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UNDERSTANDING INFLATION

Emerging Conversations: Arvada Chamber of Commerce

March 18, 2022

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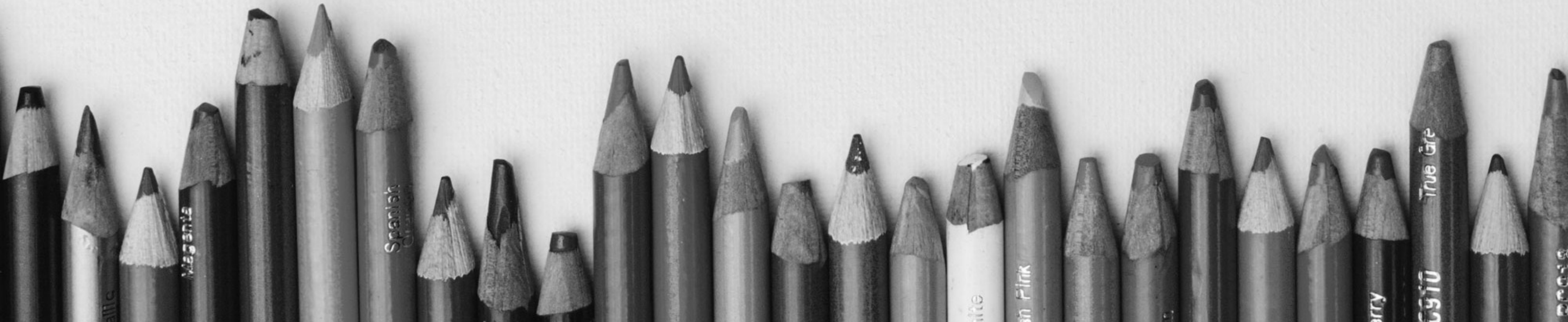


IN MY OWN WORDS

“Inflation is a hidden tax that essentially reduces purchasing power requiring a trade-off in the portfolio of consumption patterns for households, businesses, and governments.”

TWO TYPES OF INFLATION

There are 2 types of Inflation:

- Asset Price Inflation
- Goods/Services Inflation

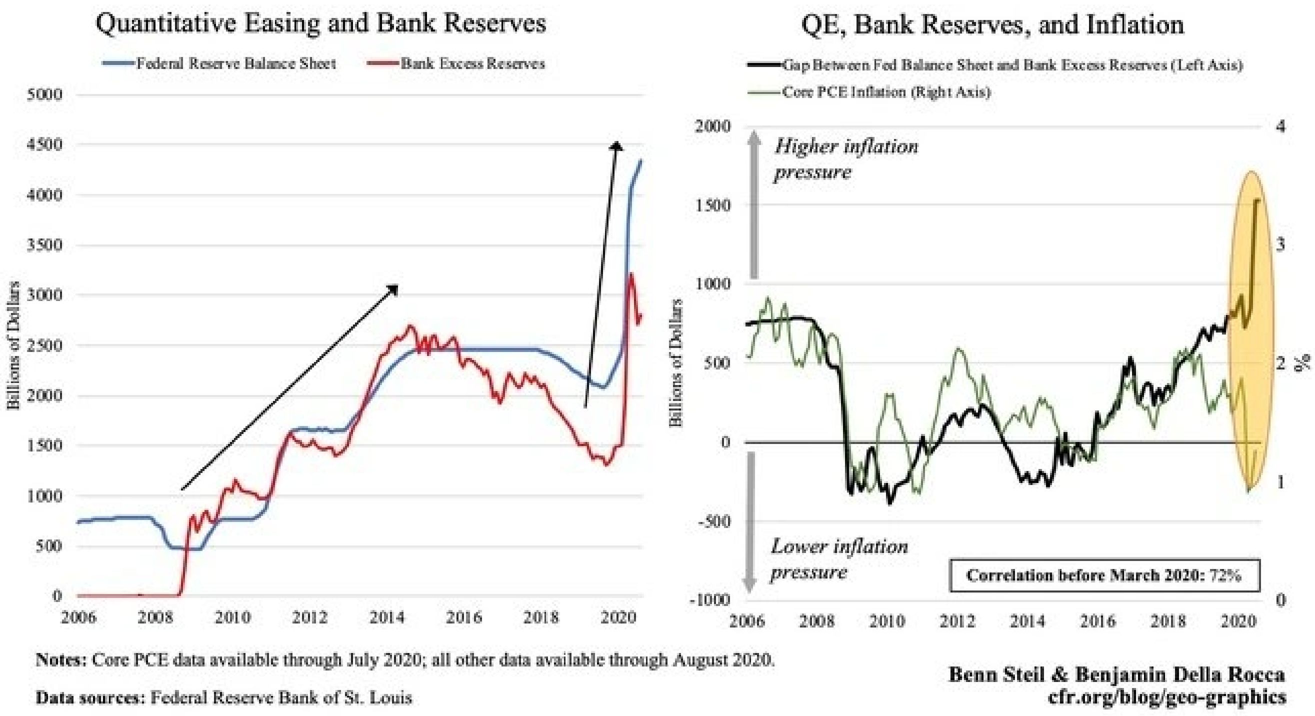
ASSET PRICE INFLATION

Driven by Federal Reserve Quantitative Easing (QE) and/or speculation

The only way for asset price inflation to cause inflation in goods and services is for asset price inflation to be monetized and transmitted into the real economy.

