May | 2024

ECONOMIC NEWSLETTER

for the construction industry

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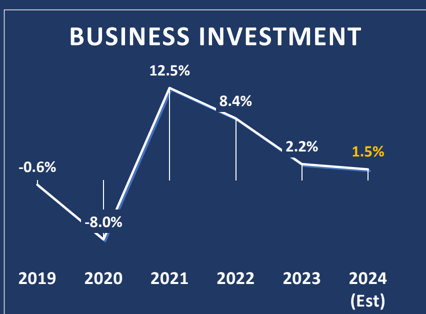
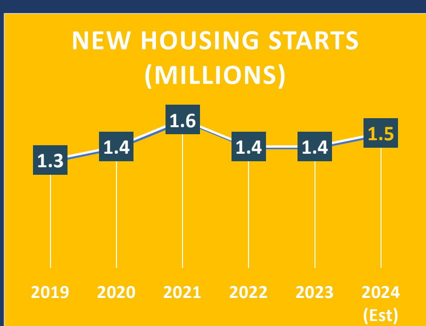
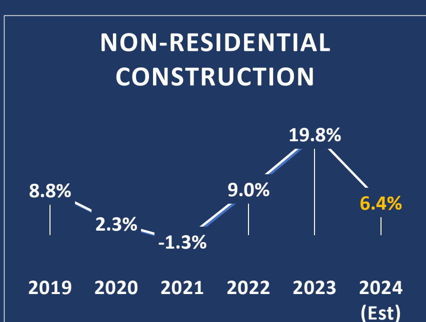
Quarterly Economic Report

Executive Summary – May 2024

Selected Indices







Big Items

Real GDP: Q1 2024 was partially stunning to analysts. At one point in the quarter, analysts thought it might have been growing by as much as 3%, but the first reading on Q1 had it come in at 1.6%. This will be adjusted a bit, but it was still a stable reading for Q1. Consumer spending was still a primary driver and government spending carried more weight this quarter. The second quarter is expected to grow at nearly 1% while Q3 could be lackluster at 2%. For the full year, estimates on Real GDP have been pushed up from 1% to at least 2% and perhaps higher if these trends continue.

Raw Material Prices/Availability: Raw material prices are mixed, but most are generally slightly weaker on a year-over-year basis. Slowing of demand in countries like China and across Europe are largely helping ease overall demand. Some commodities (like copper-based products) are higher because of stronger global manufacturing demand for copper products. Many suppliers are also getting hit with higher transportation costs due to the closing of the Red Sea. Red Sea disruptions have pushed up general rate increases for shipping containers by more than $1,000 per container (approximately 33% higher), which is increasing input costs.

Labor Situation / Labor Costs: The construction sector Employment Cost Index showed that overall labor costs are still high and climbing. It is now at 162.5 in Q1, up from 160.6 in Q4. Most importantly, wages are still growing at a 4.2% annual rate. That's the lowest since 3.57% in Q1 of 2022. The average prior to the pandemic was 2-3% annually, wages are still growing at nearly twice the annual rate. Some slowing of construction demand and the use of immigrant workers for some positions (as soon as they are eligible for temporary employment) will help ease labor pressures. In fact, job openings in the construction sector fell at their fastest rate month-over-month in history. There are questions about the data, some revisions of this data may adjust these figures in the months to come.

Manufacturing: S&P Global data shows the US near contraction territory with a reading of 50.0 in early Q2. For most of Q1, manufacturing showed some slight expansion, but that has now flattened. Mexico was the only USMCA market still growing based on the latest data. Europe was showing some signs of recovery at the end of Q1, and many Asian markets were ticking up. India was still the fastest growing market in the world. But in the US, new orders are sluggish, input prices are still high (raw materials, component parts, labor, and energy), and selling prices are facing some pressure. Heading through Q2, with global inventories more balanced than in prior quarters, the hope is that global activity will gain some pace and lift all sectors.

Risks

Geopolitics and Inflation: Developments in the Middle East are in a constant state of flux, and that has pushed the price of oil higher. At the time of writing, West Texas Intermediate was still near $79.80 a barrel and Brent North Sea Crude was nearly $85. Although some of the volatility in the Middle East was easing at the time of writing, there are some estimates that oil prices could touch $100 a barrel by July based on supply/demand dynamics and if global economic activity picks up pace as current trends appear to show.

Hurricane Season and Severe Storms: It is no secret that this has been one of the most active spring tornado seasons in memory. Billions of dollars in both tornado and hail damage has been recorded throughout the eastern 2/3rds of the country leaving the construction and construction materials industry with a new set of both opportunities and challenges. This year is also expected to be one of the most active hurricane seasons in recent history. Atlantic surface water temperatures are still extremely hot and a transition from a strong El Nino into La Nina removes much of the upper wind sheer that has been steering storms away from the US and has also ripped the tops out of storms (not allowing them to build strength). Those conditions could lead to one of the more active seasons primarily for US and Caribbean landings along with strong storms (Category 3+) according to forecasters. On top of a strong spring thunderstorm season, it could bring challenges for certain raw materials (roofing, siding, lumber) and create challenges to meet demand for construction in some areas of the country.

Macroeconomic Viewpoints

- Dr. Chris Kuehl

Four Factors to Keep an Eye on in Construction: One of these is pretty obvious but the other three are a bit more subtle in terms of their influence. The performance of the Fed is at the top of the list. Will they lower interest rates? When and how much? The opinions on this matter have been all over the place with some suggesting at the start of the year that rates would start to decline as early as Q2. That didn't happen as the Fed was still more worried about inflation and was not feeling much pressure from unemployment or economic slowdown. Now the sense is maybe at the end of the year but that is not at all certain. The hawks at the Fed are asserting that early 2025 is soon enough while the more dovish think that Q3 is appropriate. The construction sector is stalled as a result as there is no desire to finance some big project now when the cost of that financing might come down in just a few months. It has become a waiting game. The betting at this stage is that rates start to fall in Q4 – by a quarter point. That will likely be followed by a another one this year and a third reduction in early 2025. That leaves rates at 4.75% - down from the current 5.5%.

Interest rates are not the only factor affecting construction projects and perhaps not even the most important. There is overall demand and that has been spurred by the internal migration that has been taking place over the last few years. There is an exodus from high cost and high tax states to low-cost alternatives and the majority of those that have been moving are in the upper third of income earners. They are demanding everything from housing to all the support services and amenities they are accustomed to. They are willing and able to pay whatever is demanded and that allows projects to proceed in these high demand areas despite the higher costs of financing. Look at the expansion in places like Texas, Arizona, North Carolina, Tennessee and even South Dakota.

A third factor to consider is the price of commodities and materials as well as machinery. Much of what is needed in the construction sector is imported and that has been the case for years. The bulk of that has been coming from China. There have been many attempts to diversify that supply chain but this takes time. More will be sourced in the US but that means higher costs. More will be sourced from India and Vietnam and Mexico but that takes time as well. The proposed tariffs and other regulations are designed to pressure China and reduce the US dependence and over time this will be the outcome but for now the construction sector will be facing higher costs as tariffs are essentially a tax paid by the consumer of the product that has had that tariff applied to it.

