



## MDD PRESENTATION TO ROCKY MOUNTAIN RIMS

INFLATION RISK: WHY RISK MANAGEMENT  
PROFESSIONALS NEED TO BE AWARE



@mdd1933



MDD Forensic Accountants



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Making Numbers Make Sense  
> mdd.com

# What are we covering today?

**01.**



Introduction &  
MDD Overview

**03.**



Issues

**05.**



What Does It All  
Mean?

**02.**



Inflation & Inflation  
Risk

**04.**



Local and Industries

**06.**



What Can Be Done?



# Economic Damage Quantification

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## > EDQ:

- > The practice of measuring, in financial terms, the value of harm or injury that has been inflicted on a person or property



# Global Footprint

## CANADA

Toronto  
Vancouver  
Montreal  
Kingston  
London (ON)  
Calgary  
Hamilton (ON)  
Halifax  
Winnipeg  
Ottawa

## USA

Atlanta	Houston
Boston	Miami
Chicago	Parsippany
Dallas	Portland (ME)
New York	Washington (DC)
Hartford	Detroit
Los Angeles	Minneapolis
Charlotte	Pittsburgh
Philadelphia	San Francisco
St Louis	Denver
Orlando	

London

Dusseldorf

Paris

Seoul

Tokyo

Hong Kong

Bangkok

Singapore

Dubai

São Paulo

Latin  
America

Sydney

Auckland

- > Builder's Risk & Soft Costs
- > Business Interruption
- > Catastrophe Services
- > Contingency/Entertainment Insurance Claims
- > Cyber Risks
- > Environmental Damages
- > Extra Expenses
- > Fidelity & Surety
- > Liability Losses
- > Lost Profits
- > Physical Damages
- > Product Liability & Recall
- > Stock & Contents Losses
- > Subrogation
- > Valuable Papers

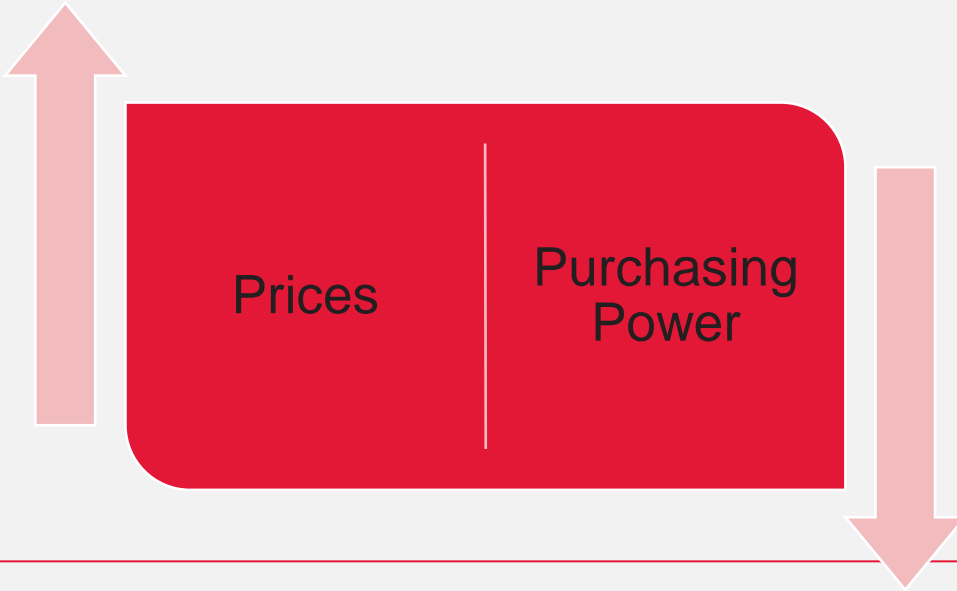
- > Business & Shareholder Disputes
- > Business Valuation
- > Divorce / Marital / Family Law
- > Expropriation
- > Franchise Litigation
- > Fraud & Investigations
- > Intellectual Property
- > Liability Losses
- > Litigation / Arbitration / Mediation Support
- > Personal Injury & Wrongful Death
- > Employment Disputes & Wrongful Termination

# Inflation

# Inflation



> **Inflation:** A general increase in the prices of goods and services in an economy.



# Inflation



## > Inflation Rate:

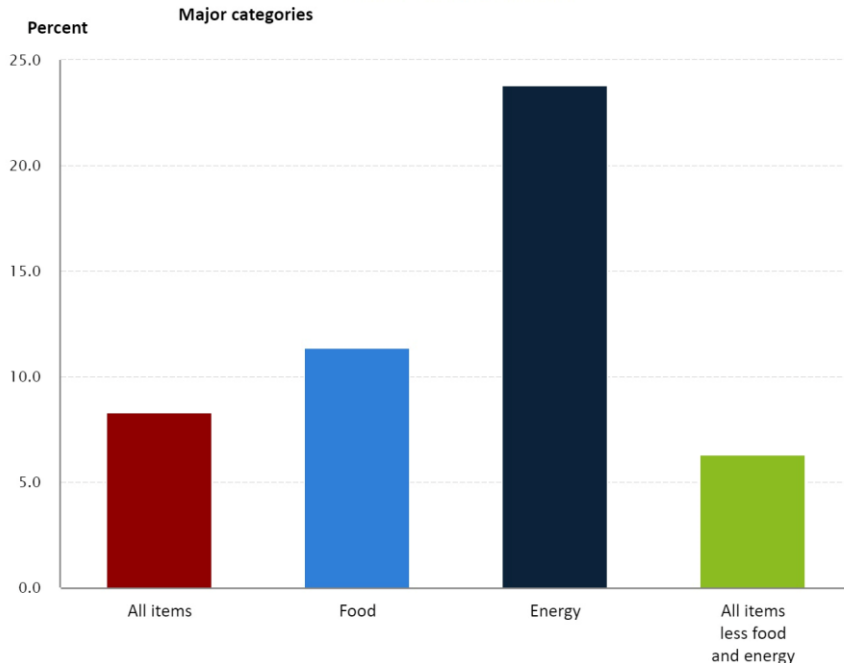
Annualized percentage change in a price index.

## > Consumer Price

**Index:** A measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

12-month percentage change, Consumer Price Index, selected categories, August 2022, not seasonally adjusted

[Click on columns to drill down](#)

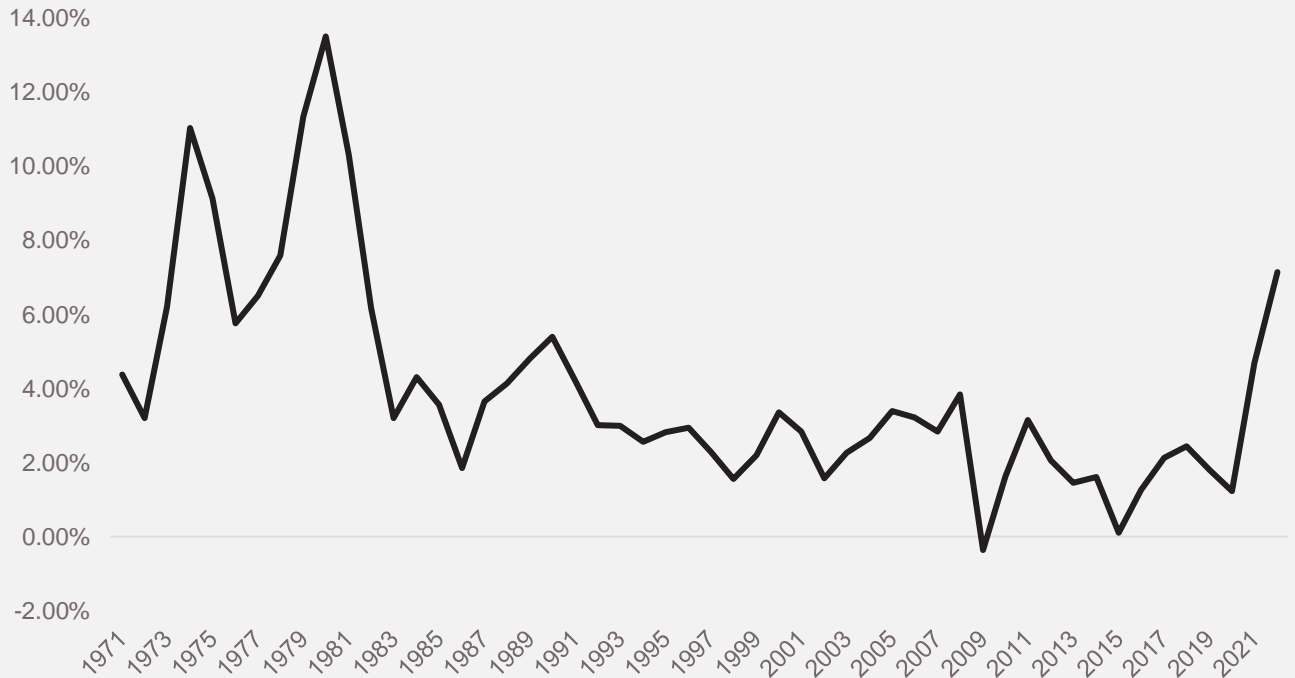


Source: U.S. Bureau of Labor Statistics.

