2024 FIRST QUARTERLY 1Q COST REPORT

Growth was modest in the first quarter of 2024, but experts still expect interest rates to fall in the coming months, making for a better outlook in the second half of the year. The first quarterly cost report takes a closer look at these issues alongside the general economic outlook, equipment prices and executive compensation. In the quarterly confidence index, survey data shows that confidence among executives is increasing.

Public Construction Continues To Lead Starts in First Quarter

Single-family, industrial starts also saw positive movement By Alisa Zevin

The construction industry has seen some modest growth in the first quarter of 2024, but issues from the past several years are slow to recede.

"The early months of 2024 have not been without its struggles. Construction starts in January were very positive, but they fell sharply in February, with March also seeing a retrenchment," says Richard Branch, chief economist at Dodge Construction Network. "The high interest rate environment, the continued scarcity of skilled labor and high material prices all contribute to the shortfall in activity."

Dodge reports that the dollar value of starts is up 6% year-to-date compared to this time last year, though Branch notes that the first quarter of 2023 was "very weak."

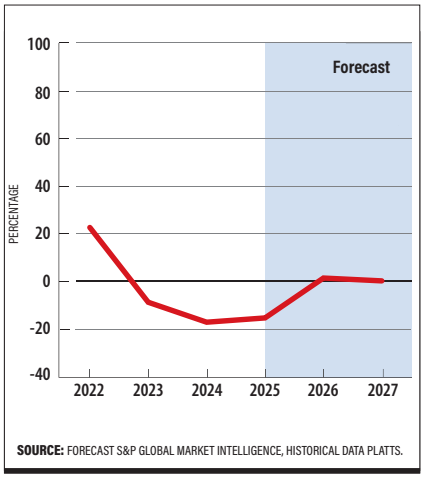
Residential Starts Are Split

In the residential sector, starts for single-family homes are "noticeably higher" than the first quarter of last year, as demand has risen. Multifamily starts, however, are down 9%, which Branch attributes to a current oversupply in units, resulting in higher vacancy rates. The largest multi-family projects to break ground in the last three months were the $1.5-billion One Beverly Hills Residences in Beverly Hills, Calif., and the 400 Lake Shore Drive Northern Tower building in Chicago.

On the non-residential side of construction, the dollar value of starts is up 2% through the first three months of 2024. "Commercial starts are flat with positive activity in retail and hotel offset by a decline in starts in warehouse and office buildings," says Branch.

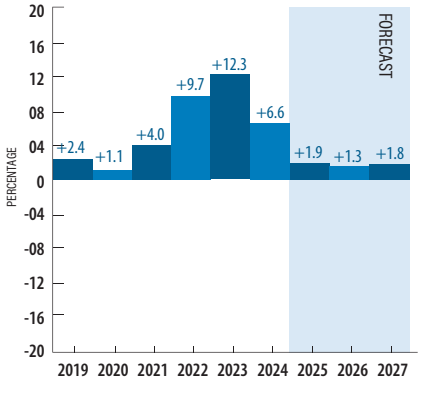
Manufacturing starts are down as well, at a rate of 15%, due to project delays as the labor shortage continues. On the positive side, education, recreation and transportation building starts have risen, leading to an overall increase in the institutional sector. The largest non-residential projects to get started in the first quarter of this year were the $5.5-billion Texas Instruments fabrication plant in Lehi, Utah, and the $2.6-billion redevelopment of Terminal B at George Bush

Structural-Steel Forecast

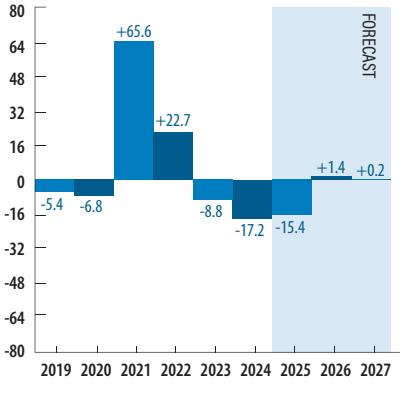


SOURCE: FORECAST S&P GLOBAL MARKET INTELLIGENCE, HISTORICAL DATA PLATTS.

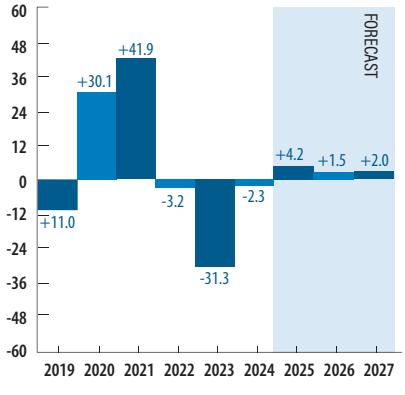
CEMENT



STRUCTURAL STEEL



SOFTWOOD LUMBER



SOURCE: S&P GLOBAL MARKET INTELLIGENCE

Intercontinental Airport in Houston.

Non-building starts are up 16% year-to-date, as the benefits from the Infrastructure Investment and Jobs Act and Inflation Reduction Act continue to spur activity in the sector. Roads and bridges, environmental public works, gas/utilities and miscellaneous non-building—subcategories included—all saw growth year-to-date through March, according to Dodge. The largest non-building projects to begin this past quarter were the $1.1-billion Bull Run Filtration Facility in Gresham, Ore., and the $1-billion Eland Solar Farm in Mojave, Ca.

"Looking ahead, it is widely expected that the Federal Reserve will begin to cut rates by the midpoint of the year, and that should be the catalyst for a return to steady growth in construction activity," says Branch. "Indeed, it's reasonable to assume that developers and owners may be holding off on moving projects forward to start until the second half of the year when rates are slightly lower."

Paul Brussow, president at cost consultant Rider Levett Bucknall, also points to public funding as a key factor in 2024. "I anticipate construction spending will be driven by public funding for manufacturing and infrastructure projects," he says. "Significant investment in manufacturing and infrastructure will help offset a decline in privately funded projects in 2024."

Overall, says Brussow, "My outlook for construction in 2024 can be summarized in two words: cautiously optimistic."

Lumber Prices Steady

Softwood lumber prices are expected to drop 2.3% in 2024, following a 31.3% decline in 2023, according to S&P Global's first quarter forecast.

