, SC	4.2	0.9	218.2	1.7%	10.2%	SE
53	Oklahoma City, OK	3.9	0.9	214.6	2.3%	3.1%	SW
54	Colorado Springs, CO	3.9	0.9	211.8	2.0%	5.7%	RM
55	New Orleans-Metairie, LA	4.8	0.1	200.5	0.2%	-8.0%	SE
56	Omaha-Council Bluffs, NE-IA	3.8	0.6	188.8	1.9%	9.6%	P
57	Lakeland-Winter Haven, FL	2.3	1.4	177.7	2.4%	9.9%	SE
58	Durham-Chapel Hill, NC	1.8	1.7	175.2	2.4%	10.8%	SE
59	Columbia, SC	3.5	0.5	173.6	1.7%	10.2%	SE
60	Myrtle Beach-Conway-North Myrtle Beach, SC-NC	2.2	1.2	162.1	2.2%	10.6%	SE
61	Tucson, AZ	2.8	0.7	154.6	3.1%	18.2%	SW
62	Memphis, TN-MS-AR	3.8	0.0	154.3	1.5%	15.5%	SE
63	Fresno, CA	3.2	0.5	154.0	2.4%	6.4%	FW
64	Madison, WI	3.1	0.4	151.3	3.0%	8.2%	GL
65	Tulsa, OK	3.3	0.3	151.0	2.3%	3.1%	SW
66	Birmingham-Hoover, AL	5.2	-1.0	146.5	2.6%	15.7%	SE
67	Stockton-Lodi, CA	2.5	0.7	142.3	2.4%	6.4%	FW
68	Deltona-Daytona Beach-Ormond Beach, FL	2.2	0.8	138.1	2.4%	9.9%	SE
69	Greensboro-High Point, NC	2.9	0.4	136.7	2.4%	10.8%	SE
70	Naples-Immokalee-Marco Island, FL	2.6	0.5	134.8	2.4%	9.9%	SE
71	Lancaster, PA	3.0	0.2	131.9	1.8%	0.9%	ME
72	Albany-Schenectady-Troy, NY	3.3	0.0	130.8	0.2%	0.3%	ME
73	Greeley, CO	2.1	0.7	130.2	2.0%	5.7%	RM
74	Albuquerque, NM	3.0	0.2	130.1	3.3%	3.8%	SW
75	Palm Bay-Melbourne-Titusville, FL	2.3	0.6	128.7	2.4%	9.9%	SE
76	Fayetteville-Springdale-Rogers, AR-MO	2.5	0.4	125.3	2.2%	11.0%	SE
77	Santa Rosa, CA	3.3	-0.1	124.8	2.4%	6.4%	FW
78	Bridgeport-Stamford-Norwalk, CT	3.2	-0.1	122.8	1.2%	-0.5%	NE
79	Bakersfield, CA	2.5	0.3	119.8	2.4%	6.4%	FW
80	Rochester, NY	3.3	-0.2	117.8	0.2%	0.3%	ME
81	Augusta-Richmond County, GA-SC	2.3	0.4	114.6	1.5%	7.9%	SE
82	Knoxville, TN	2.6	0.1	112.7	1.6%	16.9%	SE
83	Oxnard-Thousand Oaks-Ventura, CA	2.8	-0.1	108.6	2.4%	6.4%	FW
84	Little Rock-North Little Rock-Conway, AR	2.4	0.2	106.5	1.2%	11.7%	SE
85	Fort Collins, CO	2.0	0.4	105.7	2.0%	5.7%	RM
86	Salisbury, MD-DE	2.0	0.4	104.1	1.8%	0.7%	ME
87	Vallejo-Fairfield, CA	2.2	0.2	102.5	2.4%	6.4%	FW
88	Lexington-Fayette, KY	2.1	0.3	100.9	1.1%	10.1%	SE
89	Huntsville, AL	1.7	0.5	98.7	0.2%	-8.0%	SE
90	Spokane-Spokane Valley, WA	1.8	0.4	97.0	2.4%	1.1%	FW
91	Pensacola-Ferry Pass-Brent, FL	1.7	0.5	96.5	2.4%	9.9%	SE
92	Corpus Christi, TX	3.0	-0.4	92.2	2.7%	9.0%	SW
93	Port St. Lucie, FL	1.3	0.6	91.4	2.4%	9.9%	SE
94	Wichita, KS	2.2	-0.1	83.4	1.6%	2.5%	P
95	Killeen-Temple, TX	1.2	0.6	83.0	2.7%	9.0%	SW
96	Fargo, ND-MN	1.7	0.2	82.3	3.0%	-1.3%	P
97	Kennewick-Richland, WA	1.4	0.4	80.9	2.4%	1.1%	FW
98	Savannah, GA	1.5	0.3	77.9	1.4%	7.0%	SE
99	McAllen-Edinburg-Mission, TX	1.2	0.5	77.1	2.7%	9.0%	SW

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100	Anchorage, AK	2.0	-0.1	76.6	3.3%	3.1%	FW
101	Modesto, CA	1.5	0.2	74.3	2.4%	6.4%	FW
102	Sioux Falls, SD	1.3	0.3	69.3	3.3%	11.7%	P
103	Santa Maria-Santa Barbara, CA	1.6	0.0	64.5	2.4%	6.4%	FW
104	Lafayette, LA	1.2	0.0	44.6	0.2%	-8.0%	SE
105	Visalia-Porterville, CA	0.9	0.1	42.3	2.4%	6.4%	FW

Residential Construction

The following section includes viewpoints on factors in the residential construction sector.

