



Property Inflation

2022 CAS Annual Meeting

November 7th, 2022

Four Big Questions



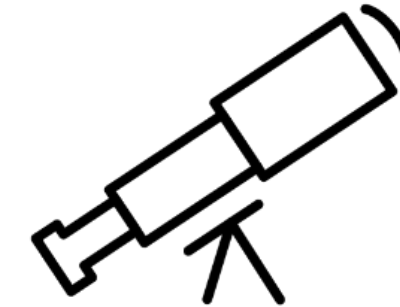
Where Did We Come From?

COVID impacts on supply and demand
Supply chain disruptions
Lumber price case study



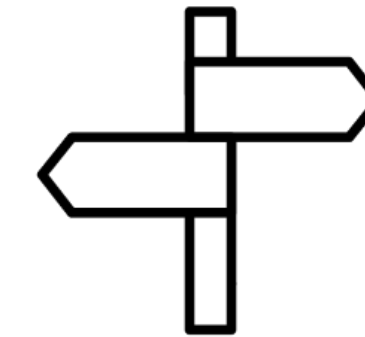
Where Are We Now?

Current CPI statistics
Building materials indices
Construction labor



Where Are We Going?

Consumer inflation expectations
Wall Street inflation expectations
Anticipated Federal Reserve action



What Can We Do About It?

Claims and underwriting strategies

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Where Did We Come From? COVID-19 And Inflation

COVID has changed both supply and demand

More stuff and fewer experiences

Demand



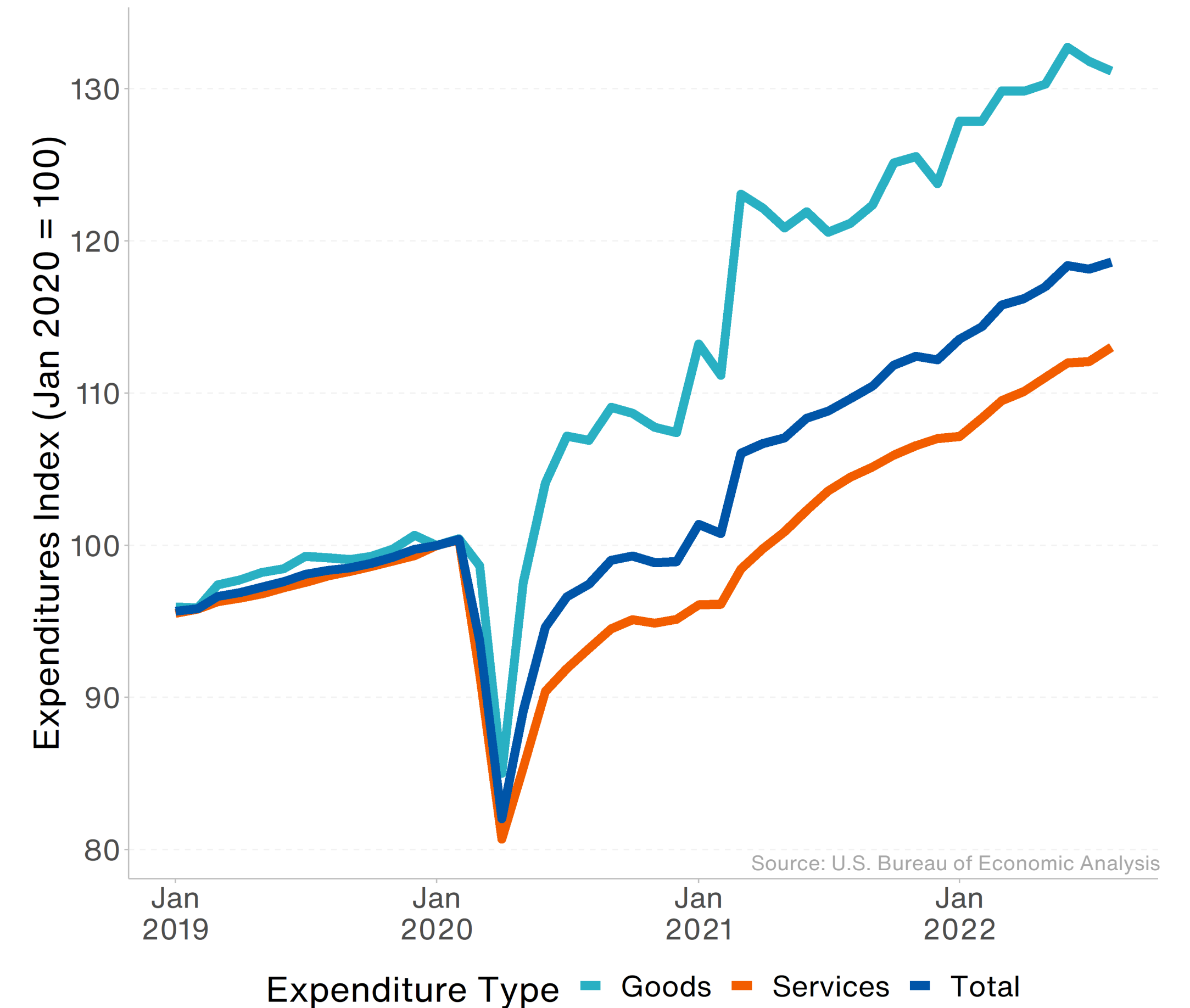
People trapped at home shifted purchases away from services and towards goods