The fourth issue is not a new one as there have been attempts to call attention to the issue for years. Nothing has been done despite the looming deadline – one that has hit construction and manufacturing harder than many other sectors. By the end of this decade the entire Boomer generation will have reached retirement age and that amounts to 76 million people. Many boomers will work deep into their 60s and 70s but that rarely applies to people in construction and manufacturing trades. They are ready to retire at 65 or well before. There are no ready replacements for this population and that triggers sharp wage hikes. The primary driver for inflation over the last few years has been labor costs. As the skilled become rare they will have maximum leverage and they will be able to demand and receive the pay hikes they seek. This is not a fast fix as it requires training a new generation that seems profoundly uninterested in the trades. Immigration is not the solution either as those with the skills are being recruited by nearly every nation on earth and the majority of those that are gaining access to the US lack skills, education or language. Many are more refugee than migrant and do not even have a desire to assimilate and live in the US on a permanent basis. That inhibits companies that might be interested in doing their own training as they assume they would soon lose them.

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. Q4 data is the latest available.

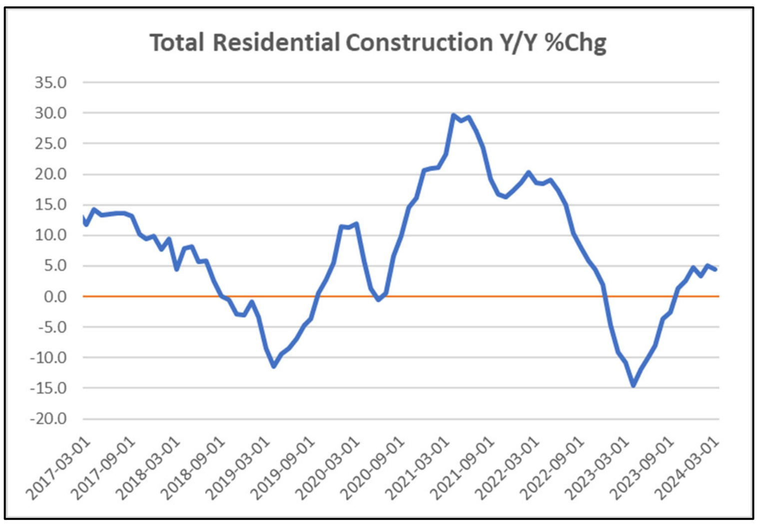
		Construction Scoring System	Change in Gross Construction GDP		
Rank	MSA	Construction Potential Score	Q4 2023 Q/Q Change in Gross Construction GDP	Q4 2023 Y/Y Change in Gross Construction GDP	BEA Region
1	Dallas-Fort Worth-Arlington, TX	2537.2	3.6%	22.4%	SW
2	Chicago-Naperville-Elgin, IL-IN-WI	2392.4	3.1%	23.0%	GL
3	New York-Newark-Jersey City, NY-NJ-PA	2379.5	1.4%	15.0%	ME
4	Houston-The Woodlands-Sugar Land, TX	2353.3	3.6%	22.4%	SW
5	Washington-Arlington-Alexandria, DC-VA-MD-WV	2282.9	2.0%	22.6%	ME
6	Los Angeles-Long Beach-Anaheim, CA	2113.3	3.2%	11.6%	FW
7	Phoenix-Mesa-Scottsdale, AZ	1755.0	3.9%	33.3%	SW
8	Atlanta-Sandy Springs-Roswell, GA	1645.8	2.7%	25.6%	SE
9	Miami-Fort Lauderdale-West Palm Beach, FL	1411.7	3.2%	23.8%	SE
10	San Francisco-Oakland-Hayward, CA	1389.3	3.2%	11.6%	FW
11	Seattle-Tacoma-Bellevue, WA	1310.4	0.5%	21.0%	FW
12	Minneapolis-St. Paul-Bloomington, MN-WI	1188.4	2.6%	19.9%	GL
13	Boston-Cambridge-Newton, MA-NH	1187.7	3.0%	14.0%	NE
14	Las Vegas-Henderson-Paradise, NV	1115.0	4.9%	26.7%	FW
15	Denver-Aurora-Lakewood, CO	1062.7	0.7%	19.2%	RM
16	Baltimore-Columbia-Towson, MD	1032.6	1.3%	22.7%	ME
17	Riverside-San Bernardino-Ontario, CA	1001.1	3.2%	11.6%	FW
18	Orlando-Kissimmee-Sanford, FL	918.2	3.2%	23.8%	SE
19	Austin-Round Rock, TX	912.7	3.6%	22.4%	SW
20	Portland-Vancouver-Hillsboro, OR-WA	908.3	1.0%	20.2%	FW
21	Tampa-St. Petersburg-Clearwater, FL	874.4	3.2%	23.8%	SE
22	Salt Lake City, UT	796.9	3.5%	21.4%	RM
23	Indianapolis-Carmel-Anderson, IN	733.4	3.8%	22.3%	GL
24	Nashville-Davidson-Murfreesboro-Franklin, TN	730.3	2.0%	22.4%	SE
25	Sacramento-Roseville-Arden-Arcade, CA	714.4	3.2%	11.6%	FW
26	Charlotte-Concord-Gastonia, NC-SC	670.6	2.7%	23.2%	SE
27	San Diego-Carlsbad, CA	667.1	3.2%	11.6%	FW
28	St. Louis, MO-IL	660.0	2.8%	23.7%	P
29	Detroit-Warren-Dearborn, MI	621.6	1.6%	19.9%	GL
30	Raleigh, NC	611.2	2.7%	23.2%	SE
31	Columbus, OH	610.2	2.9%	17.2%	GL
32	San Antonio-New Braunfels, TX	599.8	3.6%	22.4%	SW
33	San Jose-Sunnyvale-Santa Clara, CA	538.4	3.2%	11.6%	FW
34	Kansas City, MO-KS	520.9	3.2%	21.3%	P
35	Cincinnati, OH-KY-IN	517.3	3.3%	21.3%	GL
36	Jacksonville, FL	490.0	3.2%	23.8%	SE
37	Baton Rouge, LA	474.2	2.1%	30.9%	SE
38	Provo-Orem, UT	388.6	3.5%	21.4%	RM
39	Charleston-North Charleston, SC	376.1	4.3%	26.6%	SE

