The USG Corporation + U.S. Chamber of Commerce Commercial Construction Index (CCI) is a quarterly economic index designed to gauge the outlook for and resulting confidence in the commercial construction industry. Recognizing a need to highlight the important contributions of this sector to the nation’s economy, USG Corporation and the U.S. Chamber of Commerce partnered to produce this first-of-its-kind index. Each quarter, contractors across the country are surveyed in order to better understand their levels of confidence in the industry and top-of-mind concerns.
CONTRACTOR OUTLOOK IN Q1 2020 SHIFTS UPWARD.

OVERVIEW
The Commercial Construction Index moved up three points from 71 in Q4 2019 to 74 in Q1 2020, placing it in the midrange of previous index numbers reported in the last three years.

KEY DRIVERS OF CONFIDENCE
After the decline of all of the key drivers of confidence in Q4 2019, the latest quarter suggests a more stable market. Backlog remains consistent with the previous quarter, while confidence and revenue both increase four points. See Drivers of Confidence on pages 4–6.

QUARTERLY SPOTLIGHT
This quarter takes a fresh look at the potential for prefabrication and modular construction to disrupt the construction industry. In order to understand that potential, the Q1 2020 survey asked contractors to indicate whether they expect offsite construction to lead to disruption in the modes of doing business for traditional manufacturers and distributors, caused by the appearance of vertically integrated companies that provide design, fabrication and construction services. Almost one-third of contractors expect to see this potentially disruptive change occur, and among those that do, most expect it to be within a five-year time frame.

To provide further context for the survey findings, the report also provides highlights from a new, comprehensive study on prefabrication and modular construction published as a SmartMarket Report by Dodge Data & Analytics. Focusing on contractors who use these methods, it reports strong expected growth in the implementation of common types of prefabrication and modular construction. It also highlights healthcare and education as the main sectors in which the use of these offsite construction practices is being most widely employed, although many of the contractors expect to see wider use of these methods in other sectors, such as hotels. See Quarterly Spotlight on pages 7–11.

MARKET TRENDS
With labor shortages still a serious issue, a high percentage of contractors face challenges completing work on schedule, and many are also putting in higher bids for projects.

However, there appears to be growing optimism about material availability. Fewer report seeing material shortages on their projects and concerns over steel tariffs have declined sharply (even though the survey was conducted before the U.S. agreement with China was announced). Contractors are hiring more and investing more in materials and equipment, reinforcing their positive evaluation of their prospects in the near future. See Market Trends on pages 12–17.
KEY DRIVERS OF CONTRACTOR CONFIDENCE.

76  ➞ SAME AS Q4 2019
BACKLOG

The ratio of average current and ideal backlogs remains at 76, the same moderate level seen last quarter.

76  ➞ 4 FROM Q4 2019
NEW BUSINESS

Contractors’ confidence in the ability of the market to provide new business in the next 12 months has increased to 76, which suggests heightened optimism for the near future.

70  ➞ 4 FROM Q4 2019
REVENUE

Revenue numbers went up four points, reaching 70 again, after remaining below 70 for five of the last six quarters.

ADDITIONAL MARKET TRENDS.

61%
HIRING

Hiring expectations return to Q3 2019 levels after a sharp decline in Q4, in line with the improved backlog and general optimism reported this quarter. See page 12 for more details.

49%
SKILL LEVEL

Concern about skill levels remain nearly consistent with the Q4 2019 findings, which were below previous quarters. See page 14 for more details.

72%
FINANCING

Contractors remain optimistic about owner access to financing in the near future, with most expecting it to stay the same or increase. See page 15 for more details.

54%
TOOLS & EQUIPMENT

More than half of contractors expect to spend more on tools and equipment in the next six months, consistent with the levels of optimism and work reported this quarter. See page 16 for more details.
Contractors report increased backlog in Q1 2020.