"Softwood lumber prices have seen a modest increase to start 2024 as supply concerns push prices higher. North American lumber supply is tight right now as producers curtail some lumber mills and completely shut others," says Luke Lillehaugen, senior economist at S&P Global. "The primary reason driving this supply tightening is high costs, but prices should stabilize soon as the spring construction buying season passes and market demand limits additional upward price movement."

Plywood prices are expected to drop slightly, at a rate of 0.4%, in 2024, after falling 16.7% last year, according to S&P Global. ■

BUILDERS' CONSTRUCTION COST INDEXES

NAME, AREA AND TYPE	JAN. 2023	APRIL 2023	JULY 2023	OCT. 2023	JAN. 2024	% CHANGE QTR.	% CHANGE YEAR
GENERAL-PURPOSE COST INDEXES:							
ENR 20-CITY: CONSTRUCTION COST[1]	1226.54	1231.62	1249.81	1256.60	1258.19	+0.1	+2.6
ENR 20-CITY: BUILDING COST[1]	1180.69	1184.27	1210.77	1221.97	1225.25	+0.3	+3.8
BUREC: GENERAL BUILDINGS[2]	530.00	534.00	536.00	539.00	540.00	+0.2	+1.9
FM GLOBAL: INDUSTRIAL[3]	NA	NA	NA	NA	NA	NA	NA
SIERRA WEST: GENERAL BUILDING	1268.77	1313.01	1350.01	NA	NA	NA	NA
LELAND SAYLOR: MATERIAL/LABOR	1313.37	1308.67	1310.85	NA	NA	NA	NA
ECC, EDWARTOSKI COST CONSULTING[4]	NA	NA	NA	NA	NA	NA	NA
SELLING PRICES INDEXES—BUILDING:							
SIERRA WEST: SELLING PRICE	2409.34	2479.64	2516.93	NA	NA	NA	NA
TURNER: GENERAL BUILDING[1]	1340.21	1369.43	1385.45	1399.44	NA	NA	NA
LELAND SAYLOR: SUBCONTRACT	1368.45	1359.09	1356.66	NA	NA	NA	NA
RIDER LEVETT BUCKNALL[5]	247.49	251.34	255.24	258.62	261.96	+1.3	+5.8
SPECIAL-PURPOSE BUILDING COST INDEXES:							
U.S. COMMERCE: ONE-FAMILY HOUSE[6]	190.70	183.30	186.60	190.20	189.70	−0.3	−0.5
U.S. COMMERCE: NEW WAREHOUSES[6]	235.96	234.09	233.60	233.57	232.44	−0.5	−1.5
U.S. COMMERCE: NEW SCHOOL BUILDINGS[6]	226.84	226.56	224.21	223.83	224.70	+0.4	−0.9
U.S. COMMERCE: NEW OFFICE BUILDINGS[6]	207.83	208.71	204.87	203.14	205.07	+1.0	−1.3
POWER ADVOCATE: POWER PLANT[7]	NA	NA	NA	NA	NA	NA	NA

[1]BASE: 1967=100; [2]BASE: 1977=100; [3]BASE: 1980=100; [4]FORMERLY SMITH GROUP, 1992=100; [5]BASE: APRIL 2001=100; [6]BASE: 1992=100; [7]POWER PLANT FOR A 550-MW COMBINED-CYCLE FACILITY.

CONSTRUCTION MATERIALS PRICE MOVEMENT IN 2024

		AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.
AGGREGATES	MONTHLY % CHG.	+1.0	+0.1	0.0	+0.1	+0.3	+3.8	+1.4
	ANNUAL % CHG.	+8.4	+8.3	+8.3	+8.5	+8.5	+7.3	+7.7
ALUMINUM SHEET	MONTHLY % CHG.	+0.8	−1.1	−0.5	+0.1	−0.3	−1.2	+0.4
	ANNUAL % CHG.	−6.0	−5.6	−3.5	−2.1	−3.9	−5.4	−5.2
ASPHALT PAVING	MONTHLY % CHG.	+0.7	+0.2	+0.3	+0.3	−0.6	+10.4	+0.3
	ANNUAL % CHG.	−2.0	−1.7	−0.8	+0.3	+1.9	+3.3	+0.8
CEMENT	MONTHLY % CHG.	+0.2	+0.4	+0.4	−0.1	−0.1	+4.2	−0.1
	ANNUAL % CHG.	+10.9	+10.6	+9.3	+8.8	+8.6	+7.9	+6.5
CONCRETE PIPE	MONTHLY % CHG.	−1.9	+2.8	+0.5	+0.8	+0.8	+2.5	0.0
	ANNUAL % CHG.	+9.0	+9.1	+9.1	+7.9	+5.5	+6.5	+3.8
COPPER PIPE	MONTHLY % CHG.	−0.1	−0.2	−1.2	0.0	+1.4	+0.9	−0.4
	ANNUAL % CHG.	+2.6	+2.0	+4.3	−0.9	−0.4	−2.9	−5.2
DIESEL FUEL	MONTHLY % CHG.	+32.9	+4.4	−8.8	−3.4	−13.1	−4.4	+18.3
	ANNUAL % CHG.	−13.9	−18.5	−32.7	−32.7	−18.4	−27.2	−11.2
FABRICATED STEEL	MONTHLY % CHG.	+0.1	−0.1	−0.2	+0.1	+1.0	+0.6	−0.1
	ANNUAL % CHG.	−1.9	−1.1	−0.6	+0.5	+2.0	+2.4	+2.4
GYPSUM PRODUCTS	MONTHLY % CHG.	−0.2	−0.5	0.0	0.0	−0.2	0.0	+2.5
	ANNUAL % CHG.	−0.9	−1.6	−1.3	−1.6	−1.6	−1.6	−0.2
LUMBER, SOFTWOOD	MONTHLY % CHG.	−4.6	−1.7	−3.3	−5.0	+0.2	+1.2	+1.7
	ANNUAL % CHG.	−18.2	−15.2	−16.3	−19.6	−14.6	−8.9	−10.4
PLYWOOD	MONTHLY % CHG.	+1.4	+1.4	+1.6	−1.1	+0.1	+0.3	−0.4
	ANNUAL % CHG.	−13.6	−11.9	−8.0	−5.3	−3.3	−1.7	−0.5
PVC PRODUCTS	MONTHLY % CHG.	−0.1	+0.2	0.0	0.0	−0.4	+0.2	−0.1
	ANNUAL % CHG.	−5.2	−4.8	−4.4	−3.3	−3.5	−3.0	−2.0
READY-MIX CONCRETE	MONTHLY % CHG.	+1.2	+1.1	+0.1	+0.2	−1.3	+2.6	+0.3
	ANNUAL % CHG.	+10.4	+10.5	+10.2	+9.3	+6.8	+7.7	+7.4
SHEET METAL	MONTHLY % CHG.	+0.2	−0.2	0.0	−0.2	+0.2	0.0	+0.6
	ANNUAL % CHG.	+0.1	+0.3	−0.1	+0.8	+1.1	+1.5	+2.0
EQUIPMENT	MONTHLY % CHG.	0.0	+0.2	0.0	+1.0	0.0	+0.7	+0.1
	ANNUAL % CHG.	+7.2	+7.1	+7.1	+7.7	+7.7	+4.6	+4.5