Rank	MSA	Construction Scoring System	Change in Gross Construction GDP		BEA Region
		Construction Potential Score	Q4 2023 Q/Q Change in Gross Construction GDP	Q4 2023 Y/Y Change in Gross Construction GDP	
40	Boise City, ID	374.5	4.6%	30.0%	RM
41	Richmond, VA	338.4	2.7%	23.6%	SE
42	Louisville-Jefferson County, KY-IN	335.5	3.7%	25.7%	SE
43	Reno, NV	314.1	4.9%	26.7%	FW
44	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	306.3	1.6%	18.9%	ME
45	North Port-Sarasota-Bradenton, FL	301.0	3.2%	23.8%	SE
46	Grand Rapids-Wyoming, MI	300.3	1.6%	19.9%	GL
47	Cape Coral-Fort Myers, FL	293.1	3.2%	23.8%	SE
48	Urban Honolulu, HI	285.5	2.1%	20.8%	FW
49	Ogden-Clearfield, UT	284.6	3.5%	21.4%	RM
50	Milwaukee-Waukesha-West Allis, WI	282.6	3.0%	20.5%	GL
51	Greenville-Anderson-Mauldin, SC	270.3	4.3%	26.6%	SE
52	New Orleans-Metairie, LA	265.5	2.1%	30.9%	SE
53	Des Moines-West Des Moines, IA	262.7	3.3%	11.8%	P
54	Oklahoma City, OK	258.5	4.9%	22.4%	SW
55	Colorado Springs, CO	246.2	0.7%	19.2%	RM
56	Omaha-Council Bluffs, NE-IA	219.0	3.0%	13.4%	P
57	Columbia, SC	217.9	4.3%	26.6%	SE
58	Lakeland-Winter Haven, FL	204.2	3.2%	23.8%	SE
59	Tucson, AZ	196.9	3.9%	33.3%	SW
60	Durham-Chapel Hill, NC	195.3	2.7%	23.2%	SE
61	Memphis, TN-MS-AR	194.8	1.9%	21.6%	SE
62	Birmingham-Hoover, AL	193.9	4.1%	18.5%	SE
63	Myrtle Beach-Conway-North Myrtle Beach, SC-NC	187.9	3.2%	24.2%	SE
64	Tulsa, OK	187.5	4.9%	22.4%	SW
65	Madison, WI	183.1	3.0%	20.5%	GL
66	Fresno, CA	172.4	3.2%	11.6%	FW
67	Greensboro-High Point, NC	168.8	2.7%	23.2%	SE
68	Albuquerque, NM	165.7	2.8%	26.3%	SW
69	Naples-Immokalee-Marco Island, FL	164.2	3.2%	23.8%	SE
70	Deltona-Daytona Beach-Ormond Beach, FL	162.8	3.2%	23.8%	SE
71	Stockton-Lodi, CA	157.1	3.2%	11.6%	FW
72	Palm Bay-Melbourne-Titusville, FL	154.3	3.2%	23.8%	SE
73	Albany-Schenectady-Troy, NY	154.1	1.0%	12.8%	ME
74	Lancaster, PA	153.8	1.5%	14.4%	ME
75	Fayetteville-Springdale-Rogers, AR-MO	152.0	2.9%	23.1%	SE
76	Greeley, CO	149.0	0.7%	19.2%	RM
77	Bridgeport-Stamford-Norwalk, CT	147.1	2.7%	15.2%	NE
78	Santa Rosa, CA	144.2	3.2%	11.6%	FW
79	Augusta-Richmond County, GA-SC	144.2	3.2%	25.9%	SE
80	Knoxville, TN	142.1	2.0%	22.4%	SE
81	Rochester, NY	141.0	1.0%	12.8%	ME
82	Little Rock-North Little Rock-Conway, AR	135.3	2.3%	27.3%	SE
83	Bakersfield, CA	134.3	3.2%	11.6%	FW
84	Lexington-Fayette, KY	131.0	3.5%	33.0%	SE
85	Salisbury, MD-DE	125.2	1.4%	22.3%	ME
86	Oxnard-Thousand Oaks-Ventura, CA	125.1	3.2%	11.6%	FW
87	Corpus Christi, TX	123.6	3.6%	22.4%	SW
88	Fort Collins, CO	123.1	0.7%	19.2%	RM
89	Huntsville, AL	121.8	2.1%	30.9%	SE
90	Pensacola-Ferry Pass-Brent, FL	116.0	3.2%	23.8%	SE
91	Vallejo-Fairfield, CA	115.6	3.2%	11.6%	FW
92	Spokane-Spokane Valley, WA	115.5	0.5%	21.0%	FW
93	Wichita, KS	106.6	3.2%	20.7%	P
94	Port St. Lucie, FL	106.3	3.2%	23.8%	SE
95	Anchorage, AK	100.6	2.1%	23.0%	FW
96	Savannah, GA	97.7	2.7%	25.6%	SE
97	Fargo, ND-MN	97.0	2.2%	17.3%	P
98	Killeen-Temple, TX	96.2	3.6%	22.4%	SW
99	Kennewick-Richland, WA	95.5	0.5%	21.0%	FW

Rank	MSA	Construction Scoring System: Construction Potential Score	Change in Gross Construction GDP: Q4 2023 Q/Q Change in Gross Construction GDP	Change in Gross Construction GDP: Q4 2023 Y/Y Change in Gross Construction GDP	BEA Region
100	Sioux Falls, SD	92.8	6.1%	42.6%	P
101	McAllen-Edinburg-Mission, TX	89.6	3.6%	22.4%	SW
102	Modesto, CA	83.1	3.2%	11.6%	FW
103	Santa Maria-Santa Barbara, CA	73.6	3.2%	11.6%	FW
104	Lafayette, LA	60.2	2.1%	30.9%	SE
105	Visalia-Porterville, CA	47.4	3.2%	11.6%	FW

Residential Construction

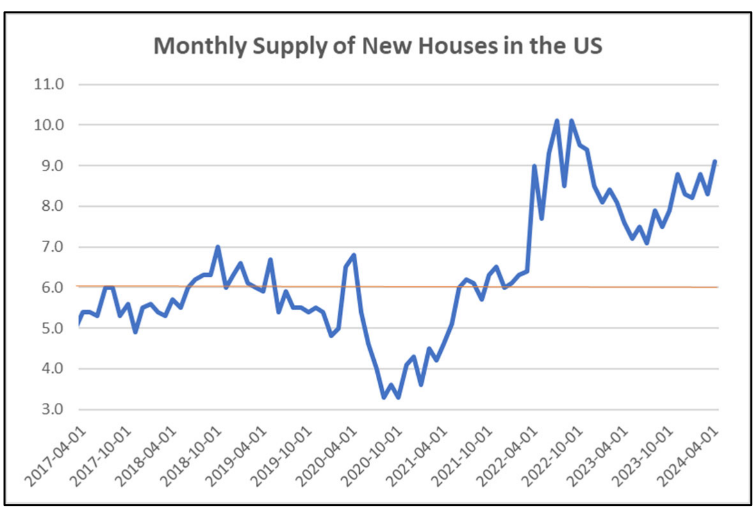
The following section includes viewpoints on factors in the residential construction sector.



Residential Construction Spending

(PRRESCONS)

- Total residential construction spending came in at a $895.9B annual rate, compared to $902.5B in February. These are still short of the peak last May when they hit $969.6.
- **Outlook**: The performance of the housing sector continues to be a bit of a surprise of late. But problems could be lurking. As data below shows, inventories are building, and home prices are starting to drop in many markets as builders discount prices to move units. Higher interest rates and a higher cost of building are weighing on many mid-market consumer segments. Multi-family projects are also slowing dramatically. Permits were down 23.2% Y/Y through April and were off by 9.4% between March and April. Uncertainty about market conditions over the next 6-12 months is outweighing demand for housing units (much of which will have to come from multi-family housing).



Monthly Supply of Homes

(MSACSR)

- The monthly supply of homes came in at 9.1 and that is up from the 8.5 registered last month. It is also still higher than the 7.5 registered a year ago. A balanced market would be roughly 6 months of inventory on hand.
- **Outlook**: There are still housing areas in the country that can't build new homes fast enough, demand far outweighs supply in some areas. But at a national level, inventories of new homes are now approaching levels that we saw in 2022 (prior to that these levels were not seen since the period between 2009 and 2011). Builders are still concerned about interest rates and home affordability, and this higher level of home inventories will likely pull some selling prices down.

