

Q3
2019

USG CORPORATION + U.S. CHAMBER OF COMMERCE

Commercial Construction Index

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DODGE DATA & ANALYTICS

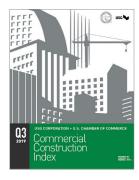


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METHODOLOGY



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.

CONTRACTORS HIGHLY CONFIDENT AS REVENUES SHIFT UPWARD.

OVERVIEW

The Commercial Construction Index (CCI) rose three points in Q3 2019 to 77, the highest score since the index was first released in Q2 2017.

KEY DRIVERS OF CONFIDENCE

In Q3 2019, all three key drivers of the index—revenue, backlog and confidence in new business—performed well, with revenue showing the most dramatic growth.

- The ratio between the average current and ideal levels of backlog remained at a high of 82 quarterover-quarter, demonstrating that contractors continue to enjoy a robust level of backlog.
- Confidence in new business rose by two points to 76, showing that contractors expect the near-term construction market to remain strong.
- For the first time in over a year, the revenue component increased. Revenue expectations climbed sharply by six points, from 66 to 72.

See Drivers of Confidence on pages 4-6.

QUARTERLY SPOTLIGHT

Recent increases in severe weather and attention to natural disasters have created interest in the topic of resiliency among stakeholders in the construction industry. The quarterly spotlight looks at two aspects of resiliency for contractors in particular: the strategies for making their own businesses more resilient and their perception of efforts to make buildings more resilient.



The findings reveal that:

- Most contractors say their schedules are impacted by severe weather, but fewer take those events into account in their project bids or have risk management plans for natural disasters.
- General contractors (GCs) are more attuned to resiliency than trade contractors, but in general, most contractors consider owners and architects more influential in making projects resilient.
- Most contractors also recognize the necessity for resiliency codes to help buildings withstand weather events and disasters, and they believe that those codes can be improved. See Quarterly Spotlight on pages 7–11.

MARKET TRENDS

Market trends for Q3 2019 reinforce the other indicators of high confidence, with expected increases in spending on tools and equipment, and consistent access to financing for the industry. However, concerns about skilled labor remain strong, and concerns about tariffs are emerging again after several quarters of decline. See Market Trends on pages 12–17.



KEY DRIVERS OF CONTRACTOR CONFIDENCE



The ratio between the average actual (10.2 months) and stated ideal (12.5 months) backlog is 82, retaining the improvement seen in Q2 2019.



Contractors' optimism continued to grow another two points since Q2 2019, demonstrating belief in a robust market for buildings.



For the first time since Q1 2018, revenue has increased quarter-over-quarter, no doubt contributing to the overall confidence expressed in this quarter's study.

ADDITIONAL MARKET TRENDS

61%

HIRING

Hiring expectations remain relatively high, with 61% now anticipating employing more people in the next six months. See page 12 for more details.

74%

FINANCING

Nearly three-quarters of builders believe owner access to financing will get easier or remain the same in the next six months, an increase of eight points over last quarter. See page 15 for more details.

58%

SKILL LEVEL

Concern about worker skill levels remains high after a slight decline in the last two quarters. See page 14 for more details.

52%

TOOLS & EQUIPMENT

The percentage of contractors who expect to spend more on tools and equipment over the next six months tops 50% for the first time in a year. See page 16 for more details.

2 DRIVERS OF CONFIDENCE BACKLOG

Backlog estimates retain high levels achieved last quarter.

BACKLOG INCREASES GROW

So far, 2019 has seen notable growth in the number of contractors who report that backlog has increased in the last three months, from around one-quarter (28%) in Q1 to nearly half (44%) in Q3. The percentage of respondents who report a decrease in backlog also dropped by nearly half since Q1 2019. These backlog figures may be due to a strong construction market coupled with labor challenges that cause delays on projects.

AVERAGE BACKLOG STAYS STEADY

The average level of backlog for Q3 is 10.2 months, similar to the average reported in Q2, and the ratio of current versus ideal backlog remains at the all-time high (82%) it achieved last quarter. Given the high levels of backlog, it is not surprising that contractors are generally optimistic in their short-term outlook.