SOURCE: BUREAU OF LABOR STATISTICS. MONTHLY AND YEAR-TO-YEAR PERCENT CHANGES FOR PRODUCER PRICE INDEXES FOR LATEST EIGHT-MONTH PERIOD.

Construction Exec Optimism Surges

But economic headwinds still persist By Jonathan Keller

For the first time since Q1 of 2022, construction industry executives report a stable and slightly growing market on ENR's Construction Industry Confidence Index (CICI) survey. The index vaulted up 10 points from Q4 2023, to a rating of 52. Nearly 65% of respondents see the current construction market as stable, with only 18.8% seeing a declining market. That latter number was 34.6% last quarter. Execs are also showing more faith in the economy as a whole. The economic index is also up 10 points, to a 48 rating this quarter.

The index measures executive sentiment about where the current market will be in the next three to six months and over a 12- to 18-month period, on a 0-100 scale. A rating above 50 shows a growing market. The measure is based on responses by U.S. executives of leading general contractors, subcontractors and design firms on ENR's top lists to surveys sent between February 19 and March 25.

GCs and CMs are more pessimistic than either designers or subcontractors. Calculated separately, their confidence index comes in at 47. More GC/CM firms see a declining market 3-6 months from now (27%) than currently (23%). Design firms report the largest divergence of opinion, with nearly the same percentage seeing a currently improving market (28%) as declining (24%).

Confidence is highest among firms who do business in the Midwest, with a confidence rating of 55. Firms who work in the Northeast/New England/Mid-Atlantic region had the lowest rating, coming in 49. That is still a 29% improvement over last quarter's 38 rating.

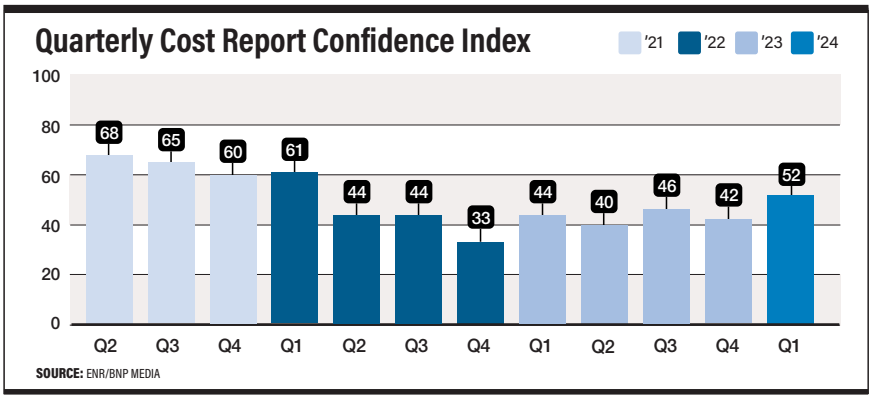
The CICI's results are mirrored by those of the Confindex survey from Princeton, N.J.-based Construction Financial Management Association (CFMA). Each quarter, CFMA polls CFOs from general and civil contractors and subcontractors on markets and business conditions. The resulting Confindex is based on four separate financial and market components, each rated on a scale of 1 to 200. A rating of 100 indicates a stable market; higher ratings indicate market growth.

All indices the Confindex tracks rose between Q4 2023 and Q1 2024. The overall Confindex is up 13.5% this quarter to a 109 rating. The largest increase was in the

PROSPECTS IN INDIVIDUAL SECTORS BY FIRMS WORKING IN THOSE MARKETS

		CURRENTLY (%)			3-6 MONTHS (%)			12-18 MONTHS (%)		
	NUMBER OF FIRMS	DECLINING ACTIVITY	STABLE ACTIVITY	IMPROVING ACTIVITY	DECLINING ACTIVITY	STABLE ACTIVITY	IMPROVING ACTIVITY	DECLINING ACTIVITY	STABLE ACTIVITY	IMPROVING ACTIVITY
COMMERCIAL OFFICES	82	68	28	4	56	35	9	44	34	22
DISTRIBUTION, WAREHOUSE	55	22	65	13	15	60	25	24	45	31
EDUCATION K-12	60	3	78	19	5	68	27	8	50	42
ENTERTAINMENT, THEME PARKS, CULTURAL	36	25	50	25	25	42	33	14	53	33
HOSPITALS, HEALTH CARE	70	4	54	41	0	53	47	0	40	60
HIGHER EDUCATION	74	7	81	12	9	70	20	11	56	33
HOTELS, HOSPITALITY	50	27	57	16	22	62	16	18	52	30
MULTI-UNIT RESIDENTIAL	54	31	50	19	30	46	24	20	33	46
RETAIL	45	38	56	7	40	49	11	27	51	22
INDUSTRIAL, MANUFACTURING	61	13	44	43	13	43	44	11	36	52
TRANSPORTATION	43	5	47	49	7	40	53	7	26	67
WATER, SEWER AND WASTE	33	9	55	36	9	55	36	3	50	47
POWER	23	4	52	43	9	43	48	13	30	57
PETROLEUM, PETROCHEMICAL	12	0	75	25	0	75	25	0	50	50
ENVIRONMENTAL, HAZARDOUS WASTE	9	25	50	25	22	44	33	22	44	33

SOURCE: ENR/BNP MEDIA. FIGURES MAY NOT ADD UP TO 100% DUE TO ROUNDING



"business conditions" index, which jumped 25.3% to a 109 rating. The "financial conditions" and "current conditions" indices saw more modest gains, up 5.8% to 109 and 7.3% to 103 respectively.