Month	United States				
	Total	1 unit	2 units	3 to 4 units	5 units or more
Feb 2023	110.9	58.7	2.1	1.2	49.0
Mar 2023	131.3	79.4	3.1	1.7	47.2
Apr 2023	117.6	75.1	2.8	1.9	37.8
May 2023	139.6	88.9	3.3	1.5	45.8
Jun 2023	135.7	91.0	3.1	1.9	39.7
Jul 2023	118.7	77.8	2.4	1.4	37.1
Aug 2023	141.8	88.3	3.5	2.1	47.9
Sep 2023	116.7	76.5	2.3	1.7	36.2
Oct 2023	125.3	79.8	2.8	1.7	41.0
Nov 2023	108.8	69.6	2.3	1.4	35.5
Dec 2023	104.9	64.9	2.0	1.5	36.6
Jan 2024	114.8	75.9	2.1	1.7	35.1
Feb 2024	119.1	79.4	2.5	1.6	35.6

Housing Permits

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

- Housing Permits were down 3% M/M in April (latest available) vs. March 2% lower year-over-year. Single-family permits were down 0.7% M/M but were 11.5% higher vs. April of last year. Multi-family was a different story, permits were down 9.4% M/M in April and were down sharply by 23.2% Y/Y.
- **Looking Ahead**: Permits are volatile on a monthly basis but were generally sluggish headed into Q2. On a regional basis, permits continue to be the strongest in the South, followed by the West (based on total number of units planned with permits being issued). The fastest growing states continue to be Texas, Arizona, Tennessee, North Carolina, and South Carolina. Permit numbers have been strong here.

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

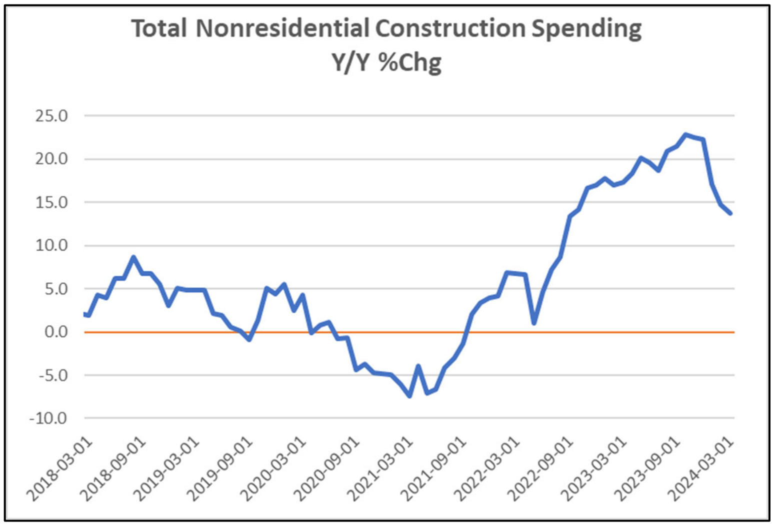
Month	Northeast											
	Total	Y/Y	3-Month Moving Avg.	M/M	1 unit	Y/Y	3-Month Moving Avg.	M/M	5 unit	Y/Y	3-Month Moving Avg.	M/M
Feb 2023	7.3	-36.0%	-7.9%	-2.7%	3.3	-28.3%	-6.1%	-10.8%	4.0	-41.2%	-7.5%	5.3%
Mar 2023	12.6	-20.8%	13.6%	72.6%	4.5	-15.1%	6.8%	36.4%	8.1	-23.6%	21.5%	102.5%
Apr 2023	8.5	-33.6%	12.5%	-32.5%	4.7	-11.3%	10.0%	4.4%	3.8	-49.3%	18.2%	-53.1%
May 2023	12.3	12.8%	28.3%	44.7%	5.5	-5.2%	19.3%	17.0%	6.8	33.3%	42.8%	78.9%
Jun 2023	10.5	-30.9%	-0.8%	-14.6%	5.8	9.4%	9.0%	5.5%	4.7	-52.5%	-1.7%	-30.9%
Jul 2023	8.9	-31.5%	4.9%	-15.2%	4.5	-16.7%	0.0%	-22.4%	4.4	-42.1%	13.9%	-6.4%
Aug 2023	11.0	-3.5%	-2.1%	23.6%	5.2	0.0%	-0.5%	15.6%	5.8	-6.5%	-1.8%	31.8%
Sep 2023	8.4	-18.4%	-5.1%	-23.6%	4.6	-13.2%	-6.1%	-11.5%	3.8	-24.0%	-3.0%	-34.5%
Oct 2023	10.5	26.5%	8.3%	25.0%	4.9	14.0%	3.5%	6.5%	5.6	40.0%	14.9%	47.4%
Nov 2023	7.1	-27.6%	-10.3%	-32.4%	4.3	7.5%	-5.8%	-12.2%	2.8	-51.7%	-12.4%	-50.0%
Dec 2023	8.1	-23.6%	2.2%	14.1%	3.5	-10.3%	-8.1%	-18.6%	4.6	-31.3%	20.6%	64.3%
Jan 2024	10.7	42.7%	4.6%	32.1%	4.4	18.9%	-1.7%	25.7%	6.3	65.8%	17.1%	37.0%
Feb 2024	14.3	95.9%	26.6%	33.6%	4.2	27.3%	0.9%	-4.5%	10.1	152.5%	53.9%	60.3%

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
Feb 2023	10.6	-20.9%	-11.0%	8.2%	5.9	-28.9%	-4.8%	22.9%	4.7	-7.8%	-16.8%	-6.0%
Mar 2023	17.6	-18.5%	19.8%	66.0%	9.3	-24.4%	22.6%	57.6%	8.3	-10.8%	18.0%	76.6%
Apr 2023	15.2	-34.8%	20.2%	-13.6%	10.0	-22.5%	29.4%	7.5%	5.2	-50.0%	11.1%	-37.3%
May 2023	19.0	-14.4%	25.8%	25.0%	11.4	-12.3%	26.4%	14.0%	7.6	-17.4%	28.5%	46.2%
Jun 2023	18.9	-1.0%	3.6%	-0.5%	11.5	-5.0%	7.5%	0.9%	7.4	5.7%	2.1%	-2.6%
Jul 2023	15.4	-13.5%	2.0%	-18.5%	10.2	-1.9%	1.2%	-11.3%	5.2	-29.7%	4.6%	-29.7%
Aug 2023	20.4	2.5%	4.5%	32.5%	11.6	5.5%	1.1%	13.7%	8.8	-1.1%	12.3%	69.2%
Sep 2023	17.2	-13.6%	-0.6%	-15.7%	10.5	2.9%	-2.4%	-9.5%	6.7	-30.9%	5.2%	-23.9%
Oct 2023	16.6	-16.6%	4.4%	-3.5%	10.6	9.3%	1.7%	1.0%	6.0	-41.2%	11.6%	-10.4%
Nov 2023	14.9	-4.5%	-9.8%	-10.2%	8.6	17.8%	-9.1%	-18.9%	6.3	-24.1%	-9.8%	5.0%
Dec 2023	11.8	2.6%	-11.5%	-20.8%	6.9	25.5%	-12.6%	-19.8%	4.9	-18.3%	-9.2%	-22.2%
Jan 2024	12.3	25.5%	-8.9%	4.2%	6.6	37.5%	-14.3%	-4.3%	5.7	14.0%	-0.3%	16.3%
Feb 2024	14.3	34.9%	-0.1%	16.3%	8.8	49.2%	3.1%	33.3%	5.5	17.0%	-3.1%	-3.5%