MORE SEE BACKLOG INCREASES
In the first quarter of 2020, 39% of contractors report that the amount of backlog at their company increased, a six-point increase over the findings in Q4 2019. However, as the chart reveals, this growth merely gained back some ground lost between Q3 and Q4 2019, and is part of a larger up-and-down pattern in backlog growth.

CURRENT BACKLOG
The ratio of current to ideal backlog is 76%, the same as in Q4 2019, and the average length of backlog at 9.7 months is only slightly higher than the 9.5 months reported in Q4.

AMOUNT OF BACKLOG REPORTED
The various levels of backlog are all within three points of the previous quarter, demonstrating consistency with earlier findings. Overall, these findings show a shift down from the elevated findings between the third quarter of 2018 and the third quarter of 2019, but still reveal solid backlog that can help shield contractors from the immediate impacts of market fluctuations.
Confidence levels increase in Q1 2020, but do not reach the high levels reported in Q3 2019.

NEXT 12 MONTHS
In Q4 2019, contractors were nearly evenly split between those with a high and moderate degree of confidence in the ability of the market to provide sufficient business opportunities. This quarter sees a shift back toward high confidence among respondents (54%), up from 47% in Q4 2019. However, the percentage of respondents reporting high confidence remains four points lower than the high confidence levels seen in Q3 2019.

NEXT 24 MONTHS
Contractors’ 24-month outlook continues to be more conservative than their 12-month outlook, but it also is far less volatile, with the percentage reporting a moderately positive outlook remaining steady at nearly two-thirds (64%).

VARIATION BY COMPANY TYPE
More general contractors (35%) than trade contractors (25%) have a high degree of confidence in the market over the next 24 months.

Degree of Confidence Among Contractors in Sufficient New Business Opportunities

Note: Percentages are based on ratings using a 10-point scale, where the three points at the bottom (1–3) indicate a low level of confidence and the three points at the top (8–10) indicate a high level of confidence.
Profit margin expectations are steady, but revenue expectations fluctuate.

**Revenue Expectations**
In Q1 2020, contractors are nearly evenly split between those expecting an increase (47%) in revenue and those expecting their revenues to remain about the same (50%), similar to percentages in Q3 2019. However, contractors report an 11 percentage point jump (from 36% in Q4 2019 to 47% in Q1 2020) in those expecting an increase in revenue expectations.

**Percentage Increase in Revenue Over the Next 12 Months** Similar to last quarter, over half (60%) of those expecting an increase place that increase at 4% or more.

**Profit Margin Expectations**
With the exception of Q3 2019, contractor expectations about profit margins remain quite consistent, with about two-thirds (65%) expecting their level of profit margin to remain the same and around one-third (31%) expecting it to increase.

**Variation by Region** Significantly more contractors from the West (22%) expect higher profit margins in the next 12 months than those in the Northeast (3%).

Note: Percentages for revenue and profit margins are based on ratings using a 10-point scale, where the three points at the bottom (1-3) indicate a decrease, three points in the middle indicate it has stayed about the same and four points at the top (7-10) indicate an increase.
Around one-third of contractors are expecting prefabrication and modular construction to disrupt the industry.

POTENTIAL TO DISRUPT THE CONSTRUCTION INDUSTRY

Inspired by increasing industry attention to the potential of offsite construction, this quarter’s survey focused on whether contractors perceive the growth in these methods to have a potentially disruptive influence on the building product manufacturers, distributors and suppliers in the industry.

First, contractors were asked whether growth in prefabrication and modular construction will produce a new type of supplier who provides modular, prefabricated assemblies that will ultimately reduce the quantity of building products and equipment that contractors procure from traditional manufacturers and distributors. Over one-third believe that this will happen. Most who agree expect this disruption to arrive relatively quickly, with 73% expecting to see it occur in five years or less.

In addition, almost one-third (30%) of contractors are also expecting to see increased modularization lead to the rise of vertically integrated design/manufacture/assembly companies. This will be a direct competitor to their own businesses, and most (65%) expect it to occur in the next five years.