Monetizing asset price inflation possible via three means:

- ❑ Sell down assets
- ❑ Borrow against assets
- ❑ Wealth effect spending via:
  - Spending from current income
  - Drawing down savings
  - Borrowing on credit

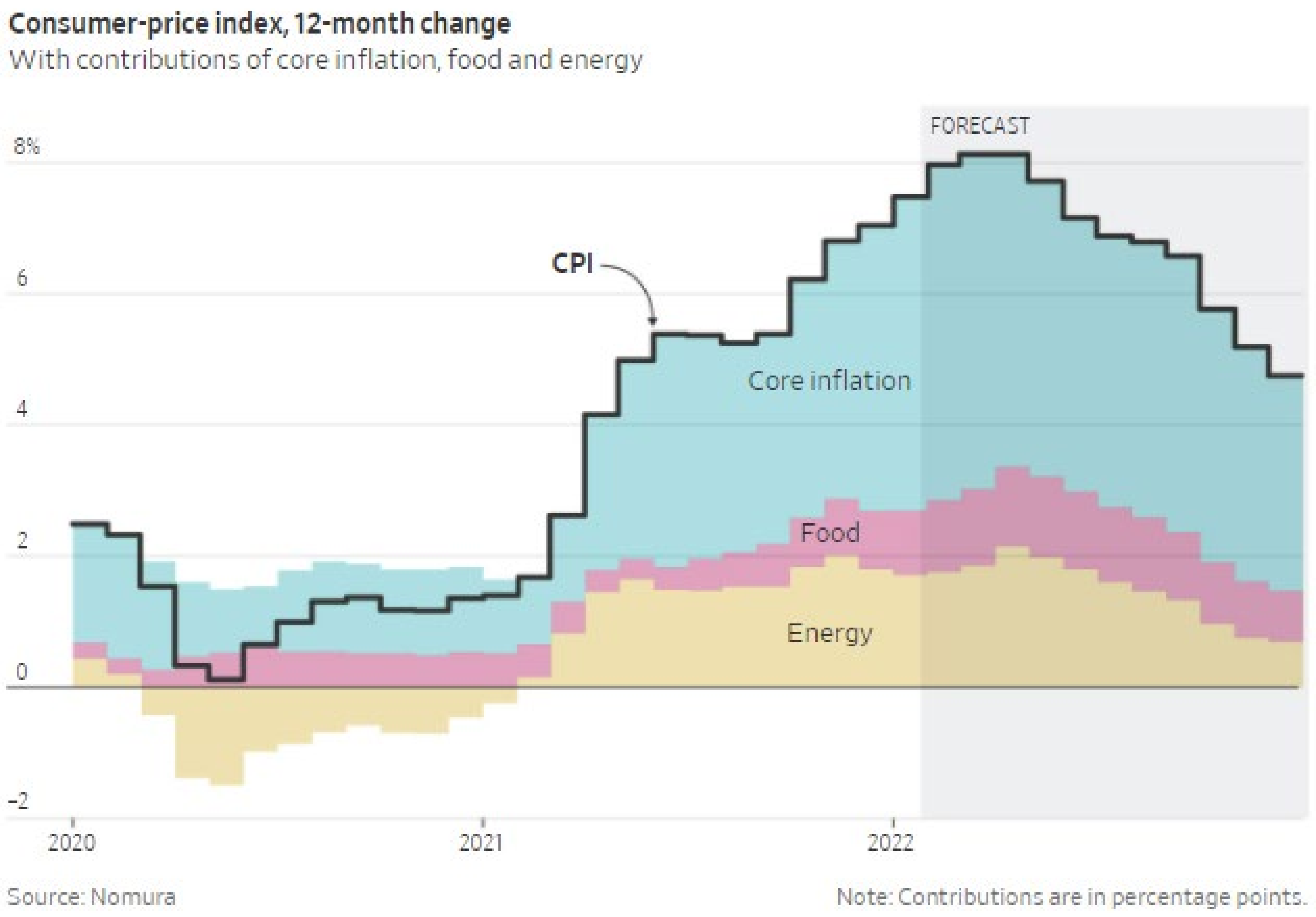


GOODS AND SERVICES INFLATION

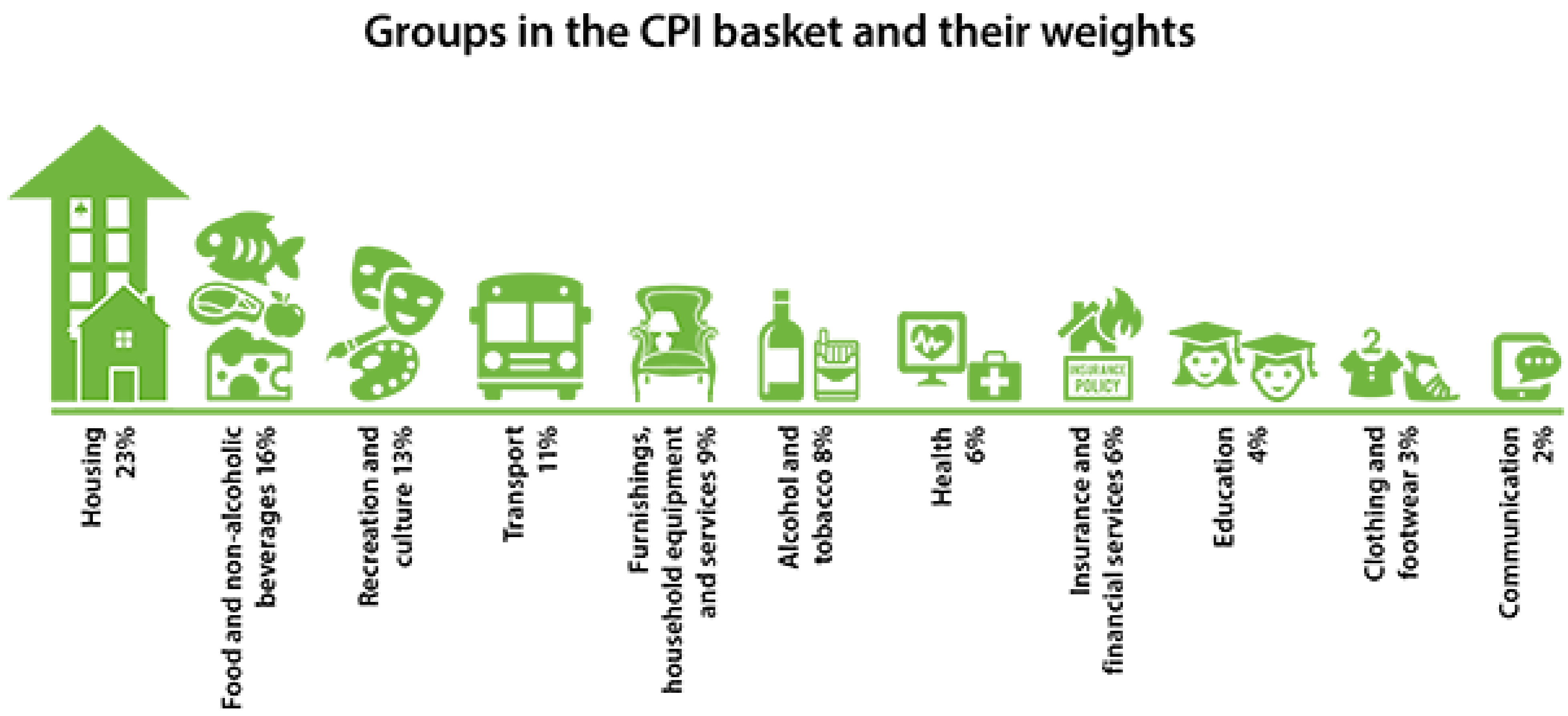
A general increase in the price of goods and services which reduces purchasing power, particularly harsh for lower-income households.

- Goods and Services Inflation is driven by eleven means:
  - Demand-Pull (demand is greater than potential output)
  - Supply-Side/Supply-Chain Shocks
  - Multiple layers within supply chain leading to mark-ups
  - Monetary policy and depreciation of the currency for imported goods
  - Lack of competition and substitutes
  - Lack of innovative processes to drive efficiencies
  - Increased uncertainty in expectations (adaptive expectations)
  - Tariffs
  - Lack of trade among entities with comparative advantages
  - A Lack of investment in R&D/innovation to expand potential output and the production possibilities frontier
  - Lack of scale economies to drive operating leverage

CONSUMER PRICE INDEX (CPI)



WHAT DOES CPI MEASURE?