AMOUNT OF BACKLOG REMAINS CONSISTENT

The total amount of backlog is also consistent with Q2, with no notable shifts.

However, company size appears to play a role in how contractors respond to the amount of backlog. Contractors who report a positive feeling about their backlog are:

- Large companies (annual revenues of \$100 million or more): 62%
- Small companies (annual revenues of less than \$10 million): 31%

Change in Backlog in the Last Three Months

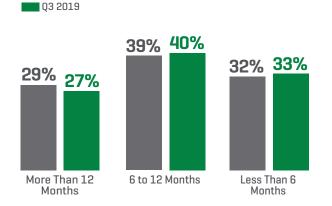


Current vs. Ideal Backlog



Amount of Backlog Reported

Q2 2019



DRIVERS OF CONFIDENCE NEW BUSINESS



Contractor optimism remains strong, with more builders reporting high confidence over the next year.

27%

High

CONTRACTOR CONFIDENCE IS HIGH IN 12-MONTH OUTLOOK

More than half (58%) of contractors report they are highly confident the next 12 months will bring sufficient business opportunities, a six-point growth over Q2 2019. This is the largest percentage in the last four quarters to report this degree of optimism.

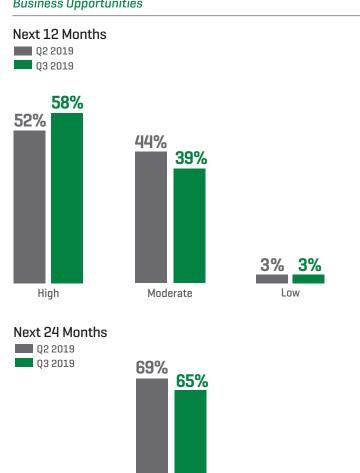
VARIANCE BY FIRM SIZE Three-quarters [75%] of large contractors (revenues of \$100 million or more) are highly confident in the 12-month outlook, compared with 51% of small companies (less than \$10 million in revenue) and 54% of midsize firms [\$10 million to less than \$100 million in revenue].

TWO-YEAR OUTLOOK ALSO STRONG

Contractors with a high level of confidence in business opportunities in the next 24 months grew by two percentage points since last quarter. However, most contractors still fall in the moderate range, and there was a slight increase in those with low confidence in the longer range market. This suggests that most contractors are not concerned about a deep impending recession, but it still reflects a more conservative outlook beyond the 12-month time frame.

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.

Degree of Confidence Among Contractors in Sufficient New **Business Opportunities**



Moderate

Low

2 DRIVERS OF CONFIDENCE REVENUE/PROFIT MARGINS

Revenue expectations improve for the first time since Q1 2018.

REVENUE EXPECTATIONS GROW

Q3 2019 marks the first time since Q1 2018 that the percentage of contractors who expect an increase in revenue in the next 12 months has been higher than the previous quarter. The shift is in line with reported backlog levels and the relatively strong optimism in the market reported by contractors.

PROFIT EXPECTATIONS INCREASE

Contractors are not sacrificing profit to grow their revenue or backlogs. Profit margin expectations for the next year grew by 12 percentage points between Q2 and Q3. Expectations are notably higher this quarter than they have been over the past four quarters.

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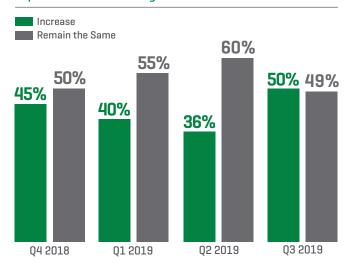
VOICE OF THE CONTRACTOR

[The greatest opportunity for my business in the next 12 months is] increased profits due to abundance of new construction opportunities.

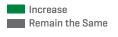
-CCI Survey Respondent

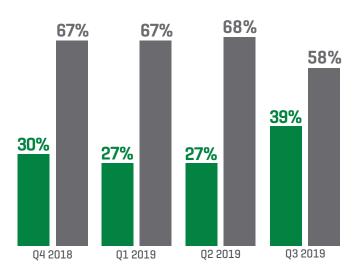
Note: Percentages for revenue and profit margins are based on ratings using a 10-point scale, where the three points at the bottom [1-3] indicate a decrease, three points in the middle indicate it has stayed about the same and four points at the top [7-10] indicate an increase.