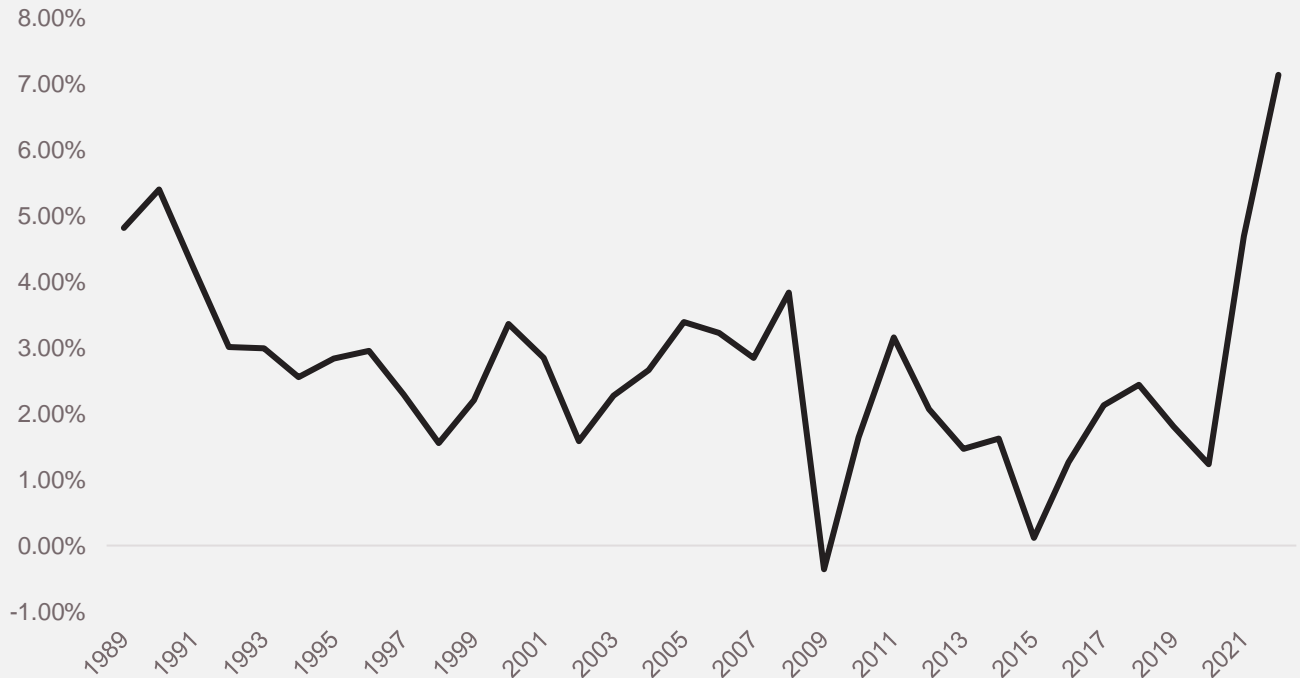




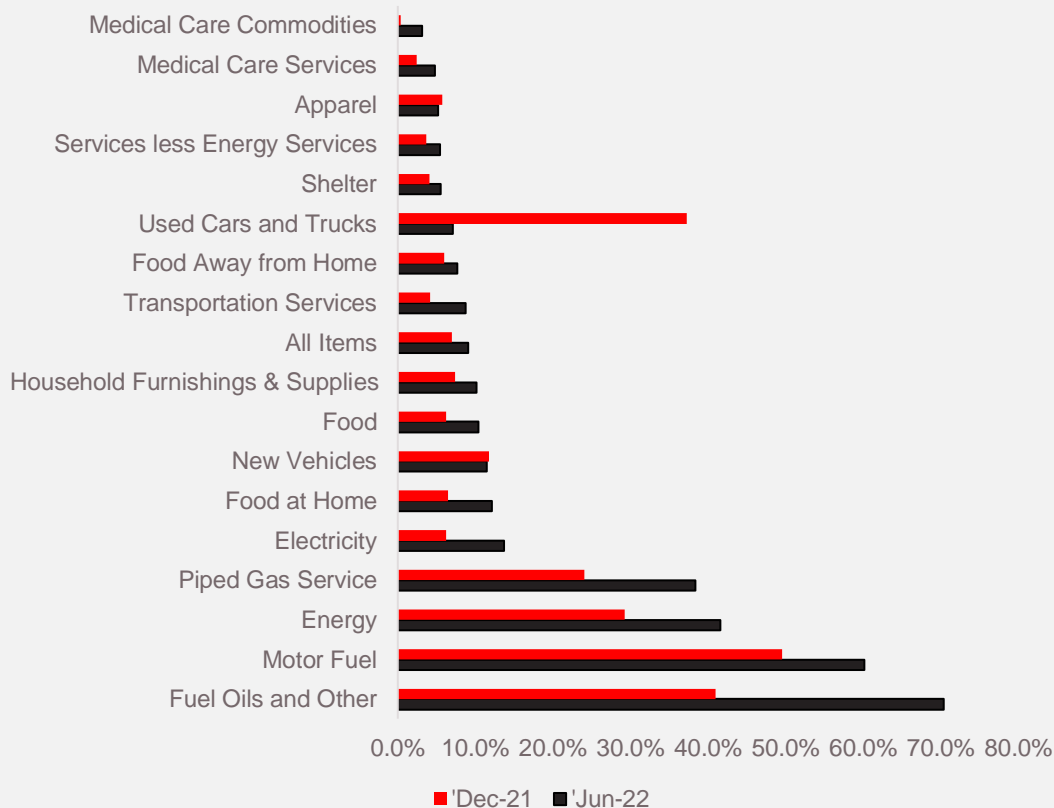
# Inflation – Annual % Change 1970 - Present



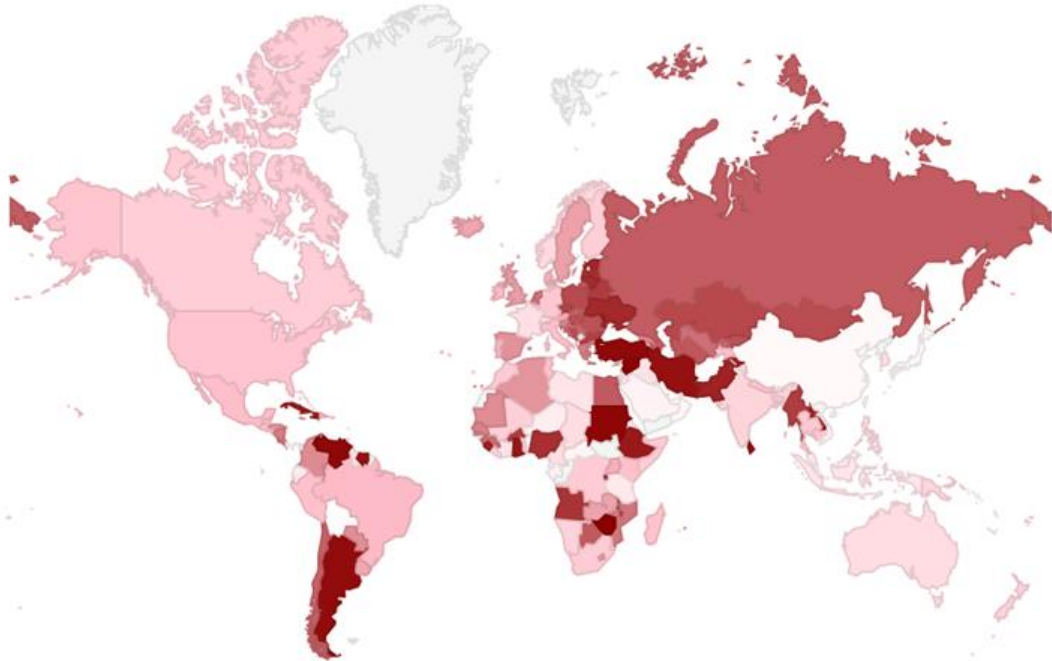
# Inflation – Annual % Change 1988 - Present



# Inflation – By Product Category, 2021 v. 2022



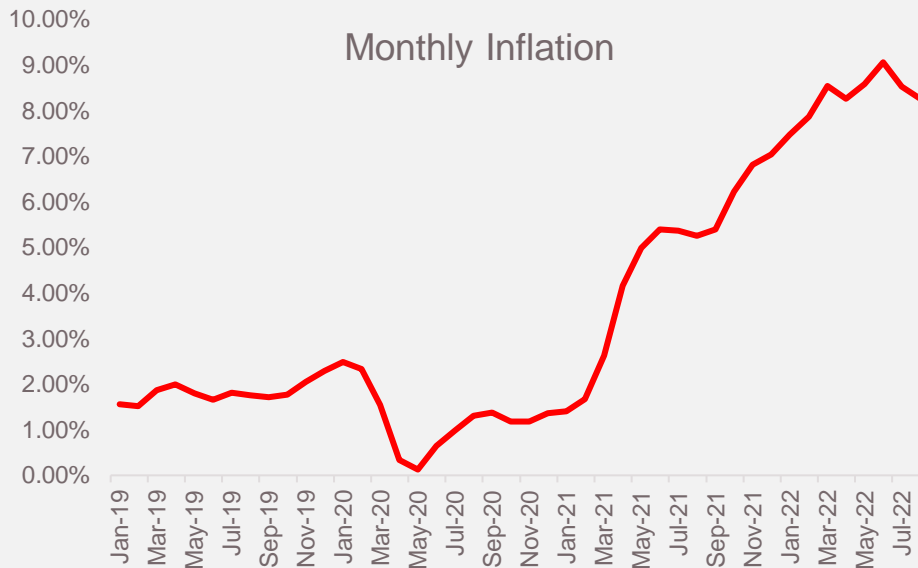
## 2022 IMF Revised Projected Inflation Rates – Summer 2022