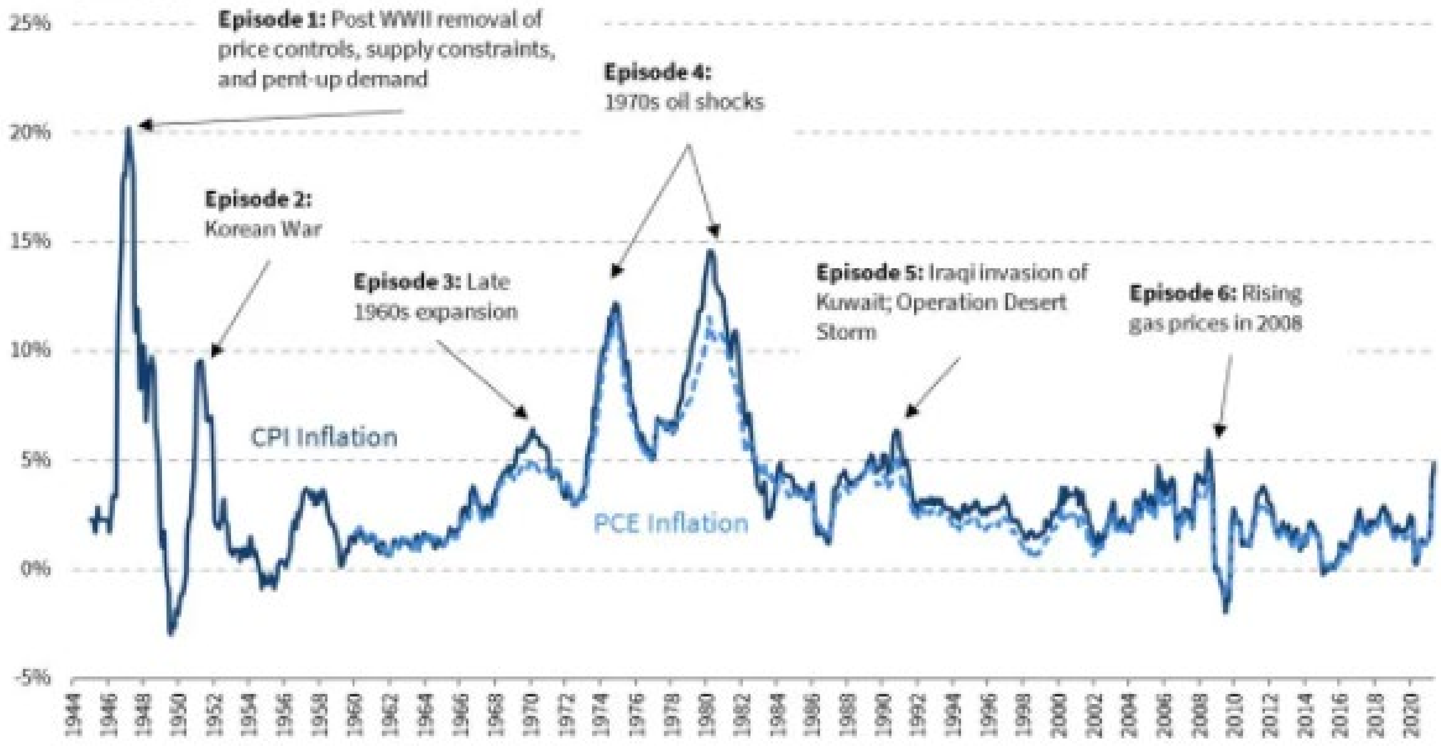


HISTORIC CONTEXT: JUN ‘47 – OCT ‘48

- Prices jumped over 20%
- Caused by elimination of price controls, supply shortages, and pent-up demand

Figure 1: Six episodes of post-WWII inflation

Percentage change, year-over-year



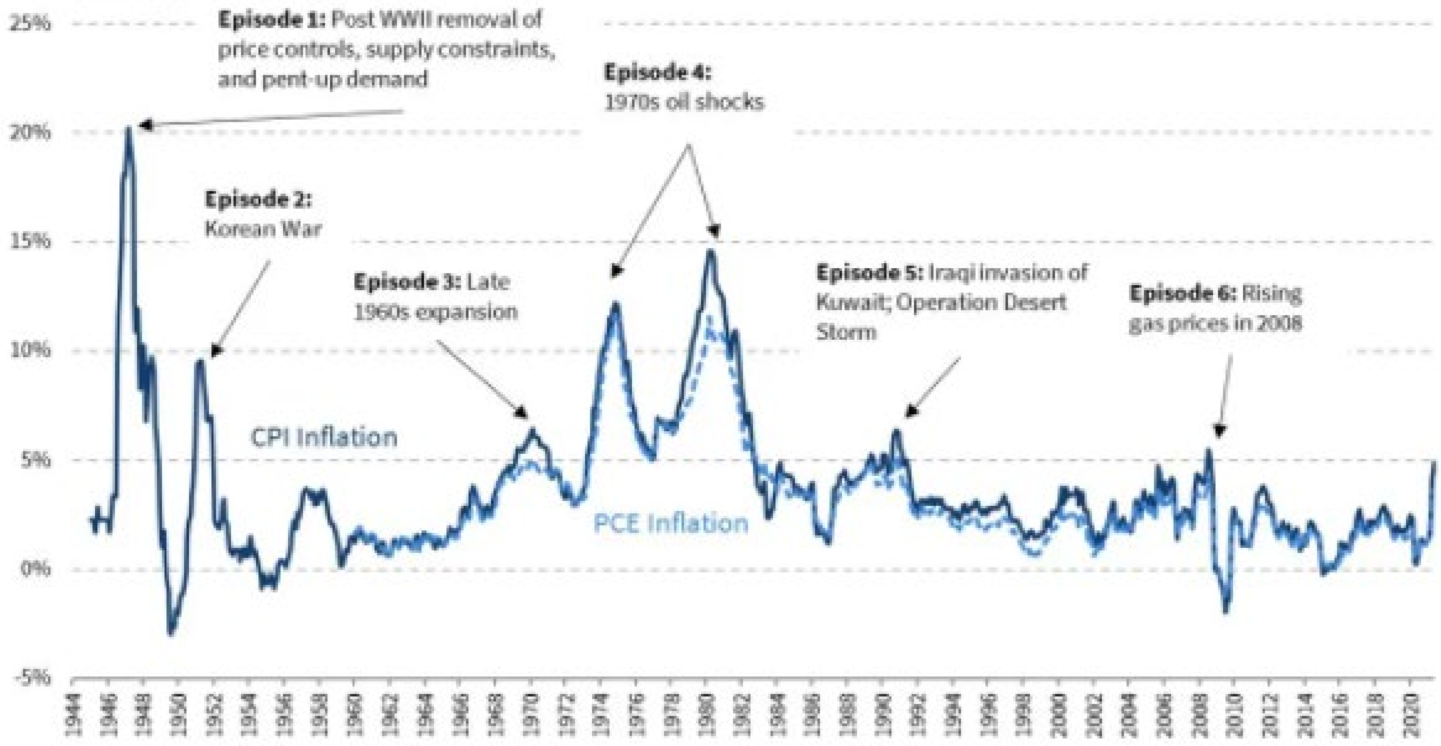
Source: Federal Reserve Economic Data (FRED), Haver Analytics, CEA Calculations.

