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Contractor's Cost Conundrum

AGC New Mexico

Construction Labor Research Council

Contractors in the construction industry are faced with a variety of challenging economic conditions and conundrums. This report by the Construction Labor Research Council (CLRC) outlines two key conundrums currently impacting contractors in New Mexico:

- I. The High Cost and Large Price Increases of Commodities Used in Construction (Section I)
- II. Variability and Unpredictability in Construction (Section II)

These two factors will be examined using established data on:

1. The price of commodities commonly purchased by contractors in the construction industry
2. Spending on construction in New Mexico
3. Construction employment in New Mexico
4. The cost of living in the West region of the U.S. (the most specific data cut that includes New Mexico)

A number of respected data sets and sources are used in this report. In order to make the information as relevant as possible, data cuts for the geographic area that includes New Mexico and that include the trades associated with AGC of New Mexico are used whenever available. Below is a brief explanation of each data source.

Commodity Prices

The Producer Price Index (PPI) program at the Bureau of Labor Statistics (BLS) in the Department of Labor measures the average change over time in the selling prices received by domestic producers. It provides a reliable and broad measure of the prices paid for commodities (materials), including commodities purchased by contractors in the construction industry.

Construction Spending

This data comes from the Census Bureau's Value of Construction Put in Place Survey (VIP) and provides estimates of the total dollar value of construction work. This data provides a trusted overview of spending on construction projects, with data cuts for public and private work, at the national and state level and by industry. The data cut for the state of New Mexico is used in this report.

Construction Employment

This data comes from The Quarterly Census of Employment and Wages (QCEW) program at BLS. The QCEW publishes a quarterly count of employment and wages reported by employers covering more than 95 percent of U.S. jobs, available at the county, MSA, state and national levels by industry. Various data cuts in New Mexico are used in this report.

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Consumer Price Index (CPI)

The CPI is perhaps the best known and most respected economic indicator in the U.S. Published monthly by BLS, it shows the change in prices for goods and services (i.e., inflation) and provides a useful index of the cost of living. The CPI offers many data cuts and is included in this report as a useful benchmark comparison, a familiar point of reference. The West region is used in this report. It is the most specific data cut that includes the state of New Mexico.

I. The High Cost and Large Price Increases of Commodities Used in Construction

The price of commodities constitutes a significant factor in overall costs for contractors, including competitive bids for new work. In **Exhibit 1.1** (next page), the growth of three relevant indexes for 2020, 2021 and 2022 are compared. The indexes are:

- The CPI specific to the West region of the U.S. (includes New Mexico), which is an important benchmark for tracking the cost of living for consumers (CPI-West).
- The price of commodities used in construction (Construction Commodities).
- The price of commodities related to general contractors in the western part of the U.S. (General contractors-West).

The exhibit shows the significant increase in the cost of living in the West and the even more dramatic increases in the price of commodities used by contractors in construction.

Specifically, in 2020 the increases in the three indexes were fairly similar—the CPI-West was 1.7%, Construction Commodities was 1.5% and General Contractors-West was 2.5%. In 2021, the average increase in prices paid for Construction Commodities jumped to 26.8%, General Contractors-West grew to 7.7%, and the CPI-West increased the least, to 4.5%. In 2022 the CPI-West increased noticeably to 8.0%. However, this continued to be eclipsed by Construction Commodities, which was still high at 20.6% and General Contractors-West, which inflated to 20.4%.

Thus, although the CPI has been at its highest levels since the early 1980's, the prices for commodities used in construction have increased significantly more, putting strong pressure on contractors' ability to be competitive.