# Inflation Risk



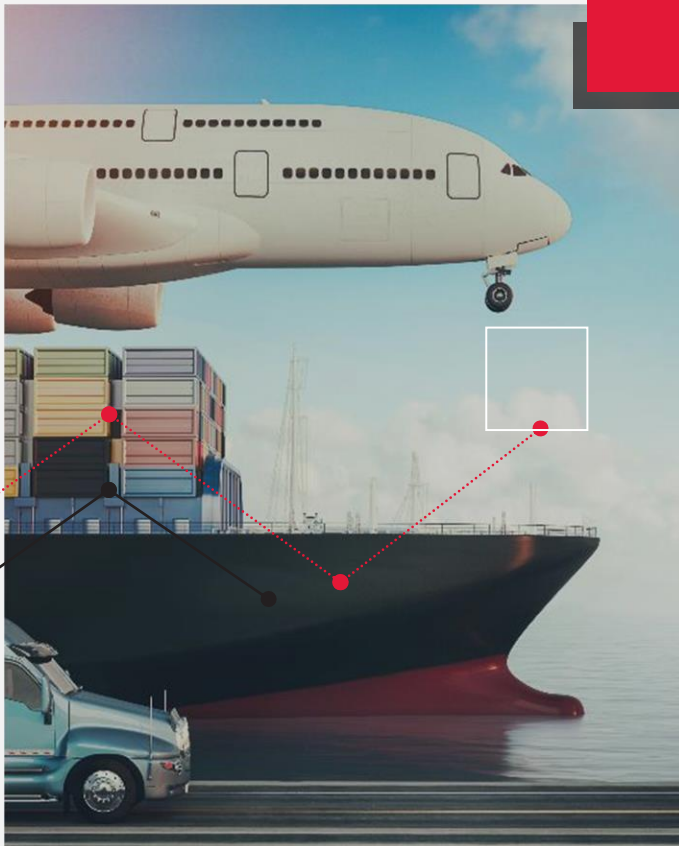
> **Inflation Risk:** When prices of goods / services change differently than expected



# Issues

- Supply Chain
- Key Materials
- Conflict
- COVID-19
- Labor

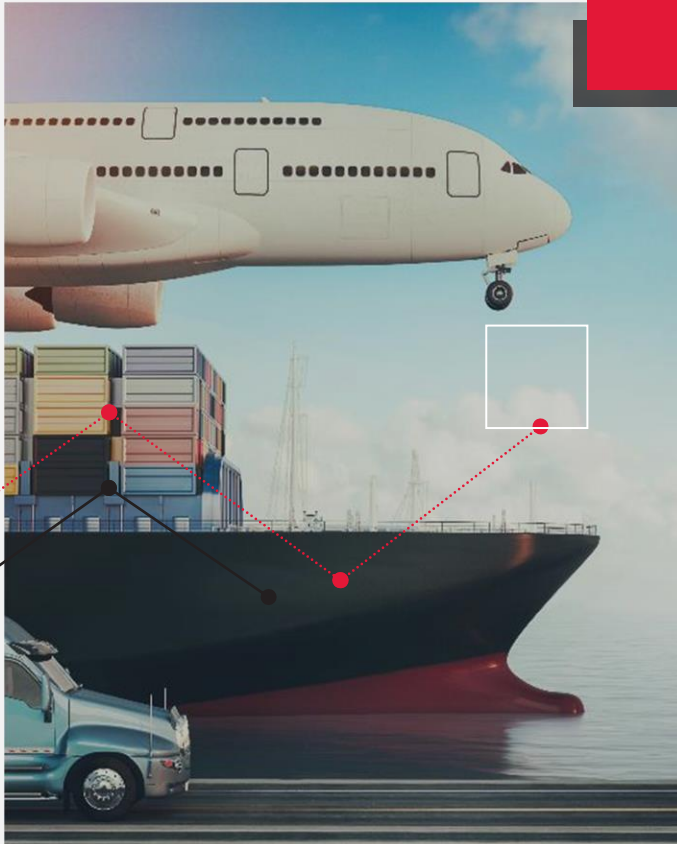
# Let's Follow the Chain



## What happened?

- Impact of Covid 19 led to initial slowdown in production
- Massive PPE shipments out of China around the world, meant pile-up of containers outside of where they were needed
- Shipping companies assumed demand would drop sharply
- But different circumstances developed – a demand shift
- Instead of eating out & attending events, people bought office furniture, electronics and kitchen appliances
- Accelerated shift to online shopping, in period April to June 2020, Amazon sold 57% more than the prior year.
- As demand increased (with gov't aid), deliveries to ports swiftly overwhelmed ports, i.e. 100-vessel queues in ports of LA and Long Beach

# Let's Follow the Chain



## What happened?

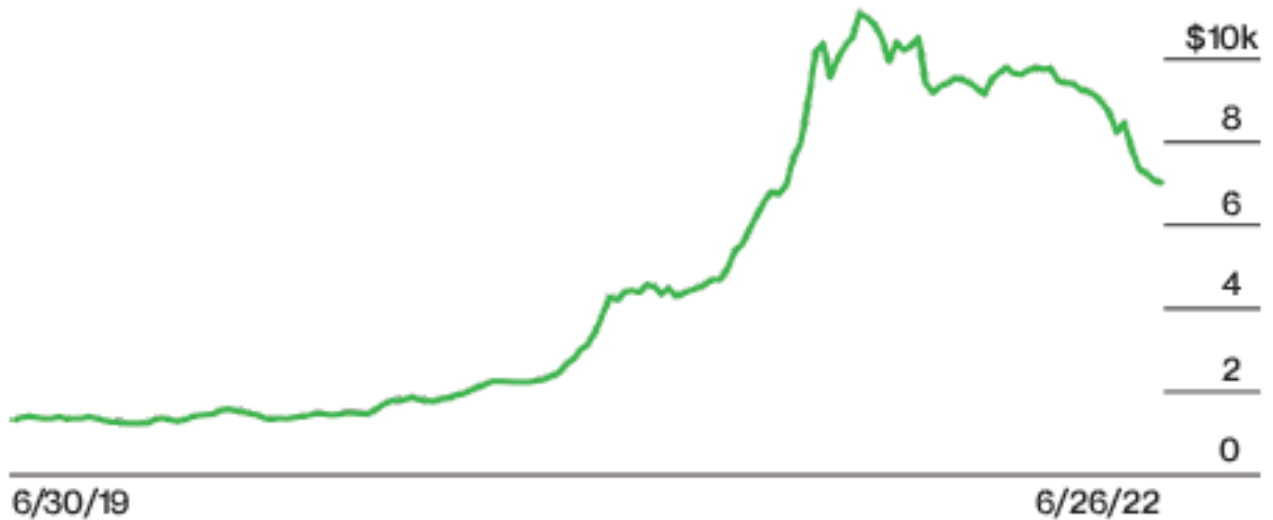
- Dramatically increasing orders outstripped availability of containers, costs of shipping containers increased by more than tenfold
- Once containers arrived into ports, shortage of truck drivers meant containers are trapped at the port
- Companies struggle to hire workers at warehouses, retailers, construction sites, etc.
- Even with higher wages, issue still not rectified, leading to higher prices
- Just in time operations now in peril as the approach only works under assumption goods are available
- Ukraine invasion likely means this will continue for some time

... and the spiral continues?



# Freight Prices

Freightos Baltic Index  
Global average rate for a 40-foot container



# Key Materials and Specific Goods

- > PPE
- > Sriracha
- > Garage Doors
- > Microchips
- > Lumber
- > Toilet Paper
- > Bicycles
- > Baby Formula
- > Gas
- > Coins



# Construction Materials – Delayed Supplies



## SRS Building Supply Company in US

As you are aware, the supply of roofing shingles has been significantly impacted, since last year. Recent events are now compounding the supply situation and will reduce production levels at several manufacturers even further – potentially up to 8%. These events include:

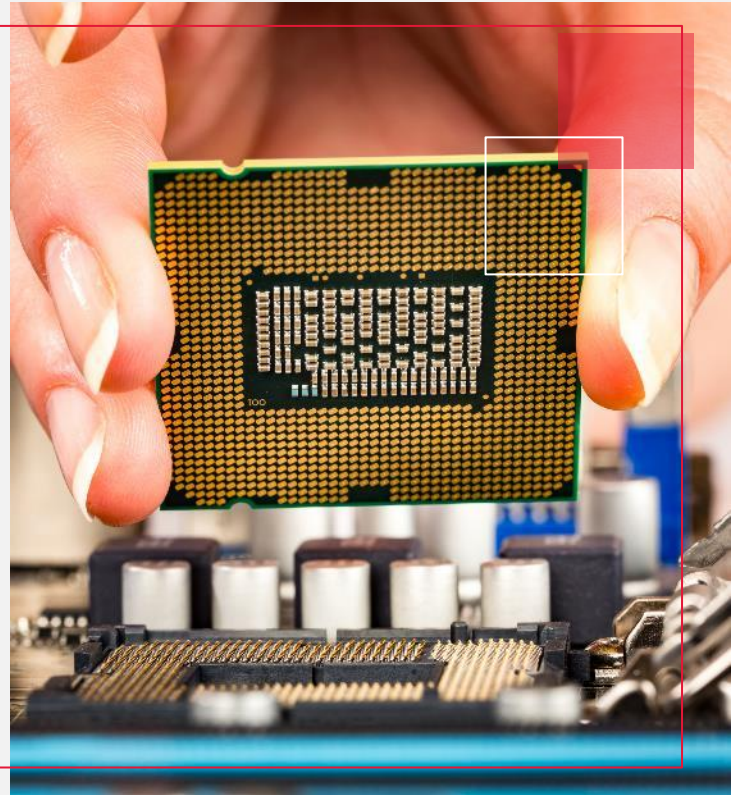
- Extreme weather situations across the U.S.
- Freight & Supply Chain issues for all of our trade partners
- COVID shutdowns at production facilities
- Production complications and maintenance issues
- Raw material and supply line issues
- Material allocations
- Demand continuing to out-pace supply