HISTORIC CONTEXT: DEC '50 – DEC '51

- Korean War started in June 1950 and hostilities ceased in July 1953
- Inflation reached 10%
- Caused by demand-pull inflation, shortages from military spending, and price controls
- When price controls were lifted, inflation did not spike as it did following WWII

Figure 1: Six episodes of post-WWII inflation

Percentage change, year-over-year



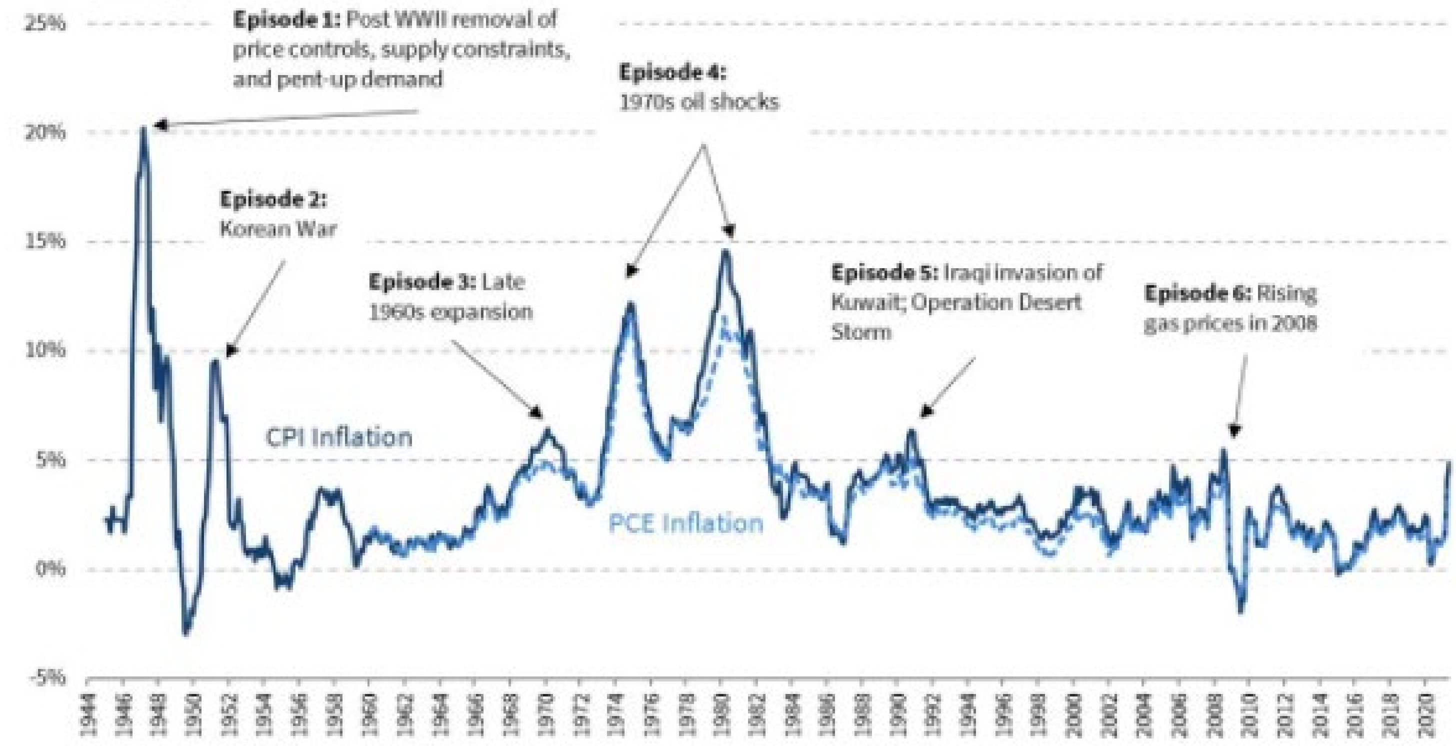
Source: Federal Reserve Economic Data (FRED), Haver Analytics, CEA Calculations.

HISTORIC CONTEXT: MAR '69 – JAN '71

- Inflation was 6%
- Caused by a booming economy as GDP averaged 4.8% until President Nixon instituted a freeze on wages and prices

Figure 1: Six episodes of post-WWII inflation

Percentage change, year-over-year



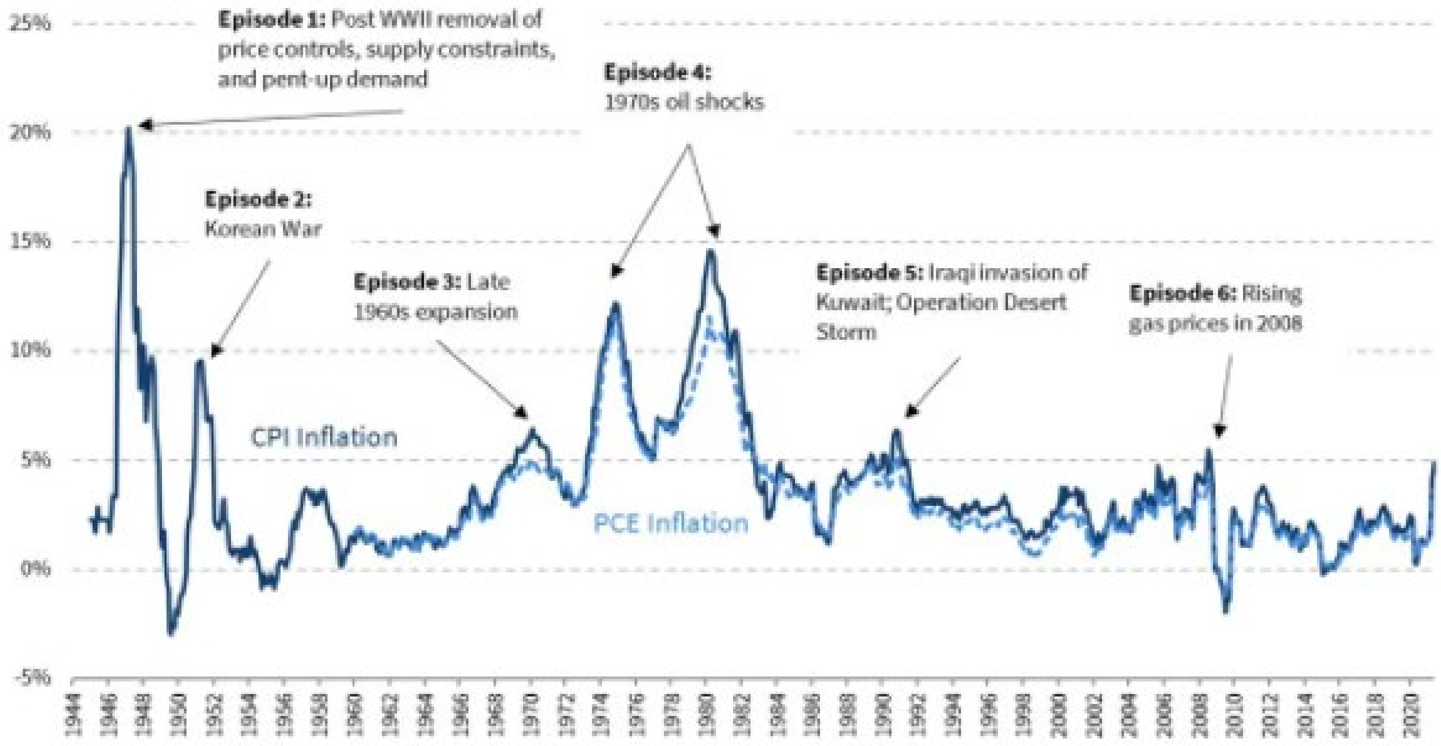
Source: Federal Reserve Economic Data (FRED), Haver Analytics, CEA Calculations.