Exhibit 1.1

The Large Price Increases of Commodities Used in Construction Compared to Benchmark Data

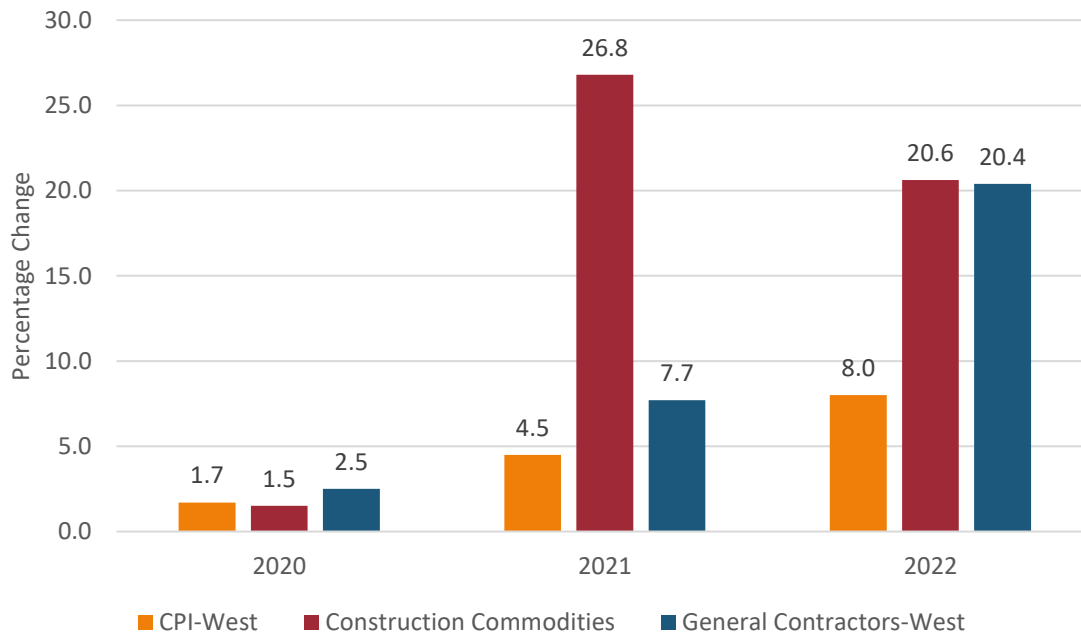


Exhibit 1.2 illustrates the modeled growth of \$100 from 2015 – 2022 based on the three indices in **Exhibit 1.1**. The exhibit conveys two findings.

First, the \$100 value was very stable and consistent from 2015 – 2020, with modest and similar growth for all three indexes. The prices paid by consumers and contractors were growing at fairly similar rates. Second, the \$100 metric increased noticeably after 2020, but much more for construction.