# Chip Shortages



- > Prior to Covid there was already a chip shortage affecting many industries
- > Ongoing shortages affect vast number of industries:
  - Car manufacturers, smartphones, washing machines, televisions, home based routers, medical devices, etc.
- > While the industry is building up supply/production, this will take time to catch up
- > In the meantime, production curtailments have occurred at major auto manufacturers around the globe
- > Long lead times for replacing equipment
- > CHIPS and Science Act



# Conflict in Ukraine – Affecting Prices Globally



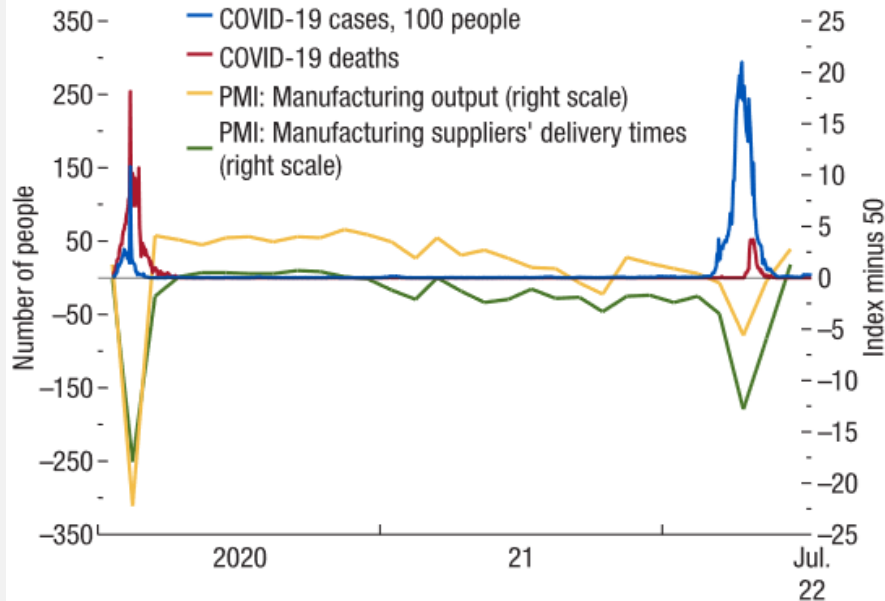
- Russia provides approximately 40% of European Union's **gas/oil** - Gas prices skyrocketing around the world
- Russia is the largest exporter of **platinum** and **palladium**, a metal used in mobile phones, automotive exhaust systems and fuel cells
- Russia supplies Germany with most of its **natural gas**, which is used for manufacturing and electricity. If disruptions in that supply due to the invasion or sanctions, production would be impacted
- Ukraine produces 70% of the world's **neon**, a gas used in making computer chips
- Ukraine is the world's largest exporter of **sunflower seed oil**, an industry that has come to a virtual standstill amid the ongoing attacks. That absence will undoubtedly drive up the price of soybean oil, palm oil and other alternatives
- Ukraine is one of the world's top 5 **corn** exporters
- Ukraine and Russia represent nearly 1/3 of global **wheat** trade
- **Grain** markets are all tied together
- Increases coming in flour, pasta, pizza, cereal, etc.

# Conflict in Ukraine – Nord Stream and Gas Supply



# Zero Covid Policy in China Impacts

**Figure 3. China: COVID-19 Outbreaks and Supply Chain Disruptions**

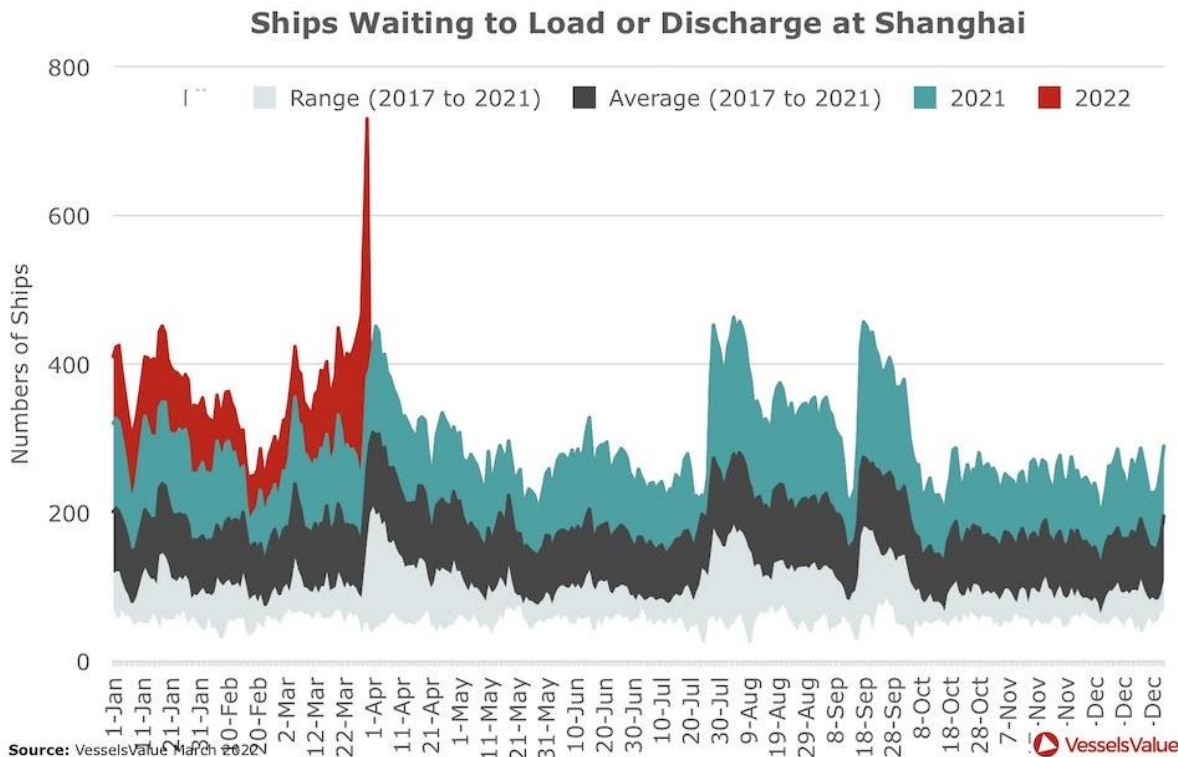


Sources: National Bureau of Statistics of China; National Health Commission of China; and IMF staff calculations.

Note: PMI = purchasing managers' index.