Shift happened almost instantaneously

Changed demand patterns have persisted

Fiscal and monetary stimulus further fueled demand

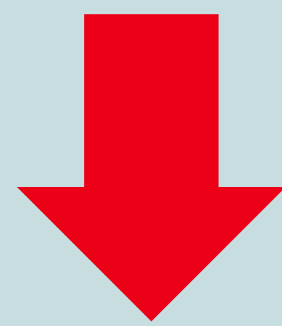
Expenditures on Goods and Services



COVID has changed both supply and demand

Production decisions, lockdowns, and lack of capacity

Supply



Producers cut production in anticipation of reduced demand

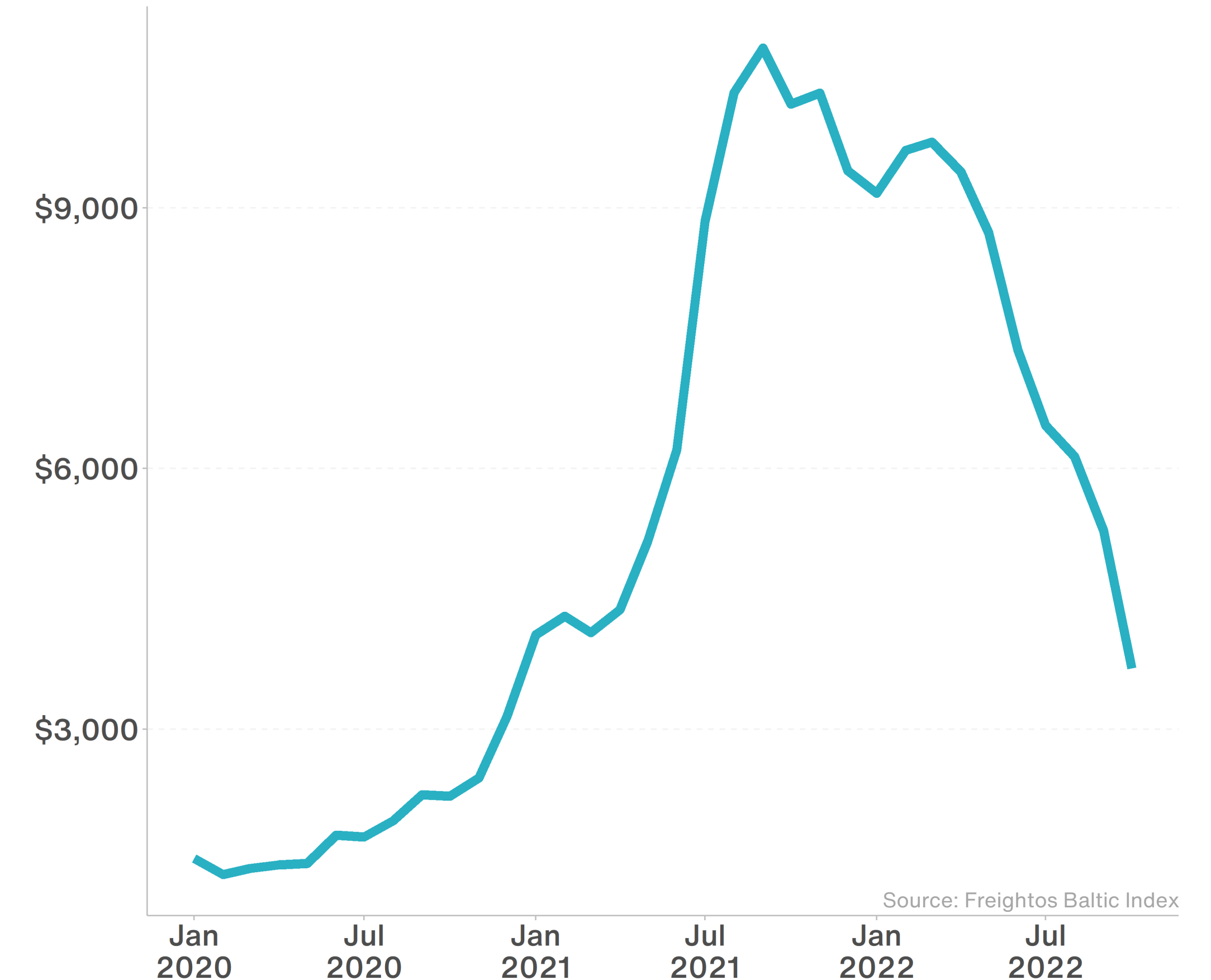
This was wrong

Refining capacity is still 1 million barrels below early 2020 levels

Lockdowns have limited production and shipping capacity here and abroad

Supply chain designed for old demand patterns and it takes years to update

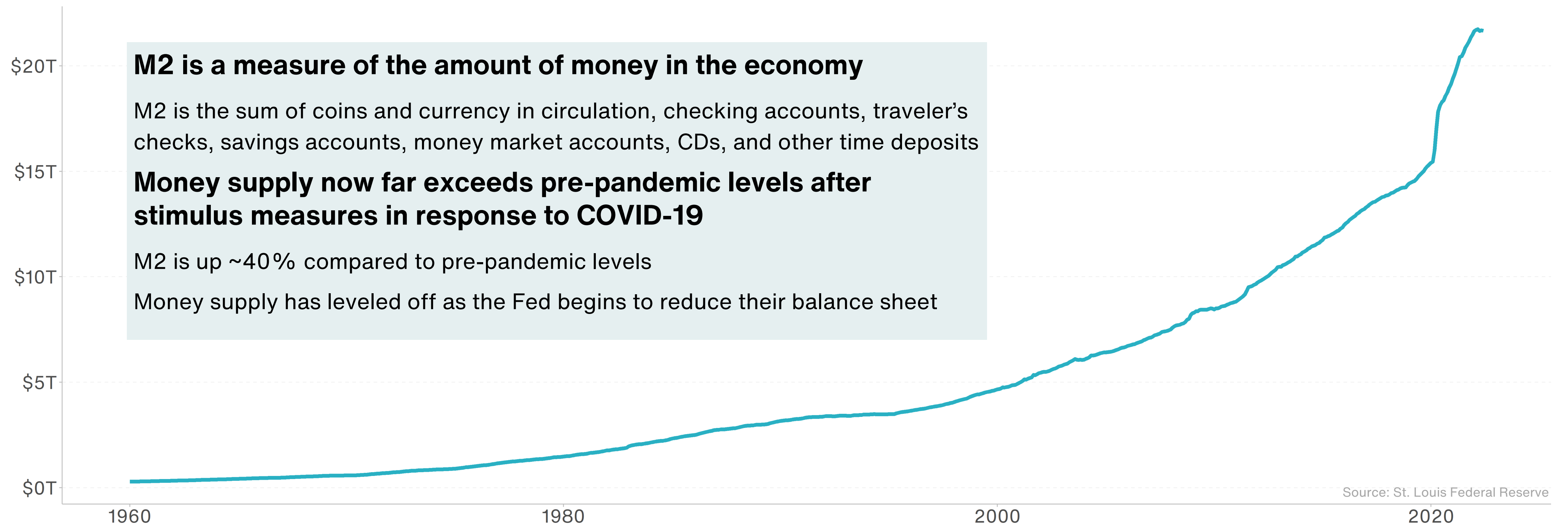
Global Shipping Cost Index



Money supply jumped in 2020 after stimulus measures were passed

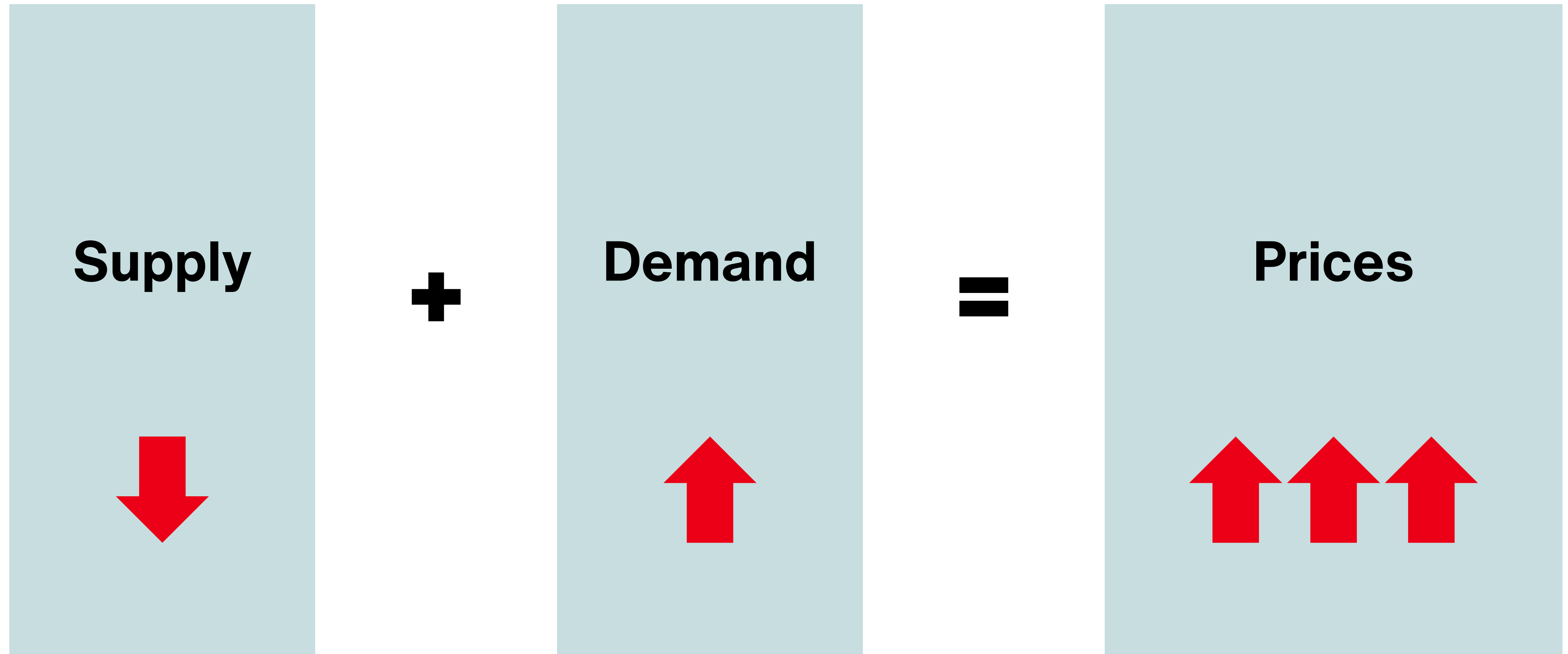
Increased money supply further fuels demand and worsens inflation

Nominal M2



COVID has changed both supply and demand

Inflation is now at a 40-year high



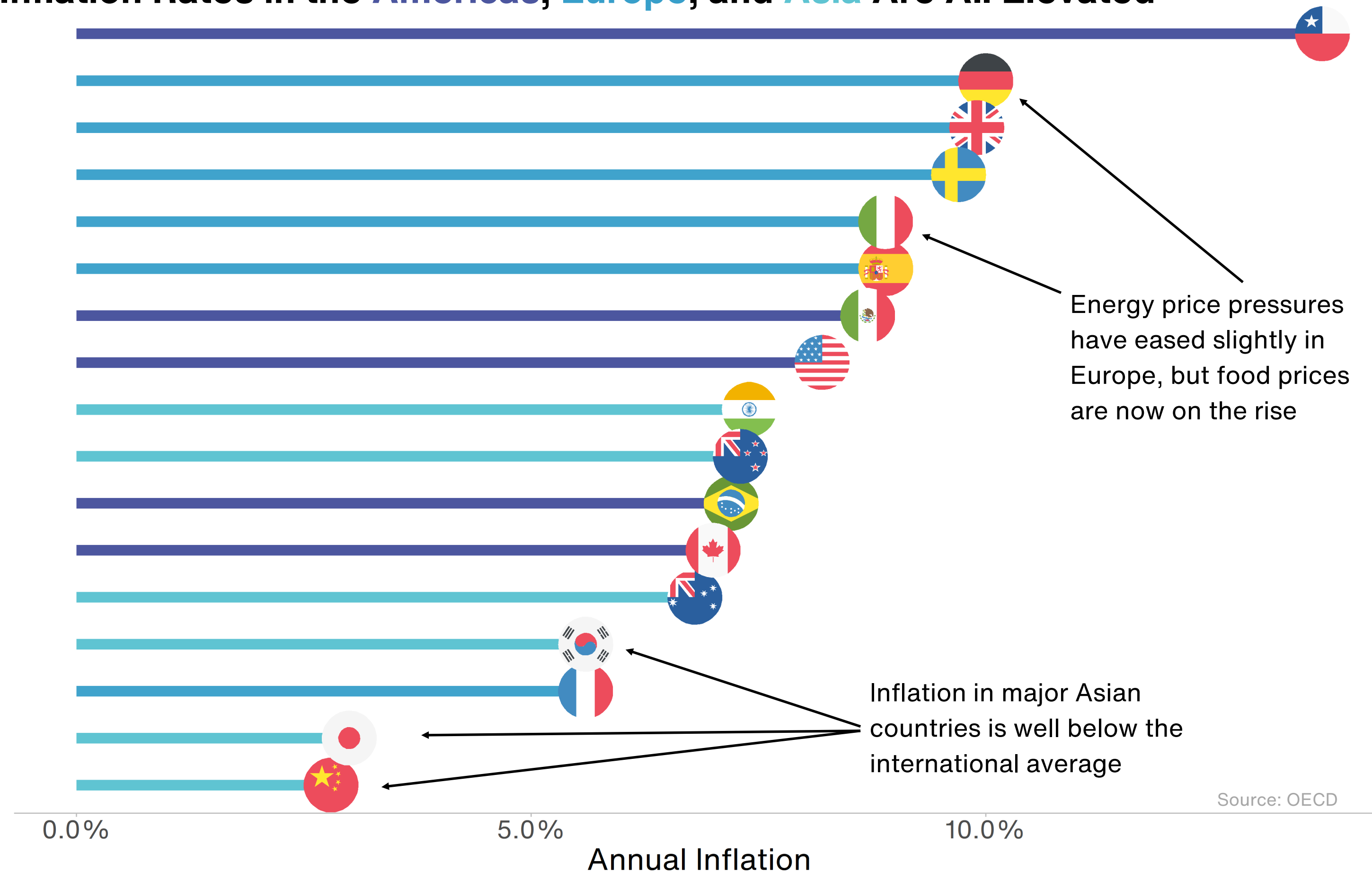
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Where Are We Now? Current Picture of Inflation

High inflation rates are not just an issue in the U.S.

Inflation stories in the Americas and Europe are beginning to diverge though

Inflation Rates in the Americas, Europe, and Asia Are All Elevated



Supply chain issues and energy prices are a global issue

European nations have borne the brunt of energy and food price inflation due to the war in Ukraine

