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AGC
THE CONSTRUCTION ASSOCIATION

CONSTRUCTION INFLATION ALERT

The construction industry is currently experiencing an unprecedented mix of steeply rising materials prices, snarled supply chains, and staffing difficulties, combined with slumping demand that is keeping many contractors from passing on their added costs. This combination threatens to push some firms out of business and add to the industry's nearly double-digit unemployment rate.

The situation calls for immediate action by federal trade officials to end tariffs and quotas that are adding to price increases and supply shortages. Officials at all levels of government need to identify and remove or lessen any unnecessary or excessive impediments to the importation, domestic production, transport, and delivery of construction materials and products. Project owners need to recognize how much conditions have changed for projects begun or awarded in the early days of the pandemic or before and to consider providing greater flexibility and cost-sharing. Contractors should become even more vigilant about changes in materials costs and expected delivery dates and should communicate the information promptly to current and prospective clients.

This report is intended to provide all parties with better understanding of the current situation, the impact on construction firms and projects, its likely course in the next several months, and possible steps to mitigate the damage. The document will be revised to keep it timely as conditions change. Please send comments and feedback to AGC of America's chief economist, Ken Simonson, ken.simonson@agc.org.

Rising costs, flat project pricing

Figure 1 illustrates the threat to contractors from fast and steeply rising prices for materials, both for projects that have already been bid or started and for preparing -price or guaranteed-maximum-price bids. The red line shows the change since April 2020 in the price of all materials and services used in nonresidential construction, while the blue line measures the change—or lack of change—in what contractors say they would charge to erect a set of nonresidential buildings. This blue line, essentially a measure of bid prices, has remained virtually stable, rising only 0.5% from April 2020 to February 2021. In contrast, the red line, measuring the cost of contractors' purchases, has soared nearly 13% over the same 10 months.

12.8%

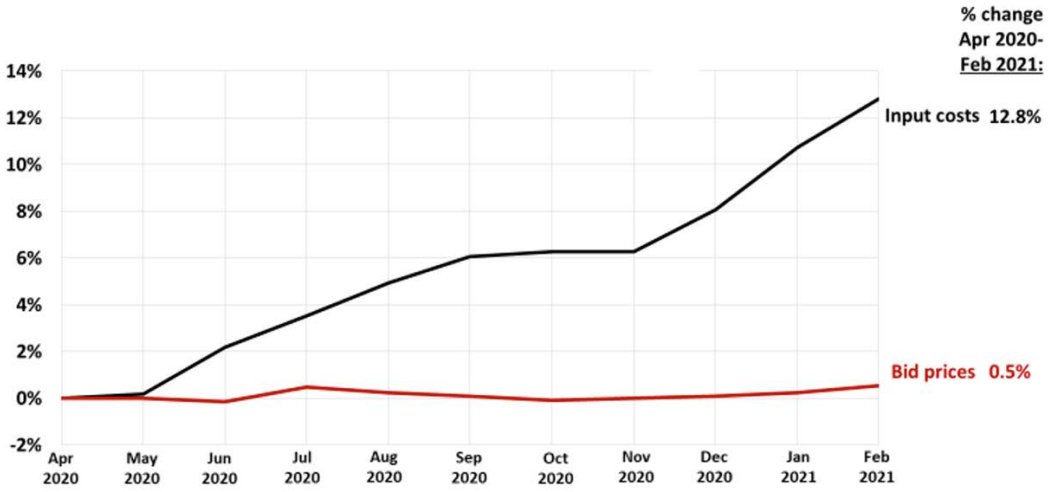
Input costs for general contractors have soared nearly 13% from April 2020 to February 2021

In other words, if a contractor or subcontractor submitted a fixed-price bid in April 2020 based on materials costs at that time but did not buy the materials until February 2021, its cost for the materials would have risen an average of nearly 13%. Given that materials often represent half or more of the cost of a contract, such an increase could easily wipe out the profit from a project and create severe financial hardship for the contractor.