# Zero Covid Policy in China – Shanghai Port



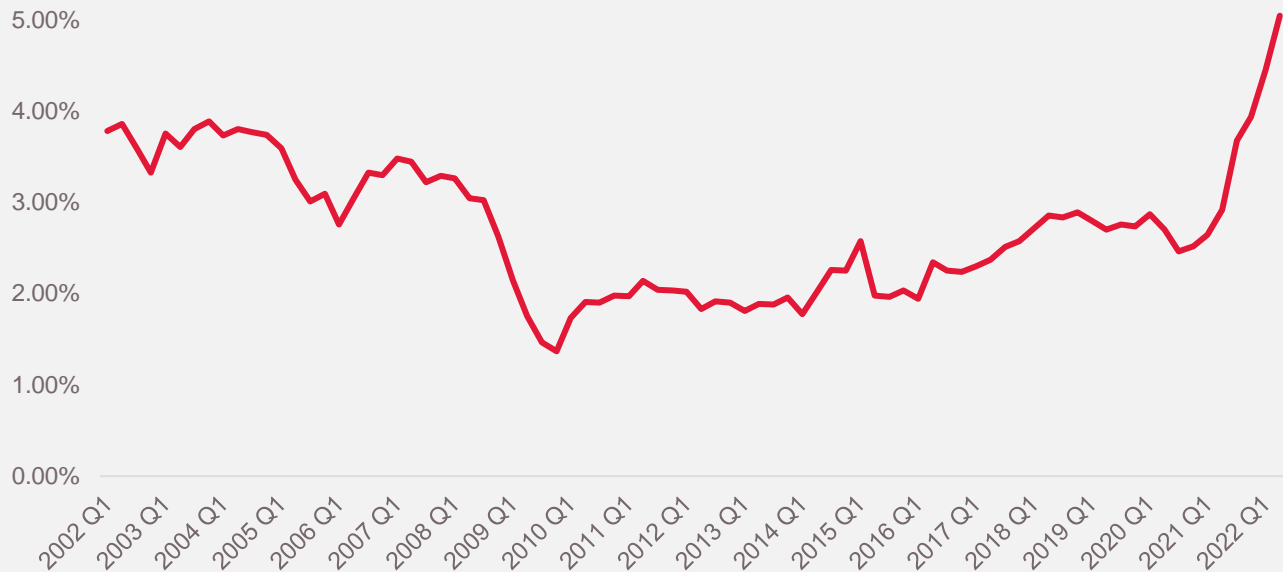


# Labor and Employment



# Labor and Employment

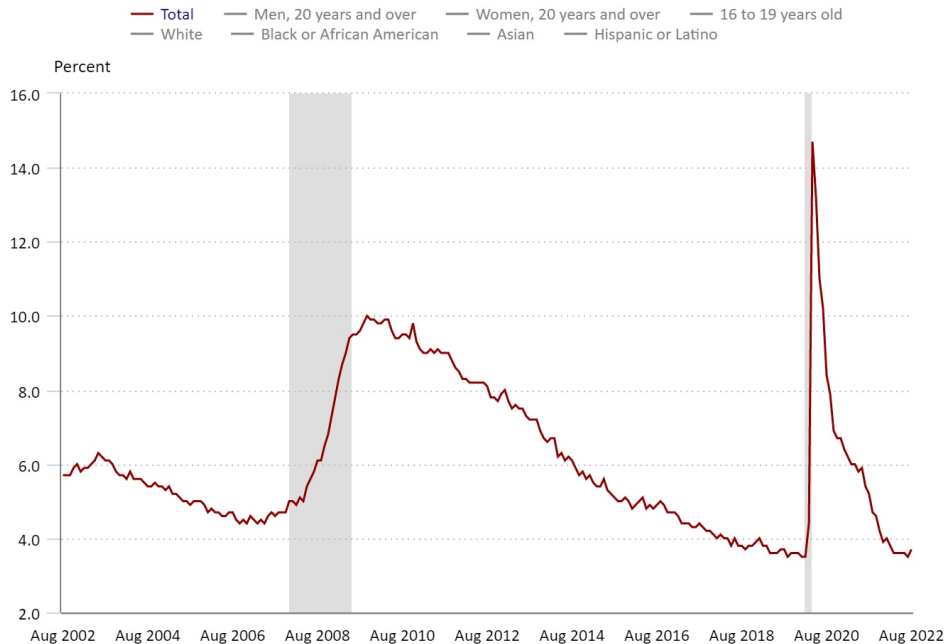
Year-over-Year Change in Total Compensation



# Labor and Employment

## Civilian unemployment rate, seasonally adjusted

Click and drag within the chart to zoom in on time periods



Hover over chart to view data.

Note: Shaded area represents recession, as determined by the National Bureau of Economic Research.

Persons whose ethnicity is identified as Hispanic or Latino may be of any race.

Source: U.S. Bureau of Labor Statistics.

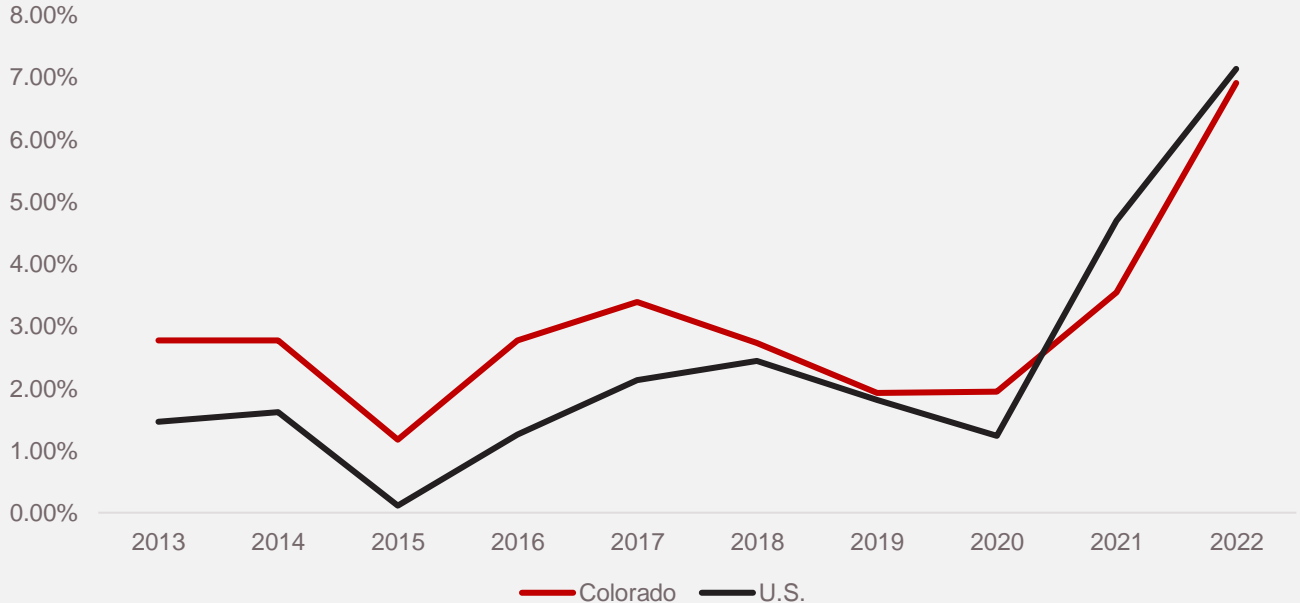


# Local and Industries

- Energy
- Construction
- Recreation
- Residential

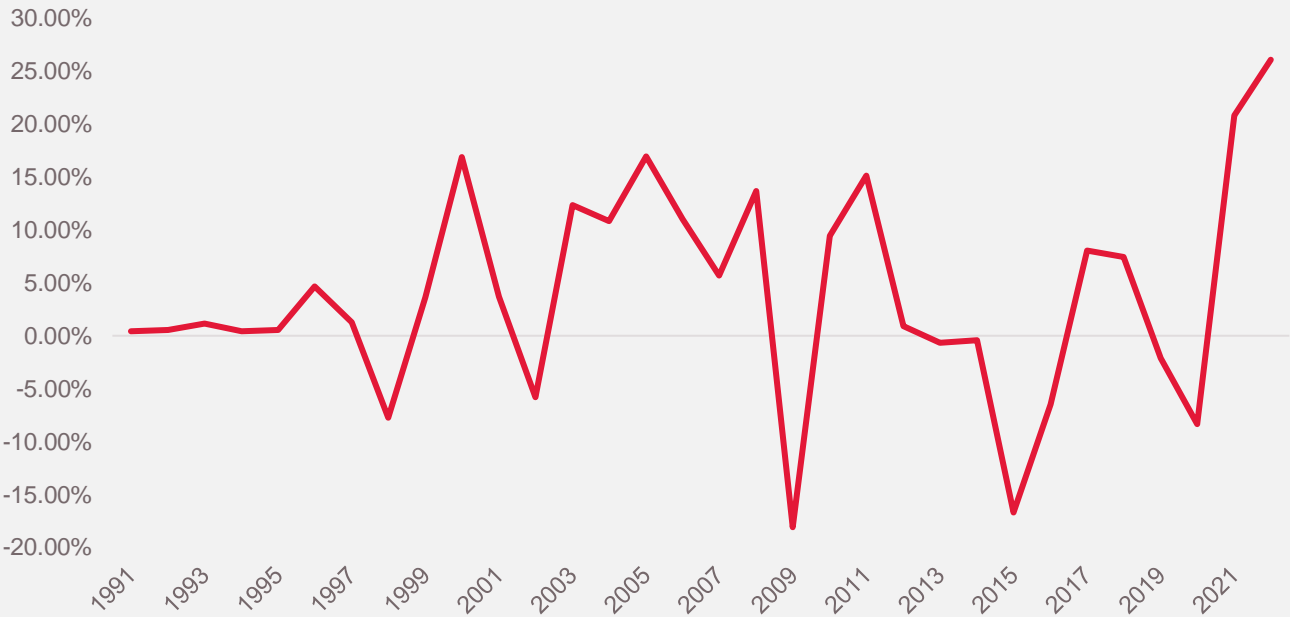
# Colorado v. U.S.