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
Feb 2023	65.5	-9.5%	5.8%	5.3%	37.8	-29.5%	4.6%	9.9%	27.7	47.3%	8.2%	-0.4%
Mar 2023	71.8	-19.8%	8.6%	9.6%	49.0	-23.4%	17.2%	29.6%	22.8	-10.6%	-2.9%	-17.7%
Apr 2023	65.9	-22.0%	2.2%	-8.2%	45.3	-21.9%	10.7%	-7.6%	20.6	-22.3%	-9.2%	-9.6%
May 2023	76.0	-6.4%	5.6%	15.3%	52.6	-4.9%	12.7%	16.1%	23.4	-9.7%	-4.6%	13.6%
Jun 2023	73.3	-11.6%	1.2%	-3.6%	53.5	-0.7%	3.4%	1.7%	19.8	-31.7%	-3.8%	-15.4%
Jul 2023	66.5	-9.4%	0.8%	-9.3%	46.3	5.5%	1.5%	-13.5%	20.2	-31.5%	0.1%	2.0%
Aug 2023	76.5	1.1%	0.7%	15.0%	52.5	11.5%	0.5%	13.4%	24.0	-16.1%	1.8%	18.8%
Sep 2023	64.1	-6.8%	-3.5%	-16.2%	45.7	10.9%	-4.3%	-13.0%	18.4	-33.3%	-0.8%	-23.3%
Oct 2023	70.6	4.4%	3.0%	10.1%	47.8	21.9%	1.7%	4.6%	22.8	-19.7%	6.5%	23.9%
Nov 2023	56.2	1.4%	-8.8%	-20.4%	41.1	23.1%	-7.5%	-14.0%	15.1	-31.4%	-11.1%	-33.8%
Dec 2023	59.1	5.3%	-1.7%	5.2%	39.4	28.3%	-4.5%	-4.1%	19.7	-22.4%	6.9%	30.5%
Jan 2024	66.7	7.2%	-0.8%	12.9%	48.0	39.5%	1.2%	21.8%	18.7	-32.7%	-2.8%	-5.1%
Feb 2024	64.9	-0.9%	5.1%	-2.7%	49.5	31.0%	6.9%	3.1%	15.4	-44.4%	2.6%	-17.6%

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
Feb 2023	27.4	-19.9%	10.3%	27.4%	11.6	-43.7%	2.7%	13.7%	15.8	16.2%	19.9%	39.8%
Mar 2023	29.3	-30.2%	5.4%	6.9%	16.6	-35.7%	19.3%	43.1%	12.7	-21.6%	-3.3%	-19.6%
Apr 2023	28.0	-22.2%	10.0%	-4.4%	15.2	-31.2%	16.1%	-8.4%	12.8	-7.9%	7.0%	0.8%
May 2023	32.2	-6.9%	5.8%	15.0%	19.5	-8.5%	21.0%	28.3%	12.7	-4.5%	-6.5%	-0.8%
Jun 2023	32.9	-17.8%	4.2%	2.2%	20.2	0.0%	7.8%	3.6%	12.7	-35.9%	0.0%	0.0%
Jul 2023	27.8	-7.9%	0.6%	-15.5%	16.8	5.7%	5.0%	-16.8%	11.0	-23.1%	-4.7%	-13.4%
Aug 2023	33.9	5.9%	2.9%	21.9%	19.0	7.3%	0.0%	13.1%	14.9	4.2%	7.4%	35.5%
Sep 2023	27.1	-11.4%	-4.5%	-20.1%	15.7	11.3%	-7.0%	-17.4%	11.4	-30.9%	-0.5%	-23.5%
Oct 2023	27.6	10.4%	1.2%	1.8%	16.5	31.0%	0.3%	5.1%	11.1	-10.5%	3.1%	-2.6%
Nov 2023	30.6	41.7%	-2.4%	10.9%	15.6	44.4%	-5.9%	-5.5%	15.0	38.9%	3.0%	35.1%
Dec 2023	26.0	-1.1%	-0.8%	-15.0%	15.1	49.5%	-1.2%	-3.2%	10.9	-32.7%	1.7%	-27.3%
Jan 2024	25.1	16.7%	-2.5%	-3.5%	17.0	66.7%	1.3%	12.6%	8.1	-28.3%	-6.0%	-25.7%
Feb 2024	25.6	-6.6%	-5.5%	2.0%	16.9	45.7%	2.9%	-0.6%	8.7	-44.9%	-15.2%	7.4%

Nonresidential Construction



Total Non-Residential Construction

(TLNRESCONS)

- Total Non-Residential Construction activity in March continued to show solid gains ($1.188T annually) – far more than in previous years. Spending was still 13.7% higher year-over-year against difficult comparisons but was essentially flat between February and March (growing by just 0.2%).
- **Outlook**: The story in nonresidential construction continues to be two-fold. First, manufacturing is still one of the shining areas as companies work to diversify supply chain risk. Many have been forced to work on reshoring at least a portion of their product sourcing, which is driving significant nonresidential construction in the sector. Secondly, government spending in bipartisan bills is pumping billions of dollars into the construction sector annually, and that spending will remain higher than normal throughout 2024.

Housing and Interest Rate Forecast, 04/10/2024							
	2020	2021	2022	2023	2024	2025	2026
Housing Activity (000)							
Total Housing Starts	1,397	1,606	1,551	1,423	1,391	1,393	1,489
Single Family	1,003	1,132	1,004	946	1,026	1,048	1,104
Multifamily	394	474	547	476	365	345	385
New Single Family Sales	833	769	637	667	678	776	785
Existing Single-Family Home Sal	5,057	5,425	4,533	3,674	3,805	4,257	4,495
Interest Rates							
Federal Funds Rate	0.36%	0.08%	1.68%	5.03%	5.14%	3.89%	2.89%
Treasury Yield:							
Ten Year Maturity	0.89%	1.44%	2.95%	3.96%	4.08%	3.64%	3.50%
Fixed Rate Mortgages	3.11%	2.96%	5.34%	6.81%	6.68%	6.01%	5.67%
Prime Rate	3.54%	3.25%	4.85%	8.19%	10.91%	9.90%	8.57%
For more forecast details, visit www.nahb.org.							

