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AGC
THE CONSTRUCTION
ASSOCIATION

CONSTRUCTION INFLATION ALERT

2021

In late March, the Associated General Contractors of America (AGC) posted the Construction Inflation Alert, a document to inform project owners, government officials, and the public about the extreme cost increases and supply-chain disruptions affecting construction. Since then, price increases have intensified and spread to additional materials, while lead times for both production and deliveries have lengthened. Thus, the need for an updated document.

Although the overall economy has strengthened significantly in the past few months and appears to be headed for further growth, the construction industry has experienced a much more uneven recovery. Lagging demand for numerous types of nonresidential construction is keeping many contractors from passing on their added costs. This combination of steeply rising costs and nearly stable bid prices threatens to push some firms out of business and keep the industry's unemployment rate unacceptably high.

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. The black line (“Input costs”) shows the change from March 2020 to March 2021 in the price of all materials and services used in nonresidential construction, while the red line (“Bid prices”) measures the change—or lack of change—in what contractors say they would charge to erect a set of nonresidential buildings. This latter line, essentially a measure of bid prices, has remained virtually stable, rising only 1.7% over 12 months. In contrast, the line measuring the cost of contractors’ purchases has soared to 12.4% over the same interval.

In other words, if a contractor or subcontractor submitted a fixed-price bid in March 2020 based on materials costs at that time but did not buy the materials until a year later—a common occurrence—its cost for the materials would have risen an average of more than 12%. 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 potentially put the contractor out of business.

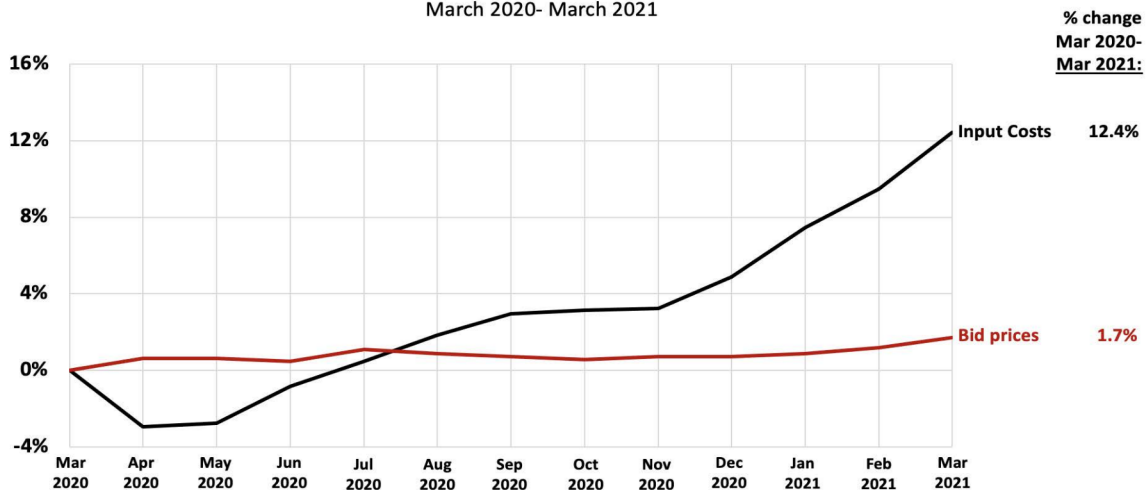
12.4%

Input costs for general contractors have soared to 12.4% from March 2020 to March 2021

FIGURE 1

Change in construction input costs and bid prices

March 2020- March 2021



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

In fact, Figure 1 understates the severity of the current situation for many contractors, in two 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 March 11.

Since then, numerous materials have risen even more steeply in price. For instance, a widely watched index of steel prices rose 11% in April alone, setting new record highs each week. The price of lumber has likewise reached new records throughout April.

Second, 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 80% between March 2020 and March 2021. The PPI for lumber and plywood jumped 63%. The index for copper and brass mill shapes climbed 44% and the PPI for steel mill products rose 40%.

