
Construction audit toolbox:

Mitigating construction project price risk in a volatile market



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**MITIGATING CONSTRUCTION PROJECT
PRICE RISK IN A VOLATILE MARKET**

Today's agenda

- Market indicators
- Construction contract terms that can mitigate price risk
- Material management risk register
- Construction audit program adjustments



Headlines

U.S. homebuilding stumbles amid unrelenting supply constraints



By Lucia Mutikani

Labor Shortages, Supply Chain Roadblocks, COVID-19 Still Hamper Contractors

Associated General Contractors data shows 89% of contractors have difficulty finding craft workers



The World Is Still Short of Everything. Get Used to It.

Pandemic-related product shortages — from computer chips to construction materials — were supposed to be resolved by now. Instead, the world has gained a lesson in the ripple effects of disruption.

The New York Times


Factbox: U.S. companies raise product prices to tackle wage, raw material inflation





What supply sectors are affected?

- Steel, up over 45%
- Lumber, up over 100%
- Plastics and petroleum based products, up over 20%
- Sheetrock ,up over 20%
- All finished goods with these products in their supply chain
- And don't forget direct labor. Yep, that is up too.



Why are materials prices skyrocketing?

1. COVID-19 impact

2. Tariffs on imported product - mainly Canada and China

3. Transportation bottlenecks

4. Manufacturing bottlenecks

5. Demand from unanticipated sectors



QUESTION


What is the silver bullet answer to preventing and avoiding increasing materials costs?



ANSWER

There is none.

New construction will be subject to these price increases until the supply curve catches up with the demand curve.



Current state = opportunity

- Volatility
- Chaos
- Rapid change
- Extraordinary management pressure

Project controls may be stressed to the breaking point

Case study: opportunity

Project background

- Four year construction schedule
- Work started in 2018
- Buyout completed in 2018
- Finishes include Italian marble floors
- Construction is on time and floors are to be installed soon
- Owner was billed for the marble in 2019.

Change order submitted to the owner

- Marble cost increases due to COVID-19 impact
 - Transportation costs
 - Quarry delays
- Labor cost increase resulting changes in the labor market
- Contractor marked up CO 15%



Change order analysis

- Fact: Marble costs dramatically increased
- Fact: Imported products are delayed
- Fact: Labor market is tight
- Fact: Contract terms permitted 15% change order mark up

- Opportunity: Current market state opens the door to claim Force Majeure and ask for a price adjustment



Change order analysis

Additional considerations:

- Tile contractor fixed bid the work
- Future price changes are an every day risk and not a Force Majeure event
- Tile contractor failed to plan ahead and procure the required marble to fulfill the contract
- Labor market risks are common business risk and are owned by the contractor
- And the claim of just in time inventory management is a contractor business strategy that failed and not the owner's responsibility
- Had market prices dropped, the savings would not have been passed on to the owner

Change order resolution

Schedule relief was given to the tile contractor

Owner paid for the increased marble cost

Tile contractor paid for the additional transportation and labor costs

Contractor profits were eliminated from the change order

Risk register: retrospective

Contracts and buyouts completed prior to market changes or events

- Price changes under fixed price contract
- Compensable schedule changes
- Applied contingency budgets
- Fee and profit adjustments
- Subcontractor default

Periods of chaos, volatility and unpredictability

Auditors need to be more vigilant than ever for:

Fraud

Theft

Unauthorized
material
substitution

Unrelated and
non-compensable
project changes

Cost shifting

Unethical
behaviors



Risk register: prospective

- Layout yard security
- Delivery ticket management
- Material delivery and rerouting
- Cost shifting
- Over purchasing
- Buyout oversight
- Excess material credits
- Allowance management
- Deposit management
- Material substitution
- Ghost vendors
- Mark up and profit management

Profit and markup management

Auditor's notes:

- Contractor bids need to include full disclosure of expected material and labor costs with mark up
- Subcontract agreements need credit clauses enabling the owner to participate in material cost reductions
- Materials maybe pulled out of trade and craft bids and managed as allowances
- Owners may need to evaluate direct purchasing construction materials



Profit and markup management

Fee and profit are frequently a factor of project cost.

However, if costs are escalated should fee and profit be escalated too?



Profit and markup management

Auditor's notes:

- Should a fixed fee be negotiated that is based on costs from a baseline year such as 2017 or 2018?
- Should shared savings bonuses be paid on material price reductions due to market fluctuation?
- Should general conditions be adjusted if material costs go up?
- If commodities contracts are used to hedge material prices, who owns the audit risk?



Forward and futures contracts

Commodities contracts enable the owner to purchase a set quantity of steel, lumber, etc. at a set price on a specific date.

- Forward contracts are 1:1 purchase agreements with suppliers typically for the purpose of resale
- Futures contracts are securities that are traded on the commodities exchange

Materials management

Auditor's notes:

- Request copies of supplier purchase orders
- Request copies of shipping and delivery tickets
- Reconcile both source document with supplier invoices (three way match)
- Request copies of engineers material takeoff and reconcile with purchase orders



Physical security

Auditor's notes:

- Review contract terms for transfer of ownership of materials and equipment: Who owns the risk of theft?
- If materials are stolen and the project is delayed, is this a compensable schedule change?
- Who is responsible for the physical security of the jobsite and layout yard?
- Is any of the theft replacement event, fee applicable?





Case study: value engineering

Project background:

- Project planned and bought out with a \$45 million GMP
- Two year construction schedule starting in 2019
- Steel prices and backlog have impacted the steel roof specified in the plan

Project impact

- Roofing contractor, owner, architect and CMAR evaluate options
- Fiberglass roof will replace steel
- Lump sum change order issued for specification and cost changes

Case study: value engineering

Auditor's notes:

- Are there any deposits that need to be accounted for?
- Does this change the warranty on the roof?
- Does this change the expected life of the roof and long term cost of ownership?
- Who is responsible for the additional architect time?
- Is the roofing contractor experienced with a fiberglass roof?





Force Majeure

Our working definition is: any event that impairs the construction project, is unforeseeable and that is outside the control of the owner, contractor or other project related responsible party.

Force Majeure examples

Current COVID-19
pandemic

Unprecedented
market condition
change

Civil unrest

Legislation or
other government
executive order

Some major
weather events



Force Majeure audit red flags

Change orders to
compensate for
the event

Overstating current
and anticipated
costs for the event

Cost shifting non-
allowable costs to
the event

Cost shifting
unrelated costs to
the event



Case study

Project summary:

- \$70 million STEM facility
- 60% complete, 6 months remaining
- GMP contract
- General conditions at cost
- Three weeks behind schedule

Event summary:

- Project deemed essential
- Job site must adhere to CDC and local COVID-19 hygiene requirements
- Productivity impaired
- Labor pool restricted
- Supply chain interrupted



Contractor's response

Force Majeure change order to the owner:

- Time extension of six weeks
- Additional general requirements
 - Wash stations
 - Personal protection equipment
 - Cleaning products
 - Jobsite cleaning
 - Personnel monitoring



Contractor's response

- Additional general conditions
 - Extra safety/COVID-19 personnel
 - COVID-19 plan development
- Trade and craft labor premium adjustment
- Material cost price premium adjustment

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- Construction fraud podcasts
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