Total Residential Construction Y/Y %Chg
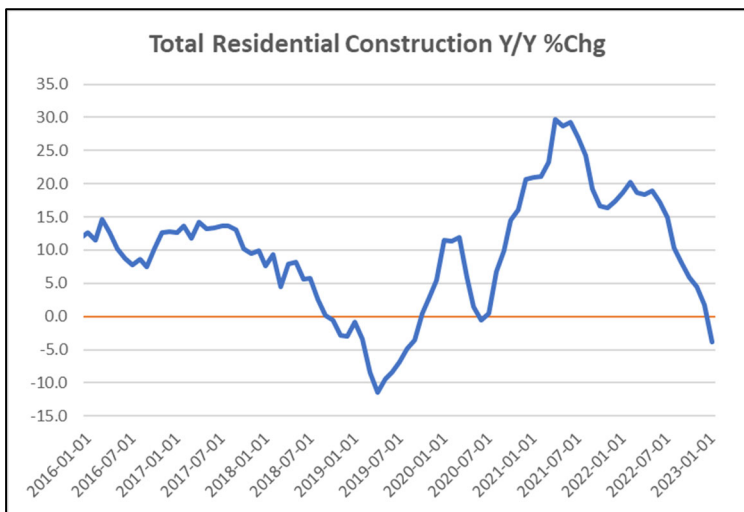
Residential Construction Spending (PRRESCONS)

- Total residential construction in January (latest available), was down by 3.9% Y/Y (up 1.7% last month). It was down 0.6% M/M (down 0.3% last month).
- Outlook: As expected, the housing sector was decelerating early this year as interest rates hit 15-year highs. Pressure is expected to remain higher on housing throughout much of 2023. But as the Federal Reserve hints that interest rate hikes will perhaps peak this summer, there is renewed hope that the single-family housing market may see some moderate improvements. Again, much of it now depends on the situation in the banking sector and whether the Federal Reserve starts to back off on rate hikes and debates with itself between pausing (stopping at current rate levels) or reversing course (pulling rates down).

Monthly Supply of New Houses in the US
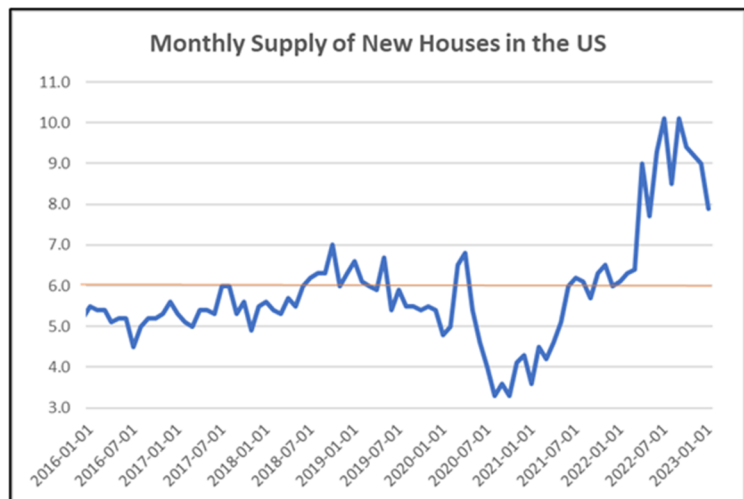
Monthly Supply of Homes (PRRESCONS)

- The monthly supply of homes came in at 7.9 months of inventory on hand, slightly above the long-term average of 6% (which is considered to be a "balanced" market).
- Outlook: There are different measures of the monthly inventory measure. Many private sector reports have been released and existing home supply is also closely tracked. But this measure typically gives the construction sector a better indicator of what the new home supply situation is. Many buyers that are in the market for a new home will be swayed more by new home inventories and what those inventories do to relative home prices. In this case, they are slightly elevated above "norms" and the pressure on new home prices is building.

Month	United States				
	Total	1 unit	2 units	3 to 4 units	5 units or more
Jan 2022	132.3	83.4	2.4	1.4	45.1
Feb 2022	131.5	87.1	2.1	1.6	40.6
Mar 2022	169.0	107.4	2.8	2.2	56.7
Apr 2022	156.6	98.2	3.0	1.8	53.6
May 2022	149.0	95.4	2.9	1.9	48.9
Jun 2022	157.2	91.5	2.7	2.2	60.9
Jul 2022	134.4	75.6	2.4	1.8	54.6
Aug 2022	139.0	81.0	2.6	1.9	53.4
Sep 2022	129.6	70.8	2.6	1.6	54.6
Oct 2022	120.8	65.9	2.7	1.9	50.4
Nov 2022	102.5	55.6	2.5	1.4	43.0
Dec 2022	104.4	50.2	2.3	1.0	50.9
Jan 2023	101.0	53.1	2.5	1.3	44.1

Housing Permits (https://www.census.gov/construction/bps/)

- Housing Permits at a national level are indicative of what to expect in the coming months. Permits were down 3.3% M/M through January; single family permits were actually up 5.8% despite pressure on the housing sector and multi-family permits were weaker by 13.4%. All sectors were weaker year-over-year.
- **Looking Ahead**: permits are volatile and January activity surprised most analysts. Potential buyers were coming off of the sidelines because interest rates softened slightly in January and builders were easing construction start requirements. New permits by geographic region are also volatile, but those summaries are included in the data sheets listed below.

The following section shows housing permits authorized by region for total, single-family, and multi-family.