Some materials that have not risen as dramatically in price are nevertheless much harder to obtain than previously or have much longer lead times. For instance, the PPI for plastic construction products rose “only” 10% from March 2020 to March 2021. But the extreme freeze that hit Texas in mid-February damaged or completely shut down all of the plants that supply the raw materials for all construction plastics. In addition, the freeze burst thousands of polyvinyl chloride (PVC) water pipes, thereby adding to demand.

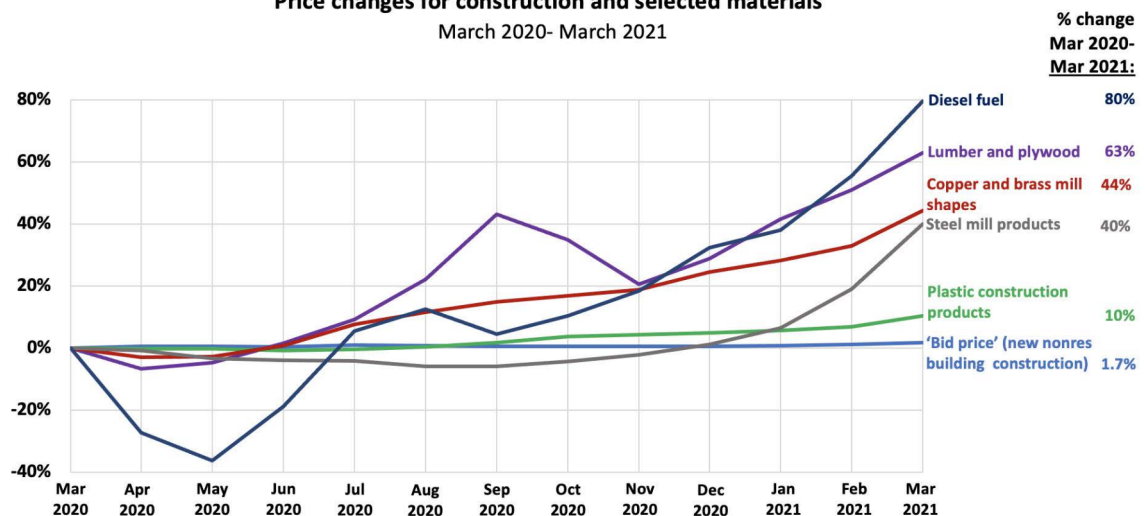
Because the depth and duration of the freeze was unanticipated and covered the entire production region (including facilities in Louisiana and Alabama), the damage was much more extensive and long-lasting than that caused by last year’s Hurricanes Laura and Delta. Both of those storms caused relatively brief shutdowns in more limited areas, with quicker recovery, in part because the operators had warning and experience with similar events. Consequently, as inventories of plastic resins are depleted, more shortages and price increases are expected.

80%

Diesel fuel PPI (Producer Price Index) has increased to 80% between March 2020 to March 2021

FIGURE 2

Price changes for construction and selected materials
March 2020- March 2021



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

1.7%

PPI for contractor "bid prices" increased only 1.7% from March 2020 to March 2021

A very wide array of construction products are made from plastic, resins, or other affected ingredients. These include PVC and fiberglass pipe and plumbing fixtures; vinyl siding and moisture barriers; acrylic and other paints, coatings, and highway marking material; geotextiles; roofing and insulation materials; adhesives and “glues” for the layers and particles of engineered wood products such as plywood, oriented strand board, and I-joists; wraps and packaging; and more.

In addition to increased costs and lead times, contractors are experiencing delivery times that have stretched or become completely unreliable. Many suppliers have warned of difficulty in securing truck or rail transportation from factories, distribution centers and ports. One steel manufacturer reported on April 28 having to wait 15 days for railcars to ship a load of steel. The Wall Street Journal reported on April 16 that fewer ships than previously were waiting outside the ports of Los Angeles and Long Beach to unload containers but that the containers were sitting in the port for as long as 11 days before trains moved them, compared to a typical 1-2 day wait.

The demand for freight services is driving up the price of deliveries, adding further to the producer-level price increases. The runup in price of on-highway diesel fuel is also affecting the delivered cost of the many heavy and bulky items used in construction.

In the face of such volatility and uncertainty, many producers are drastically shortening the duration for which they will guarantee prices. This is very problematic for contractors, who must typically guarantee a price to an owner long before placing a firm order for materials.