Expected Revenue Changes in the Next 12 Months



Expected Profit Changes in the Next 12 Months







Most contractors report schedule delays due to extreme weather events.

SCHEDULE DELAYS DUE TO EXTREME **WEATHER ARE COMMON**

Three-quarters of general contractors (GCs) report that they have experienced schedule delays due to extreme weather events. Even among trade contractors, over half have experienced weatherrelated delays, though their involvement on projects may be a shorter duration than that of GCs.

These findings demonstrate that contractors need to have strategies to improve building resiliency as extreme weather events become more common.

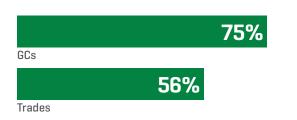
CONTRACTOR RESILIENCY PRACTICES

Less than two-thirds of GCs (61%) report that they include the impact of weather when calculating project bids, which is lower than the number of respondents who experienced recent schedule delays due to weather. Only 44% of trade contractors take weather into account in their bids.

Project risk mitigation plans for natural disasters are even less common, used by less than half of GCs (45%) and by very few trade contractors (19%).

VARIANCE BY REGION The Midwest has the highest percentage of contractors (64%) who include the impact of weather in their bids, and the South has the lowest (38%).

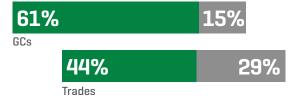
Experienced Schedule Delays Due to Extreme Weather Events



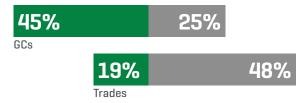
Contractor Resiliency Practices on Projects



Includes Impact of Weather When Calculating Project Bids



Has Project Risk Mitigation Plans for Natural Disasters



Contractors say project owners drive resiliency.

OWNERS ARE KEY TO MAKING PROJECTS RESILIENT

Most GCs (76%) and trade contractors (70%) rank building owners as most influential in making projects resilient from a list of eight project team member roles. The only other group selected by a notable percentage are architects.

Notably, none of the respondents rank contractors first in terms of influence on how resilient a project is.

This finding suggests contractors believe that resiliency needs to be considered a priority early in the project timeline, prior to when contractors are typically selected.

CONTRACTORS BELIEVE OWNERS ARE INTERESTED IN RESILIENCY

A high percentage of GCs and trade contractors believe that owners are interested in resiliency as a project outcome. However, only 22% of GCs and 20% of trade contractors think that this interest is growing. This suggests that, while contractors recognize owners want resilient projects, most do not believe that owners' interest in resiliency is in response to recent events, but rather reflects long-standing concerns.

Most Influential in Making Projects Resilient

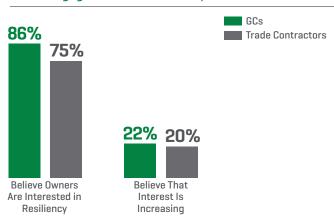
As ranked first by GCs and trade contractors







Owner Engagement With Resiliency





Contractors are widely familiar with resilient projects, but do not see them frequently.

MOST CONTRACTORS BELIEVE ARCHITECTS AND ENGINEERS DESIGN PROJECTS WITH **RESILIENCY IN MIND**

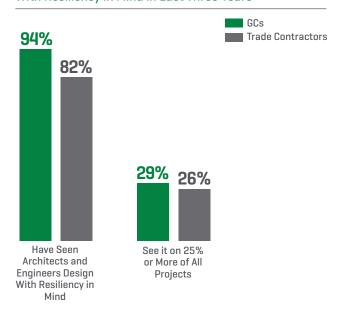
Nearly all GCs (94%) and most trade contractors (82%) believe that architects and engineers design at least some of their projects with resiliency in mind. However, they do not see this as a common activity, with less than onethird reporting that it happens on 25% or more of all projects.