Month	Northeast											
	Total	Y/Y	3-Month Moving Avg.	M/M	1 unit	Y/Y	3-Month Moving Avg.	M/M	5 unit	Y/Y	3-Month Moving Avg.	M/M
Jan 2022	10.3	-23.1%	20.9%	-59.4%	4.6	-8.0%	-4.4%	-22.0%	5.7	-32.1%	46.4%	-70.8%
Feb 2022	11.4	5.6%	18.1%	10.7%	4.6	-4.2%	-1.3%	0.0%	6.8	13.3%	36.2%	19.3%
Mar 2022	15.9	22.3%	-3.1%	39.5%	5.3	-18.5%	-2.3%	15.2%	10.6	63.1%	1.5%	55.9%
Apr 2022	12.8	-5.9%	10.2%	-19.5%	5.3	-22.1%	5.1%	0.0%	7.5	10.3%	15.3%	-29.2%
May 2022	10.9	-16.8%	1.7%	-14.8%	5.8	-4.9%	8.2%	9.4%	5.1	-27.1%	-1.8%	-32.0%
Jun 2022	15.2	12.6%	1.7%	39.4%	5.3	-17.2%	0.3%	-8.6%	9.9	39.4%	11.0%	94.1%
Jul 2022	13.0	14.0%	3.4%	-14.5%	5.4	3.8%	0.9%	1.9%	7.6	22.6%	13.0%	-23.2%
Aug 2022	11.4	-14.3%	4.2%	-12.3%	5.2	-14.8%	-3.5%	-3.7%	6.2	-13.9%	17.5%	-18.4%
Sep 2022	10.3	-1.0%	-12.1%	-9.6%	5.3	3.9%	0.0%	1.9%	5.0	-5.7%	-20.3%	-19.4%
Oct 2022	8.3	-21.0%	-13.8%	-19.4%	4.3	-21.8%	-6.9%	-18.9%	4.0	-20.0%	-19.3%	-20.0%
Nov 2022	9.8	-21.6%	-3.7%	18.1%	4.0	-20.0%	-8.0%	-7.0%	5.8	-22.7%	1.9%	45.0%
Dec 2022	10.6	-58.3%	2.3%	8.2%	3.9	-33.9%	-9.4%	-2.5%	6.7	-65.6%	13.5%	15.5%
Jan 2023	7.5	-27.2%	-1.0%	-29.2%	3.7	-19.6%	-4.9%	-5.1%	3.8	-33.3%	5.7%	-43.3%

Month	Midwest											
	Total	Y/Y	3-Month Moving Avg.	M/M	1 unit	Y/Y	3-Month Moving Avg.	M/M	5 unit	Y/Y	3-Month Moving Avg.	M/M
Jan 2022	14.5	15.1%	-12.9%	-20.3%	7.9	-4.8%	-12.7%	-17.7%	6.6	53.5%	-11.1%	-23.3%
Feb 2022	13.4	0.0%	-7.8%	-7.6%	8.3	-8.8%	-7.4%	5.1%	5.1	18.6%	-6.5%	-22.7%
Mar 2022	21.6	2.9%	11.1%	61.2%	12.3	-18.0%	11.8%	48.2%	9.3	55.0%	12.1%	82.4%
Apr 2022	23.3	4.0%	20.5%	7.9%	12.9	-18.9%	19.4%	4.9%	10.4	60.0%	23.8%	11.8%
May 2022	22.2	8.8%	21.4%	-4.7%	13.0	-0.8%	17.9%	0.8%	9.2	26.0%	27.5%	-11.5%
Jun 2022	19.1	-6.4%	-3.6%	-14.0%	12.1	-11.0%	-0.4%	-6.9%	7.0	2.9%	-7.9%	-23.9%
Jul 2022	17.8	-4.8%	-8.5%	-6.8%	10.4	-11.1%	-6.7%	-14.0%	7.4	5.7%	-9.9%	5.7%
Aug 2022	19.9	-6.1%	-3.0%	11.8%	11.0	-8.3%	-5.1%	5.8%	8.9	-3.3%	0.7%	20.3%
Sep 2022	19.9	-4.3%	1.7%	0.0%	10.2	-15.7%	-5.2%	-7.3%	9.7	11.5%	11.7%	9.0%
Oct 2022	19.9	-11.9%	3.9%	0.0%	9.7	-18.5%	-2.1%	-4.9%	10.2	-4.7%	11.5%	5.2%
Nov 2022	15.6	-10.3%	-7.2%	-21.6%	7.3	-31.1%	-12.3%	-24.7%	8.3	22.1%	-1.5%	-18.6%
Dec 2022	11.5	-36.8%	-16.0%	-26.3%	5.5	-42.7%	-18.1%	-24.7%	6.0	-30.2%	-13.7%	-27.7%
Jan 2023	9.8	-32.4%	-20.9%	-14.8%	4.8	-39.2%	-20.7%	-12.7%	5.0	-24.2%	-21.0%	-16.7%