Fiscal and monetary stimulus programs have differed by country

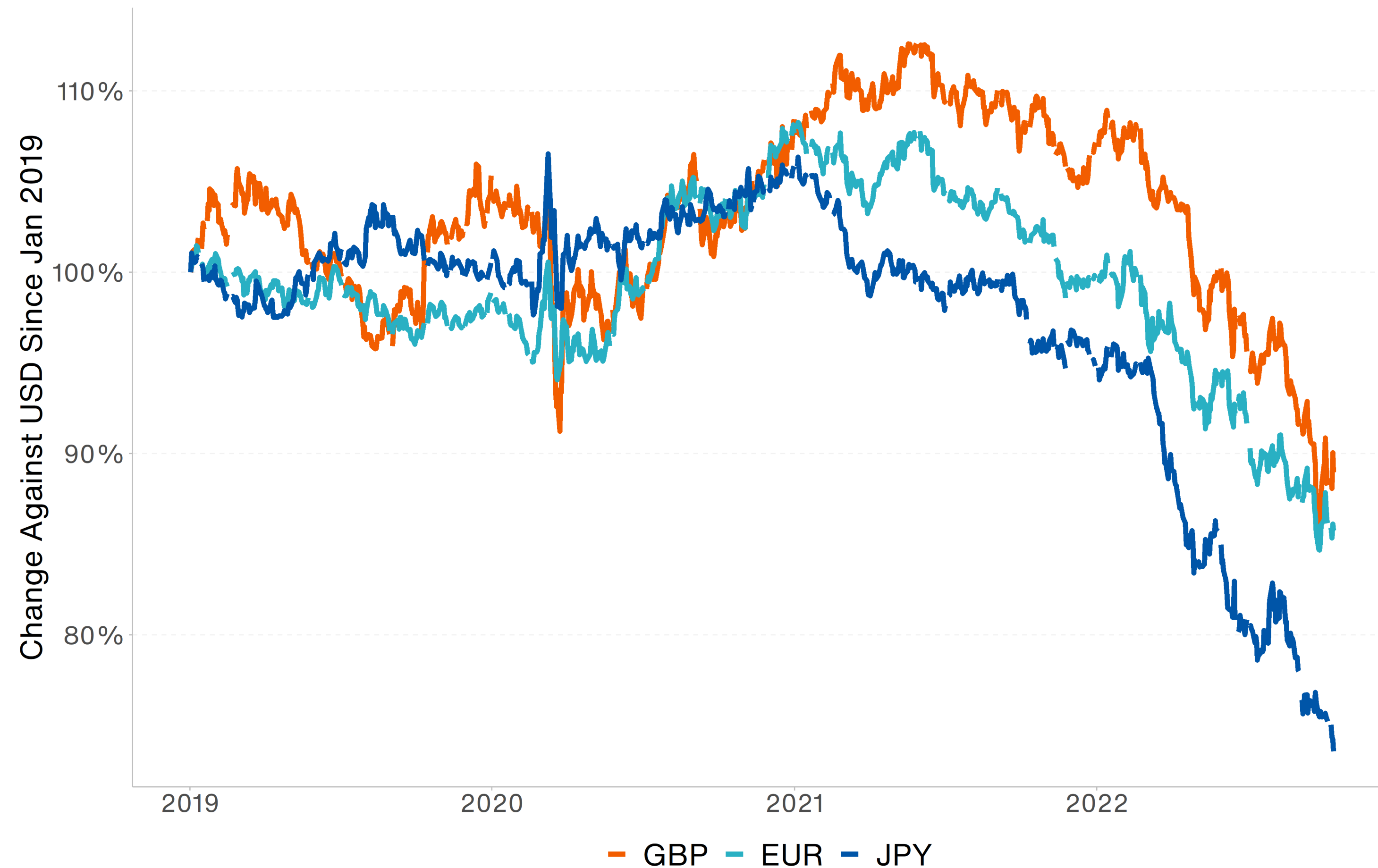
The size and duration of U.S. stimulus has surpassed almost every industrialized nation, including all of those in Europe

Inflation is still increasing in Europe but starting to fall in the US and Canada

The US dollar has been strengthening against all currencies

FX rates are increasingly important when modeling

Major Currency Exchange Rates



US interest rate increases have helped strengthen the dollar

Many countries are now trying to catch up with rate increases of their own

Differing inflation environments also impact exchange rates

Losses and premiums can be impacted dramatically by changes in FX rates

Premiums in Euros and losses in dollars mean increasing loss ratios

Opposite can be true too, so this cuts both ways

The Consumer Price Index inflation rate is currently at a 40 year high

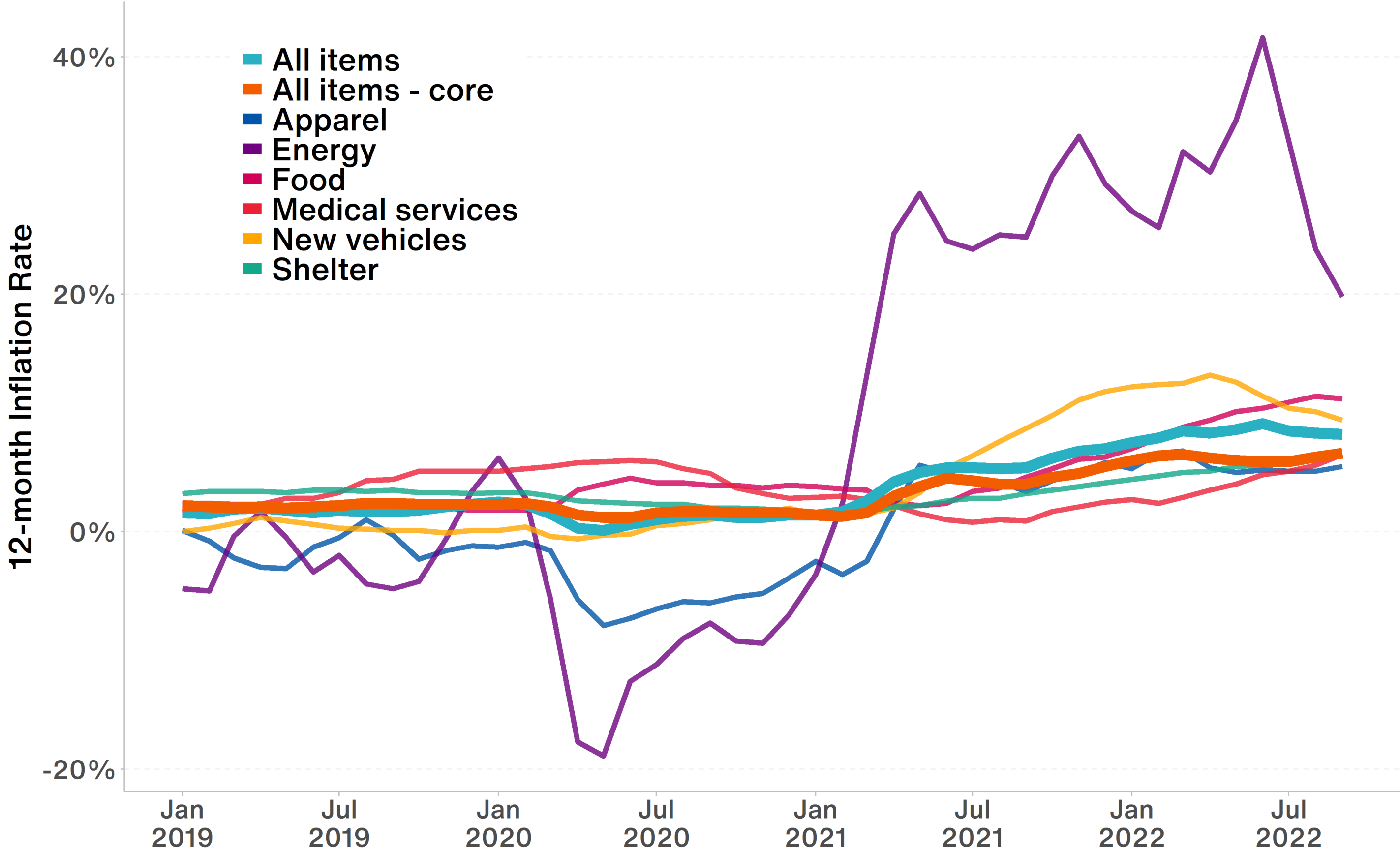
But broad average hides details in individual commodities and services



Core inflation excludes food and energy prices

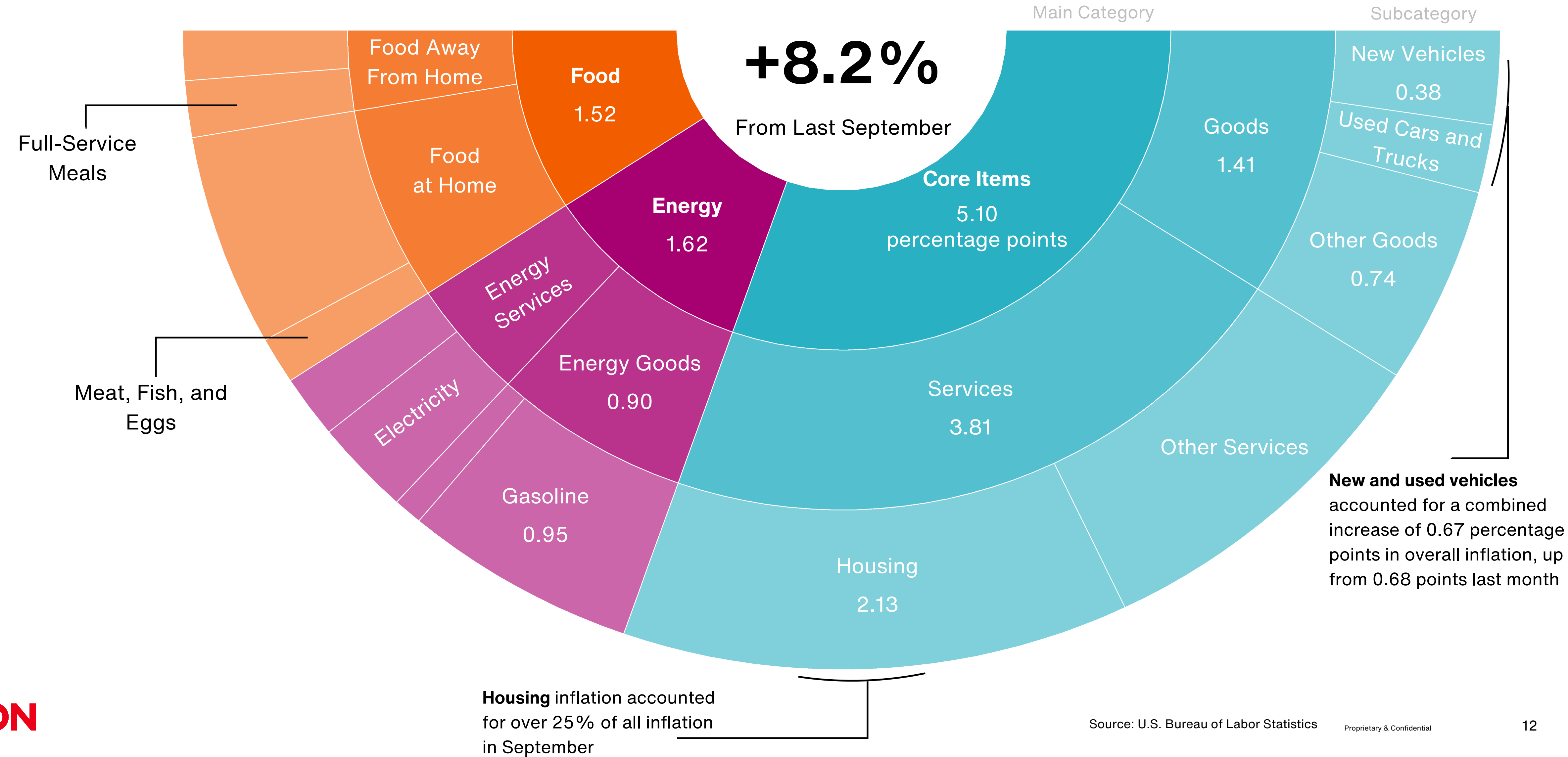
CPI Component	Latest 12-month Inflation Rate
Apparel	5.5%
Energy	19.8%
Food	11.2%
Medical services	6.5%
New vehicles	9.4%
Shelter	6.6%