HISTORIC CONTEXT: APR '73 – OCT '82

- Inflation between 10-15%
- Caused by 2 surges in oil prices
- The first oil surge caused by oil embargo implemented by OPEC
- The second oil surge was caused by a decline in oil production due to Iranian Revolution and Iran-Iraq War

Figure 1: Six episodes of post-WWII inflation

Percentage change, year-over-year



Source: Federal Reserve Economic Data (FRED), Haver Analytics, CEA Calculations.

HISTORIC CONTEXT: APR ‘89 – MAY ‘91

- Inflation above 5%
- Caused by Iraq invading Kuwait leading to the first Gulf War whereby crude oil increased due to uncertainty

Figure 1: Six episodes of post-WWII inflation

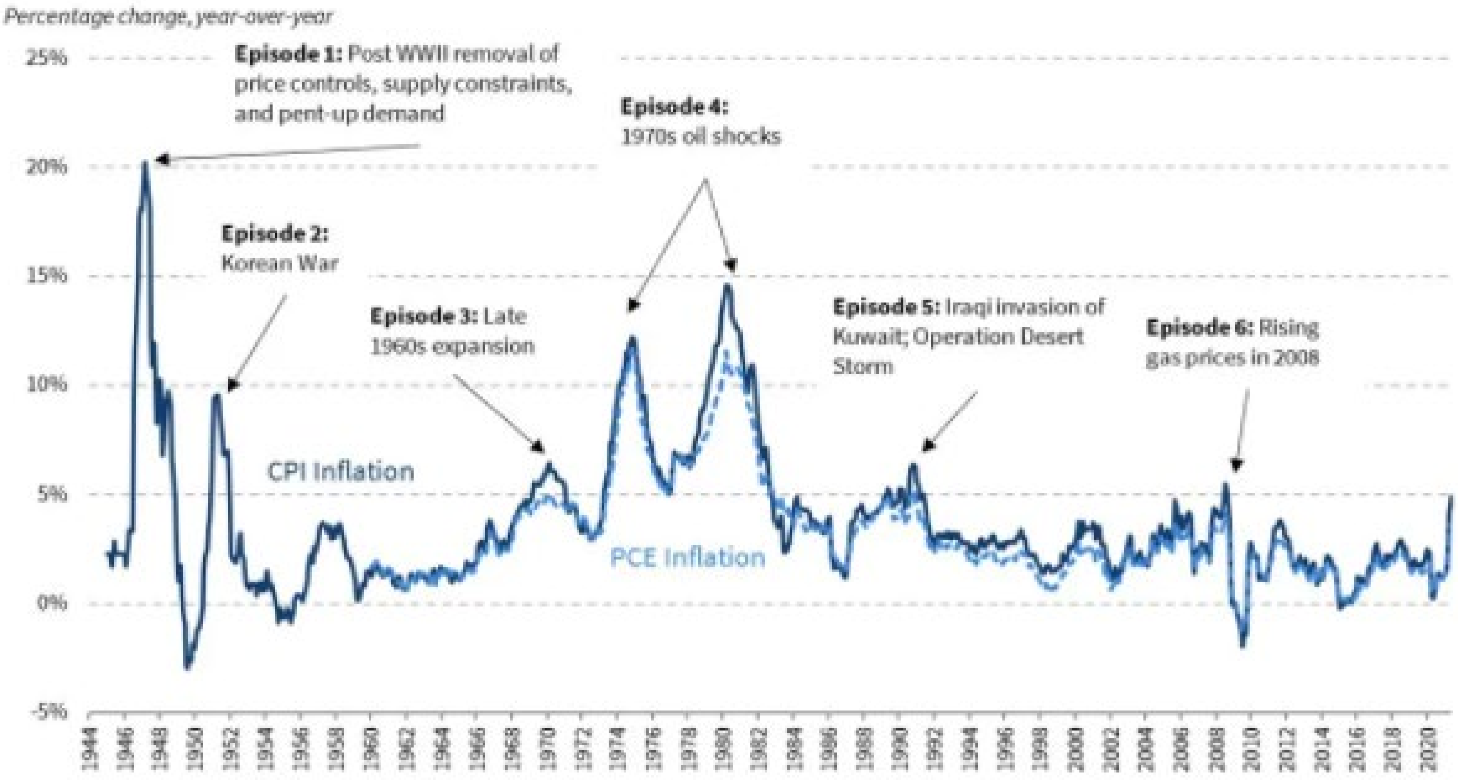
Percentage change, year-over-year

Source: Federal Reserve Economic Data (FRED), Haver Analytics, CEA Calculations.