Month	South												
	Total	Y/Y	3-Month Moving Avg.	M/M	1 unit	Y/Y	3-Month Moving Avg.	M/M	5 unit	Y/Y	3-Month Moving Avg.	M/M
Jan 2022	75.6	7.4%	3.4%	5.4%	51.7	0.8%	1.5%	8.4%	23.9	25.1%	8.5%	-0.4%
Feb 2022	72.4	11.6%	2.6%	-4.2%	53.6	14.3%	4.8%	3.7%	18.8	4.4%	-1.9%	-21.3%
Mar 2022	89.5	5.5%	8.3%	23.6%	64.0	1.1%	10.5%	19.4%	25.5	18.6%	4.6%	35.6%
Apr 2022	84.5	1.8%	4.6%	-5.6%	58.0	-3.5%	4.6%	-9.4%	26.5	15.7%	6.1%	3.9%
May 2022	81.2	8.4%	4.7%	-3.9%	55.3	-4.7%	1.8%	-4.7%	25.9	53.3%	12.4%	-2.3%
Jun 2022	82.9	-0.5%	-2.5%	2.1%	53.9	-11.9%	-5.5%	-2.5%	29.0	31.2%	4.5%	12.0%
Jul 2022	73.4	1.0%	-4.4%	-11.5%	43.9	-18.6%	-8.6%	-18.6%	29.5	56.9%	3.8%	1.7%
Aug 2022	75.7	-7.7%	-2.1%	3.1%	47.1	-11.6%	-4.6%	7.3%	28.6	-0.3%	3.5%	-3.1%
Sep 2022	68.8	-3.0%	-5.8%	-9.1%	41.2	-18.1%	-7.9%	-12.5%	27.6	34.0%	-1.6%	-3.5%
Oct 2022	67.6	-1.3%	-2.6%	-1.7%	39.2	-21.1%	-3.4%	-4.9%	28.4	51.1%	-1.2%	2.9%
Nov 2022	55.4	-17.7%	-9.6%	-18.0%	33.4	-28.3%	-10.7%	-14.8%	22.0	6.3%	-7.7%	-22.5%
Dec 2022	56.1	-21.8%	-6.2%	1.3%	30.7	-35.6%	-9.2%	-8.1%	25.4	5.8%	-1.4%	15.5%
Jan 2023	62.2	-17.7%	-2.0%	10.9%	34.4	-33.5%	-3.6%	12.1%	27.8	16.3%	0.8%	9.4%

Housing and Interest Rate Forecast, 01/04/2023	2018	2019	2020	2021	2022	2023	2024
Housing Activity (000)							
Total Housing Starts	1,247	1,291	1,395	1,605	1,542	1,135	1,299
Single Family	871	889	1,002	1,131	997	744	925
Multifamily	376	402	393	474	545	391	374
New Single Family Sales	614	683	831	769	597	508	681
Existing Single-Family Home Sales	4,736	4,746	5,059	5,418	4,569	3,850	4,257
Interest Rates							
Federal Funds Rate	1.83%	2.16%	0.36%	0.08%	1.75%	4.77%	4.33%
Fixed Rate Mortgages	4.54%	3.94%	3.11%	2.96%	5.46%	7.16%	6.23%
Prime Rate	4.90%	5.28%	3.54%	3.25%	5.90%	11.93%	10.55%

For more forecast details, visit www.nahb.org.

Month	West												
	Total	Y/Y	3-Month Moving Avg.	M/M	1 unit	Y/Y	3-Month Moving Avg.	M/M	5 unit	Y/Y	3-Month Moving Avg.	M/M
Jan 2022	31.9	-1.5%	-2.3%	-15.6%	19.1	-1.0%	1.1%	5.5%	12.8	-2.3%	-4.8%	-35.0%
Feb 2022	34.2	10.3%	0.3%	7.2%	20.6	1.5%	4.3%	7.9%	13.6	27.1%	-2.9%	6.3%
Mar 2022	42.0	8.2%	4.8%	22.8%	25.8	-0.8%	12.9%	25.2%	16.2	26.6%	-3.2%	19.1%
Apr 2022	36.0	-7.2%	5.2%	-14.3%	22.1	-12.0%	6.3%	-14.3%	13.9	1.5%	3.7%	-14.2%
May 2022	34.6	2.4%	1.5%	-3.9%	21.3	-2.7%	2.4%	-3.6%	13.3	11.8%	0.2%	-4.3%
Jun 2022	40.0	7.2%	-0.9%	15.6%	20.2	-15.5%	-7.7%	-5.2%	19.8	47.8%	10.1%	48.9%
Jul 2022	30.2	-16.8%	-4.3%	-24.5%	15.9	-24.6%	-10.0%	-21.3%	14.3	-5.9%	5.6%	-27.8%
Aug 2022	32.0	-16.0%	-1.0%	6.0%	17.7	-20.3%	-5.0%	11.3%	14.3	-10.1%	7.0%	0.0%
Sep 2022	30.6	-5.8%	-7.6%	-4.4%	14.1	-29.1%	-10.1%	-20.3%	16.5	31.0%	-4.1%	15.4%
Oct 2022	25.0	-28.2%	-5.6%	-18.3%	12.6	-31.9%	-6.6%	-10.6%	12.4	-23.9%	-3.2%	-24.8%
Nov 2022	21.6	-37.6%	-12.1%	-13.6%	10.8	-40.7%	-15.1%	-14.3%	10.8	-34.1%	-7.5%	-12.9%
Dec 2022	26.3	-30.4%	-3.4%	21.8%	10.1	-44.2%	-10.5%	-6.5%	16.2	-17.8%	4.1%	50.0%
Jan 2023	21.5	-32.6%	-3.4%	-18.3%	10.2	-46.6%	-6.6%	1.0%	11.3	-11.7%	2.3%	-30.2%