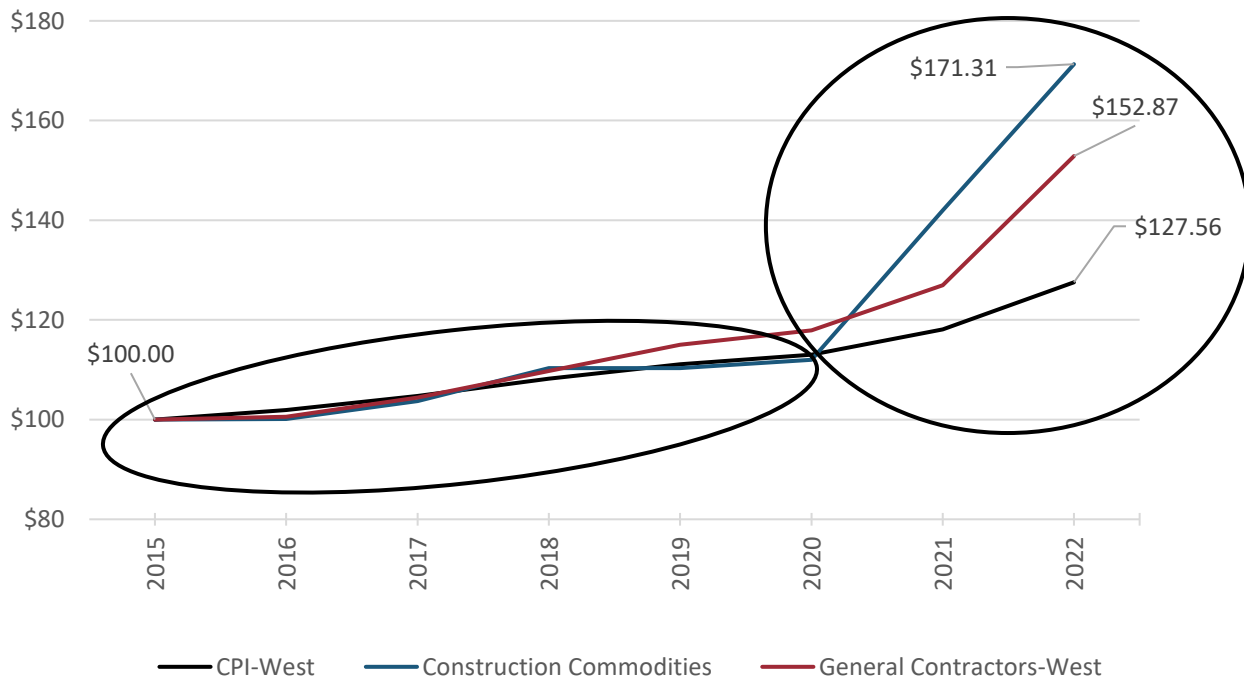
In 2020 the \$100 amount used in this analysis resulted in a price of \$113.02 using the CPI-West, \$112.00 using Construction Commodities and \$117.89 using General Contractors-West. By 2022, just two years later, there was a large divergence in the results. Consumers were paying \$127.56 for goods and services that cost \$100 in 2015, a noticeable increase. However, contractors were paying much more than that at \$152.87 for construction materials and \$171.31 for general contractors in the West.

Escalation of \$100 in 2015 based on three indices:

Index	Price in 2020	Price in 2022
CPI-West	\$113.02	\$127.56
Construction Commodities	\$112.00	\$152.87
General Contractors-West	\$117.89	\$171.31

Exhibit 1.2

Growth of \$100 Based on Indexes for the Cost of Living and Construction Commodities



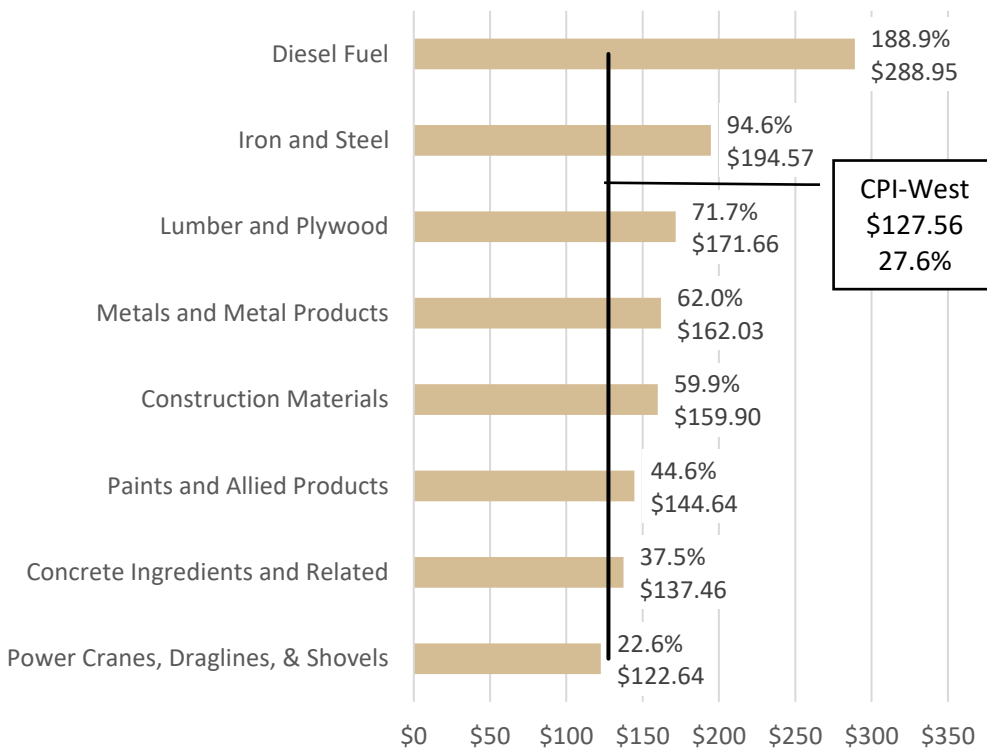
The cost growth for some of the most common specific commodities purchased by contractors is charted in **Exhibit 1.3**. The exhibit shows the price in 2022 of a \$100 unit of each commodity in 2015. The CPI-West is shown as a benchmark comparator.