GENERAL CONTRACTORS HAVE MORE EXPERIENCE WITH RESILIENT PROJECTS THAN TRADE CONTRACTORS

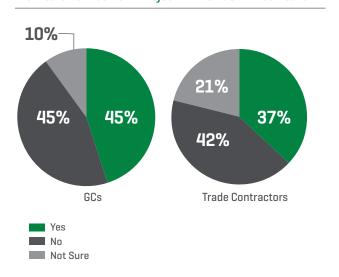
Nearly half of GCs (45%) and 37% of trade contractors report having worked on resilient projects in the last three years. For trade contractors, more than twice as many are uncertain about whether or not they have worked on a resilient project in the last three years.

GCs are likely to be familiar with the aspects of a project that make it more resilient, but familiarity with these efforts may vary by trade. Those dealing with the structure or building aspects of a project may be part of the effort to make the building resilient, but those focused on interior work are less likely to be a part of the effort.

Contractors Who Believe Architects/Engineers Design With Resiliency in Mind in Last Three Years



Worked on a Resilient Project in the Last Three Years



Most contractors consider resilient building codes necessary, but find the current codes only moderately effective.

CONTRACTORS AGREE ABOUT THE NEED FOR RESILIENT BUILDING CODES

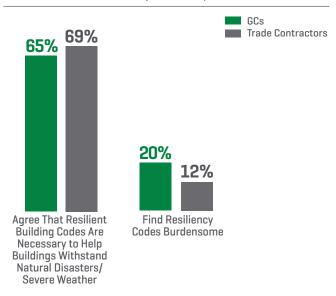
Around two-thirds of GCs and trade contractors agree with the necessity of having resilient building codes, and very few find them burdensome. Small firms are more likely to find resiliency codes burdensome.

VARIANCE BY REGION The West has the highest percentage of contractors [77%] who believe resilient building codes are necessary, and the South has the lowest [58%]. Contractors in the Northeast [44%] most frequently disagree that their company has to devote significant resources to keep up with codes for resiliency, while far fewer in the South [25%] disagree with this statement.

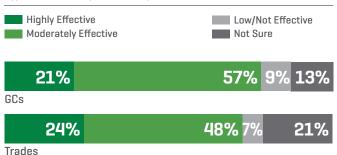
EFFECTIVENESS OF EXISTING CODES

While the vast majority of contractors consider resiliency codes to be at least somewhat effective, less than one-quarter of GCs and trade contractors consider them to be highly effective. Instead, most respondents fall into the moderate category, suggesting they see the potential for codes to provide more protection in the event of natural disasters and severe weather.

Contractor Assessment of Resiliency Codes



Effectiveness of Resiliency Codes



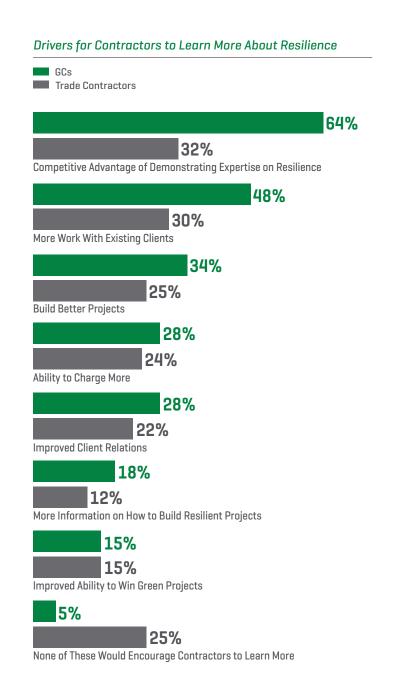


Contractors see competitive advantage as top incentive for learning more about resilience.

DRIVERS FOR CONTRACTORS TO LEARN MORE ABOUT RESILIENCE

General contractors are strongly influenced by the prospect of having a competitive advantage and gaining more work from existing clients.

Trade contractors, on the other hand, are not as interested in those top two factors. Among other factors, such as the ability to charge more, improved client relations and improved ability to win green projects, their responses are more consistent with the GCs. However, 25% of trade contractors do not believe any of these drivers would encourage them to learn more, compared with just 5% of GCs. This suggests that GCs consider knowledge about resilience to be more germane to their business than do some trade contractors.