Confindex respondents report a surging short-term optimism. "The order of magnitude seems really significant," says Neil Shah, CFMA CEO and president. The "year ahead outlook" index increased 20.8% to a 116 rating—its highest reading since Q4 2021. CICI survey respondents appear to be moving in the same positive direction. The number of respondents who see a declining market 3-6 months from now (19.5%) is nearly halved from the Q4 2023 reading (38.9%). Nearly 40% of firms see an improving market 12-18 months from now, up from 28%.

'It's Not This Year'

The reason for the increased optimism among construction execs seems pretty straightforward—deals are starting to flow. "Throughout 2023 we heard from contractors that project owners were telling them: 'We're not going to move forward right now. My pro forma no longer pencils out,'" says Anirban Basu, Sage Policy Group CEO and CFMA advisor. But a booming stock market and evidence of improved credit conditions have CFOs thinking those postponed projects will be initiated, the Sage CEO believes.

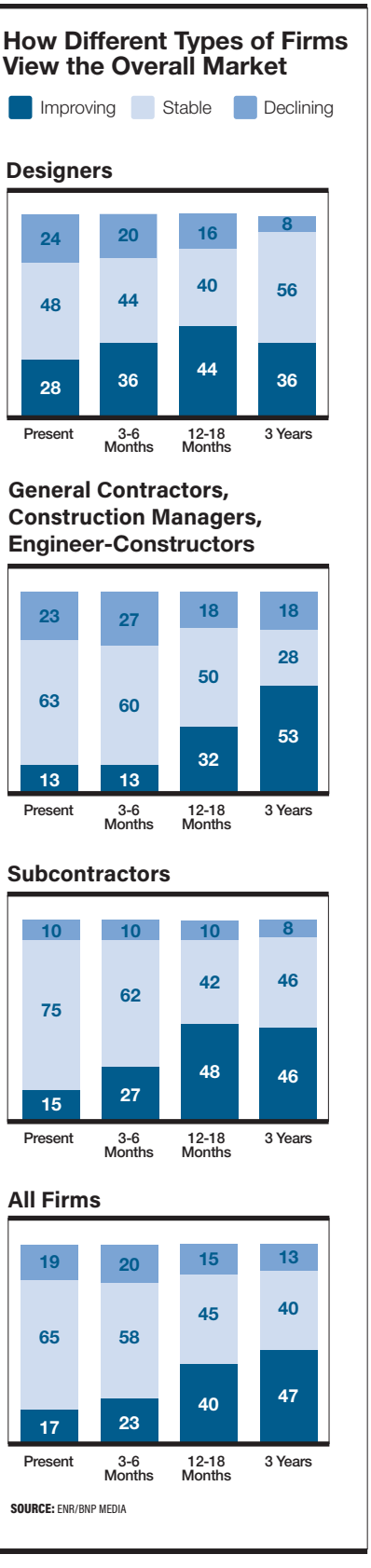
CICI survey respondents report improved financing access for their clients. While 48.7% report that their client access to financing is somewhat or much tougher than it was a year ago, that is a significant improvement from last quarter, when that number was 63.9%.

Stability seems to be the key word. "One of the things that we saw in [the Confindex survey] is that materials prices are incredibly stable relative to history," explains Basu. "We had a high proportion [of respondents] saying they're staying the same, which speaks to a lack of volatility. They've become predictable."

The flow of money from the Infrastructure Investment and Jobs Act has increased as well, further fueling optimism, says Basu. "If you look at the construction spending data for categories like highway and street water and sewer, you've seen a meaningful pickup on a month-by-month basis since late 2023," Basu says. The economist sees the election cycle as helping that trend. "Many congresspeople are running for re-election. So guess what happens? All of a sudden people are able to work through the bureaucracy and money starts hitting the streets."

Basu is "pessimistic about the optimism." Indicators like the consumer price index and the producer price index show that inflation will remain higher for longer, he says. "There was a conventional wisdom that the Federal Reserve would cut rates six times this year. Now it's maybe two, maybe three, maybe zero." He also points out a 1.4% increase in material prices in February 2024.

Even so, execs seem to be saying "there might be a downturn in front of us, but it's not this year," concludes Basu. ■



High Compensation Increases Starting to Wane for Executives

Raises have declined after reaching a 20-year high in 2023 By Bruce Buckley

Executive compensation has been rising steadily since the pandemic, reaching a high-water mark in 2023. However, a cooldown in several market sectors could result in comp increases receding in the coming years. Average executive salary increases among construction firms hit 5.6% in 2023—the highest level of increase since 2000, according to data from industry compensation research firm PAS.

This year, however, construction firms signaled to PAS that they are likely to pull back on the levels of pay increases. PAS' 2024 Executive Compensation Survey for Contractors showed that firms anticipate giving executives a 4.7% increase in 2024. However, firms tend to underestimate salary forecasts by around 0.5%, so average increases are likely to be around 5% this year, according to Jeff Robinson, president of PAS.

"Caution is what we're seeing in the market," he says. "Most of the people who wanted to leave their companies have left. Turnover rates went down from 18% to 15% between 2022 and 2023. That feeling that employers need to be way out there [on compensation] to protect their people is going away."

Averages vary between different sectors, with heavy civil firms offering the highest average increase last year—5.7%—up from 4.9% in 2022. Mechanical contractors gave the lowest increase at 4.4%, while general contractors averaged 5.8%.

Regionally, firms in the central states—including Iowa, Kansas, Missouri and Nebraska—as well as the southeast—including Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee—offered the highest base pay increases in the U.S. at 5.8%. The lowest increases—averaging 4.4%—were among firms in New York and New Jersey. Notably, those two states also offered the lowest increases in 2022 at 5%.