ARMADA

Nonresidential Construction

Total Nonresidential Construction Spending
Y/Y %Chg
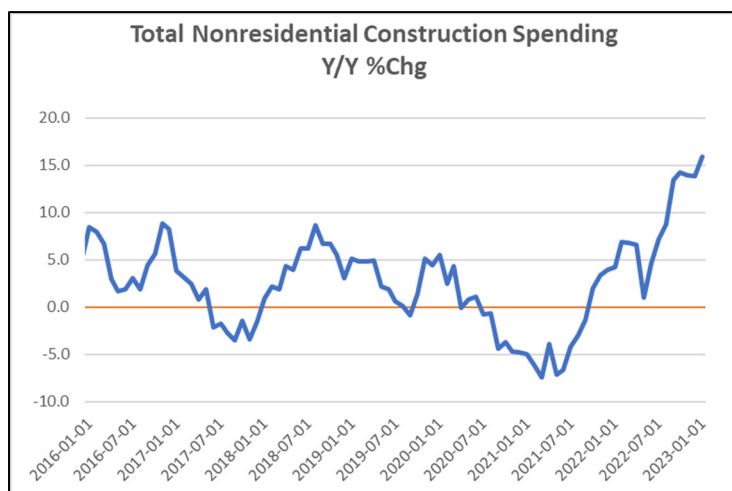
Total Non-Residential Construction (TLNRESCONS)

- Total Non-Residential Construction activity in January (latest available) was 15.9% higher than it was a year ago (13.8% higher last month) and was 0.3% higher M/M (-0.5% in the last report). Overall spending was at an annual rate of $968B (the prior annualized run rate peak of $970B was hit in November of 2022).
- **Outlook**: Nonresidential construction continues to set new records (with some inflation impact involved). But there are undoubtedly some strong trends pushing areas like industrial manufacturing construction, commercial, lodging and entertainment, and multi-family construction trends. Other sectors of nonresidential construction are poised to gain momentum, health care, infrastructure, and perhaps education in some states.

Non-Residential Spending By Sector
(**https://www.census.gov/construction/c30/c30index.html**)

- The fastest growing non-residential construction sector was still coming out of the manufacturing complex. Surveys suggest that 85-90% of foreign sourcing managers still expect to reshore at least a portion of their manufacturing or sourcing over the next 5 years. Estimates suggest that $1-$2 trillion in construction spending for reshoring purposes is expected over the next 5 years, and the trend will continue to accelerate through the end of the decade.
- Lodging activity is also still accelerating with growth in the sector of more than 30% year-over-year on $21 billion in annualized spending. As the services sector expands and people begin to spend more on experiences and less and products (more of a return to "normal" compared to pre-pandemic activity.
- Commercial also continues to be strong with growth of 22% year-over-year on $125 billion in annualized spending. All aspects of commercial are growing in some regions as suburban sprawl creates demand for retail and multi-use construction.
- Infrastructure is also starting to build momentum and infrastructure funds are starting to hit states, and projects will start shortly after.
- Health care continues to be an odd outlier. Although finally showing some growth, spending is weaker overall. Hospital systems are just now hitting profitability without the aid of CARES Act funding. As hospital administrators see an opportunity to invest in facilities that move more profitable elective procedures away from inpatient care, projects will start to expand (mostly ancillary care facilities). Watch this sector to emerge further over the coming months.

Table 1. Value of Construction Put in Place in the United States, Seasonally Adjusted Annual Rate (Millions of dollars. Details may not add to totals due to rounding.)
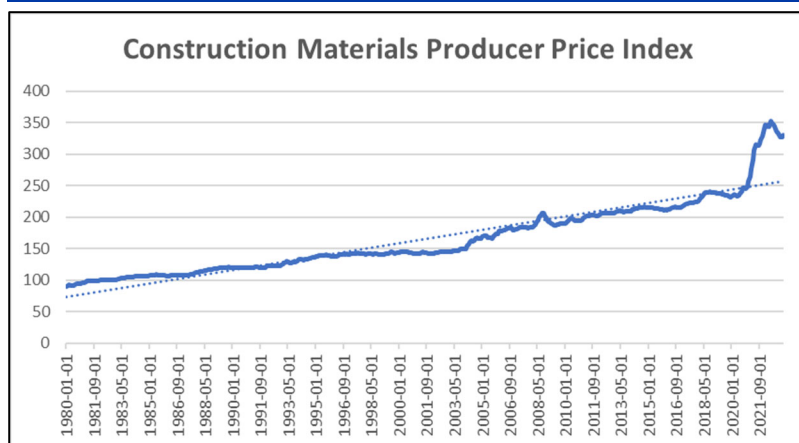
Type of Construction	Jan 2023 p	Dec 2022 r	Jan 2022	Percent change Jan 2023 from - Dec 2022	Jan 2022
Total Construction	1,825,653	1,827,535	1,726,585	-0.1	5.7
Residential	856,912	861,674	890,763	-0.6	-3.8
New single family	374,431	380,734	458,644	-1.7	-18.4
New multifamily	120,522	120,050	99,917	0.4	20.6
Nonresidential	968,741	965,861	835,822	0.3	15.9
Manufacturing	139,770	131,984	91,021	5.9	53.6
Lodging	21,930	21,745	15,699	0.9	39.7
Commercial	125,503	129,564	102,782	-3.1	22.1
Conservation and development	10,427	9,644	8,567	8.1	21.7
Sewage and waste disposal	33,390	34,251	28,456	-2.5	17.3
Water supply	22,125	23,508	18,913	-5.9	17.0
Highway and street	118,297	119,473	101,683	-1.0	16.3
Office	96,022	95,315	84,401	0.7	13.8
Health care	55,756	55,646	49,593	0.2	12.4
Religious	3,057	2,920	2,750	4.7	11.2
Amusement and recreation	28,786	29,209	25,967	-1.4	10.9
Public safety	11,056	11,282	10,110	-2.0	9.4
Transportation	61,447	60,447	56,277	1.7	9.2
Educational	104,598	105,281	98,413	-0.6	6.3
Communication	24,980	24,981	24,161	0.0	3.4
Power	111,598	110,610	117,030	0.9	-4.6