Year-over-Year Change in CPI and Individual Components



Gasoline and housing are driving broader inflation

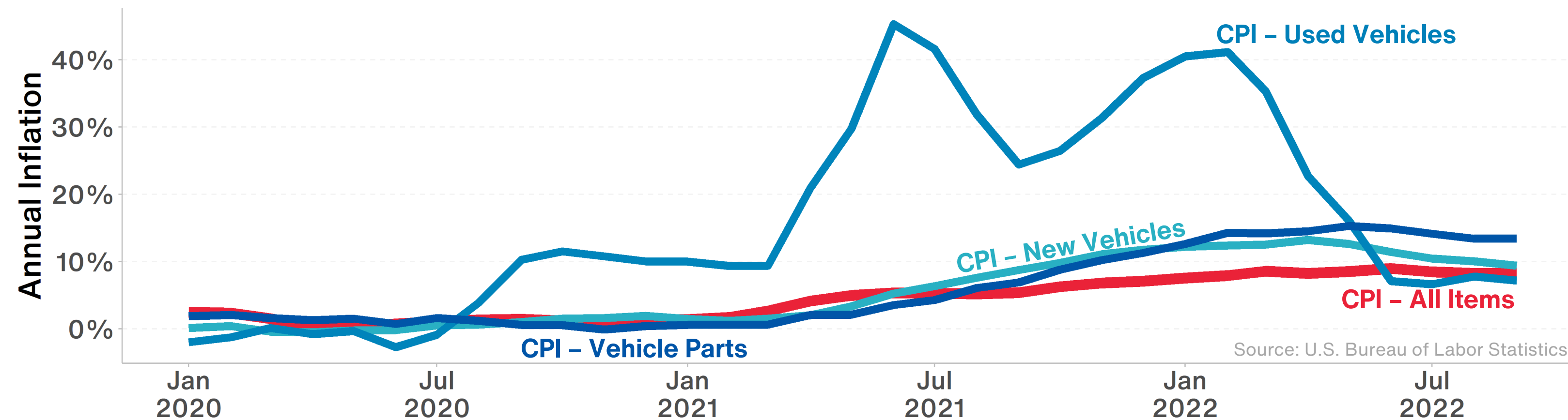
Chart shows contributions to overall inflation by category



Understanding of inflation components is crucial for (re)insurers

Drivers of claims costs and their inflation exposures can differ by, or even within, lines

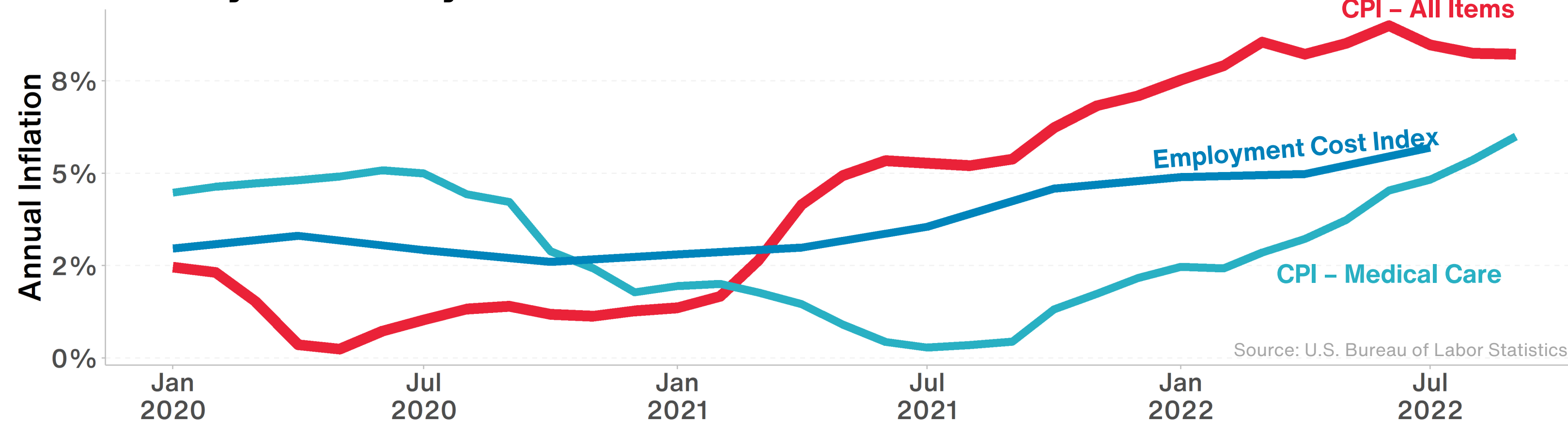
Auto Property Inflationary Drivers



Used vehicles prices have driven the surge in inflation though prices have eased recently

Rise in used vehicles prices makes it more expensive to total a car and the rise in parts prices makes it more expensive to repair cars

Auto Liability Inflationary Drivers



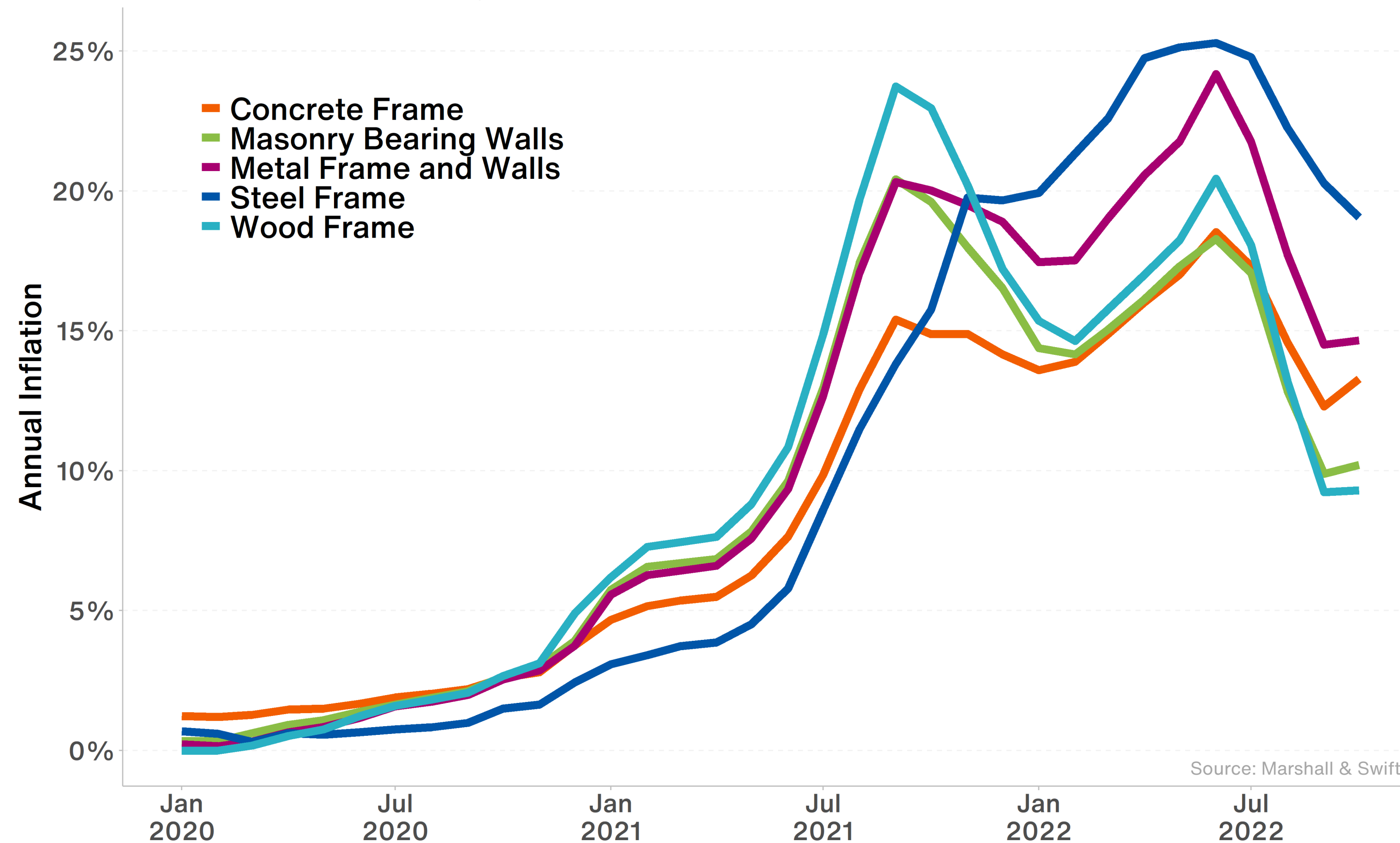
Auto liability has been less exposed to inflationary factors

Note that inflation is focused on severity of losses. Frequency is not considered here.

Building materials show slowing inflation

Prices still outpace broader inflation despite the slowdown

Cost Inflation by Building Type



Increases in steel and lumber prices have made headlines but all construction materials have shown increases

Rising mortgage rates have cooled the housing market

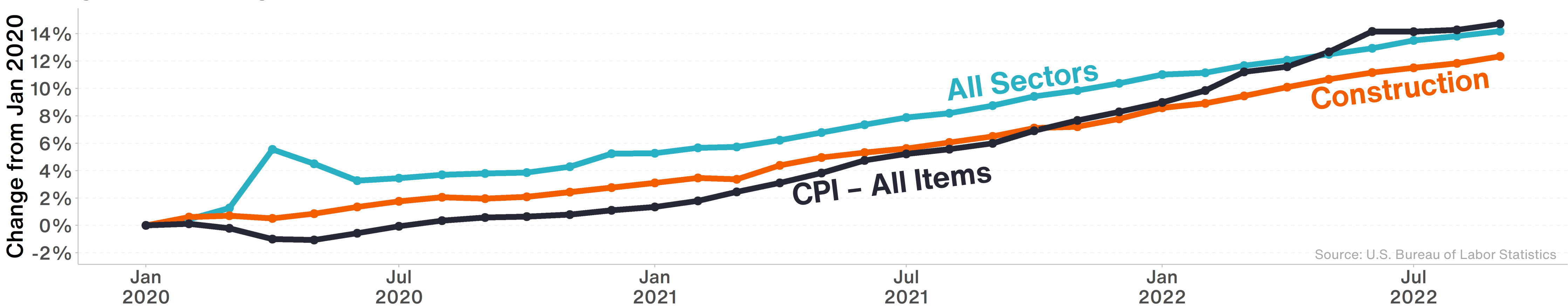
Homebuilding is a major factor in lumber prices