**38%** Believe increasing modularization will create a new kind of supplier who provides modular premanufactured assemblies that can be designed with and specified, thereby significantly reducing the quantity of building products/equipment contractors procure from traditional manufacturers and distributors.

**Speed of Expected Impact**

According to those who agree

- **38%** Believe increasing modularization will give rise to a new class of vertically integrated design/manufacture/assembly companies that provide turnkey building-project delivery to owners, significantly disrupting the traditional multi-party workflow and supply chain for building products/equipment.

**Speed of Expected Impact**

According to those who agree
Contractors expecting offsite construction to disrupt the supply chain believe the industry will struggle to adapt to modularization.

**INDUSTRY RESPONSE TO INCREASED PREFABRICATION AND MODULAR CONSTRUCTION**

Contractors expecting disruption in the previous two questions were asked whether they think it will be difficult for traditional manufacturers (and their distribution channels) to adapt to the rise of new companies fulfilling the demand for offsite construction. Their responses reveal that 22% of the total survey respondents expect traditional means of product distribution to be challenged by the need to compete with companies from outside the construction industry that may be entering this market, or from new, purpose-built companies.

As the Dodge study findings reveal [see the following pages], this may only affect certain sectors in construction, but for the sectors like healthcare and hotels where the industry expects the use of offsite construction to increase, these findings suggest that some contractors are watching to see how this rising trend evolves.

**Speed of Expected Impact**

According to those who agree

22% Believe most current building product/equipment manufacturers and their distribution channels will not be able to successfully adapt to the modularization trend, and the market opportunities will either go to companies currently outside the construction industry or to new, purpose-built companies.
Contractors expect prefabrication and modular construction to increase.

USE OF PREFABRICATION AND MODULAR CONSTRUCTION

Additional context for the findings of the CCI survey are provided by a 2019 study conducted by Dodge Data & Analytics, published in the Prefabrication and Modular Building 2020 SmartMarket Report.

The study was conducted among contractors who use these methods to better understand trends in implementation and the benefits of these approaches. Explanations of four common prefabrication and modular construction approaches are provided at right, but all involve the assembly of building components offsite from the project.

Contractors using either prefabrication or modular construction expect to increase their engagement with four of the most common approaches [shown in the column at right]. As labor markets continue to tighten, offsite construction can provide relief from the pressure of finding workers, since productivity in a factory setting is typically higher than in the field.

Common Types of Prefabrication and Modular Construction

**Single Trade Assemblies**: Prefabricated building components carried out by a single trade contractor, such as plumbing assemblies for large public bathrooms.

**Multi-Trade Assemblies**: Prefabricated building components that involve the work of multiple trades such as above-the-ceiling corridor racks in hospitals that include mechanical, electrical and other trades.

**Panelized Modular Construction**: Entire building components like wall modules or roof panels built offsite and installed on the project.

**Full Volumetric Modular Construction**: Entire rooms or building sections built offsite and then joined together onsite.

Use of Prefabrication or Modular Construction on 25% or More of Projects

(Contractors Engaged in Prefabrication or Modular Construction)

<table>
<thead>
<tr>
<th>Last Three Years</th>
<th>Next Three Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefabricated Single Trade Assemblies</td>
<td>55%</td>
</tr>
<tr>
<td>Prefabricated Multi-Trade Assemblies</td>
<td>15%</td>
</tr>
<tr>
<td>Panelized Modular Construction</td>
<td>24%</td>
</tr>
<tr>
<td>Full Volumetric Modular Construction</td>
<td>29%</td>
</tr>
</tbody>
</table>
Healthcare is currently top sector for offsite construction, expected to continue over the next few years.

TOP SECTORS FOR USE OF PREFABRICATION
According to the Dodge study, healthcare is currently the top sector for using prefabrication (51%), and future forecasts also place healthcare on top with 57% expecting to use the technique in that sector in the next three years.