FIGURE 1

Change in construction input costs and bid prices

April 2020-February 2021



Source: Bureau of Labor Statistics, producer price indexes (PPIs) for new nonresidential building construction (bid prices) and inputs to nonresidential construction (input costs), not seasonally adjusted

In fact, Figure 1 understates the severity of the current situation for many contractors, in three respects. First, the two lines are calculated from producer price indexes (PPIs) posted monthly by the Bureau of Labor Statistics (BLS). The most recent PPIs are based on prices BLS collected around February 11.

Since then, numerous materials have risen even more steeply in price. For instance, the national average retail price of on-highway diesel fuel climbed from $2.80 per gallon on February 8 to $3.19 on March 22, a rise of 1% in just six weeks, according to a weekly truckstop survey posted by the Energy Information Administration. Private price-tracking services have reported similarly steep increases for a variety of steel, lumber, and engineered wood products.

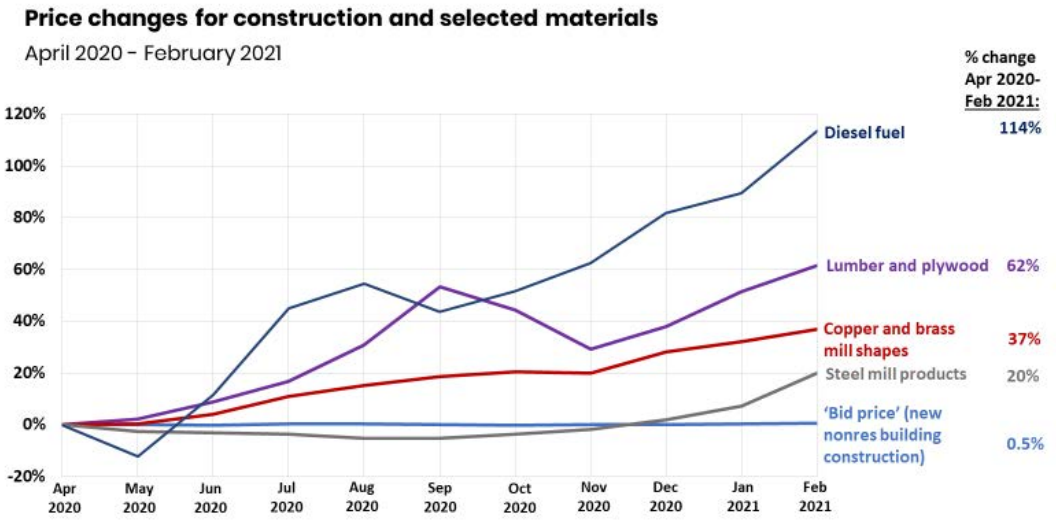
Second, contractors are incurring costs not captured by this measure. Delayed deliveries, higher expenditures for personal protective equipment and other sanitation measures, and shortages of employees or subcontractors' workers on jobsites due to coronavirus impacts are all driving up contractors' costs. In some cases, project completions are being delayed, meaning contractors receive needed payments later and may incur penalties for missed deadlines.

Third, many projects or subcontractors' packages are heavily weighted toward materials that have risen much more in price than the overall PPI for inputs. As Figure 2 shows, the PPI for diesel fuel (at the fuel terminal, not retail) increased 114% between April 2020 and February 2021. The PPI for lumber and plywood jumped 62%. The index for copper and brass mill shapes climbed 37% and the PPI for steel mill products rose 20%.

114%

Diesel fuel PPI (Producer Price Index) has increased more than 114% between April 2020 to February 2021

FIGURE 2



Source: Bureau of Labor Statistics, producer price indexes (PPIs) for new nonresidential building construction (bid prices), diesel fuel, wood, and metal products, not seasonally adjusted

270%

Due to extreme weather conditions and general demand, PVC prices have increased over 270% from March 2020 to March 2021

Some broad categories of products have not gone up dramatically, but narrower classes of products within those categories have. For instance, the PPI for plastic construction products rose "only" 6% from March 2020 to January. But an AGC member reported on March 5 that for polyvinyl chloride (PVC) "used in electric utility work the price from [March 2020] to January 2021 had a general increase of 85%." Following extreme winter weather in Texas that knocked out production facilities and created a surge in demand for pipe to replace broken lines, "Now that increase is 270% from March 2020" to March 4, 2021.