Raw Materials

Construction Materials Producer Price Index

## Construction Materials Price Index
(WPUSI012011)

- The Producer Price Index for Construction Materials were 3.8% lower year-over-year in February (the latest available; down 5.3% last month). Prices for the construction sector were also up 1.0% Y/Y (up 0.2% last month).
- **Outlook**: There are two important factors to notice regarding construction material prices. Overall, at a macro level they remain at elevated levels historically, the dotted line shows the long-term trendline and it is still showing current prices well above what would be a normal growth rate. The trend is also interesting because it had started to drop and then last month we got some stabilizing in the data (mildly reversing course).

Producer Price Index - Key Industry Products

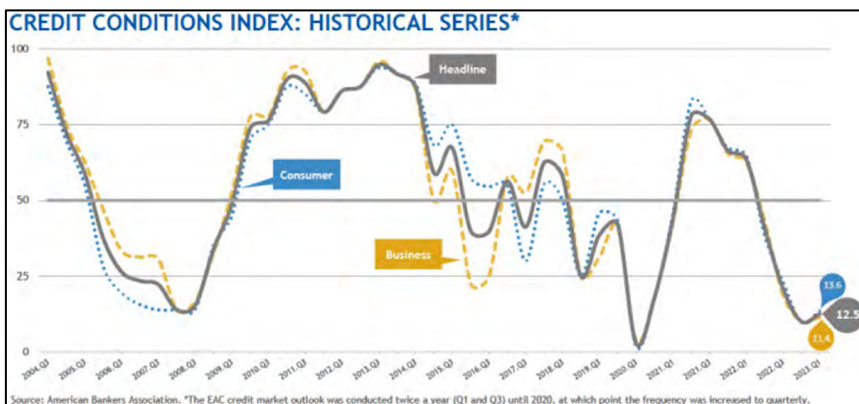| Category	PPI Code	Jan-23	Dec-22	M/M% Chg	Jan-22	Y/Y % Chg
Core Materials						
Cement	PCU32732032732(	356.5	350.5	1.7%	315.3	13.1%
Copper	WPUSI019011	525.2	504.4	4.1%	550.3	-4.6%
Lumber	WPU081	263.3	264.4	-0.4%	483.0	-45.5%
Nickel	WPU102504	225.2	223.4	0.8%	202.2	11.4%
Pipe, Valves and Fittings						
Metal valves, except fluid power	WPU114902	428.5	423.4	1.2%	378.2	13.3%
Gates, globes, angles and check valves	WPU114902011	163.4	159.6	2.4%	148.0	10.4%
Ball valves	WPU11490202	557.9	557.9	0.0%	483.0	15.5%
Butterfly valves (formerly W2421490203)	WPU11490203	301.0	292.0	3.1%	263.2	14.4%
Industrial plug valves	WPU11490204	297.7	297.7	0.0%	257.3	15.7%
Plumbing and heating valves (low pressure)	WPU11490205	376.4	376.4	0.0%	374.3	0.5%
Solenoid valves	WPU11490208	372.2	372.2	0.0%	372.2	0.0%
Other industrial valves, including nuclear	WPU11490209	394.6	392.4	0.5%	346.9	13.7%
Automatic valves	WPU11490211	249.9	248.9	0.4%	220.6	13.2%
Metal pipe fittings, flanges and unions	WPU11490301	476.8	476.0	0.2%	420.3	13.4%
Steel pipe and tube	WPU101706	448.3	454.1	**-1.3%**	498.0	**-10.0%**
Steel pipe and tube, alloy	WPU10170673	109.5	109.5	0.0%	109.5	0.0%
Steel pipe and tube, stainless	WPU10170674	153.0	151.5	1.0%	142.3	7.5%
Copper & copper-base alloy pipe and tube	WPU10250239	341.1	331.8	2.8%	361.5	**-5.7%**
Plastic pipe	WPU07210603	212.6	214.1	**-0.7%**	201.5	5.5%
Plastic pipe fittings and unions	WPU07210604	318.5	319.5	**-0.3%**	290.5	9.6%
Plumbing Fixtures, Fittings and Trim	WPU105402	394.6	388.5	1.6%	383.8	2.8%
Bath and shower fittings	WPU10540211	286.7	286.7	0.0%	286.7	0.0%
Lavatory and sink fittings	WPU10540218	203.5	197.3	3.1%	190.3	7.0%
Enameled iron and metal sanitary ware	WPU1056	290.6	286.2	1.5%	256.3	13.3%
Steam and Hot Water Equipment	WPU1061	393.3	393.3	0.0%	371.4	5.9%
Cast iron heating boilers, radiators and convectors	WPU10610106	269.9	269.9	0.0%	250.1	7.9%
Domestic water heaters	WPU106601	569.4	569.4	0.0%	566.6	0.5%
Electric water heaters	WPU10660101	563.9	563.9	0.0%	561.4	0.5%
Non-electric water heaters	WPU10660114	346.7	346.7	0.0%	344.9	0.5%
Warehousing, Storage and Relates Services	WPU321	140.9	138.6	1.7%	127.6	10.4%

Banking Credit and Finance

Overall Observations: In the past quarter, the percentage of banks that expect credit conditions to get tighter has accelerated dramatically from last quarter's report. As the two indicators below show, credit conditions are expected to tighten and the quality of businesses seeking credit is expected to worsen as well. The Federal Reserve is still on track to tighten the Effective Funds Rate to more than 5.25% at its peak later in 2023. Currently, the Fed's outlook shows at least two more 25-basis point hikes before the end of the year. That could increase rates to their highest levels since September of 2007.