Recruiters are also seeing compensation cooling. Jeff Wittenberg, managing director for construction at executive search firm Kaye/Bassman, says that continued high interest rates are softening many markets. "There's been a ton of wage inflation over the last several years, simply because of supply and demand," he says. "The market is cooling, but the construction community is on the tail end of that. A lot of general contractors may simply be busy as a result of burning off their backlog. At some point, the market will catch up."

Still, Wittenberg says many contractors are already pushing back on the salaries that candidates are demanding.

CONTRACTOR EXECUTIVE PAY

TITLE	MEDIAN BASE SALARY ($)	MEDIAN BONUS ($)
PRESIDENT	$301,736	$182,500
CHAIR	$424,550	$416,000
EXECUTIVE VP	$254,394	$122,200
SENIOR VP	$241,091	$129,625
VP, OPERATIONS	$200,000	$60,750
VP, ESTIMATING	$183,021	$48,250
VP, BUS. DEVELOPMENT	$180,000	$49,654
VP, PRECONSTRUCTION	$191,175	$47,916
VP, ADMINISTRATION	$170,995	$45,500
VP, CFO	$208,789	$69,735
VP, HUMAN RESOURCES	$163,980	$39,362
GENERAL COUNSEL	$231,763	$78,000
OPERATIONS MANAGER	$161,850	$30,000
IT-MIS DIRECTOR	$141,663	$18,000
DIVISIONAL MANAGER	$167,750	$35,000
GEN. SUPERINTENDENT	$162,604	$29,900
CONTROLLER	$132,250	$21,641

SOURCE: PAS INC. 2024 EXECUTIVE COMPENSATION SURVEY

"That was not the case 24 months ago," he adds.

A cooling construction market could also mean a shake-up in the top ranks at some companies, says Alan MacNair, president of MacNair Retained Search. He says that when times get tough, the true talents—or shortcomings—of executives become more apparent. "I saw this during the Great Recession of 2008 and 2009," he says. "Up until then, the status quo was fine. But if there is complacency in the C-suite because times have been so good, that's a danger sign. Those people will be displaced by people who can build the business."

A down market may also be affecting bonuses. PAS data shows that bonuses were flat between 2022 and 2023. "Where I think companies will be throttling back is on the incentive side," Wittenberg says. "Bonuses won't be what they have been [recently]."

Succession planning—or a lack of it—will likely continue to be a driver of executive compensation in the coming years, as a significant number of older execs eye retirement.

Wittenberg notes that most construction firms lack adequate succession plans, leaving many scrambling for new talent in their C-suites. "There are senior-level positions that need to be filled and a lot of companies don't have an answer for those internally, so they'll have to go outside [the company]," he says. "You can't just say, 'We won't fill our CFO role.' If there's a hole, it cannot go unfilled for too long."

Succession needs may also be driving up compensation for future leaders. PAS data shows that executive vice presidents and senior vice presidents saw the highest salary increases of all executive positions. Wittenberg suggests that trend could be driven by companies trying to hang on to the next generation of company leaders. Meanwhile, he says that the pool of candidates for those positions remains limited. "When a company goes on a search for a senior vice president, they say they are willing to pay to relocate a good candidate," he says. "The problem is that these are often people in their 40s, who are established in their communities. They may have kids in school and a spouse with a career. So they won't move."

That also speaks to the continued trend among younger employees, who put a greater emphasis on work-life balance over compensation. "For today's mid-level managers, work-life balance is very real for them," Wittenberg says. "That's a future generation of [C-suite] leaders, and work-life balance will factor into their decisions. What will that look like at the executive level?" ■

Price Drops for Used Iron May Signal a Stabilizing Market

Rising ages for used machines and healthy backlogs for manufacturers in 2024 By Jeff Rubenstone

While there have been some worries about clouds on the horizon, it's not evident from a glance at the heavy equipment market. After a few years of supply chain issues and uncertainty about the market, prices for used equipment seem to have leveled off and even slightly declined, according to the latest data from industry analyst firm EquipmentWatch. "In the construction equipment field it looks like values are dropping year-over-year, which seems like a good thing, as there's more affordable equipment out there," notes Samuel Pierce, sales analyst with EquipmentWatch. "Every indicator dropped slightly in February, but it's more or less stable. It's less of a drop than in January."

Pierce adds that a few months of a dip in prices does not indicate a general slide, and when setting aside normal seasonal construction trends it's more indicative of stable pricing. There are other signs that stand out, however, such as a jump in usage in some categories. "Looking at the numbers overall, machine usage in agriculture, lift and construction categories is all up significantly over what we saw last month, which is unusual—almost a 30% increase in auction category for construction." This could be a statistical blip, but also may indicate that there is some well-worn equipment from recent years aging out that saw heavier use due to pandemic-related supply chain constraints.

Also, equipment manufacturers are looking to fulfill that demand spurred by unloading old machines. Major manufacturers have largely resolved their supply chain problems and are reporting record sales. "We just came off the best year in our 98-year history," said Caterpillar CEO Jim Umpleby in a fourth quarter earnings call in February. Caterpillar reported 2023 full-year sales and revenue of $67.1 billion, up 13% from 2022. While Caterpillar reported a decrease in dealer inventories, it did see higher sales year-over-year. "We expect sales to users [in 2024] to be largely similar to 2023, with no significant change in machine dealer inventory."

John Deere also reported positive signs on its first quarter earnings call. "In construction and forestry, we see fundamentals stabilizing at levels supportive of demand across most markets," said Joshua Rohleder, Deere manager for investor relations. Deere did report that sales volumes for construction equipment were down slightly in the first quarter, but sees it as signs of stability rather than a slowdown. "This demand backdrop is reflected in our order books. While fleet replenishment is moderating, our order books remain at healthy levels representative of normalized volumes," said Rohleder.

There are some possible headwinds for equipment availability due to recent events. Short-term supply chain disruptions for equipment deliveries in the eastern and central U.S. could result from the closure of the Port of Baltimore following the collapse of the Francis Scott Key Bridge (see p.10). The port is one of the main entry points for construction equipment into the United States, and there may be some delays as deliveries are rerouted to other ports while the remains of the bridge are cleared.