In recent weeks, producers and distributors of many additional materials have announced large price increases. Some have already been imposed, while others are scheduled to take effect in the next few weeks.

For example, a leading producer of spray polyurethane products, used for building sealants and insulation, announced on March 12 that it would increase prices 12-15%, "effective for all new and existing orders shipping after April 12." On March 4 another supplier

notified customers of two price increases of 10% each, effective on April 5 and May 1. On March 10, a major building-products distributor announced 19 broad categories of price increases, ranging as high as a 20% increase effective on April 5 for "all wallboard and glass mat products."

In addition to sudden price increases, contractors are experiencing delivery times that have stretched or become completely unreliable. A producer of building mesh told customers on March 15, "Volatility in the costs associated with producing and shipping standard welded wire reinforcement has made it necessary for us to withdraw all previously issued price lists. The availability of SWWR has been negatively impacted by the shortage of raw materials; therefore, lead times previously quoted will require review."

Not a short-term problem

Some might assume contractors will simply raise their prices to cover the added costs. But current conditions in the industry, as well as the record from previous episodes of escalating materials costs, suggest that the mismatch between materials costs and contractors' prices is likely to persist for an extended period.

The pandemic has caused current production and delivery of many materials to fall short of demand. Initially, a wide range of factories, mills, and fabrication facilities were shut down on their owners' initiative or because government orders deemed them to not be "essential." In some cases, contractors—particularly homebuilders—canceled orders because they no longer saw demand for construction. Once production facilities were allowed to re-open, many of them had trouble getting up to full capacity because their own workers or those of their suppliers and freight haulers may have been ill, quarantined, or required to care for family members at home.

Imported products and components also were subject to production and shipping shutdowns in the early months of the pandemic. This particularly affected many products from China and northern Italy, ranging from kitchen cabinets and appliances to tile flooring to elevators. In recent months, production has increased but containers, ships, port space, and trucking capacity have all experienced bottlenecks that have slowed deliveries.

Dramatic shifts in demand triggered, at least in part, by the pandemic have added to price pressures and shortages of goods. Housing starts have increased between 15% and 20% from year-earlier levels, creating huge additional demand for wood products and other items that are also used in nonresidential construction. Restaurants that added decks and railings for outdoor dining, along with offices and other buildings undergoing remodeling, added to demand for these products.

15-20%

Housing starting costs have increased between 15% to 20% from year-earlier levels

A more recent source of price increases and extended lead times was the extreme winter weather that struck Texas in February. Widespread, unanticipated power failures and unusual freezing temperatures shut down petrochemical plants that normally operate around the clock. Frozen pipes burst, adding to the damage. Repairing the damage and getting complex facilities back to full operating rates is likely to take several months in some cases.

Loss of this production affects plastic resins and other "building blocks" for a wide range of construction products, including: PVC pipe and other hard plastic products like plumbing fittings

and fixtures; vinyl siding and vapor barriers; binders or "glue" for the particles and layers of plywood and oriented strand board (OSB), and adhesives for backing/facing for wallboard. Various types of cardboard, paper, and plastic packaging, tapes, and fasteners, including ones for shipping and protecting construction materials, also depend on resins. The freeze also added to demand for plastic pipe and fittings to replace broken water lines, adding to the demand-supply imbalance.

Yet another cause of higher prices and tighter supply is trade policy actions imposed in 2018-2020. Tariffs or quotas on steel and aluminum from many countries, along with tariffs on hundreds of parts and materials from China, drove up the cost of many construction products and limited the number of suppliers, which has led to longer delivery times. Failure to renew a longstanding softwood lumber agreement with Canada has added to lumber costs.

Although the ostensible purpose of some of the trade actions was to protect and create jobs in the U.S. manufacturing sector, steel in particular, very little capacity has been added so far. Many manufacturers merely raised their prices in tandem with the imposition of tariffs.