Developer Insights: We spoke at a developers conference recently and the overall sentiment in the room was that 2023 would be a year for clearing backlogs of projects that have been put on hold. But they all felt that higher interest rates, tightening credit conditions, and economic uncertainty would lead to a weaker 2024 than initially projected. Some of the construction outlooks and forecasts are now reflecting some of this weakness in the outlook.

Percentage of Banks Tightening Credit Standards for Commercial Loans
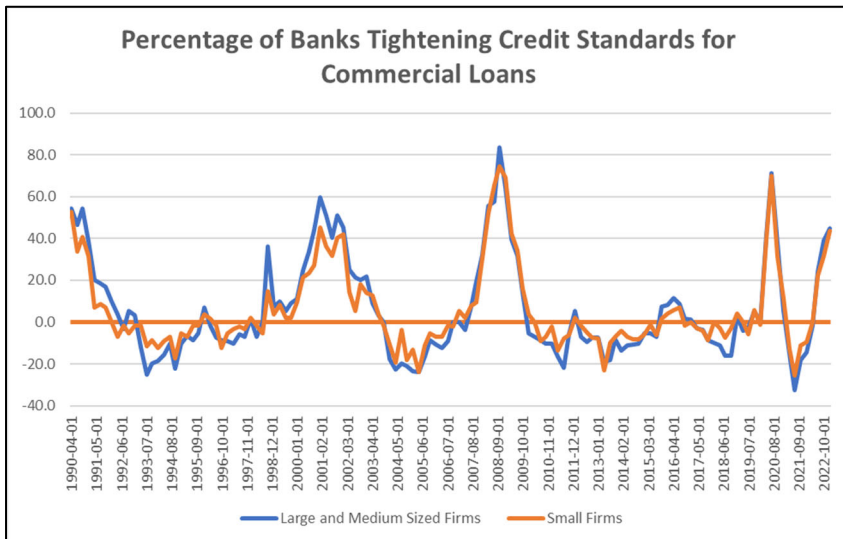
## Banks Tightening Conditions (DRTSCILM; DRTSCIS)

- The latest view of the number of banks tightening credit standards has now hit 44.8% for large and medium sized commercial firms and 43.8% for smaller firms. This is arguably the fourth tightest lending environment going back into the early 1990's, and all prior periods were in recession periods.
- **Outlook**: This is one of the quicker reversals of banking credit availability for firms, which is a signal that banks are becoming extremely worried about the economy and risk of recession later in 2023. This data was also prior to the mini banking crisis that the market is now going through. Most analysts believe that the credit markets will continue to tighten in the coming months as a result of near-term risk aversion trends that will develop.

CREDIT CONDITIONS INDEX: HISTORICAL SERIES*

Source: American Bankers Association. *The EAC credit market outlook was conducted twice a year (Q1 and Q3) until 2020, at which point the frequency was increased to quarterly.

ABA Credit Conditions (ABA)

- The American Bankers Association's Credit Conditions Index for business credit increased 2.5 points to 12.5 in Q1 2023 (the latest report). This was slightly better than last quarter, but the data was collected prior to the mini banking situation that the country has gone through in the past three weeks. A reading under 50 still suggests that bank leaders believe conditions will continue to deteriorate in the next six months.
- **Outlook**: We still see the second largest dip in the past twenty years and again, there will be more recent data released in the next ABA report that are likely to show conditions tightening even further in the coming quarters.

Supply Chain and Transportation Situation

Composite Transportation Demand Index (TDI)
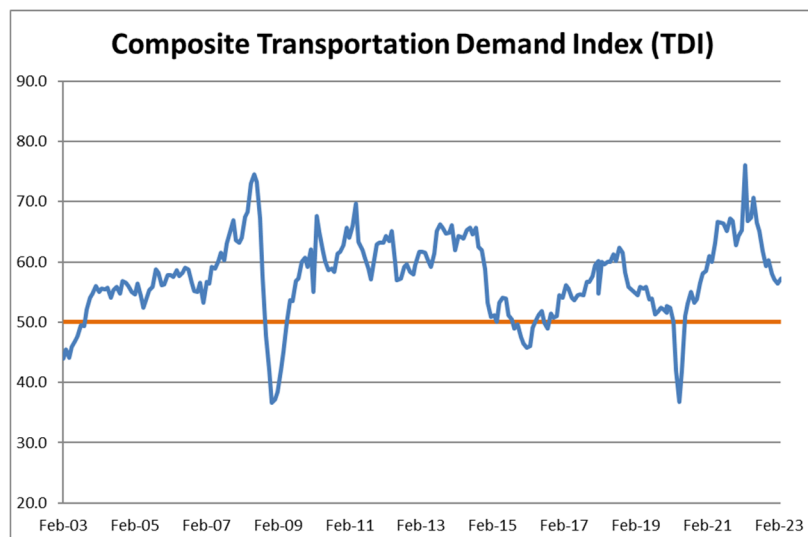
Transportation Demand Normalizing

- The Transportation Demand Index shows the current demand environment for freight services (which dictates price). The current demand index at a broad level (across all modes of transportation) was 1.2% **higher** month-over-month in February (latest available) but was 24.7% lower year-over-year.