The smallest increase shown was for Power Cranes, Draglines, & Shovels, which grew to \$122.64 (22.6%) in 2022. The largest increase was for Diesel Fuel, which increased to \$288.95 (188.9%). In comparison, the cost of living escalated much less—\$100 grew to \$127.56 (27.6%) in 2022.

Consistent with **Exhibits 1.1 and 1.2**, this exhibit illustrates the large price increases found with a wide variety of commodities that contractors purchase. And while the CPI-West increased significantly, it was generally less, sometimes much less, in comparison to the price of materials contractors need to complete their projects.

Exhibit 1.3

Increases in the Price of \$100 of Commodities Purchased by Contractors



Note: **Exhibit 2.1a** on the following page may look cluttered—it contains many erratic lines which can be hard to follow in detail. However, the purpose of the exhibit is to give a broad, visual overview of the extreme fluctuation in the price of commodities used in construction, not an exacting look at each data point. In other words, the reader is not expected to be able to track the detailed data shown by each line for each commodity, but rather to see the overall variability in construction commodity price trends.

II. Variability and Unpredictability in Construction

Another less obvious yet major challenge for contractors is the variability of business inputs that are critical to their successful operations. These inputs include, but are not limited to, at least three items:

- the price of commodities used by contractors (**Exhibits 2.1a, 2.1b**)
- spending on construction work in New Mexico (**Exhibit 2.2**)
- labor availability in New Mexico (**Exhibit 2.3**)

Variability really means unpredictability. And unpredictability is an unfortunate circumstance which makes planning difficult for contractors. Since contractors cannot predict what the future work environment looks like, they need to plan with extra caution in order to be prepared for unfavorable large swings in commodity costs, erratic spending on construction and/or labor shortages (or surpluses).

Exhibit 2.1a shows vividly the large fluctuations over time in the price of the commodities used by contractors shown in **Exhibit 1.3**. The average annual fluctuation from 2000 – 2022 for the commodities shown ranges from a low of 2.0% for Concrete Ingredients and Related to a high of 12.5% for Iron and Steel. The CPI-West benchmark average deviation is much less at 1.1%. As an example of significant fluctuation, Lumber and Plywood went from -8.0% in 2009 to 10.9% in 2010 (an 18.9% upswing) to -1-1% in 2011 (a 12.0% downswing), and this is greatly overshadowed by the extremely large bounces in 2021 and 2022. The CPI-West variability in the exhibit, even with recent large increases, looks small compared to the variability of the prices of commodities purchased by contractors.