Housing starts have been falling from their April peak, but are still high

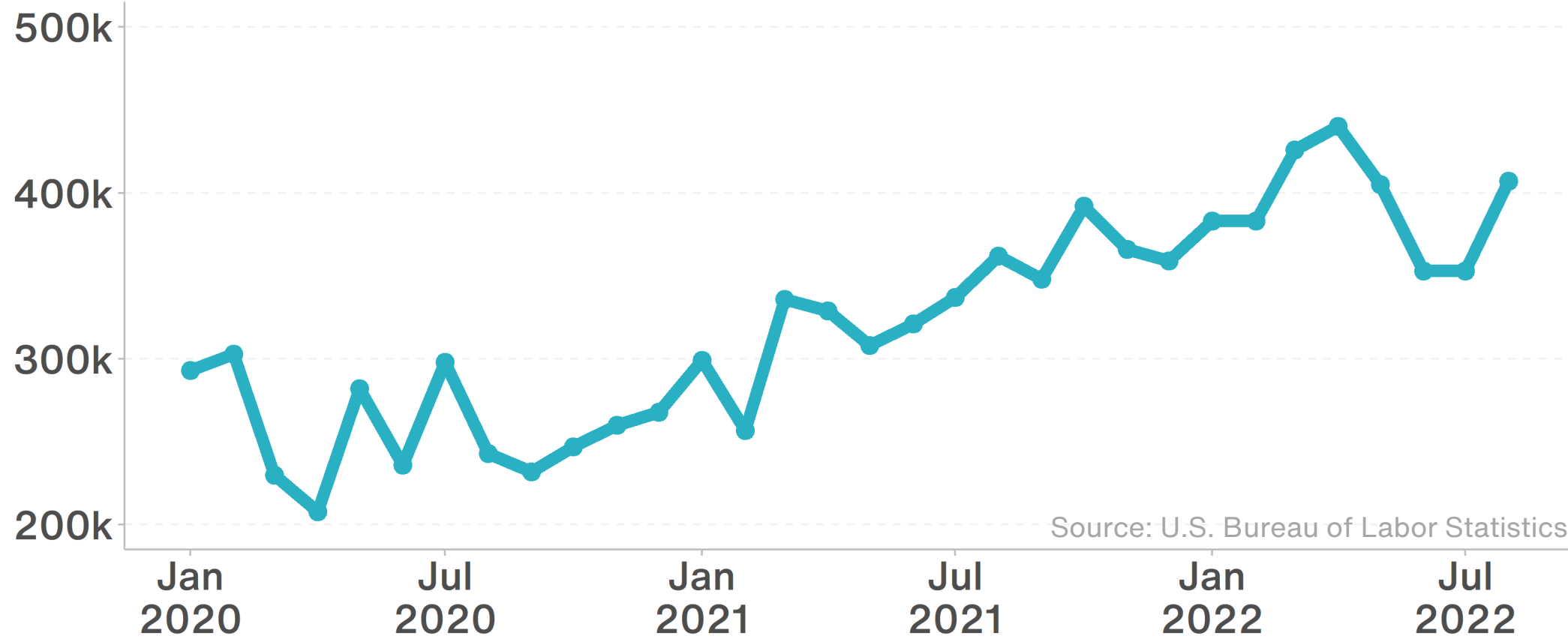
Differences between residential and commercial

Labor can make up 40-50+% of building costs

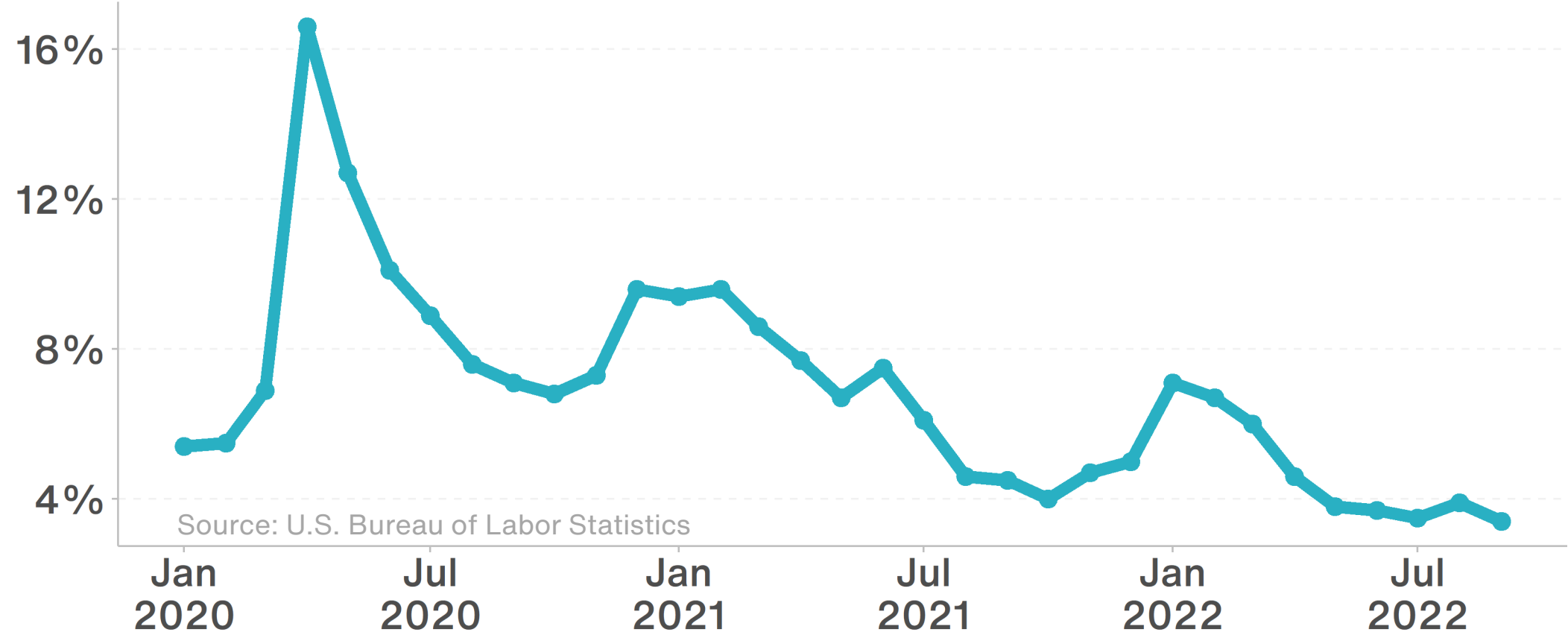
Average Hourly Wages



Construction Industry Job Openings



Construction Industry Unemployment Rate



Data through August 2022 for openings; September 2022 for the others

Aon's property cost index combines goods and labor prices

50% Goods

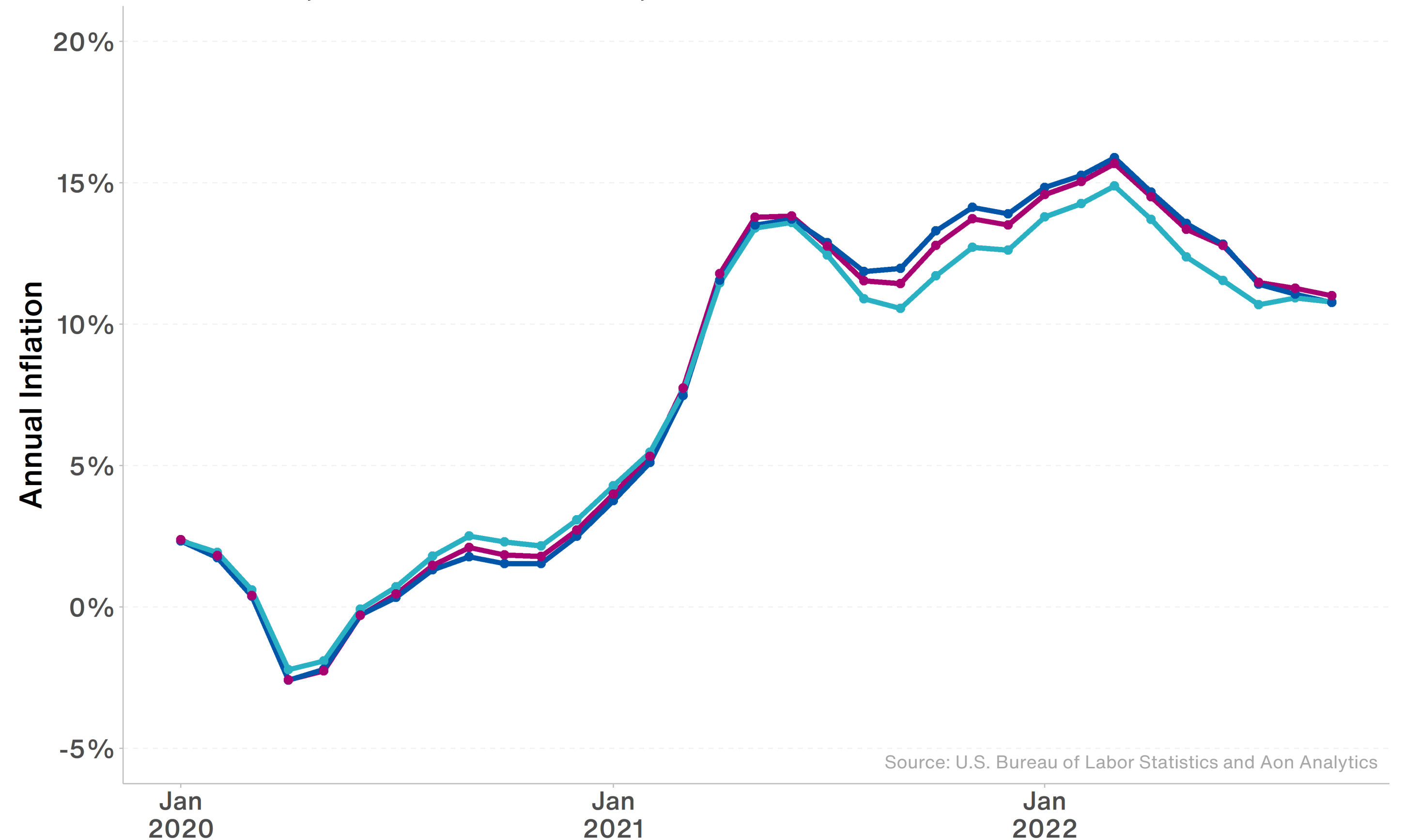
50% Labor

Combining construction goods and labor prices gives a more holistic view of construction costs

Price increases for goods have been flat recently but tight labor market could push labor costs higher

Construction wages have so far lagged overall wage increases

Aon Property Cost Index Annual Inflation
For **Residential**, **Non-Residential**, and **All Construction**