- **Outlook:** This month's TDI came in again closer to "normal" and was performing slightly below some historic ranges from the 2010-2014 period (and certainly down from levels over the past two years). Purchasing managers should have more pricing leverage because of these conditions, but carriers are facing cost pressures that have continued to create price stability in this cycle. In other words, given a weaker demand environment and stronger capacity availability, prices should be lower. But higher insurance, labor, debt service, and other operating costs are keeping prices stable.

Mode Demand Slowing

- Each mode of transportation continued showing signs of decelerating demand, which was also pulling pricing lower. A reading over 50 here shows an expanding market, a reading under 50 is contracting. Every mode still had indexes above normal; demand is stable. And all modes were up slightly in February but were much weaker off of the peaks hit over the past two years. Again, it feels more like a normalization process bringing prices and capacity back to pre-pandemic levels.

	23-Feb	23-Jan	22-Feb	Y/Y Change %	M/M Change %
Composite	57.2	56.5	76.0	**-24.7%**	1.2%
Rail	55.2	54.6	72.1	**-23.4%**	1.1%
Trucking	57.5	56.7	76.8	**-25.1%**	1.4%
Air	60.8	59.3	74.9	**-18.8%**	2.5%
Maritime	58.7	56.9	73.4	**-20.0%**	3.2%

What we are Watching in Transportation Relative to Construction

- **Is the Supply Chain Still in Disarray?** The New York Fed's Global Supply Chain Pressures Index shows conditions finally getting better for supply chain managers. Some maritime companies are starting to use "blank sailings", sending ships empty to key outbound shipping ports. This effectively can strip as much as 10-15% of global capacity out of the maritime market and keep shipping prices higher in the process. Companies are still scrambling for certain items and the pressure to keep many raw material inputs and component parts supplied continues. As mentioned earlier in the briefing, some shortages of construction materials continue to be an issue. This could continue to push some companies to stockpile certain materials, and it could create some stockout problems with global inventories of some raw materials still in short supply (copper, nickel, lead, zinc, aluminum).

- **West Coast Contract Negotiations Continue.** The ports and labor unions on the West Coast are still negotiating a labor contract and an agreement is overdue. This uncertainty has many supply chain managers suggesting that they will continue to keep some of their volumes diverted from the West Coast until a labor contract is in place. This will likely continue to put unusual demand on east coast and Gulf ports and keep congestion concerns higher in those areas. Some of the negotiations have begun to get tense, and some spot trucking delays have started to take place. This could keep shippers diverting volumes to the East and Gulf Coast ports longer than expected.

Construction Industry Outlook

	2023				2024				2019	2020	2021	2022	2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
Real GDP	1.0	-0.9	-1.8	-0.6	1.4	2.7	2.2	2.3	2.3	-2.8	5.9	2.1	0.7	1.6	1.8
Unemployment rate (%)	3.4	3.5	4.0	4.4	4.4	4.3	4.2	4.1	3.7	8.1	5.4	3.6	3.8	4.3	4.5
PCE Inflation (%Y/Y)	4.6	3.6	3.1	3.1	2.5	2.3	2.1	2.0	1.5	1.1	4.0	5.6	3.1	2.2	2.0
Core PCE Inflation (%Y/Y)	4.0	3.6	3.5	3.5	2.5	2.3	2.1	2.0	1.7	1.3	3.5	4.8	3.5	2.2	2.0
Fed Funds Rate	4.9	5.1	5.1	5.1	4.9	4.4	3.9	3.8	1.6	0.1	0.1	4.4	5.1	3.4	3.1

Looking forward, interest rate pressure will have an impact on demand after a clearing of project backlogs in 2023. Some estimates suggest that the Federal Reserve could begin to reverse interest rates toward the end of the year or early into 2024, which would bring the residential market back into action more so than nonresidential.

The US population will grow by 1.5 million people by the end of 2024, a rate of growth that is expected to allow the residential construction housing sector to keep pace. Debates rage over the number of homes that the US needs to meet actual demand (some consumer segments need lower income housing and multi-family housing demand will remain stronger over the near term). Some estimates are as high as 5 million homes needed, adjusting that figure for various factors, most assume that the US needs 2 million to meet basic demand (some regions obviously seeing higher demand than others based on migration patterns in the US). With the US still starting 1.45 million homes on average annually, recession pressures will likely create more balance in the market and for the next two years, the demand for multi-family projects to fill housing needs will be stronger.

Non-residential markets are showing strength. The model at right shows that the predictive outlook continues to outpace the long-term growth trend. This model uses 18-20 different economic metrics modeled over 20 years to build the outlook and although this is a volatile industry, the model has performed well in the past.

Construction projects in manufacturing, infrastructure, and commercial nonresidential projects are leading the field and will continue to be strong. We still expect more than $2 trillion in reshoring projects to be conducted over the next 3-5 years on the back of $134 billion beinng spent last year (double the normal annual rate).

But we also expect health care to begin to launch certain projects as hospital systems come out from under operating cost pressures.

Data centers and mission critical projects will also be in high demand over the next 7-12 years. The US will be running at a processing power deficit relative to demand in three years and will have to add thousands of smaller, regional data handling centers to meet processing needs.

Private Non-Residential Construction (PNRESCONS)