Exhibit 2.1a

Extreme Variability in the Price of Commodities Purchased by Contractors

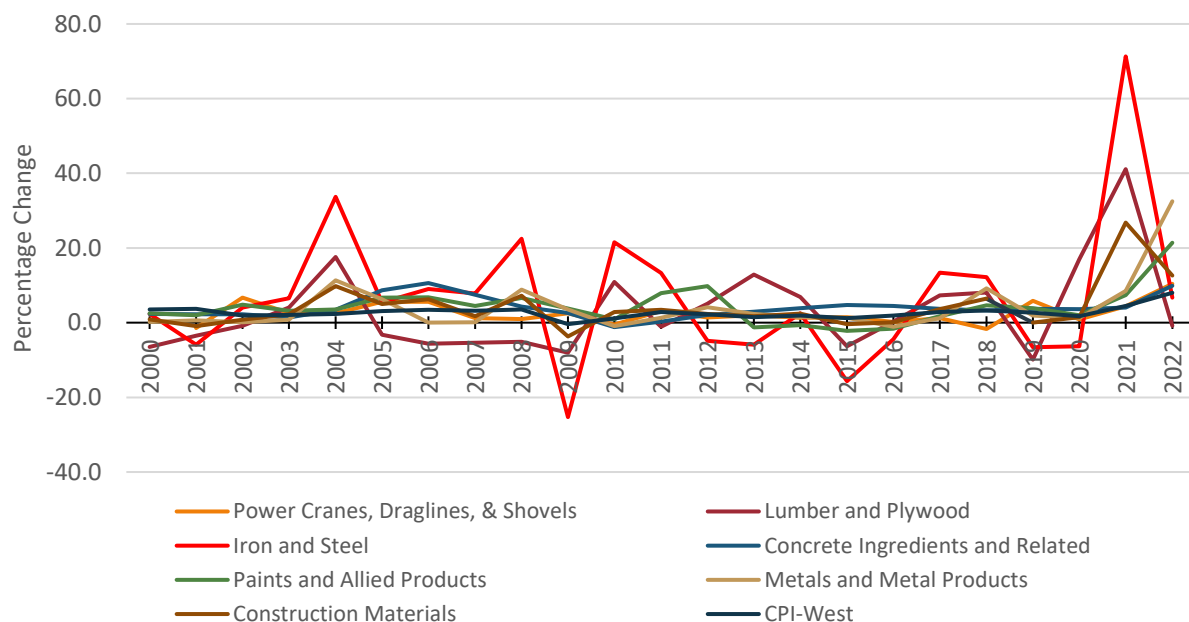


Exhibit 2.1b is really a subset of **Exhibit 2.1a**. However, because the cost fluctuation is so extreme for Diesel Fuel a separate chart is necessary because this commodity requires a much wider range in the vertical y-axis. The careful reader should note that the range in **Exhibit 2.1b** (-60.0% to 100.0%) is larger than the range in **Exhibit 2.1a** (-40.0% to 80.0%); therefore, putting them in the same chart would inappropriately mitigate the significant fluctuation in **Exhibit 2.1a** by the extreme fluctuation in Diesel Fuel in **Exhibit 2.1b**.