PAST EPISODES

12.9%

In the past price inflation, materials costs experienced an annual growth rate increase of 12.9% in September 2008

The construction industry has endured previous spells of rapid cost escalation. For instance, the PPI for goods used in new nonresidential construction accelerated from a 3.6% year-over-year rate of increase in January 2004 to 10.0% by October of that year and remained above a 5% annual rate for a total of 31 months, before subsiding to a 3.2% rate in October 2006.

Less than a year later, materials costs soared again, rising from a 1.6% annual growth rate in August 2007 to 12.9% in September 2008. The financial crisis that fall brought rates down rapidly but, again, only for about a year. The growth rate spiked from 0.4% year-over-year in December 2009 to 5.8% the following April and remained above or close to 5% until early 2012.

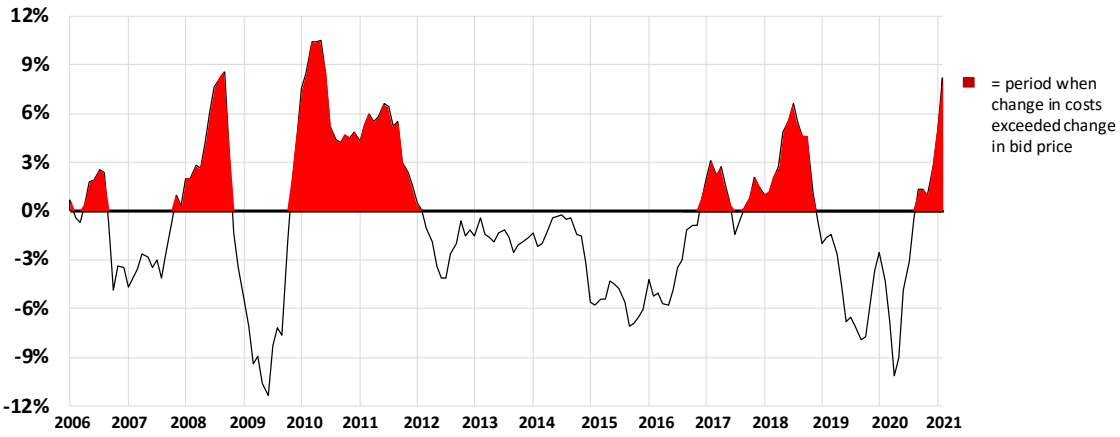
The most recent episode of high materials cost increases was from November 2018 through November 2019, when the year-over-year price change ranged from 4.9% to 9.2%.

While each of these price spikes eventually subsided, they caused enormous harm to contractors, who generally were not able to pass along the increases for an extended period. Not only were firms that had already signed contracts to deliver a project at a fixed price caught by the increases, but competition kept contractors from raising bids to match for a year or longer. A comparison of the year-over-year change in the PPI for materials with the PPIs for five types of new nonresidential buildings shows there were periods as long as 28 consecutive months with such price disparities. That is, contractors' bid prices rose less—or decreased—relative to the cost of the goods they purchased. For the most part, these months coincided with periods in which the value of nonresidential construction was stagnating or shrinking.

Figure 3 shows this comparison for one building type, new warehouse building construction. Periods in which the PPI for goods used in nonresidential construction exceeded the PPI for warehouse contractors' bid prices appear in red. The longer these intervals last and the higher the peak—i.e. the larger the gap between costs and bid prices—the more likely it is that some contractors will have financial difficulties. The current period already has one of the highest peaks.

FIGURE 3

Change in material costs vs. change in warehouse bid prices, Jan. 2006 -Feb. 2021
Difference between year-over-year change in costs vs. bid prices



Source: Bureau of Labor Statistics, producer price indexes for goods inputs to nonresidential construction (material costs) and new warehouse construction (bid prices)

CURRENT DEMAND FOR CONSTRUCTION

The construction market currently is marked by a huge disparity. Residential construction spending—comprising new single- and multifamily structures along with additions and renovations to owner-occupied housing—jumped 21% from January 2020 to January 2021. Over the same 12 months, private nonresidential construction spending tumbled 10%.