Colorado and U.S. Inflation Rates

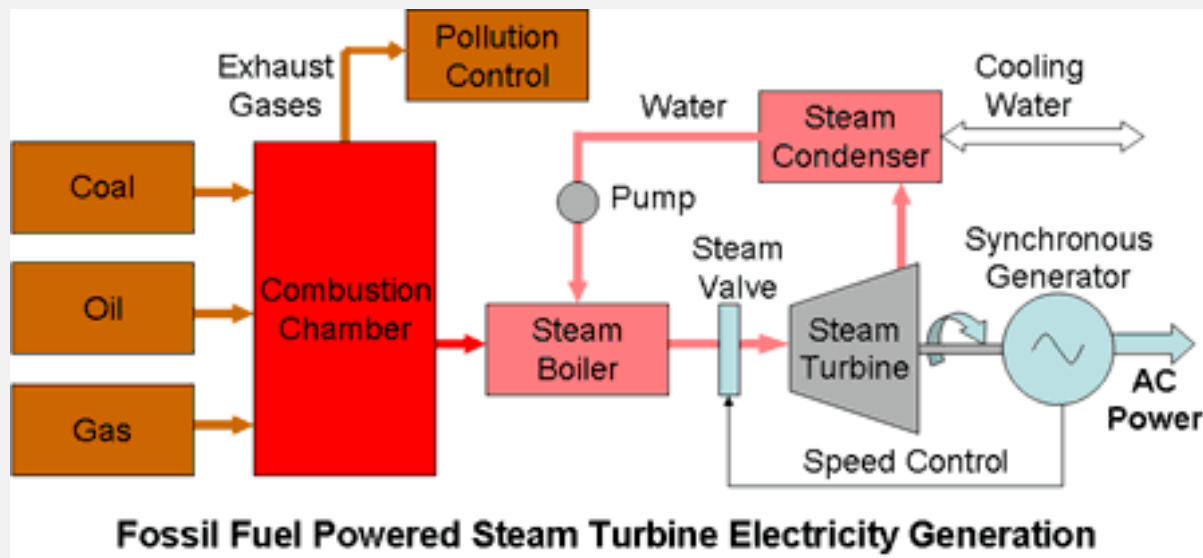


# Energy

U.S. Inflation Rate - Energy

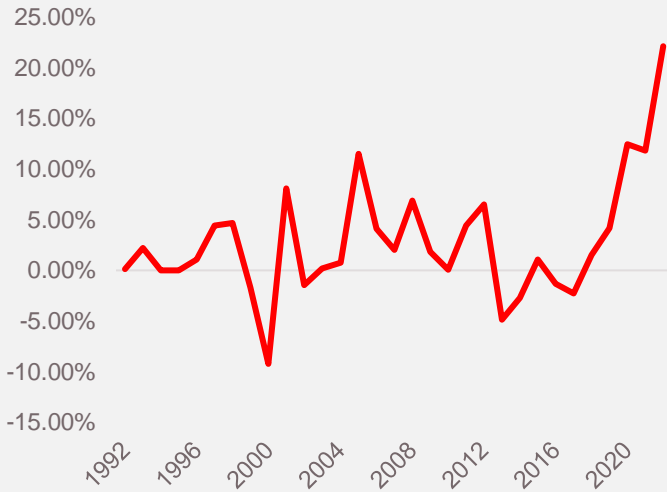


# Energy

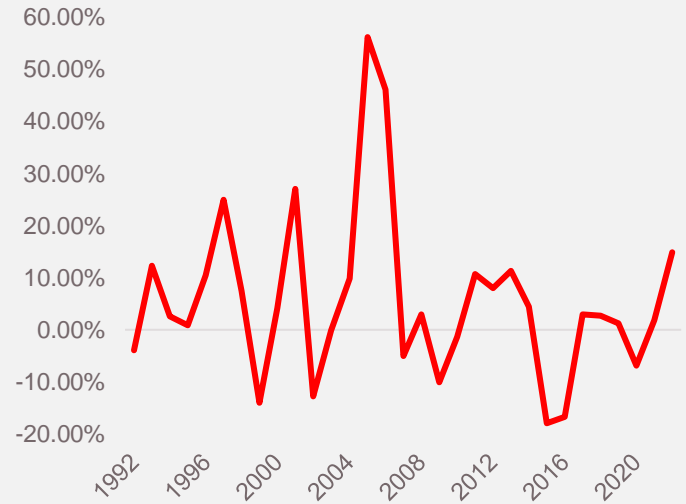


# Energy - Inputs

Inflation Rate - PPI - Mining Services



Inflation Rate - PPI - Drilling Oil & Gas Wells





# Mining Values Volatility

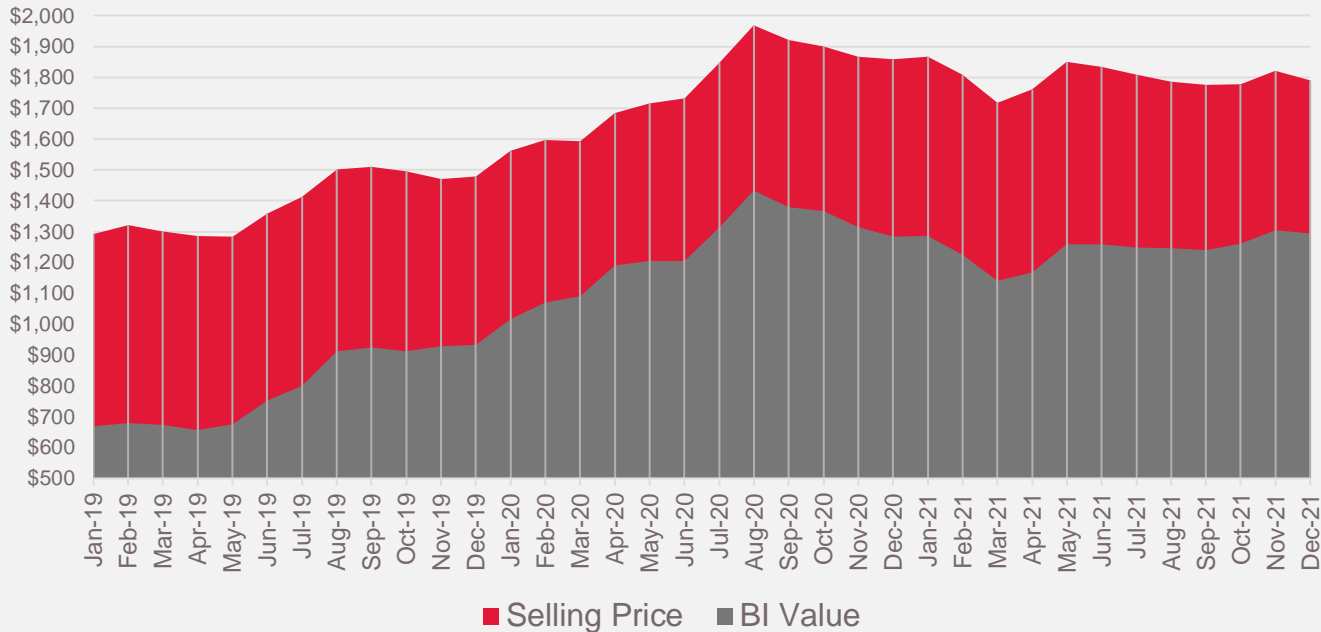


## Key Takeaways

- BI values in mining are quite volatile due to two drivers:
  1. Commodity price fluctuations
    - Metal price changes but production costs do not
  2. Currency fluctuations
    - Selling price currency changes (typically US\$) compared to production costs currency
- BI values cannot be measured as a percentage. They have to be forecasted and measured on a per ounce/pound/tonnes

# Gold

## Gold Selling Price vs BI Value



# Oil & Gas Volatility

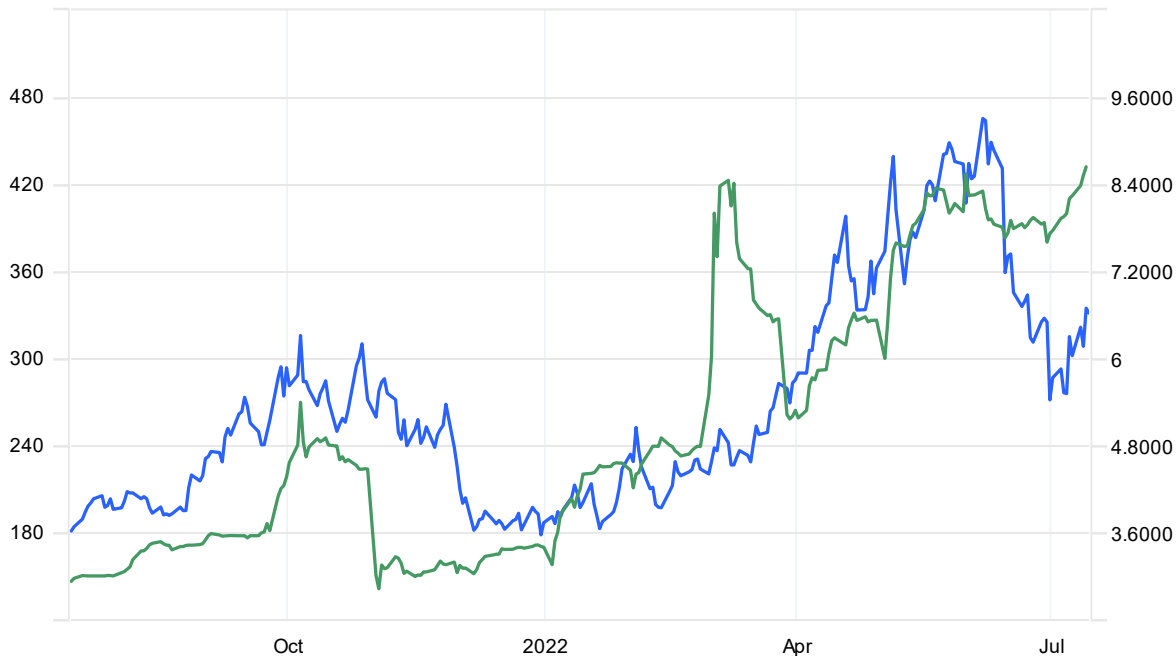


## Key Takeaways

- Volatility in oil prices does not always result in the same volatility in refining or petrochemical margins downstream
- Market GRM – based on market prices and less volatile
- Net GRM - takes into account inventory movements and hedging results and is more volatile
- Rising oil prices does not necessarily equate to rising margins and vice-versa

# Energy Crisis – Recent Volatility

Natural gas | Coal (UTC+8)



source: tradingeconomics.com

# Power Generation Volatility



## Key Takeaways

- Values in the non-conventional power generation industry behave differently from values in the conventional power generation industry.
- There has been significant volatility in global power generation industry inputs and outputs.
- Values require proactive monitoring of current and forward inputs and outputs to ensure an appropriate premium is paid and unpleasant surprises are avoided!