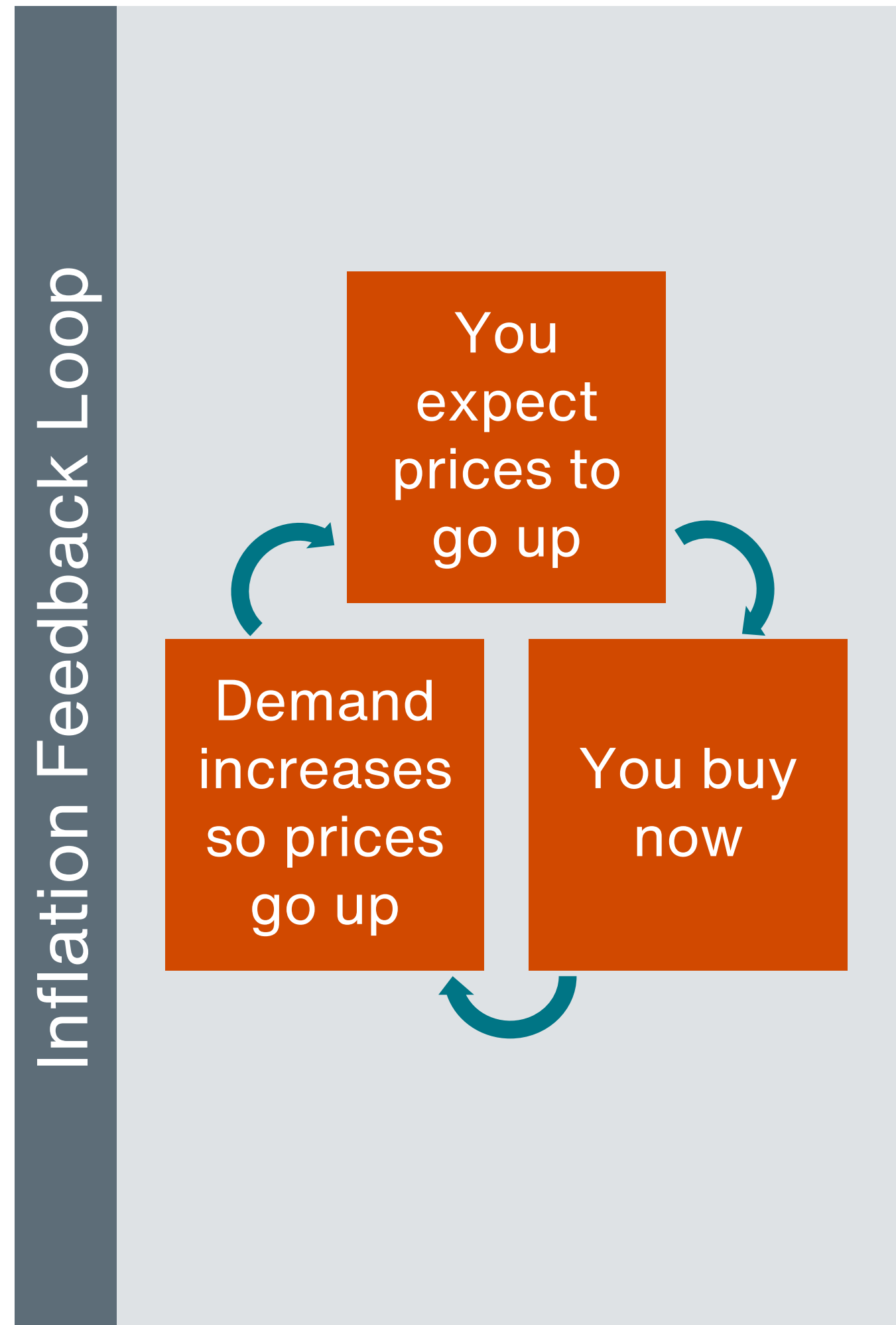


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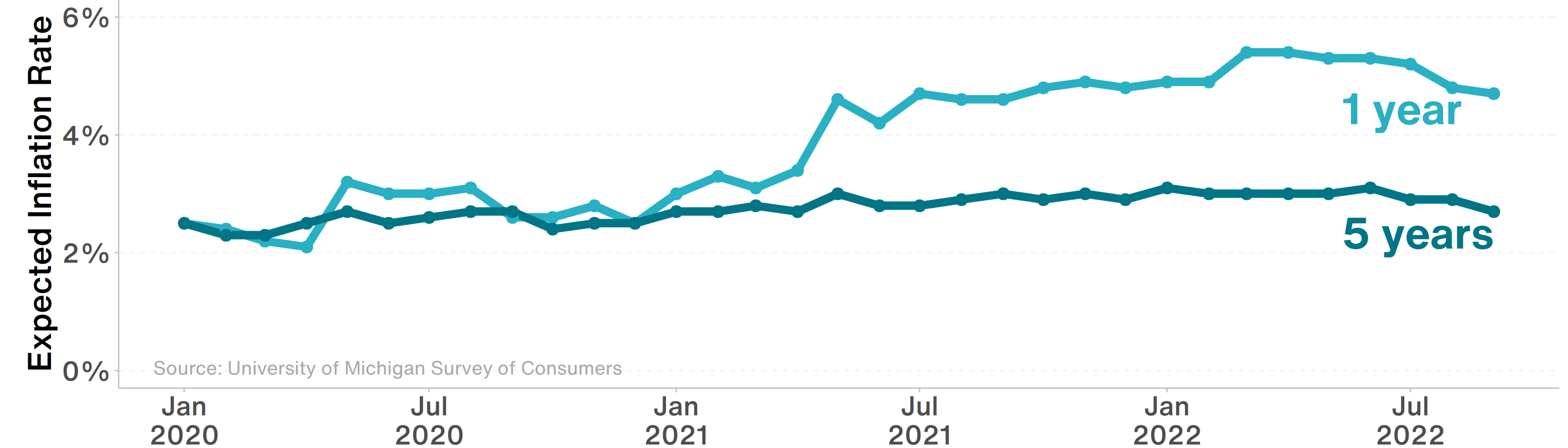
Where Are We Going? Inflation Forecasts and Expectations

Inflation expectations have started to fall

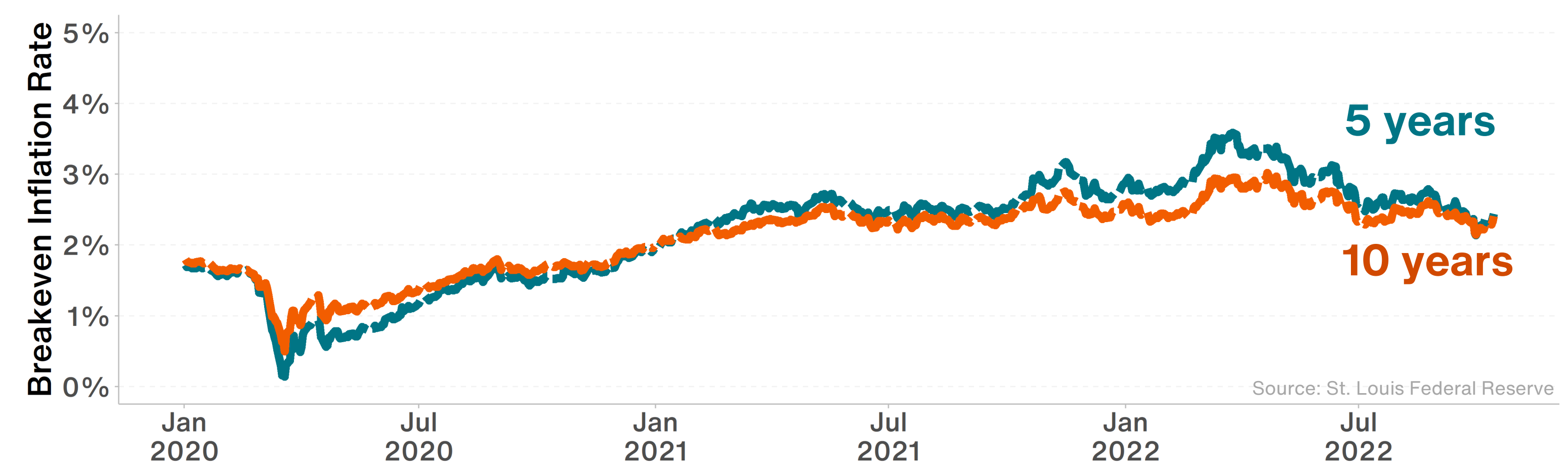
Perception can become reality



Consumer Inflation Expectations



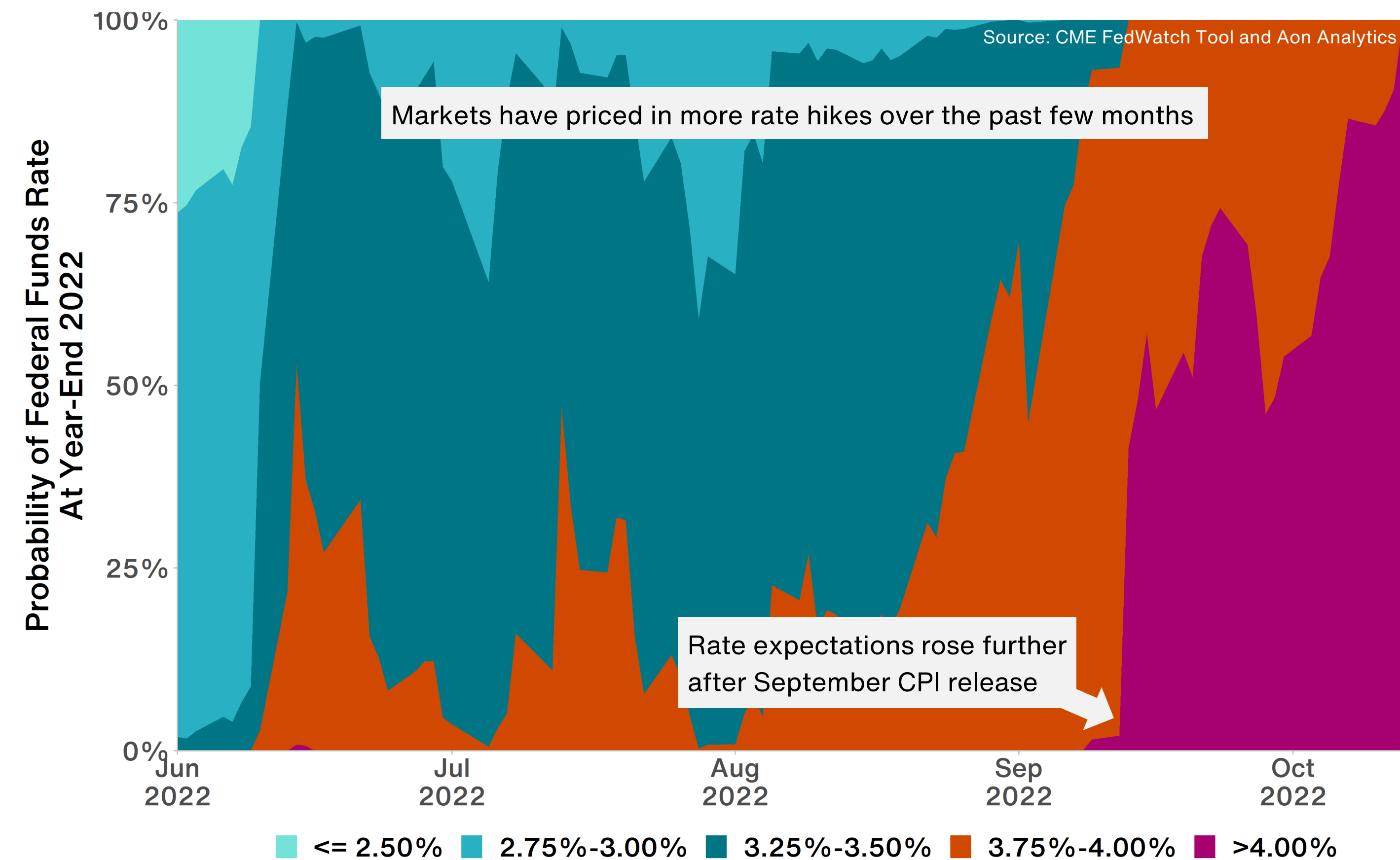
Breakeven Rates



Continued central bank action is expected around the world

Federal Funds Rate is likely to be 4.25+% by the end of the year

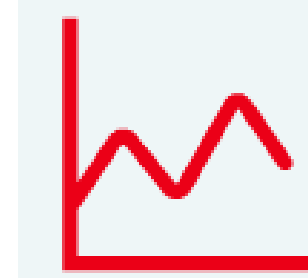
Market-Implied Interest Rates at Year End