Hiring expectations continue to increase, though difficulty finding skilled workers worsens.

CONTRACTORS EXPECT TO EMPLOY MORE WORKERS

For several quarters, contractors have consistently reported that they expect to increase their workforce over the next several months, and this quarter's findings are consistent with those of Q2 2019.

FINDING SKILLED WORKERS BECOMES MORE SEVERE

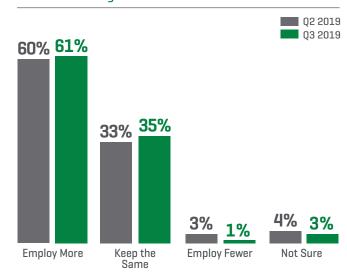
The percentage of respondents who rate the difficulty of finding skilled workers at a high level shot up to 61% this quarter. While this is consistent with previous findings in 2018 (57%) and 2017 (60%), it is notably higher than the percentages from the first two quarters of 2019, suggesting that the severity of the skilled worker shortage shows no signs of abating.

VARIANCE BY FIRM TYPE AND REGION

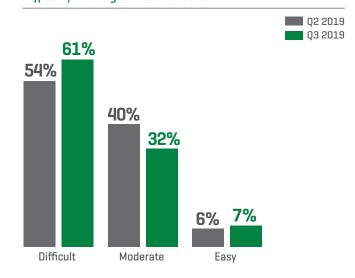
More specialty trade contractors [69%] report a high level of difficulty in finding skilled workers, compared with GCs [54%]. Significantly more contractors from the West [71%] are challenged to find skilled workers than those in the Northeast [47%].

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.

Contractor Hiring Plans Over the Next Six Months



Difficulty Finding Skilled Workers



4 MARKET TRENDS WORKFORCE



Contractors find skilled labor shortages impact their schedules and prices for bids.

PROJECT SCHEDULES AND PRICES ARE AFFECTED BY SKILLED WORKER SHORTAGES

This quarter, more contractors report they are challenged to meet schedule requirements and are putting in higher bids for projects due to skilled worker shortages. Large companies in particular (76%) are challenged to meet schedule requirements due to skilled worker shortages, as are GCs (79%) compared with trade contractors [63%].

CONCERNS OVER COST OF LABOR GROW

Nearly half (43%) of contractors report having a high degree of concern about the cost of skilled labor, an increase of 6% compared with Q2 2019, and the highest percentage to date since the CCI launched in 2017. Given these concerns about cost, it is not surprising that contractors are also reporting that they are putting in higher bids for projects.



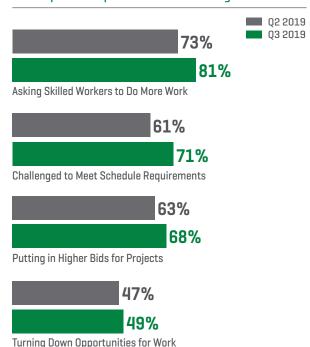
VOICE OF THE CONTRACTOR

[The greatest challenge for my business in the next 12 months is] indirect project cost increases due to skilled labor shortage squeezing away profitability.

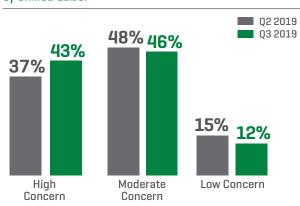
-CCI Survey Respondent

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

Consequences of Skilled Labor Shortages



Degree of Contractor Concern About Cost of Skilled Labor



Concerns about worker skill levels rise, and over one-third of those concerned expect this issue to worsen.

CONCERNS ABOUT WORKER SKILL LEVELS RETURN TO A HIGH LEVEL

More than half (58%) of contractors report a high level of concern about workers' skills, reversing a previous trend of moderate concern. However, the percentage expressing a low level of concern is approaching 10%, suggesting that this concern might not be uniformly experienced across the industry.