But for the foreseeable future, Pierce says his firm's data shows that "prices are more or less stable, a decrease in a few percentage points in year-over-year trends is just normalization—we've not seen any larger drops in these numbers." ▪

EQUIPMENT MARKET DATA FOR FEBRUARY 2024

POWERED BY: EquipmentWatch

	RESALE			AUCTION		
	VS. 2/2022	VS. 2/2023	VS. 1/2024	VS. 2/2022	VS. 2/2023	VS. 1/2024
CONSTRUCTION						
VALUES	+2.49%	-1.83%	-0.71%	+24.17%	-10.61%	-1.62%
AGE	-7.74%	-12.05%	-2.63%	-7.88%	2.32%	-10.32%
USAGE	-1.80%	-9.46%	+0.51%	-12.30%	+2.56%	+29.45%
LIFT						
VALUES	+18.80%	+5.37%	-0.40%	32.54%	-8.09%	-1.61%
AGE	-3.82%	-4.23%	-1.62%	-0.66%	-0.32%	-8.73%
USAGE	-36.43%	-32.13%	-15.77%	+21.98%	+3.97%	+25.69%

NOTES: RESALE ACTIVITY BASED ON LISTINGS; AUCTION ACTIVITY BASED ON SALES RESULTS; DATA COURTESY EQUIPMENTWATCH

Modest Growth For Materials in 2023

After years of volatility, materials price increases have slowed over the past year By Alisa Zevin

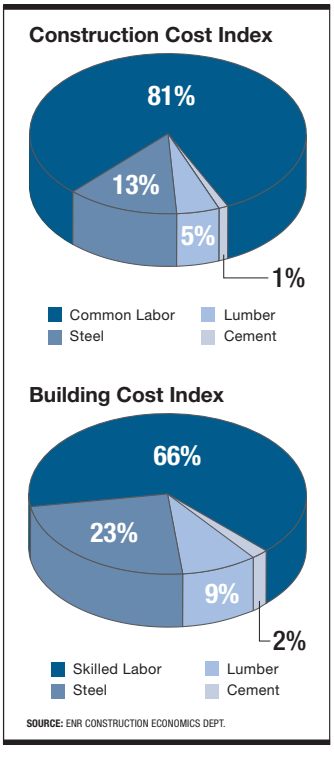
Although ENR's indexes measure the costs of non-residential buildings, the housing market has had a major impact on index movement. The ENR 20-city average yearly price for steel rose 7.8% by the end of 2023, while the overall Materials Cost Index experienced an increase of 4.4%. Both skilled and common labor saw a modest gain. The ENR Building Cost Index increased 3.8% for the year, while the Construction Cost Index rose 2.6% over the same period.

ENR began reporting changes in materials prices and wages systematically in 1909, but it did not establish the CCI until 1921. It was designed as a general-purpose tool to chart basic cost trends, and today remains a weighted aggregate index of the prices of a constant quantity of structural steel, portland cement, lumber and common labor. This package of goods was valued at $100, using 1913 prices.

The original use of common labor in the CCI was intended to reflect wage-rate activity for all construction workers. In the 1930s, however, wage and fringe benefit rates climbed much faster in percentage terms for common laborers than for workers in the skilled trades. In response to this trend, ENR in 1938 introduced its Building Cost Index (BCI) to weigh the impact of skilled-labor wage changes on overall costs.

The BCI labor component is the average union wage rate, plus fringe benefits, for carpenters, bricklayers and ironworkers. The materials component is the same as the CCI's. The BCI also represents a hypothetical package of these construction items, valued at $100 in 1913.

Both indexes are designed to indicate the basic underlying trends of construction costs in the U.S. Therefore, components are based on construction materials that are influenced less by local conditions. ENR chose steel, cement and lumber because they have a stable relationship to the U.S. economy and play a predominant role in construction.



SOURCE: ENR CONSTRUCTION ECONOMICS DEPT.

Materials Choices

As a practical matter, ENR selected these materials because reliable price quotations are available for all three, ensuring both indexes can be computed on a timely basis. While there may be some weaknesses in any index based on a limited number of components, ENR thinks a larger number of elements would increase the time lag between verifying prices and releasing the index. Also, an index with fewer components is more sensitive to price changes than one that includes many.

On the downside, however, the use of only a few cost components can cause indexes for individual cities to be more vulnerable to source changes. These aberrations tend to average out for the 20-city indexes, which ENR recommends for general use.

Since the indexes are computed with real prices, the proportion of a given component within the index will vary with its relative escalation rate.

In the late 1970s, labor's share of the index dropped because materials prices were in the grip of hyperinflation. In 1979, for example, lumber prices increased 16%, cement prices rose 13% and steel prices jumped 11%, but labor went up just 8%. These developments resulted in materials gaining a larger percentage of the index.

In the original CCI, the components were weighted at 38% for labor, 38% for steel, 17% for lumber and 7% for portland cement. The shifting tide of inflation changed the weight of the CCI components, making labor 81%, steel 13%, lumber 5% and cement 1%. This shift was less dramatic for the BCI, which is now 66% for labor, 23% for steel, 9% for lumber and 2% for cement.

Neither index is adjusted for productivity, contractor overhead or profits. However, the indexes can get a fix on these factors. As a rule, when productivity is low, the selling price will be relatively higher than the ENR index. Generally, when competition is sharp, the selling price of finished construction will fall below ENR's indexes. ■

Using ENR's Cost Indexes

An overview of the differences between the building and construction cost indexes

By Alisa Zevin

Readers of ENR often ask questions about the magazine's cost indexes and how to apply them accurately to construction projects. To help clarify the nature and use of the cost indexes, below is a compilation of answers to several frequently asked questions, as well as suggestions on how to avoid costly mistakes when using the indexes.

▪ What is the difference between ENR's Construction Cost Index (CCI) and its Building Cost Index (BCI)?