More significant growth in the next three years is expected in the use of prefabrication on college buildings/dorms and hotels.

TOP SECTORS FOR USE OF MODULAR CONSTRUCTION
Healthcare also dominates the use of modular construction (40%). Dramatic growth in the next three years for hotels and college buildings/dorms is expected, bringing these two sectors to nearly the same level of modular use as the healthcare sector.

Top Sectors in Which Contractors Have Used/Expect to Use Prefabrication

![Chart showing top sectors for use of prefabrication]

Top Sectors in Which Contractors Have Used/Expect to Use Modular Construction

![Chart showing top sectors for use of modular construction]

VOICE OF THE CONTRACTOR
[The greatest opportunity for my business in the next 12 months is] advances in prefabrication of building components.
—CCI Survey Respondent
Trade contractors report strong benefits from the use of prefabrication, while general contractors benefit most from modular.

**BENEFITS FROM PREFABRICATION AND MODULAR CONSTRUCTION**
The Dodge study shows that use of prefabrication and modular construction has a direct, positive impact on project budgets and schedules.

**PREFABRICATION** Trade contractors report particularly high benefits when it comes to prefabrication, with 73% reporting decreases in project schedule and 82% reporting decreases in project budget from using this approach. Trade contractors are most frequently producing prefabricated building elements, and the bids they submit to general contractors may already reflect the schedule and budget decreases they are able to achieve.

However, even if that is the case, general contractors are clearly aware of the benefits to their projects of these approaches, with over half also reporting improved schedule and budget performance.

**MODULAR CONSTRUCTION** Nearly all general contractors using modular construction report that it decreases their project schedules (88%) and project budget (91%). Notably fewer trade contractors report similar impact, probably because they are typically less engaged when modular manufacturers are used on a project.
Contractors expect to employ more workers over the next six months.

**HIRING EXPECTATIONS**
More than half (61%) of contractors expect to employ more workers, an increase of five percentage points from Q4 2019.

**VARIANCE BY REGION AND SIZE** Significantly more contractors in the Midwest (72%) and South (65%) expect to employ more workers in the next six months than those in Northeast (31%). Also, 83% of large companies (revenues of $100M and over) plan to employ more workers, compared with just over half of midsize (57%) and small (53%) companies.

**FINDING SKILLED WORKERS**
Nearly all (92%) contractors report at least a moderate level of difficulty finding skilled workers, with 55% reporting that it is particularly difficult. Compared with the previous quarter, more contractors report moderate levels (37%) of difficulty than those who say it is easy or particularly difficult.

**VARIANCE BY REGION** Significantly more contractors in the South (60%) and Midwest (57%) report a high level of difficulty finding skilled workers than those in the Northeast (24%).

Note: Percentages for difficulty levels are based on ratings using a 10-point scale, where the three points at the bottom (1–3) indicate a high level of difficulty and the three points at the top (8–10) indicate a low level of difficulty.
More than one-third of contractors report turning down work due to skilled labor shortage.

**IMPACTS OF SKILLED LABOR SHORTAGES**
Most contractors continue to report that skilled worker shortages impact their ability to meet schedule requirements and lead them to put in higher bids.

**VARIANCE BY TYPE, SIZE AND REGION**
More than twice as many trade contractors (59%) turn down work opportunities due to skilled labor shortages than general contractors (25%). Small companies (54%) also turn down work more frequently for this issue than large ones (19%).

Fewer contractors in the Northeast (6%) turn down work opportunities compared with other regions (average of 46%). 83% of Midwestern contractors also report that they put in higher bids for projects due to skilled labor shortages, far more than in other regions.

**THE COST OF SKILLED LABOR**
Most contractors (86%) are at least moderately concerned about the cost of skilled labor. Contractors from the South and Midwest are particularly concerned with nearly half (46% and 47%) at high levels.