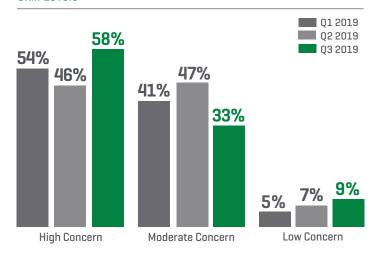
VARIANCE BY REGION Only 35% of contractors from the Northeast report high concern on this issue, compared with 58% or more in the other three regions.

OVER ONE-THIRD EXPECT THE **SKILLS ISSUE TO WORSEN**

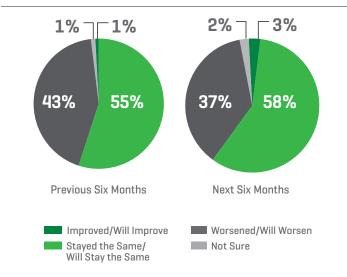
Among those who are concerned about skill levels, 43% say the problem got worse over the previous six months, and 37% believe this problem will worsen in the next six months. This suggests that many contractors now view this as a chronic challenge rather than a shortterm crisis.

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

Degree of Contractor Concern About Adequate Worker Skill Levels



Problems With Finding Skilled Workers Among Those Concerned About Skill Level





Contractors see access to financing remaining steady, and few see it becoming more difficult.

CONTRACTORS SEE STEADY ACCESS TO CAPITAL

Most contractors [76%] believe access to financing will remain the same or get easier in the next six months. These findings are consistent across the past few quarters, and do not have any variances by firm type, size or region.

PROJECT FINANCING CONSISTENT

Only 12% of contractors believe that owners' access to financing will become more difficult in the next six months, a notable drop from the 20% who reported this in Q2. This finding is consistent with the general optimism expressed by contractors this quarter.

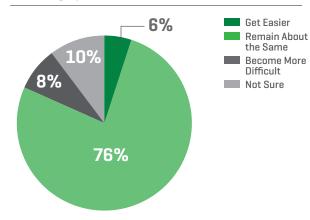


VOICE OF THE CONTRACTOR

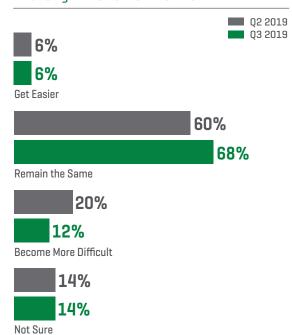
[The greatest opportunity for my business in the next 12 months is that] a strong economy means a robust pipeline for both the public and private sector.

-CCI Survey Respondent

Expected Change in Access to Working Capital Financing by Contractors in the Next Six Months



Expected Change in Building Owner Access to Financing in the Next Six Months



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Contractors expect to increase investments in tools and equipment.

MORE CONTRACTORS ANTICIPATE INCREASED SPENDING ON TOOLS AND EQUIPMENT

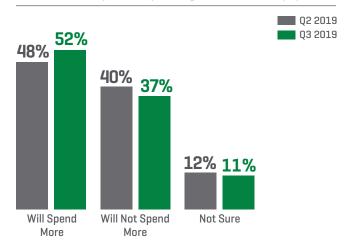
The percentage of contractors who expect to spend more on tools and equipment has returned to above 50%, levels that were common before the fourth quarter of 2018, but that slipped in the last three quarters. This finding is consistent with the positive expectations of the market in the next 12 months, the increased revenue expectations and the high levels of backlog reported by contractors in Q3.

LESS AGREEMENT ABOUT THE IMPACT OF COST FLUCTUATIONS

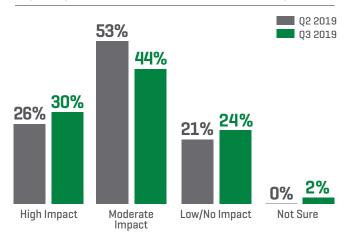
In the first half of 2019, a relatively high percentage of contractors expected moderate impacts from cost fluctuations on projects, and a relatively low percentage expected high or low impacts. In Q3, the percentage expecting a moderate impact dropped by nine percentage points, and that shift has led to small increases in each of the other three groups. This widening of variation reinforces the lack of a consistent view from contractors on this issue and merits careful monitoring in future quarters.