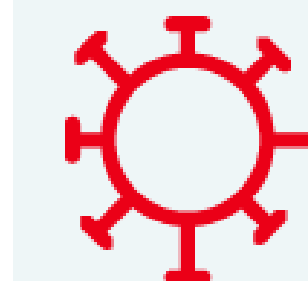
Additional Considerations



War in Ukraine has been a major driver of recent inflation both in the US and internationally



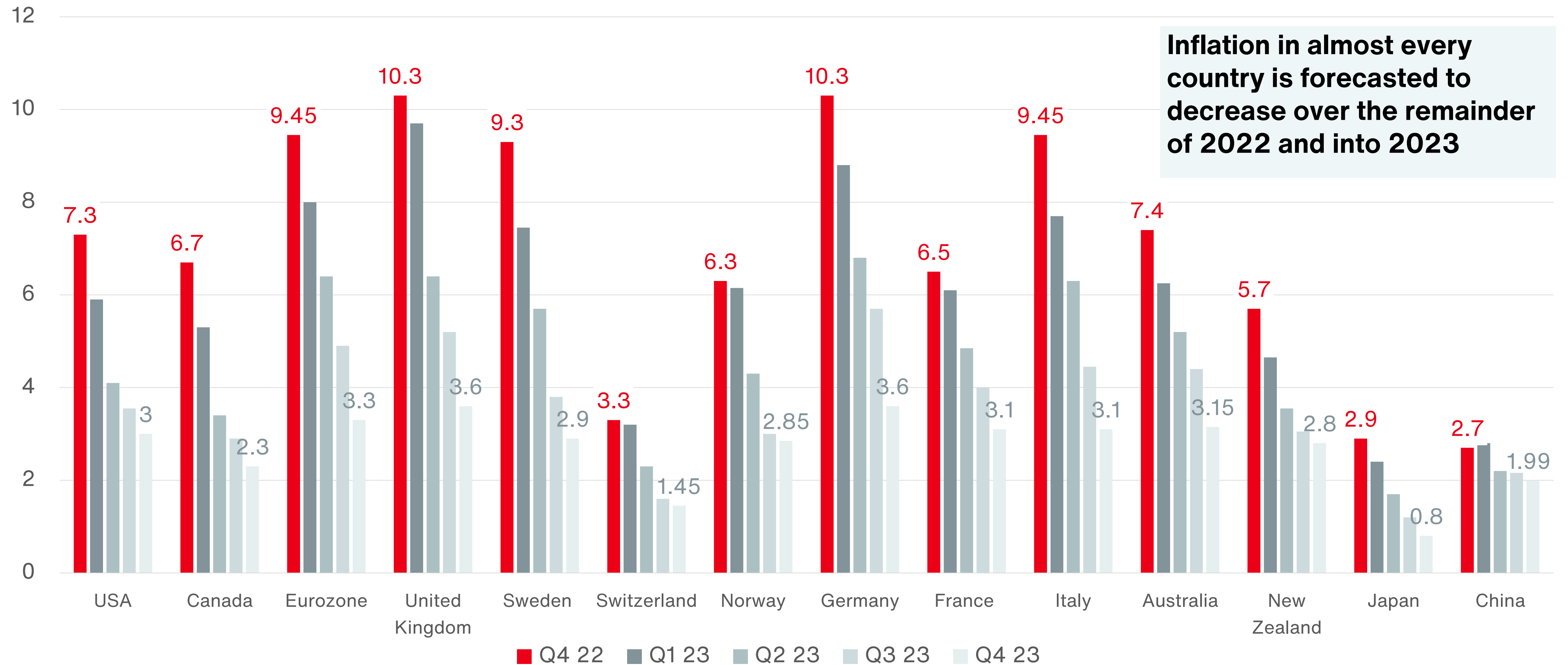
Central banks around the world are raising rates to fight inflation and maintain currency valuations



New variants and precautionary measures have the chance to disrupt economic momentum

We are at or near peak inflation according to forecasters

Inflation expected to be closer to historical norms by Q1 of 2023



Data from composite forecasts of inflation pulled from Bloomberg as of October 2022

4

What Can We Do About It?
Trending, Underwriting, and
Claims Strategies

Inflation from (re)insurers' eye – why does it matter?

Pricing Risk



Exposure data is, by nature, **outdated and understated**

- Modelling may be understated due to time-lag from data as-of date and inflation impacts
- Trending on historical losses may be understated if inflation is not considered

Reserve Risk



Social inflation and economic inflation also impacts **outstanding claims**:

- If inflation is not included in exposures, post-event reserving may need to be adjusted
- Social inflation impacts may increase even traditionally short-tail claims

Leveraged Impact



XoL (re)insurers are **vulnerable** to inflationary impact

- Increases to loss estimates due to inflation is almost fully transferred to reinsurers
- Constant retention levels exacerbate this issue

Systemic



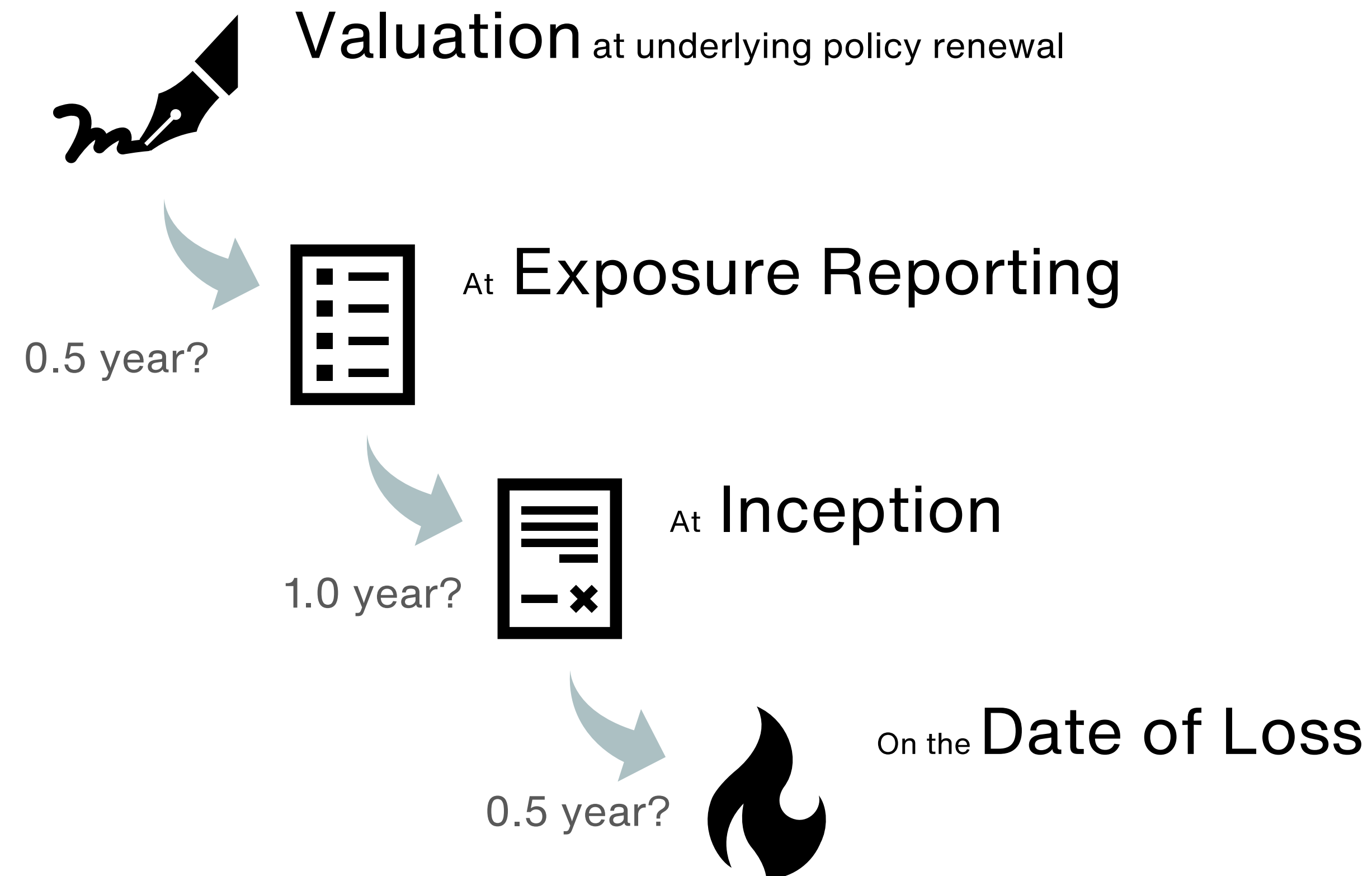
Inflationary impact is **highly systemic** to reinsurers:

- Because it impacts across all cedants when the loss event happens, and
- it even impacts across regions and across lines of business

Key Points: (Re)insurers are **highly vulnerable** to the **systemic impact** of inflation