The difference between the two indexes is in their respective labor components. The CCI calculation uses 200 hours of common labor, multiplied by the 20-city average rate for wages and fringe benefits. The BCI derives its calculation from a baseline of 68.38 hours of skilled labor, multiplied by the 20-city wage-fringe benefits average for three trades: bricklayers, carpenters and structural ironworkers. For their materials components, both indexes use 25 cwt of standard fabricated structural steel at the 20-city average price, 1.128 tons of locally priced bulk portland cement and 1,088 board-ft of 2x4 lumber, which is also priced locally. The ENR indexes measure how much it costs to purchase this hypothetical package of goods compared with the price in the base year.

▪ What kinds of construction are represented in the ENR indexes?

The two indexes apply to general construction costs. The CCI can be used when labor costs are a high proportion of total costs. The BCI is more applicable to structures.

▪ Where does ENR get its data?

ENR's price reporters check local prices in 20 U.S. cities. The prices are quoted by the same suppliers each month. ENR computes its latest indexes from these figures as well as local union wage rates.

▪ Are materials prices averaged?

No. ENR reporters collect spot prices from a single source for all materials tracked, including those in the index. The reporters survey the same suppliers each month for materials that affect the index. Actual prices within a city may vary, depending on the competitiveness of the market and local discounting practices. This method allows for a quick indicator of price movement, which is the primary objective of both indexes.

▪ Do the indexes measure cost differences between cities?

No. This is a common error in the application of ENR's indexes, which measure trends only in each individual city and in the U.S. as a whole. Differentials between cities may reflect differences in labor productivity and building codes. Moreover, price quotations for lumber and cement vary from one city to the next. One city may report list prices, while

BUILDING COST INDEX HISTORY (1929-2023)

HOW ENR BUILDS THE INDEX: 68.38 hours of skilled labor at the 20-city average wage of bricklayers, carpenters and structural ironworkers, plus 25 cwt of standard structural-steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of portland cement at the 20-city price, plus 1,088 board-ft of 2x4 lumber at the 20-city price.

ANNUAL AVERAGE, 1993=100

1929: 191	**1954:** 446	**1979:** 1819
1930: 185	**1955:** 469	**1980:** 1941
1931: 168	**1956:** 491	**1981:** 2097
1932: 131	**1957:** 509	**1982:** 2234
1933: 148	**1958:** 525	**1983:** 2384
1934: 167	**1959:** 548	**1984:** 2417
1935: 166	**1960:** 559	**1985:** 2425
1936: 172	**1961:** 568	**1986:** 2483
1937: 196	**1962:** 580	**1987:** 2541
1938: 197	**1963:** 594	**1988:** 2598
1939: 197	**1964:** 612	**1989:** 2634
1940: 203	**1965:** 627	**1990:** 2702
1941: 211	**1966:** 650	**1991:** 2751
1942: 222	**1967:** 676	**1992:** 2834
1943: 229	**1968:** 721	**1993:** 2996
1944: 235	**1969:** 790	**1994:** 3111
1945: 239	**1970:** 836	**1995:** 3112
1946: 262	**1971:** 948	**1996:** 3203
1947: 313	**1972:** 1048	**1997:** 3364
1948: 341	**1973:** 1138	**1998:** 3391
1949: 352	**1974:** 1205	**1999:** 3456
1950: 375	**1975:** 1306	**2000:** 3539
1951: 401	**1976:** 1425	**2001:** 3574
1952: 416	**1977:** 1545	
1953: 431	**1978:** 1674	

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
2002	3581	3581	3597	3583	3612	3624	3652	3648	3655	3651	3654	3640	3623
2003	3648	3655	3649	3652	3660	3677	3684	3712	3717	3745	3766	3758	3694
2004	3767	3802	3859	3908	3955	3996	4013	4027	4103	4129	4128	4123	3984
2005	4112	4116	4127	4168	4189	4195	4197	4210	4242	4265	4312	4329	4205
2006	4335	4337	4330	4335	4331	4340	4356	4360	4375	4431	4462	4441	4369
2007	4432	4432	4411	4416	4475	4471	4493	4515	4533	4535	4558	4556	4486
2008	4557	4556	4571	4574	4599	4640	4723	4733	4827	4867	4847	4797	4691
2009	4782	4765	4767	4761	4773	4771	4762	4768	4764	4762	4757	4795	4769
2010	4800	4812	4811	4817	4858	4888	4910	4905	4910	4947	4968	4970	4883
2011	4969	5007	5010	5028	5035	5059	5074	5091	5098	5104	5113	5115	5059
2012	5120	5122	5144	5150	5167	5170	5184	5204	5195	5204	5213	5210	5174
2013	5226	5246	5249	5257	5272	5286	5281	5277	5285	5308	5317	5326	5278
2014	5324	5321	5336	2357	5370	5375	5383	5390	5409	5442	5468	5480	5387
2015	5497	5488	5487	5501	5490	5507	5510	5515	5541	5544	5564	5560	5517
2016	5562	5588	5606	5633	5637	5637	5660	5670	5657	5682	5690	5723	5645
2017	5734	5742	5789	5802	5816	5826	5844	5862	5873	5867	5902	5914	5831
2018	5921	5932	5942	5954	5995	6005	6043	6060	6081	6093	6093	6105	6019
2019	6107	6108	6110	6110	6112	6118	6131	6147	6147	6169	6179	6199	6136
2020	6214	6217	6218	6234	6329	6247	6258	6268	6300	6344	6392	6445	6281
2021	6459	6493	6545	6612	6754	6876	7006	7201	7214	7244	7255	7289	6912
2022	7359	7458	7565	7677	7786	7890	7950	7953	7959	7965	7967	7972	7792
2023	7977	7990	8001	8001	8054	8095	8180	8227	8241	8256	8268	8272	8130

another city may include discounts in its reported price for the same material.

■ Are the cost indexes seasonally adjusted?

No. This is an important point for index users to keep in mind. Wages, the most important component, usually affect the indexes once or twice a year. Cement prices tend to be more active in the spring, while pricing for fabricated structural steel tends to have monthly adjustments.

Lumber prices, which are more dependent on local pricing and producing conditions, are the most volatile and can change appreciably from month to month. Declines in the indexes are most often the result of falling lumber and steel prices.

The study of index movement for a period of less than 12 months can sometimes miss these important developments. Users of an index for individual cities should take note of the timing of wage settlements as well. Stalled labor negotiations may keep the old wage rate in effect longer than a 12-month period, giving the appearance of a low inflation rate.