Note: Percentages for degree of concern contractors have about the cost of skilled labor are based on ratings using a 10-point scale, where the three points at the bottom (1–3) indicate a high level of concern and the three points at the top (8–10) indicate a low level of concern.
Nearly half of contractors have a high degree of concern about worker skill levels.

**CONCERN ABOUT ADEQUATE SKILL LEVELS**
Contractors remain concerned about workers having adequate skill levels, with nearly half [49%] reporting a high concern about worker skill levels, similar to last quarter.

**VARIANCE BY REGION** Only 28% of contractors in the Northeast report a high level of concern over this issue, far fewer than those in the Midwest (55%), South (52%) and West (47%).

**CHANGE IN SKILL LEVELS** Most contractors who are concerned about worker skill levels think this challenge has not changed in the previous six months (73%) and nearly as many (61%) don’t expect it to change in the next six months. This suggests that this is an endemic problem, and not one likely to be resolved in the near future. However, it is notable that over one-third (34%) do expect it to worsen, suggesting that the industry needs to consider how to address it.

Note: Percentages for degree of contractor concern about workers having adequate skill levels are based on ratings using a 10-point scale, where the three points at the bottom (1–3) indicate a high level of concern and the three points at the top (8–10) indicate a low level of concern.
Contractor expectations about their access to financing remain steady.

**CONTRACTOR WORKING CAPITAL**
Most contractors (78%) believe that their access to working capital financing should remain the same, and only 7% believe that it may become more difficult. These findings are consistent with those from the last four quarters.

**CONSTRUCTION FINANCING**
Most contractors believe that owner access to financing will remain the same, but slightly more expect it to become more difficult than to get easier. This is consistent with the findings from the last several quarters.

**VOICE OF THE CONTRACTOR**
[The greatest opportunity for my business in the next 12 months is] easy access to working capital.
—CCI Survey Respondent
Concern about the impact of material cost fluctuations continues to decline.

SPENDING ON TOOLS AND EQUIPMENT INCREASES
More than half of contractors (54%) expect to spend more for tools and equipment in the next six months (up 4% from Q4 2019). With the high levels of work still currently reported, and their general optimism about the construction market, increased spending is not surprising.

IMPACT OF MATERIAL COST FLUCTUATIONS DECLINES
Contractors’ concern about the impact of material cost fluctuations on their businesses appears to be declining. While those expecting a high impact remain at slightly under one quarter (23%), the percentage expecting low/no impact has been steadily growing since Q2 2019, from 19% to the current high of 34%.

VARIANCE BY COMPANY TYPE AND REGION
Nearly half (43%) of trade contractors expect low/no impact from material cost fluctuations, compared with about one quarter (29%) of GCs. Similarly the Midwest has the highest percentage of contractors (48%) who report little to no impact on their businesses from cost fluctuations.

Note: Percentages for Expected Material Shortages’ Impact on Contractors are based on ratings using a 10-point scale, where the three points at the bottom indicate a high impact and the three points at the top indicate a low impact.
Contractors expect less impact from tariffs and trade conflicts.

**IMPACT OF PRODUCT SHORTAGES**
Contractors are nearly evenly split on whether or not product shortages are impacting their projects, with slightly fewer experiencing shortages in Q1 2020 than did in Q4 2019. Those who are experiencing shortages largely report a moderate level of impact.

**VARIANCE BY COMPANY TYPE**
More GCs (58%) report experiencing product shortages on their projects than do trade contractors (35%).

**IMPACTS OF TARIFFS AND TRADE CONFLICTS DECLINE**
Concern about steel tariffs dropped considerably between Q4 2019 and Q1 2020 (down 11 percentage points). To a lesser degree, concerns about new tariffs on construction materials and equipment also dropped (down 8 percentage points) between Q4 2019 and Q1 2020.

**VOICE OF THE CONTRACTOR**
With the amount of opportunity for new projects it puts us in a great position to grow.
—CCI Survey Respondent
Dodge Data & Analytics (DD&A) in partnership with USG Corporation and the U.S. Chamber of Commerce conducts the Commercial Construction Index survey on a quarterly basis with the DD&A Contractor Panel. The majority of data represented in this report is from the Q1 2020 survey conducted online from January 9 to 25, 2020.