Exhibit 2.1b

Extreme Variability in the Price of Diesel Fuel

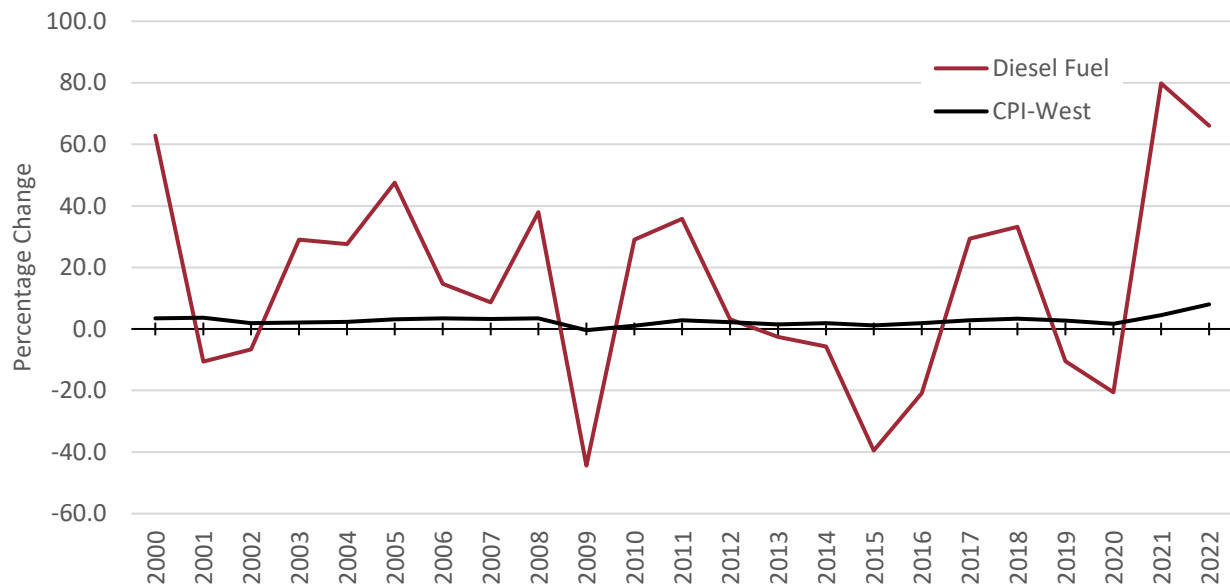


Exhibit 2.2 contains data for Construction Spending in New Mexico alongside the CPI-West as a benchmark point of comparison. The average annual deviation for the CPI-West is 1.1%, whereas for Construction Spending in New Mexico it is a very large 20.0%. (Note, Construction Spending data for New Mexico only available through 2021 at time of publication.)

As an example for Construction Spending in New Mexico, there was a huge 78.3% swing in just a one-year span—from -19.5% in 2016 to 58.8% in 2017. The CPI-West changed by just 0.9% during this time. However, the changes were not limited to this spike, as **Exhibit 2.2** displays. There is wide variance throughout the past 20 plus years. It should be noted that, as is the case with **Exhibit 2.1b**, the exceptionally large swings in Construction Spending expand the scale (y-axis) so much so that the swings in the CPI-West are (visually) minimized in comparison.

The point regarding the data on Construction Spending is that the capital investment for construction projects can vary widely from year to year, much more than the cost of living. And the wide swings are often unpredictable, making the overall business environment for contractors in New Mexico quite challenging.