■ Is it more accurate to use an index that is closest to my home city?

No. The 20-city average index is generally more appropriate—because it has more elements, it has a smoother trend. Indexes for individual cities are more susceptible to price spikes.

■ Are the annual averages weighted?

No. They are straight mathematical averages.

■ Are the indexes verifiable?

Yes. In ENR's Construction Economics section, the national indexes are updated in the first week of each month, while the indexes for individual cities appear in the second issue of each month.

Prices for the indexes' materials components can be found in the preceding month's Construction Economics pages: Cement prices appear in the first issue, pipe in the second issue, lumber prices in the third and steel in the fourth. Wages for all 20 cities are published in the Third Quarterly Cost Report. Readers can compute ENR's indexes by multiplying the published prices and wages by the appropriate weights (shown in the tables below) and tallying the results.

■ Does ENR forecast its indexes?

Yes, once a year. ENR projects its BCI and CCI for the next 12 months in the Fourth Quarterly Cost Report in December. To reach its forecast, ENR incorporates the new wage rates called for in multiyear collective-bargaining agreements and estimates for cities in which new contract terms will be negotiated. Further, ENR estimates the materials component by studying consumption forecasts as well as price trends.

■ Does ENR change the weighting of the index components?

No. The components are always multiplied by the same factors. However, a component's share of an index's total will shift with its relative escalation rate.

■ Has ENR ever changed the makeup of the indexes' components?

Only once. In 1996, ENR switched from the mill price for structural steel to the 20-city average fabricated price for channel beams, I-beams and wide flanges after ENR's two sources for mill prices left the structural market.

■ Does ENR revise the indexes?

On some occasions, ENR must revise the indexes. Its March 2004 indexes were revised shortly after their initial publication to reflect huge surcharges being placed on structural steel. Any revisions to the national indexes for individual cities are published in the cost report at ENR.com.

■ Is ENR's cost data online?

Yes. All of ENR's cost indexes, wage rates, materials prices and cost-issue articles can be found at ENR.com. ■

CONSTRUCTION COST INDEX HISTORY (1929-2023)

HOW ENR BUILDS THE INDEX: Two hundred hours of common labor at the 20-city average common-labor wage rates, plus 25 cwt of standard structural-steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of portland cement at the 20-city price, plus 1,088 board-ft of 2x4 lumber at the 20-city price.

ANNUAL AVERAGE, 1993=100

1929: 207	**1954:** 628	**1979:** 3003
1930: 203	**1955:** 660	**1980:** 3237
1931: 181	**1956:** 692	**1981:** 3535
1932: 157	**1957:** 724	**1982:** 3825
1933: 170	**1958:** 759	**1983:** 4066
1934: 198	**1959:** 797	**1984:** 4148
1935: 196	**1960:** 824	**1985:** 4182
1936: 206	**1961:** 847	**1986:** 4295
1937: 235	**1962:** 872	**1987:** 4406
1938: 236	**1963:** 901	**1988:** 4519
1939: 236	**1964:** 936	**1989:** 4615
1940: 242	**1965:** 971	**1990:** 4732
1941: 258	**1966:** 1019	**1991:** 4835
1942: 276	**1967:** 1074	**1992:** 4985
1943: 290	**1968:** 1155	**1993:** 5210
1944: 299	**1969:** 1269	**1994:** 5408
1945: 308	**1970:** 1381	**1995:** 5471
1946: 346	**1971:** 1581	**1996:** 5620
1947: 413	**1972:** 1753	**1997:** 5826
1948: 461	**1973:** 1895	**1998:** 5920
1949: 477	**1974:** 2020	**1999:** 6059
1950: 510	**1975:** 2212	**2000:** 6221
1951: 543	**1976:** 2401	**2001:** 6334
1952: 569	**1977:** 2576	
1953: 600	**1978:** 2776	

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL AVERAGE
2002	6462	6462	6502	6480	6512	6532	6605	6592	6589	6579	6578	6563	6538
2003	6581	6640	6627	6635	6642	6694	6696	6733	6741	6771	6794	6782	6695
2004	6825	6861	6957	7017	7064	7109	7126	7188	7298	7314	7312	7308	7115
2005	7297	7298	7309	7355	7398	7415	7422	7479	7540	7563	7630	7647	7446
2006	7660	7689	7692	7695	7691	7700	7721	7723	7763	7883	7911	7888	7751
2007	7880	7880	7856	7865	7942	7939	7959	8007	8050	8045	8092	8089	7967
2008	8090	8094	8109	8112	8141	8185	8293	8362	8557	8623	8602	8551	8310
2009	8549	8533	8534	8528	8574	8578	8566	8564	8586	8596	8592	8641	8570
2010	8660	8672	8671	8677	8761	8805	8844	8837	8836	8921	8951	8952	8799
2011	8938	8998	9011	9027	9035	9053	9080	9088	9116	9147	9173	9172	9070
2012	9176	9198	9268	9273	9290	9291	9324	9351	9341	9376	9398	9412	9308
2013	9437	9453	9456	9484	9516	9542	9552	9545	9552	9689	9666	9668	9547
2014	9664	9681	9702	9750	9796	9800	9835	9846	9870	9886	9912	9936	9806
2015	9972	9962	9972	9992	9975	10039	10037	10039	10065	10128	10092	10135	10034
2016	10133	10182	10242	10279	10315	10337	10379	10385	10403	10435	10443	10531	10339
2017	10542	10559	10667	10678	10692	10703	10789	10826	10823	10817	10870	10873	10737
2018	10878	10889	10959	10971	11013	11069	11116	11124	11170	11183	11184	11186	11062
2019	11206	11213	11228	11228	11230	11268	11293	11311	11311	11326	11381	11381	11281
2020	11392	11396	11397	11412	11418	11436	11439	11455	11499	11539	11579	11626	11466
2021	11627	11698	11749	11849	11989	12112	12237	12463	12464	12464	12467	12481	12133
2022	12556	12684	12791	12899	13004	13111	13168	13171	13173	13175	13175	13175	13007
2023	13175	13176	13176	13230	13288	13345	13425	13473	13486	13498	13511	13515	13358