**DD&A CONTRACTOR PANEL**
In order to enable reliable market research in the construction industry, DD&A maintains a panel of more than 2,700 decision makers that includes general contractors, construction managers, design-builders and trade contractors. This panel allows DD&A to provide findings that are representative of the entire U.S. construction industry by geography, and by size and type of company.

**FOURTH QUARTER SURVEY DEMOGRAPHICS**
209 contractors who do projects in the commercial and institutional sectors in the U.S. (including multifamily residential) responded to the survey.

**TYPE OF COMPANY** More than half [52%] of respondents are prime contractors (including general contractors, construction managers, design-builders and remodelers), and 48% are trade contractors.

**JOB FUNCTION** Most are in leadership roles or engaged in projects.

**SIZE OF COMPANY** The percentage of small and midsize contractors is higher than that of large companies.

**LOCATION** 14% of the respondents are located in the Northeast, 30% in the South, 30% in the Midwest and 26% in the West.

The analysis includes comparisons to previous surveys conducted online with the DD&A Contractor panel since January 2017.
COMMERCIAL CONSTRUCTION INDEX

The Commercial Construction Index is an indicator of the health of the contractor segment of the U.S. building industry. It is comprised of three specific components reflecting aspects of the commercial contractors’ situation.

THE FIRST COMPONENT calculates each respondent’s ratio of current backlog to ideal backlog. It takes the mean of the ratio across all survey respondents.

THE SECOND COMPONENT is the mean of all responses, on a scale of 1-10, to the question “How confident are you that the U.S. market will provide your company with sufficient new business opportunities?”

THE THIRD COMPONENT compiles contractors’ ranges of expected revenue growth/decline and transposes those to a 10-point scale, then takes the mean of responses on that scale.

Each measure is drawn from the quarterly survey responses, and they are weighted evenly by one-third (33.3%) to create the composite index.

DEFINING COMMERCIAL CONSTRUCTION

For purposes of the CCI we define commercial construction as the following types of buildings: Office, Retail, Hospitality, Education, Healthcare, Multifamily Residential (mid- and high-rise), Government, Warehouses, Airport Terminals and other Transportation Buildings.
USG Corporation is an industry-leading manufacturer of building products and innovative solutions. Headquartered in Chicago, USG serves construction markets around the world with wall, ceiling, flooring, sheathing and roofing products that enable customers to build the outstanding spaces where people live, work and play. For additional information, visit www.usg.com.

The U.S. Chamber of Commerce is the world’s largest business federation representing the interests of more than 3 million businesses of all sizes, sectors and regions, as well as state and local chambers and industry associations. Its International Affairs division includes more than 70 regional and policy experts and 25 country- and region-specific business councils and initiatives. The U.S. Chamber also works closely with 117 American Chambers of Commerce abroad.

Dodge Data & Analytics is North America’s leading provider of analytics and software-based workflow integration solutions for the construction industry. Building product manufacturers, architects, engineers, contractors and service providers leverage Dodge to identify and pursue unseen growth opportunities and execute on those opportunities for enhanced business performance. Whether it’s on a local, regional or national level, Dodge makes the hidden obvious, empowering its clients to better understand their markets, uncover key relationships, size growth opportunities and pursue those opportunities with success. The company’s construction project information is the most comprehensive and verified in the industry. Dodge is leveraging its 100-year-old legacy of continuous innovation to help the industry meet the building challenges of the future. To learn more, visit www.construction.com.

This report is intended for general informational purposes only. It is not intended to support an investment decision with respect to USG Corporation, nor is it intended to be used for marketing purposes to any existing or prospective investor of USG. This report is not a forecast of future results for USG and actual results of USG may differ materially from those of the commercial construction industry.