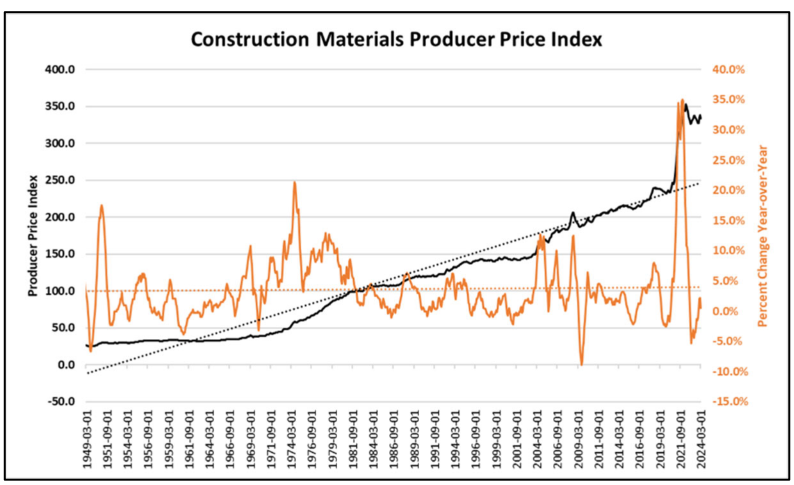
Value of Construction Put in Place in the US, Seasonally Adjusted Annual Rate (Millions of dollars. Details may not add to totals due to rounding.)					
				Percent change Mar 2024 from -	
Type of Construction	Mar 2024	Feb 2024	Mar 2023	Feb 2024	Mar 2023
Total Construction	**2,083,926**	**2,087,792**	**1,901,401**	**-0.2**	**9.6**
Residential	**895,926**	**902,496**	**856,947**	**-0.7**	**4.5**
New single family	436,983	437,752	369,398	-0.2	18.3
New multifamily	131,366	132,167	126,961	-0.6	3.5
Nonresidential	**1,188,000**	**1,185,296**	**1,044,454**	**0.2**	**13.7**
Public safety	17,411	17,154	11,910	1.5	46.2
Manufacturing	223,429	223,063	177,457	0.2	25.9
Religious	3,948	4,022	3,243	-1.8	21.7
Highway and street	150,057	148,706	125,071	0.9	20.0
Amusement and recreation	35,562	35,175	29,764	1.1	19.5
Educational	128,487	127,355	109,604	0.9	17.2
Water supply	29,502	29,239	25,220	0.9	17.0
Power	132,860	133,207	117,803	-0.3	12.8
Sewage and waste disposal	42,810	43,316	38,707	-1.2	10.6
Health care	67,773	67,388	61,749	0.6	9.8
Office	101,638	101,362	94,772	0.3	7.2
Transportation	65,767	66,028	61,986	-0.4	6.1
Communication	25,477	25,410	24,554	0.3	3.8
Commercial	128,955	129,565	127,474	-0.5	1.2
Lodging	22,619	22,913	22,744	-1.3	-0.5
Conservation and development	11,709	11,393	12,397	2.8	-5.5

Non-Residential Spending by Sector

(https://www.census.gov/construction/c30/c30index.html)

- The fastest growing non-residential construction sector has continued to be connected to manufacturing. It is still growing at a 25.9% pace year over year. This has been driven by factors such as reshoring and the need to add technological capacity. There has also been a new expansion in manufacturing that hugs new transportation corridors, and many new facilities are chasing inexpensive water, electricity, and other key input measures.
- Infrastructure spending is still expected to accelerate rapidly as funds continue to flow out of the CHIPS Act, Infrastructure Bill, and Inflation Reduction Act. Spending in these categories could see incremental growth of $50B or more this year as project funding hits stride.
- Some notable sluggishness has emerged in some important categories, however. Each sector that is starting to struggle has an undercurrent that is difficult to overcome in the near term.
  - Obviously, sectors heavily influenced by office attendance are struggling. Office construction activity is still up 7.2% but when adjusted for inflation, it is decelerating by nearly 1% year-over-year.
  - Health care is still struggling as hospitals struggle to find solid profitability. After adjusted for inflation, spending in the sector is just up 1% Y/Y.
  - When adjusted for inflation, transportation, communication, commercial, lodging, and conservation are all down year-over-year.
- Region could be playing a much bigger role than in prior cycles. Some areas of the country are experiencing unwavering demand across nearly all of the nonresidential categories (Florida, North Carolina, Georgia, Tennessee, Texas and many others), while others have stalled.

Raw Materials



Construction Materials Price Index

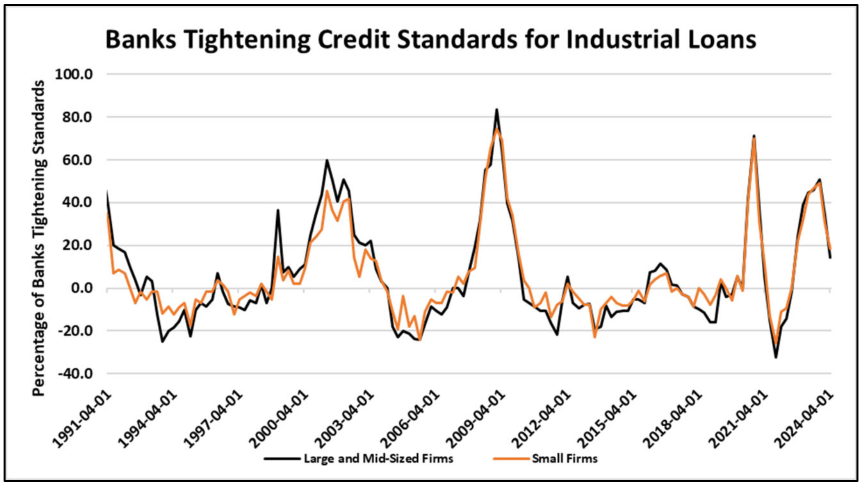
(WPUSI012011)

- The Producer Price Index for Construction Materials fell by 0.4% M/M and also 0.4% Y/Y through April. The current index is at 332 points; the peak in the index was 349 in May of 2022.
- **Outlook**: Despite overall inflation easing to a degree, construction material prices remain elevated on a historical basis. When adjusted for inflation, prices have flattened. But they remain 40% higher than pre-pandemic levels and some commodities (copper related products, electrical panels, and transformers, etc.) continued to inflate at a faster pace. This is still limiting some project starts, coupled with higher labor costs.