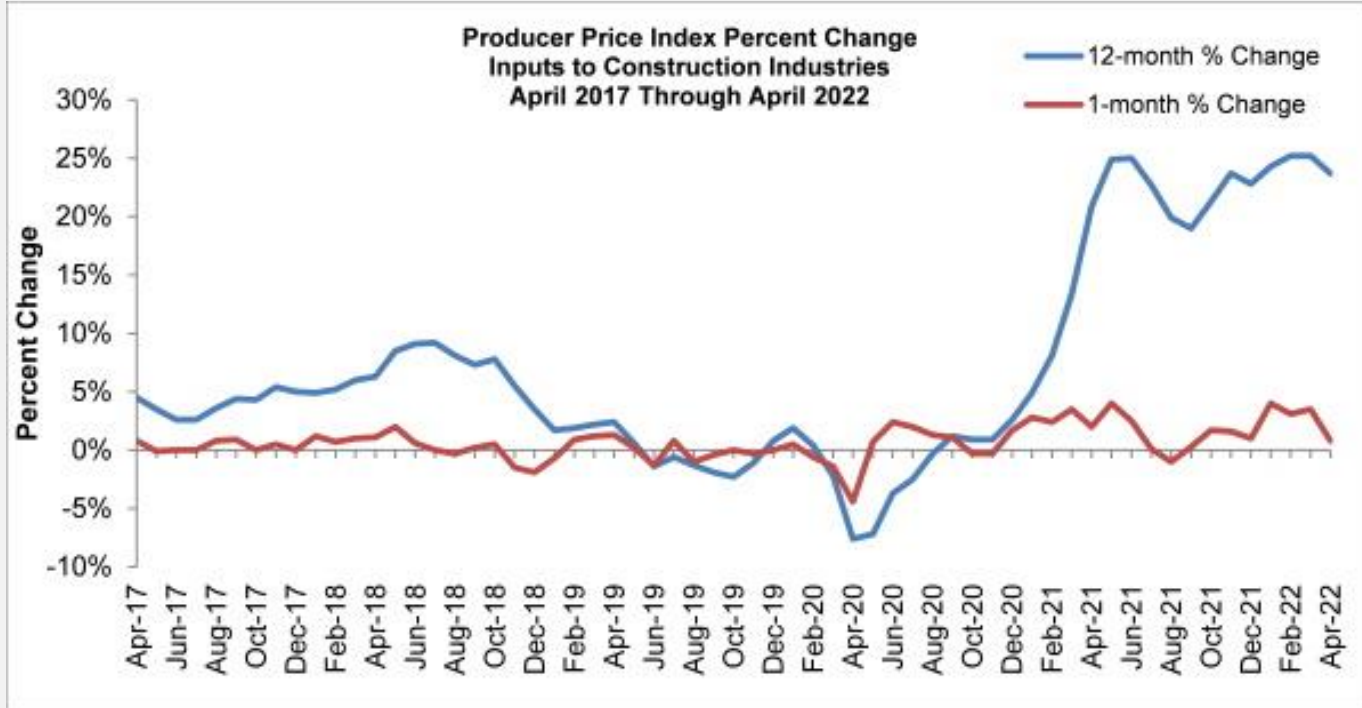
# Wind Turbine Impact



## Impact

- Manufacturers sign and agree to contracts to build wind farms months to years in advance
  - Manufacturers often took on the risk of inflation, transport within contracts
  - Massive components – blades, towers, gearbox, generators
- Price/cost to build them had been declining due to technology prior to 2020
- Since 2020
  - Significant increase in cost of freight
  - Price increases of more than 50% for Steel and 60% for Copper
  - Component delivery times have gone from 5 to weeks to over 50 weeks in certain cases
  - Delay to project – who is responsible?
  - If damaged, significantly higher cost than original build.

# Construction Costs – Up, Up and Away



Source: U.S. Bureau of Labor Statistics

Source: ABC (Associated Builders & Contractors) News Release of May 12, 2022



# Construction Costs – Up, Up and Away

Producer Price Index, April 2022

	1-Month % Change	12-Month % Change	% Change Since Feb 2020
Inputs to Construction	0.8%	23.7%	41.0%
Inputs to Nonresidential Construction	0.9%	24.0%	41.2%
Plumbing Fixtures and Fittings	0.9%	10.0%	12.7%
Fabricated Structural Metal Products	2.0%	34.8%	53.1%
Iron and Steel	1.2%	25.3%	92.5%
Steel Mill Products	2.4%	25.1%	107.0%
Nonferrous Wire and Cable	1.3%	22.6%	50.0%
Softwood Lumber	-17.7%	-5.5%	94.2%
Concrete Products	1.8%	10.9%	15.2%
Prepared Asphalt, Tar Roofing & Siding Products	0.9%	20.8%	30.4%
Crude Petroleum	4.5%	75.2%	113.4%
Natural Gas	16.9%	107.4%	243.2%
Unprocessed Energy Materials	10.3%	82.7%	137.0%

Source: U.S. Bureau of Labor Statistics

Source: ABC (Associated Builders & Contractors) News Release of May 12, 2022



# Construction Costs – Up, Up and Away



## Pricing Increases in building supplies across all sectors

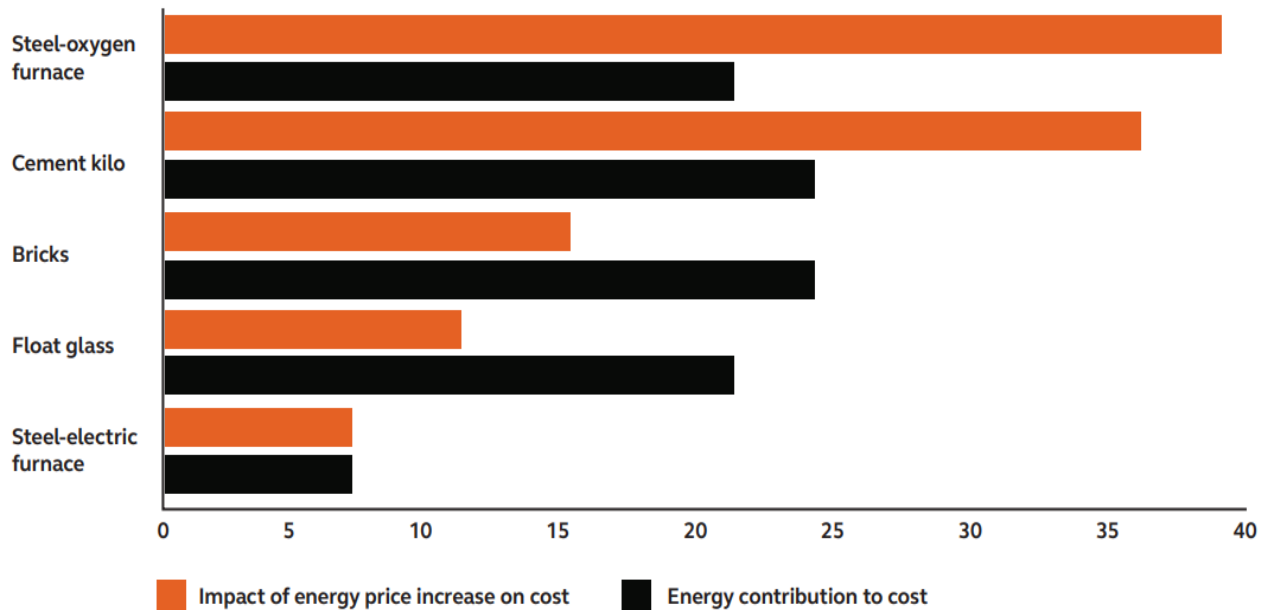
- > SRS Building Supply Company in US announced following increases in 2021
  - January 21                      7 to 10%
  - April 21                         7 to 10%
  - June 21                         6 to 15%
  - September 21                5 to 15%
  - January 22                    5 to 10%
  - March 22\*                    10 to 15%
- > “We also predict more increases will be coming in future months, so plan accordingly.
- > Fuel related charges [...] please expect significant increases effective immediately.”



Source: SRS Distribution Website

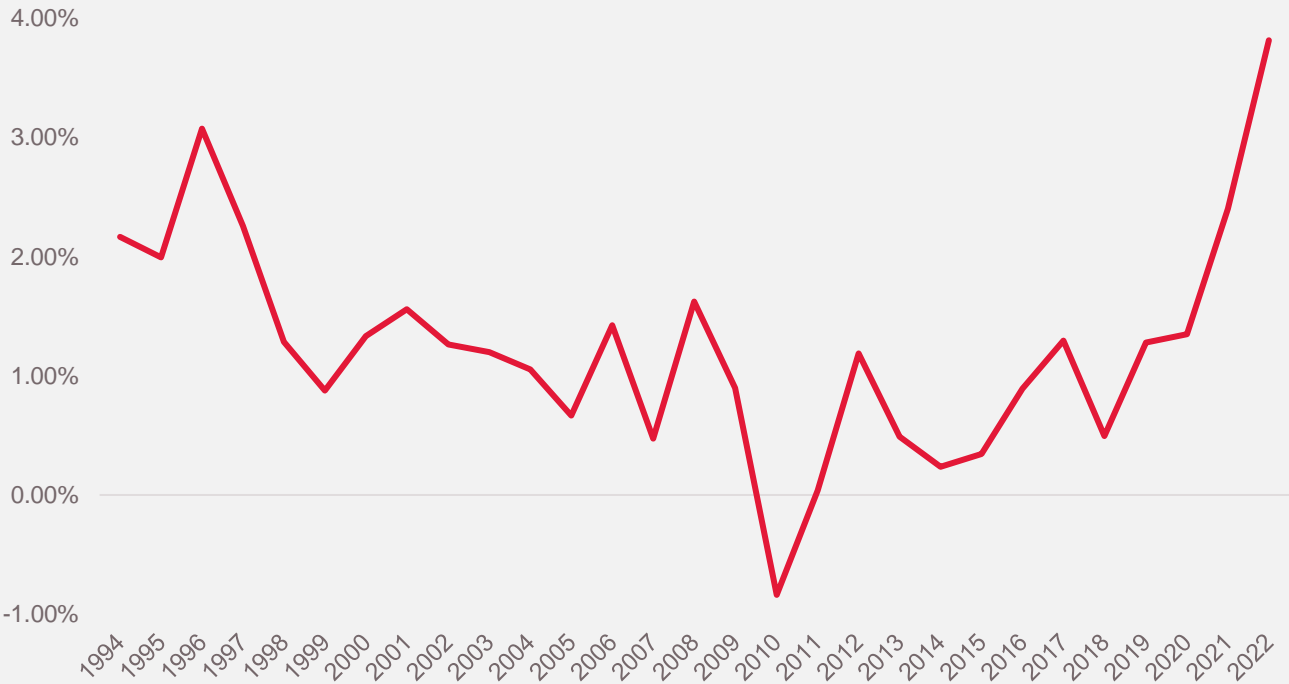
# Role of Energy in Construction Material Costs