Timing of initial valuations versus reporting and loss occurrence

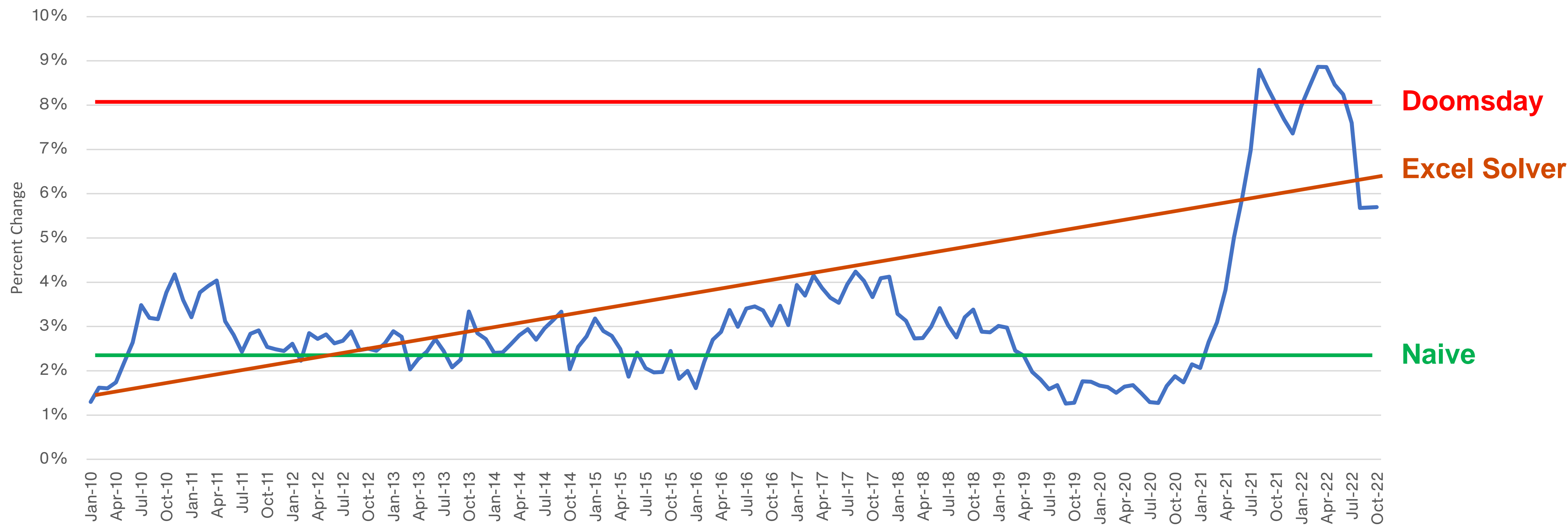
Lag between valuation and loss can be on the order of a year or more



Picking a trend rate is more nuanced than ever

Using a single flat trend rate is ok in a stable environment, but can produce a large miss in an inflationary environment

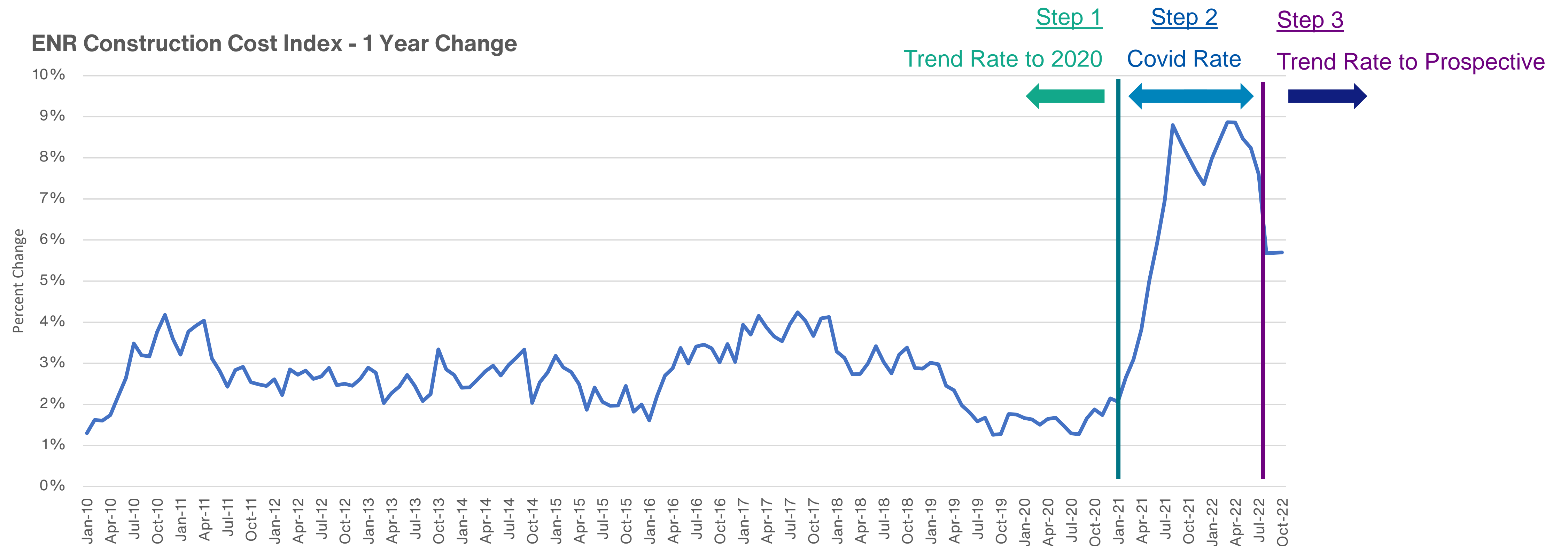
ENR Construction Cost Index - 1 Year Change



2021 & 2022 H1 had high inflation, but will it continue?

Uncertainty supports a three-step method or an index

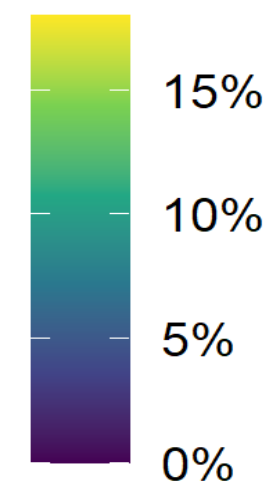
Inflation is expected to moderate over the next 1 to 2 years to levels that are higher than pre-COVID years but less than what we saw in 2021.



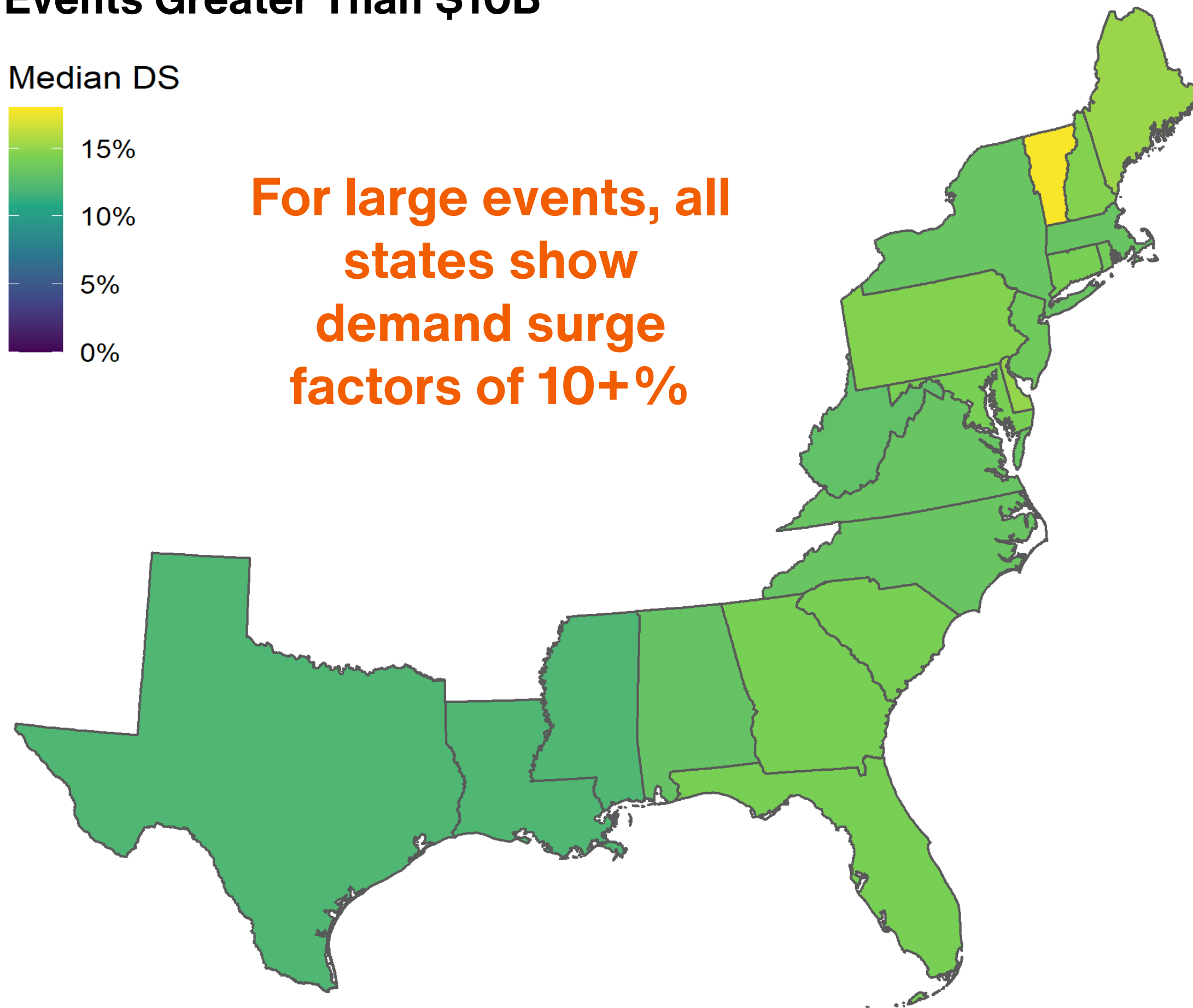
10+% demand surge factors are already accounted for in the models

Events Greater Than \$10B

Median DS



For large events, all states show demand surge factors of 10+%



Modeled demand surge increases as the severity of the event increases

\$100B events have factors of 30+%

For small and medium sized events (\$1B+), median demand surge is between 5% and 10%

Additional demand surge loads are likely unnecessary if insured values reflect recent inflation, according to model vendors

Care needs to be taken to ensure modeled values represent actual exposure

Using an inflation index that aligns well with a book of business is crucial

Different lines and regions might have different inflationary pressures that need to be reflected in the inflation adjustments

There are strategies to help with inflation

Inflation Adjusting Insured Values

Personal lines values are often automatically indexed to CPI at renewal but other lines might require a more bespoke approach

Be careful about which inflation metric is used for inflation indexing since inflation drivers can vary by line

Ensuring insured values are correct is the most important and impactful action a (re)insurer can take

Insurers with an appropriate inflation guard in their policies likely already reflect the current inflation and care should be taken to avoid double counting

Percentage Deductibles and Limit Management

Percentage deductibles automatically protect against inflation

Can be a challenge to transition to if not already in place

Schedule limits and avoid blanket limits – broad coverage gets worse with undervaluation

Rate Increases and Risk Management

Rate increases can be used to make up difference between actual values and adjusted values

The same rate on an increased limit is okay as long as the limit reflects the actual values

Pricing and reserving models must account for recent inflationary trends but not double count

Reinsurance can offer an additional layer of protection

Inflation rates over the next 1-3 years are highly uncertain. Make decisions that are robust against a variety of potential outcomes.

Thank You

Contacts

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