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.

Beyond the pandemic and the freeze in Texas, numerous unique events have added to the price increases or delivery delays for specific categories of products. An earthquake and a fire at a factory in Japan curtailed supplies of semiconductor chips for the automotive industry. As semiconductor makers dedicate more available capacity to that sector, they are delivering fewer chips needed for construction trucks, offroad equipment, and "smart" tools and communications devices. An unplanned cement plant shutdown in Texas has reportedly led to rerouting cement produced in Colorado to Texas instead of states in the Mountain West, potentially forcing reductions in concrete product deliveries during prime construction season. Even the six-day blockage of the Suez Canal disrupted products coming from Europe and Asia to the United States.

20%

Housing starts increased 20%
from first quarter of 2020 for
first quarter of 2021

Dramatic shifts in demand triggered, at least in part, by the pandemic have added to price pressures and shortages of goods. Single-family housing starts increased 20% in the first three months of 2021 from year-earlier levels, creating huge additional demand for wood products and other items that are also used in nonresidential construction. Restaurants that installed decks and railings for outdoor dining, along with offices and other buildings undergoing remodeling, added to demand for these products. Bringing facilities back to full operating rates is likely to take several months in some cases.

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

28 months

Increases in material costs have outpaced bid prices for as long as 28 months

The construction industry has endured previous spells of rapid cost escalation. For instance, the PPI for goods used in 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 autumn 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 4% until early 2012.

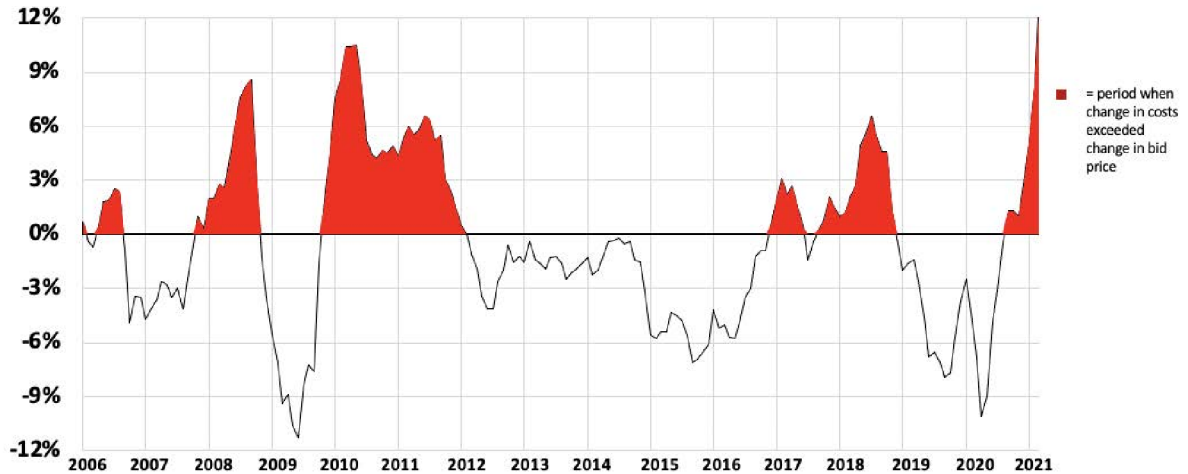
The most recent episode of large increases in materials costs was from November 2017 through November 2018, when the year-over-year price change ranged from 4.9% to 9.2%.

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 their bids to match the increases 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 are 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 provides an example of one such gap. The areas in red indicate periods in which the year-over-year change in the PPI for inputs to construction exceeded the PPI for new warehouse construction. Similar periods exist for the other new-construction “bid price” indexes: the PPIs for new school, office, industrial and healthcare buildings.

FIGURE 3

Change in material costs vs. change in warehouse bid prices, Jan. 2006- Mar 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 gap between residential and nonresidential activity. Residential construction spending—comprising new single- and multifamily structures along with additions and renovations to owner-occupied housing—jumped 23% from March 2020 to March 2021. Over the same 12 months, private nonresidential construction spending tumbled 9%.

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.

-9%

**Private nonresidential
construction spending
fell 9% from March
2020 to March 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 from one to six 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.

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.

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.

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