Exhibit 2.2

Wide Variability in Construction Spending in New Mexico

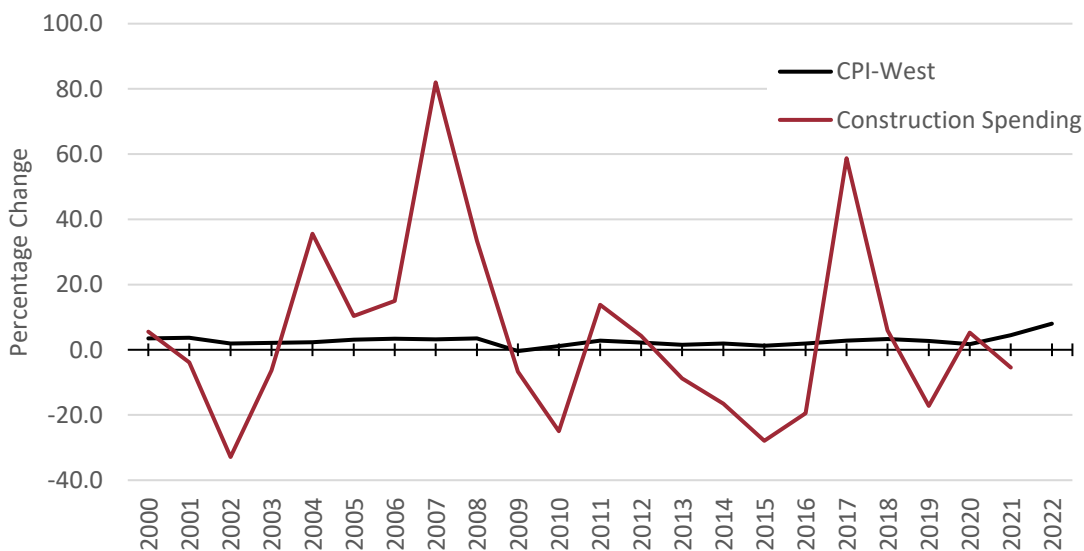
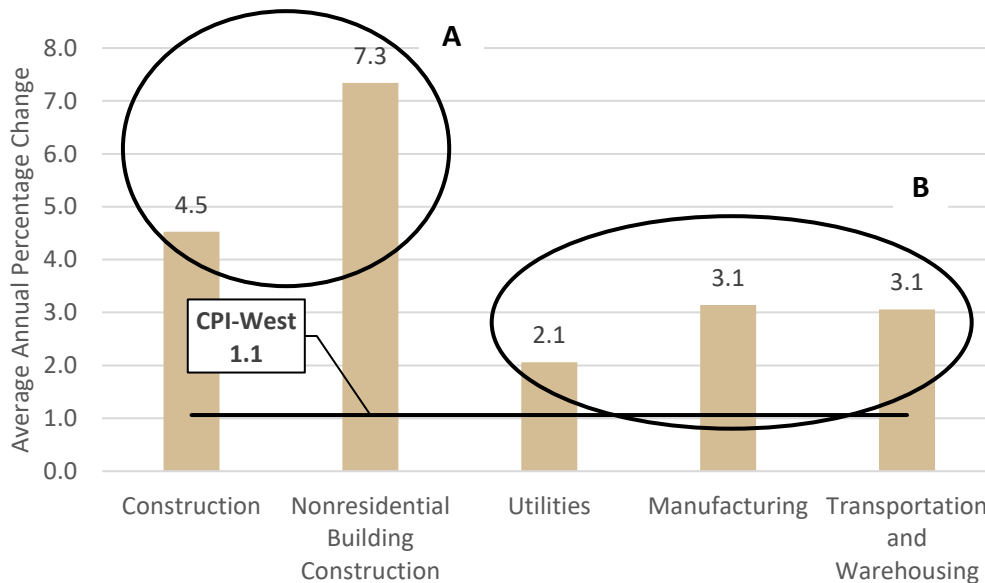


Exhibit 2.3 uses employment data in New Mexico to further illustrate the variability of important business factors for contractors. The exhibit displays average change in employment from 2002 – 2021 for industries related to construction work along with relevant other industries as comparators.

Oval A encompasses construction; **Oval B** highlights related industries. Of note is that the industry with the greatest variability (A) is Construction. The three industries with less variance (B) are non-construction industries such as Utilities and Manufacturing. The average for **Oval A** (construction related) is 5.9% while the average for **Oval B** (non-construction) is much less at 2.8%.

Exhibit 2.3

Variability in Employment in Construction in New Mexico



Discussion

This report has outlined two issues or conundrums of primary concern facing contractors in New Mexico:

- I. The High Cost and Large Price Increases of Commodities Used in Construction (Section I)
- II. Variability and Unpredictability in Construction (Section II)

Throughout the report, the CPI for the West region has been included as a salient benchmark for comparison. The cost of living and inflation (i.e., the *CPI-West*) are universal topics and they are an important consideration for both consumers and contractors as they manage their lives and businesses, respectively.

This report juxtaposes this important benchmark—the cost of living—which reflects the perspective of *employees*, with other key factors that represent data important to *contractors* in an effort to aid management and labor in decision making.

I. The High Cost and Large Price Increases of Commodities Used in Construction

While this report has focused on the price and price change of commodities used in construction, contractors must also manage other costs as well, such as labor, insurance, equipment and tools, training, travel, rent and taxes, to name a few. The unprecedented large rise in the price of construction commodities puts significant pressure on contractors to effectively manage all costs in order to remain competitive in a very challenging construction environment.

II. Variability and Unpredictability in Construction

Variability means unpredictability. The ability to plan is important for all contractors, but planning becomes quite challenging when the business environment is unpredictable. In other words, the extreme variability in construction commodity prices, construction spending and construction employment has made planning an even more important, yet harder to accomplish, task for contractors. When the environment in which contractors find themselves is this volatile or unpredictable, they must exercise especially prudent decision making.

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