Producer Price Index - Key Industry Products						
Category	PPI Code	Apr-24	Mar-24	M/M% Chg	Apr-23	Y/Y % Chg
Core Materials						
Cement	PCU327320327320	393.4	392.9	0.1%	364.6	7.9%
Copper	WPUSI019011	549.4	531.1	3.5%	526.0	4.5%
Lumber	WPU081	255.8	251.8	1.6%	261.2	**-2.1%**
Nickel	WPU102504	211.5	210.9	0.3%	237.8	**-11.1%**
Pipe, Valves and Fittings						
Metal valves, except fluid power	WPU114902	441.5	440.2	0.3%	429.5	2.8%
Gates, globes, angles and check valves	WPU114902011	171.3	170.1	0.7%	165.6	3.4%
Ball valves	WPU11490202	557.3	557.3	0.0%	557.9	**-0.1%**
Butterfly valves (formerly W2421490203)	WPU11490203	319.8	319.8	0.0%	301.7	6.0%
Industrial plug valves	WPU11490204	325.4	325.4	0.0%	297.7	9.3%
Plumbing and heating valves (low pressure)	WPU11490205	389.8	389.8	0.0%	393.4	**-0.9%**
Solenoid valves	WPU11490208	372.2	372.2	0.0%	372.2	0.0%
Other industrial valves, including nuclear	WPU11490209	400.2	399.4	0.2%	395.8	1.1%
Automatic valves	WPU11490211	263.3	263.3	0.0%	248.9	5.8%
Metal pipe fittings, flanges and unions	WPU11490301	489.2	489.2	0.0%	484.2	1.0%
Steel pipe and tube	WPU101706	375.1	383.8	**-2.3%**	425.8	**-11.9%**
Steel pipe and tube, alloy	WPU10170673	109.5	109.5	0.0%	109.5	0.0%
Steel pipe and tube, stainless	WPU10170674	140.1	139.2	0.6%	154.9	**-9.5%**
Copper & copper-base alloy pipe and tube	WPU10250239	370.0	342.9	7.9%	372.1	**-0.6%**
Plastic pipe	WPU07210603	191.5	188.9	1.4%	205.8	**-6.9%**
Plastic pipe fittings and unions	WPU07210604	326.6	322.0	1.4%	324.4	0.7%
Plumbing Fixtures, Fittings and Trim	WPU105402	400.0	400.0	0.0%	394.6	1.4%
Bath and shower fittings	WPU10540211	286.7	286.7	0.0%	286.7	0.0%
Lavatory and sink fittings	WPU10540218	207.7	207.7	0.0%	203.5	2.1%
Enameled iron and metal sanitary ware	WPU1056	284.5	284.5	0.0%	279.4	1.8%
Steam and Hot Water Equipment	WPU1061	428.5	428.5	0.0%	428.5	0.0%
Cast iron heating boilers, radiators and convectors	WPU10610106	289.7	289.7	0.0%	279.2	3.8%
Domestic water heaters	WPU106601	590.6	580.1	1.8%	570.6	3.5%
Electric water heaters	WPU10660101	586.6	575.4	2.0%	564.3	4.0%
Non-electric water heaters	WPU10660114	359.0	352.9	1.7%	347.7	3.3%
Warehousing, Storage and Relates Services	WPU321	144.6	142.5	1.5%	140.2	3.2%

Banking Credit and Finance

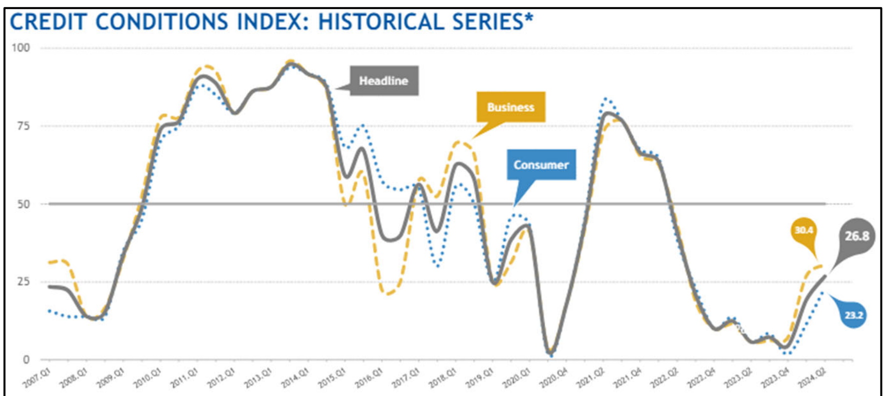
Overall Observations: The Federal Reserve is now getting mixed signals on the economy. Overall, the economy is growing at a strong rate, job openings are still high, unemployment is low, and wage growth is strong. In fact, that might be contributing to the inflation problem, which is still running too hot. Average inflation was still running 3.1% against the Fed's target rate of 2%. Current forecasts from the Federal Reserve are still calling for 1-2 rate cuts in 2024 with the Fed Funds Rate going from 5.25% to 4.75%. But it will be highly data driven and recent data points could keep the Fed from trimming anytime soon. And, as the calendar gets closer to the election, most analysts believe that rate action will be curtailed (for fear of being accused of election interference).



Banks Tightening Conditions

(DRTSCILM; DRTSCIS)

- The latest view of the number of banks tightening credit standards has eased to now hit 14.5% for large and medium-sized commercial firms and 18.6% for smaller firms.
- **Outlook**: Banks have begun to ease their rate tightening trends; they must lend to generate revenue. After last year's banking closures in March, nearly 50% of banks shifted largely into a risk-off operating environment. But as financial risk has eased over the past three quarters, the need for risk aversion has also eased and just a small handful of banks are still tightening. Many firms are being a little selective in the types of projects that they will entertain, and commercial real estate projects are still going to be scrutinized both on a project type basis and based on regional dynamics. Some markets will see very little aversion to commercial projects while others will see little activity or willingness to consider projects in those markets where urban property vacancies are high.



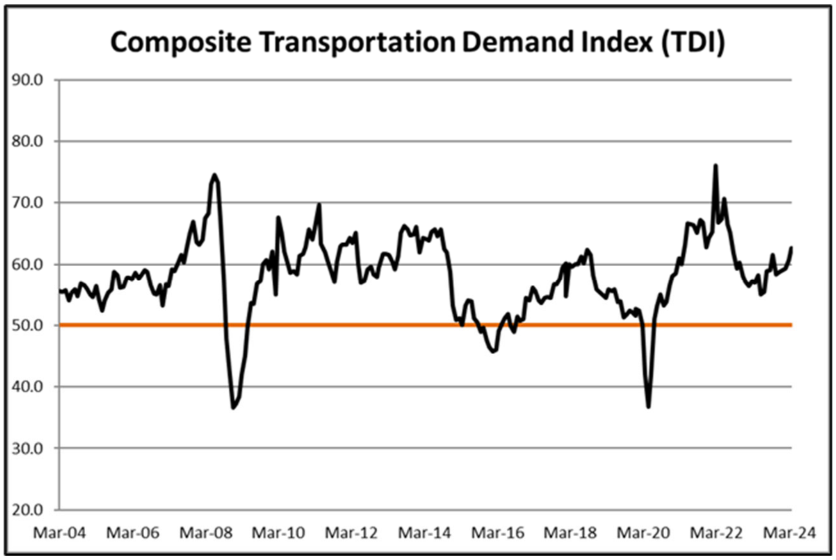
Source: American Bankers Association. *The EAC credit market outlook was conducted twice a year (Q1 and Q3) until 2020, at which point the frequency was increased to quarterly.

ABA Credit Conditions

(ABA)

- The American Bankers Association's Credit Conditions Index for business credit increased by 3.4 points to 30.4 in early Q2 but is still well below the midpoint 50 line (latest available). The sub-50 score suggests that members expect credit conditions to deteriorate over the next six months.
- **Outlook**: Although this was the highest level in more than two years, most members still expect credit to deteriorate. Credit conditions for consumers are also expected to generally deteriorate over the next several quarters. Among some of the challenges, mortgage rates are rising as the 10-year treasury increases. Mortgage rates are more closely correlated to bond rates and less toward the Federal Reserve and interest rate policy (although historically interest rates and bond rates have generally moved similarly to one another). In this cycle, with a significant amount of treasury paper being offered (estimated $10 trillion), the forecast bias is for US Treasuries rates to go higher, pushing mortgage rates up with them.

Supply Chain and Transportation Situation



Transportation Demand Normalizing

- The Transportation Demand Index shows the current demand environment for freight services, and it was rising through March and was more commensurate with levels seen during the 2010-2014 period. The composite had a reading of 62.7, 10% higher than last year's reading of 57.0 and up from February's 60.7 reading.
- **Outlook:** This index does not account for changes in capacity, it primarily focuses on the growth in demand. As mentioned, many times throughout this quarter's briefing, the global supply chain has gone through a "reset" because of destocking that took place over the past 18 months. New order demand at the manufacturing level is now generating demand upstream for raw materials, component parts, energy, etc. That is helping push commodity and energy demand higher – and real macroeconomic growth translates more directly into real freight activity – tightening capacity in the process.