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 [1-3] indicate a high impact and the three points at the top [8-10] indicate a low impact.

Contractors' Expected Spending on Tools and Equipment



Impact of Cost Fluctuations on Construction Projects





Concerns over tariffs increase, while material shortage remains worrisome.

IMPACT OF PRODUCT SHORTAGES REMAINS CONSISTENT

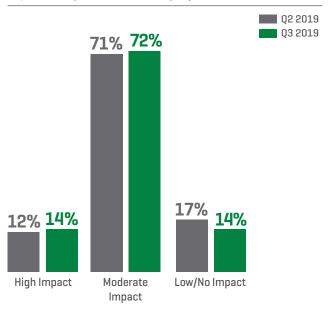
Half of contractors (50%) are experiencing product shortages. Among them, most (72%) expect a moderate impact from these shortages on their projects. The products of greatest concern to contractors include steel, glass, electrical products and mechanical/ HVAC equipment.

TARIFF CONCERNS RISE SLIGHTLY

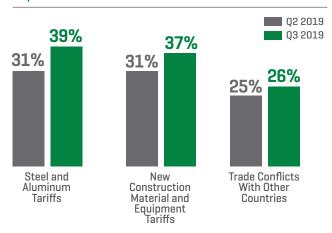
Since the steel and aluminum tariffs were first enacted in 2018, the percentage of contractors who report that they expect a high degree of business impact from them, or other new construction material and equipment tariffs, has been declining until this quarter. In Q3, there is a notable increase in contractors expecting a high degree of impact from these tariffs in the next three years.

VARIANCE BY REGION Nearly half [48%] of contractors in the West expect high business impacts from new construction material and equipment tariffs, significantly more than those in the Northeast [26%].

Impact of Product Shortages on Projects (Among Those Experiencing Product Shortages)



Contractors Who Expect a High Degree of Business Impact From Each Factor in the Next Three Years



5 METHODOLOGY

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 Q3 2019 survey conducted online from July 10 to 16, 2019.

DD&A CONTRACTOR PANEL

In order to enable reliable market research in the construction industry, DD&A maintains a panel of around 2,500 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.

SECOND QUARTER SURVEY DEMOGRAPHICS

207 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 [53%] of respondents are prime contractors (including general contractors, construction managers, design-builders and remodelers), and 47% are specialty trade contractors.

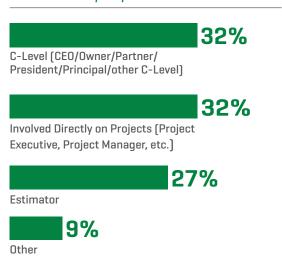
JOB FUNCTION Most are in leadership roles or engaged in projects.

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

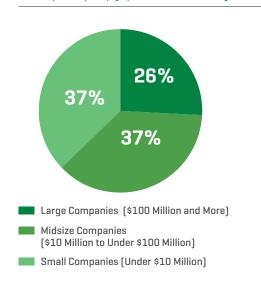
LOCATION 18% of the respondents are located in the Northeast, 29% in the South, 29% in the Midwest and 24% in the West.

The analysis includes comparisons to previous surveys conducted online with the DD&A Contractor Panel since January 2017.

Job Functions of Respondents



Size of Company (by Annual Revenue)







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.



The Commercial Construction Index is 77 for the third quarter of 2019.

- Significant Slowdown
- Down Market
- Neutral Market
- Healthy Market
- Boom Market

USG Corporation is an industry-leading manufacturer of building products and innovative solutions. Headquartered in Chicago, USG serves construction markets around the world through its Gypsum, Performance Materials, Ceilings and USG Boral Divisions. Its wall, ceiling, flooring, sheathing and roofing products provide the solutions that enable customers to build the outstanding spaces where people live, work and play. Its USG Boral Building Products joint venture is a leading plasterboard and ceilings producer across Asia, Australasia and the Middle East. For additional information, visit www.usq.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.

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