Employment data show a similar story. Both residential and nonresidential construction employment plunged by 14-15% from February to April 2020. But over the next nine months, through January 2021, employment among residential building and specialty trade contractors rebounded to the same level as in February 2020, immediately before the pandemic struck. In contrast, in those nine months nonresidential building, specialty trade and heavy and civil engineering contractors added back little more than half of the employees they lost between February and April 2020.

21%

Residential construction spending jumped 21% from January 2020 to January 2021

AGC has surveyed its members repeatedly since March 2020 to gauge the impact of the pandemic on their businesses. Consistently, and as recently as March 2021, only about one-third of firms reported the volume of their business had matched or exceeded the levels of one year before, while an equal share predicted they would not return to that level for more than six months. The remainder either thought it would take 1-6 months to reach year-ago levels or didn't know. These results, like the spending and employment data, point to a large amount of downward pressure on contractors' ability to pass along material cost increases. (Full survey results are available here: https://www.agc.org/news/2021/03/11/march-2021-agc-coronavirus-survey-results.)

What can contractors and owners do?

While contractors cannot unclog ports or rescind tariffs, they can provide project owners with timely and credible third-party information about changes in relevant material costs and supply-chain snarls that may impact the cost and completion time for a project that is underway or for which a bid has already been submitted.

Owners can authorize appropriate adjustments to design, completion date, and payments to accommodate or work around these impediments. Nobody welcomes a higher bill, but the alternative of having a contractor stuck with impossible costs or timing is likely to be worse for many owners.

For projects that have not been awarded or started, owners should start with realistic expectations about current costs and the likelihood of increases. They should provide potential bidders with accurate and complete design information to enable bidders to prepare bids that minimize the likelihood of unpleasant surprises for either party.

Owners and bidders may want to consider price-adjustment clauses that would protect both parties from unanticipated swings in materials prices. Such contract terms can enable the contractor to build in a smaller contingency to its bid, while providing the owner an opportunity to share in any savings from downward price movements (which are likely at some point, particularly for long-duration projects). The ConsensusDocs suite of contract documents (www.ConsensusDocs.org) is one source of industry-standard model language for such terms. The ConsensusDocs 200.1 Materials Price Escalation Addendum offers the only standard contract document that addresses price escalation.

The parties may also want to discuss the best timing for ordering materials and components. Buying items earlier than usual can provide protection against cost increases but it comes with the need to pay sooner for the items and potentially paying for storage, security against theft and damage, and the possibility of design changes that make early purchase unwise.

Conclusion

The construction industry is in the midst of a period of exceptionally steep and fast-rising costs for a variety of materials, compounded by major supply-chain disruptions and stagnant or falling demand for projects—a combination that threatens the financial health of many contractors. No single or simple solution will resolve the situation, but there are steps that government officials, owners, and contractors can take to lessen the pain.

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Federal trade policy officials can act immediately to end tariffs and quotas on imported products and materials. With many U.S. mills and factories already at capacity, bringing in more imports at competitive prices will cool the overheated price spiral and enable many users of products that are in short supply to avoid layoffs and shutdowns.

Officials at all levels of government should review all regulations, policies, and enforcement actions that may be unnecessarily driving up costs and slowing importation, domestic production, transport, and delivery of raw materials, components, and finished goods.

Owners need to recognize that significant adjustments are probably appropriate regarding the price or delivery date of projects that were awarded or commenced early in the pandemic or before, when conditions at suppliers were far different. For new and planned projects, owners should expect quite different pricing and may want to consider building in more flexibility regarding design, timing, or cost-sharing.

Contractors need, more than ever, to closely monitor costs and delivery schedules for materials and to communicate information with owners, both before submitting bids and throughout the construction process.

Materials prices do eventually reverse course. Owners and contractors alike will benefit when that happens. Until then, cooperation and communication can help reduce the damage.