	24-Mar	24-Feb	23-Mar	Y/Y Change %	M/M Change %
Composite	62.7	60.7	57.0	10.0%	3.3%
Rail	60.4	58.8	55.0	9.8%	2.7%
Trucking	62.7	60.7	57.2	9.6%	3.3%
Air	70.0	68.3	61.2	14.4%	2.5%
Maritime	68.5	66.8	59.1	15.9%	2.5%

Mode Demand Moving Higher

- Each mode of transportation is building momentum headed into the second quarter. This index measures demand but does not have a capacity component to it. Capacity in trucking has elevated since the pandemic (more than 125,000 individuals and firms sought operating authority since 2020 – many of these will be in e-commerce distribution). But even among owner-operators, there is more capacity available in the industry. Note the strength of air cargo and maritime,

What we are Watching in Transportation

- **Global Distribution Adjusts to Bottlenecks.** The Red Sea disruption to distribution has been 'worked around' and supply chains have adjusted to that change. In addition, the Panama Canal situation is improving, and throughput is increasing. Approximately 15% of capacity has been stripped because of "freight on water longer" (as shipments avoid the Red Sea), and rates are higher as a result, but the price increases have slowed in the last several weeks.

- **Petroleum Inches up Into Geopolitical/Weather Related Risk in 2024.** In last quarter's briefing, oil prices were hovering in the $70 per barrel range. That has now transitioned into West Texas Intermediate being $80 at the time of writing this quarter's briefing and Brent North Sea Crude hitting $84.17 a barrel. Both are up more than 11% year-over-year and petroleum accounts for 45% of the price of a gallon of diesel.

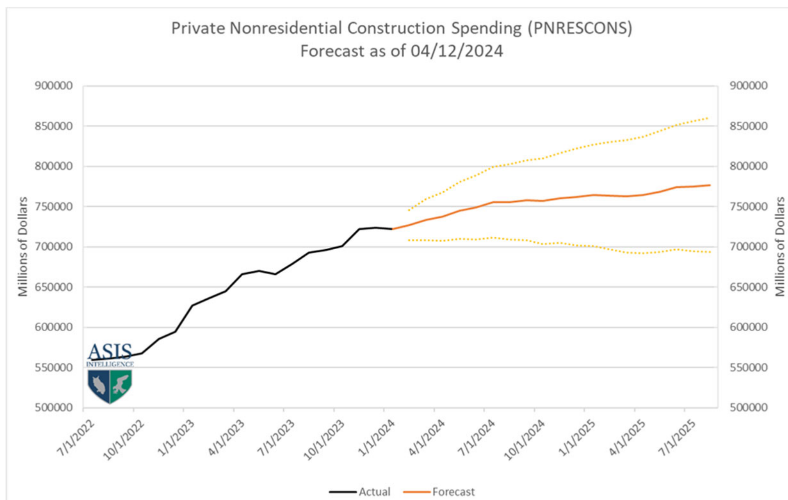
  Two factors will likely continue to push it higher. The geopolitical pressures are obvious throughout the Middle East, especially if the Strait of Hormuz were to become impacted (nearly 20% of global oil exports are "shut-in" and must move through the Strait of Hormuz). Secondly, the Western Hemisphere is transitioning from a strong El Nino into a neutral situation and then will be followed by a La Nina situation by this fall. Gulf and Atlantic waters are still warm (providing fuel for strong storm formation) and the easing of El Nino removes upper-level wind shear that had been somewhat protecting US coastlines. This was especially true in the Gulf of Mexico. With this weather change, refinery activity and offshore production could be at risk this year during hurricane season.

Construction Industry Outlook

	2023				2024				2019	2020	2021	2022	2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
Real GDP	1.1	2.4	5.2	2.5	2.1	0.7	2.0	1.3	2.3	-2.8	5.9	2.1	2.1	2.0	1.6
Unemployment rate (%)	3.5	3.6	3.7	3.7	3.8	3.9	4.1	4.2	3.7	8.1	5.4	3.6	3.6	4.0	4.0
PCE Inflation (%Y/Y)	4.6	3.9	3.3	2.8	2.8	2.8	2.5	2.5	1.5	1.1	4.0	5.6	3.7	2.5	2.5
Core PCE Inflation (%Y/Y)	4.8	4.6	3.8	3.2	3.1	2.5	2.3	2.2	1.7	1.3	3.5	4.8	4.1	2.5	2.2
Fed Funds Rate	4.9	5.1	5.3	5.4	5.4	5.2	4.7	4.7	1.6	0.1	0.1	4.4	5.4	4.7	3.0
Canada Real GDP	2.1	1.1	0.6	-	-	-	-	-	1.8	-5.2	4.5	3.4	1.3	1.5	-
Unemployment rate (%)	5.0	5.2	5.6	-	-	-	-	-	5.8	9.5	7.4	5.3	5.7	6.0	-
Mexico Real GDP	3.7	3.5	-	-	-	-	-	-	-1.8	-8.2	5.0	2.7	1.6	2.1	-
Unemployment rate (%)	2.9	2.9	-	-	-	-	-	-	3.6	4.4	4.1	3.3	3.4	3.3	-

There still remain three legs in the proverbial "growth stool" for US economic activity. Through Q1, 1) consumer spending, 2) government spending, and 3) nonresidential construction are still the primary drivers of GDP growth. Consumer spending continues to exceed expectations, but we now know that there might be a catch. More than 76% of last year's GDP may have been tied to stock market gains. When the stock market performs well, middle and upper income households increase spending and it may have accounted for as much as $288 billion in consumer spending. That aside, job openings are still running close to 8.7 million (6 million is balanced) and wages are growing at a 3.9% annual rate. Those conditions are helping households of all sizes continue to spend. Retail spending was still trending at 3% annually, but inflation-adjusted retail closer to 0.6% growth (almost flat). Although slower than the past two years, growth is growth in this instance with such a large US consumer economy. It will keep retailers stable and planning for a good peak retail season which lifts construction of all types (manufacturing and industrial, retail, etc.).

Total construction activity is still trending higher than expected. Residential construction is still growing at a 4.5% annual rate, and spending on single-family residential was growing at 18.3% year-over-year through March (latest available).



Nonresidential construction is also surging, growth in the sector is up 13.7% year-over-year through March after growing 25% last year and 15% the year prior. The chart at right is our forecast for nonresidential construction based on data algorithms and it shows no downside risk in the outlook over the next 18 months.

Government spending under the CHIPS Act, Inflation Reduction Act (IRA) and Infrastructure Bill will send $75B to $100B in additional spending into the construction sector this year (with economic multipliers on top of that could translate into several hundred billion in spending activity as a result. Private sector investments and spending will be on top of that.

Material prices are easing slightly, but not enough to bring significant inflation or margin relief to the industry, yet. Labor costs are expected to remain higher for longer, but a combination of new entrants into the market and potential immigrant workers getting authority to participate in the workforce could start to ease workforce strains for some lower-skilled positions. Higher end, skilled positions will continue to face challenges in finding enough workers for the near term.