Figure1: The contribution of energy costs to construction materials prices and impact of recent energy price increase (quantified in % increase on product price)

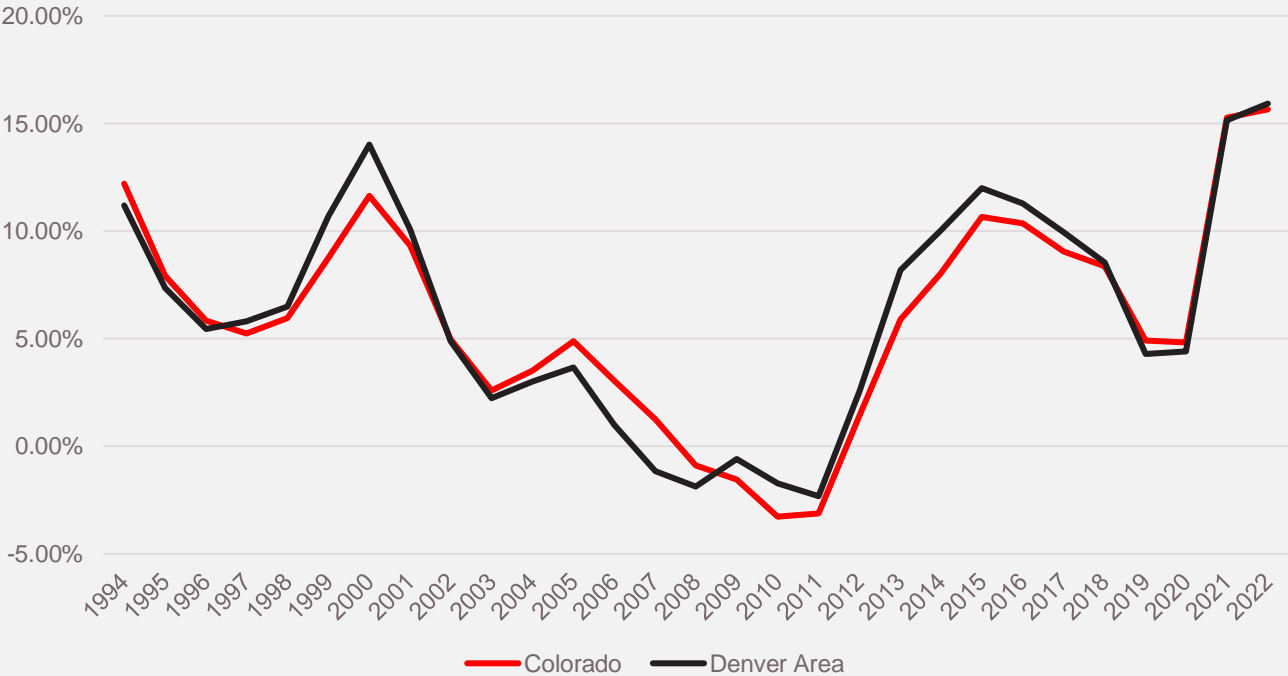


Source: International Construction Costs 2022-2.pdf

# Recreation



# Housing



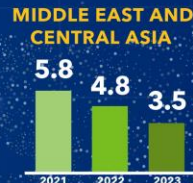
# What Does it Mean

# July 2022 IMF Growth Projections

WORLD ECONOMIC OUTLOOK UPDATE JULY 2022

## GROWTH PROJECTIONS BY REGION

(PERCENT CHANGE)



Source: IMF, *World Economic Outlook Update*, July 2022.

Note: Order of bars for each group indicates (left to right): 2021, 2022 projections, and 2023 projections.

# IIMF July 2022 World Economic Outlook

## Inflation



Global growth is expected to slow from an estimated 6.1 percent in 2021 to 3.2 percent over 2022 and 2.9% growth in 2023.



As per April report:

- Inflation projections of 5.7% in advanced economies and 8.7% in emerging market and developing countries.

As per July report:

- Inflation projections of 6.6% in advanced economies and 9.5% in emerging market and developing countries.



The Ukraine crisis has increased the risk of a fragmentation of the world economy into geopolitical blocks.

- This would likely result in high adjustment costs & long-run efficiency losses as supply chains and production networks are reconfigured.



Worsening supply-demand imbalances from the Ukraine crisis, the China Covid lockdowns & further increases in commodity prices could lead to persistently high inflation

# Inflation and Supply Chain Impacts to Losses

## Inflation



Cost to re-instate will be significantly higher than original cost and may not align with values

- How are you determining underwriting replacement value for building, equipment, stock?
- Are insured's able to recover the actual cost to re-instate or are they self-insuring?



Increased freight costs having significant impact on loss values



Not all inflationary impacts can be passed along (under contract), so mitigation strategies may be impacted due to higher costs for temporary operations



Lack of available labour force impacting mitigation strategies



Necessity to continue to pay all workers throughout an outage – as insured will not get them back if they lay them off – higher labour component of loss (covered?)



# Inflation and Supply Chain Impacts to Losses



## Supply Chain

- Covid initially caused delays in deliveries, in particular when crossing borders was involved
- Back-up/Spare pieces of equipment always important – critical now
- Supply chain backlog is causing longer lead times for replacement construction materials, equipment, supplies and raw materials for production
  - Resulting in extended Period of Indemnity – increasing Business Interruption losses
  - Do you have defined policy periods in relation to Business Interruption wording – “reasonable period to restore” vs “defined number of months”?

# Possible Solutions

# Possible Tools



**Education**



**Worksheets &  
Audits**



**Policy limits**

# Potential Solution - Education

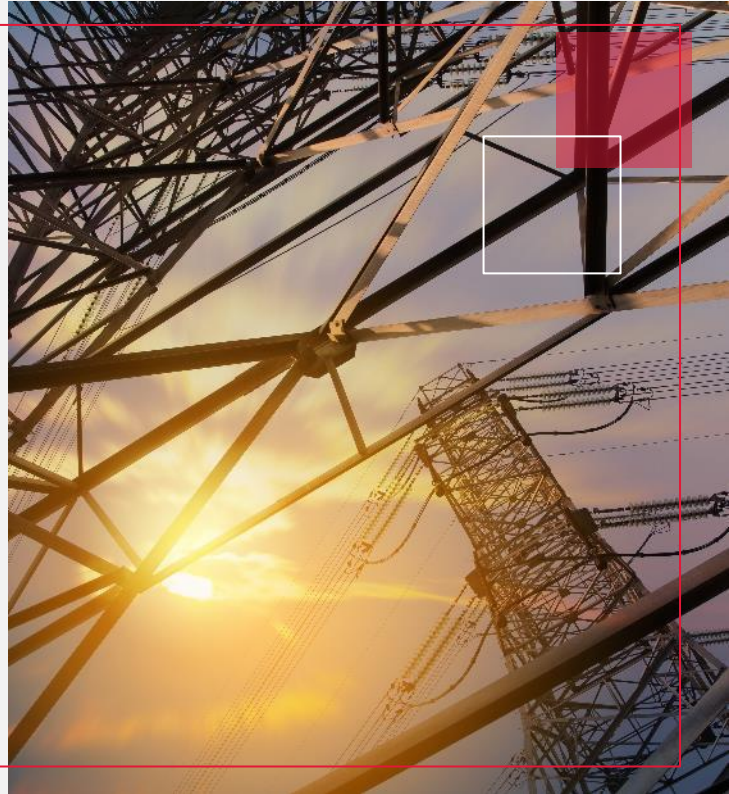


## **Improve understanding of business interruption**

- > What is gross profit?
- > Cost behaviour, i.e. variable cost, fixed cost, semi-variable costs
- > Business interruption value

## **Clarify meaning of declared value / Improve consistency of reporting**

- > What is assumed when calculating loss – Major loss, full suspension of business, long outage period
- > Or very small, marginal loss basis – only one unit of sales lost



# Potential Solution – BI Worksheets / Audit



## Business Interruption Value Worksheets

- > Standardised templates with notes for preparation
  - Broken down by business unit, with detail breakdown of costs and whether fixed or variable
  - Obtain validation documents – management accounts / profit and loss accounts
- > Implement regular reporting of values
  - Quarterly ideal
  - Mid term (minimum)
- > Undertake value audits
  - Periodic audits of values, random
  - Retrospective reviews / application of policy terms. Submission of values, with premium adjustment



# Potential Solution - Policy



## Policy / Contract Limits

- > Deductible clauses, waiting periods
- > Commodity price caps
- > Gross profit caps
- > Monthly, quarterly value review
- > Average clauses





# Potential Solution Summary



- Business complexity – creating challenges
- Knowledge / skills gaps / misunderstandings on what / how to report – needs addressing
- Policy solutions control financial exposure / may not address current issues
- Values needs testing through auditing, declaration, more periodic review
- Review, review, review

Thank You!  
Questions?





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