HISTORIC CONTEXT: JUL '08 – AUG '08

- Inflation rose above 5%
- Due to skyrocketing oil prices as oil cost $140/bbl

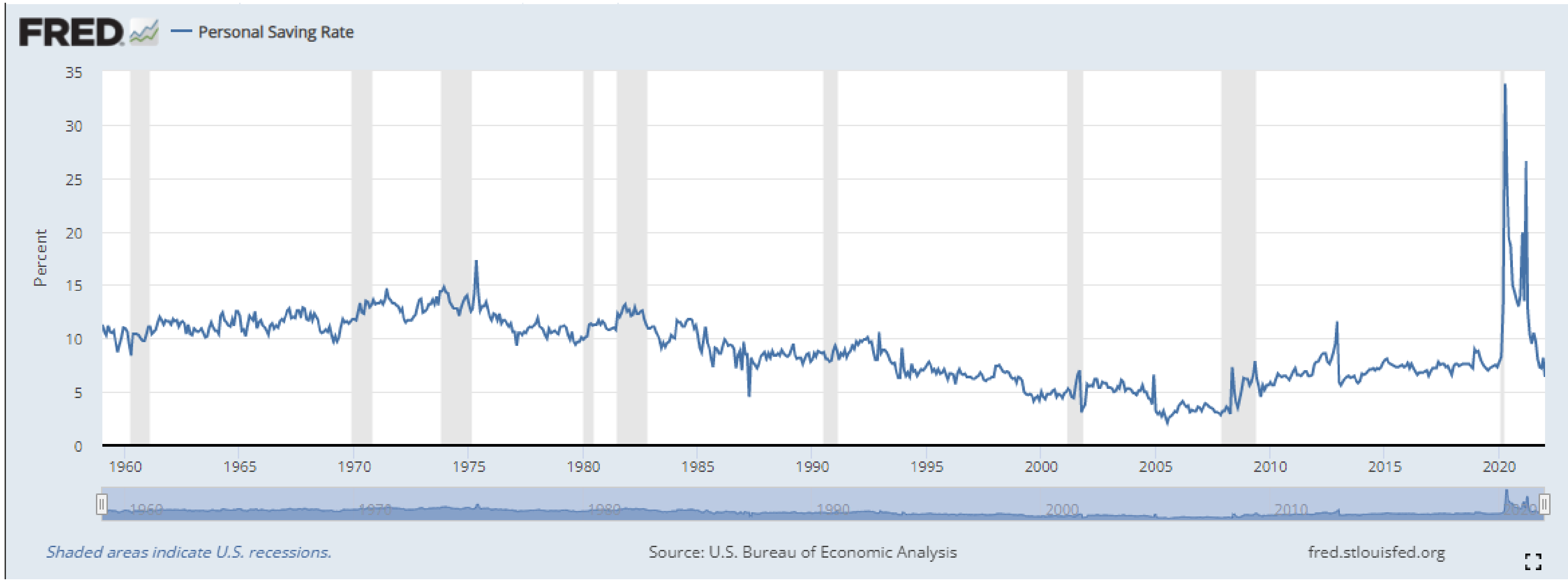
Figure 1: Six episodes of post-WWII inflation



Source: Federal Reserve Economic Data (FRED), Haver Analytics, CEA Calculations.

THE PRESENT

- Current Inflation at 7.9%
- Resembles Post WWII, not 1970's



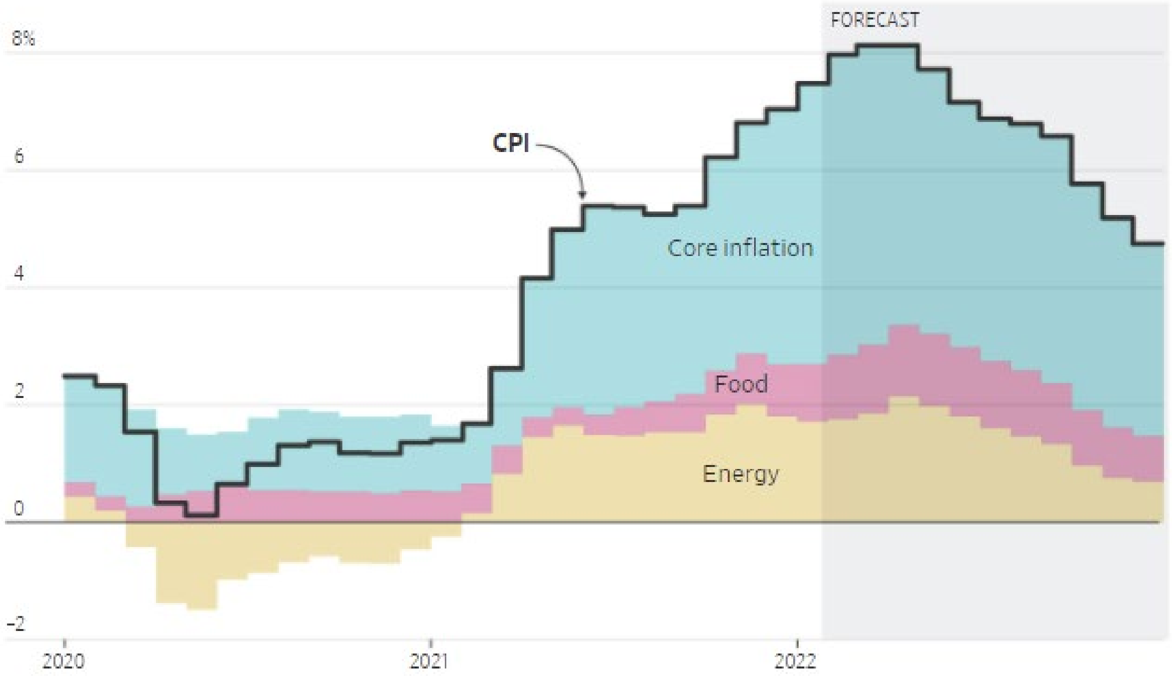
Driven by confluence of factors:

- Fiscal Stimulus (Demand)
- Monetary Stimulus (Demand)
- Pent-up demand, historical savings rates, and spending on goods (Demand)
- Wealth effect (Demand)
- Supply chain constraints (Supply)
- Shortages of some goods (Supply)
- Rising labor costs (Supply)

WHAT HAPPENS NEXT?

- Function of disaggregating demand and supply-side factors
- Additional Fiscal stimulus unlikely (Demand)
- Monetary tightening (Demand)
- Household savings drawdown (Demand)
- Shift to services vs. goods spending (Demand)
- Economies opening-up and increased hiring should reduce supply-chain constraints (Supply)
- Expect inflation to moderate over course of 2022 (Demand)
- Supply-shocks from War? (Supply)

Consumer-price index, 12-month change
With contributions of core inflation, food and energy



Source: Nomura

Note: Contributions are in percentage points.

WHAT DOES THIS MEAN FOR BUSINESS?

- Function of Revenue/Cost and impact on P&L
- 3 Scenarios: Pass on costs to customers, reduce costs, or absorb costs
- Raise prices/change product mix without sacrificing customers (Revenue)
- Improve productivity and processes (Cost)
- Automate wherever possible (Cost)
- Bundling (Cost)
- Form group buy/purchasing networks (Cost)
- Simplify supply-chain (Cost)
- Refinance debt (Cost)

WHAT DOES IT MEAN FOR INVESTING?

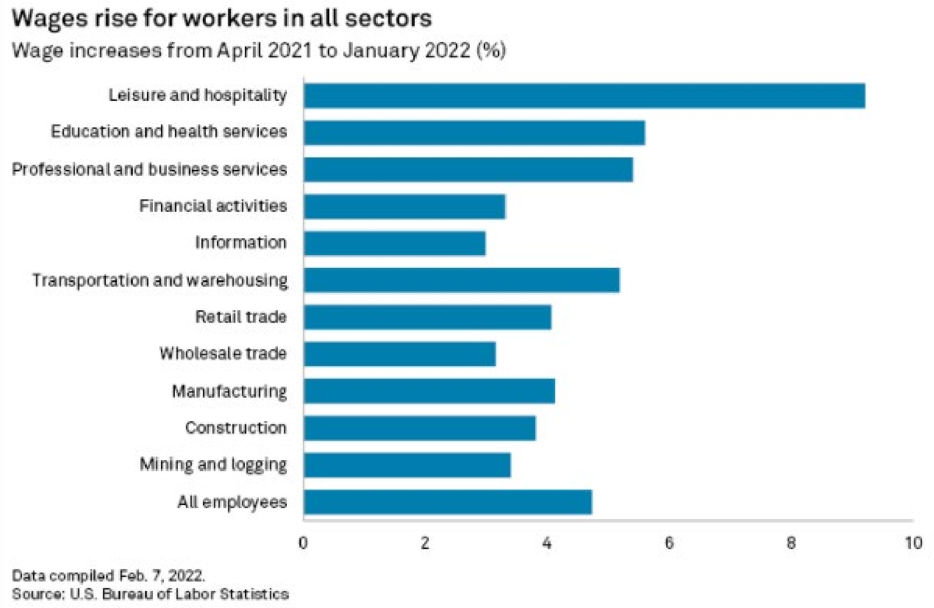
- Backdrop of high equity valuations and increased volatility, negative real yields in fixed income, and inflation near 8%, bodes well for private markets and some alternative asset allocations.
- Important to focus on a long-term asset allocation with a focus on quality as quality is a buffer in down markets.
- Maintain allocations to equities with a focus on quality, focus on short-duration, floating-rate fixed income, allocate to alternative investments such as private debt, real estate, private equity.

SHORT V. LONG-TERM EXPECTATIONS

- We expect inflation rates to peak in 1H2022 and moderate over the course of 2022, although remain elevated above the Fed's targeted 2% inflation level.
- High levels of inflation do not persist indefinitely, and we do not anticipate high, sustained levels of inflation to persist. We expect inflation will be around the Fed's targeted 2% level in 2023.
- We are closely monitoring demographics and developments in the labor market for evidence of higher, persistent inflation due to worker shortages as espoused by former U.K. Central Banker Charles Goodhart's thesis: https://www.wsj.com/articles/inflation-high-forecast-economist-goodhart-cpi-11646837755

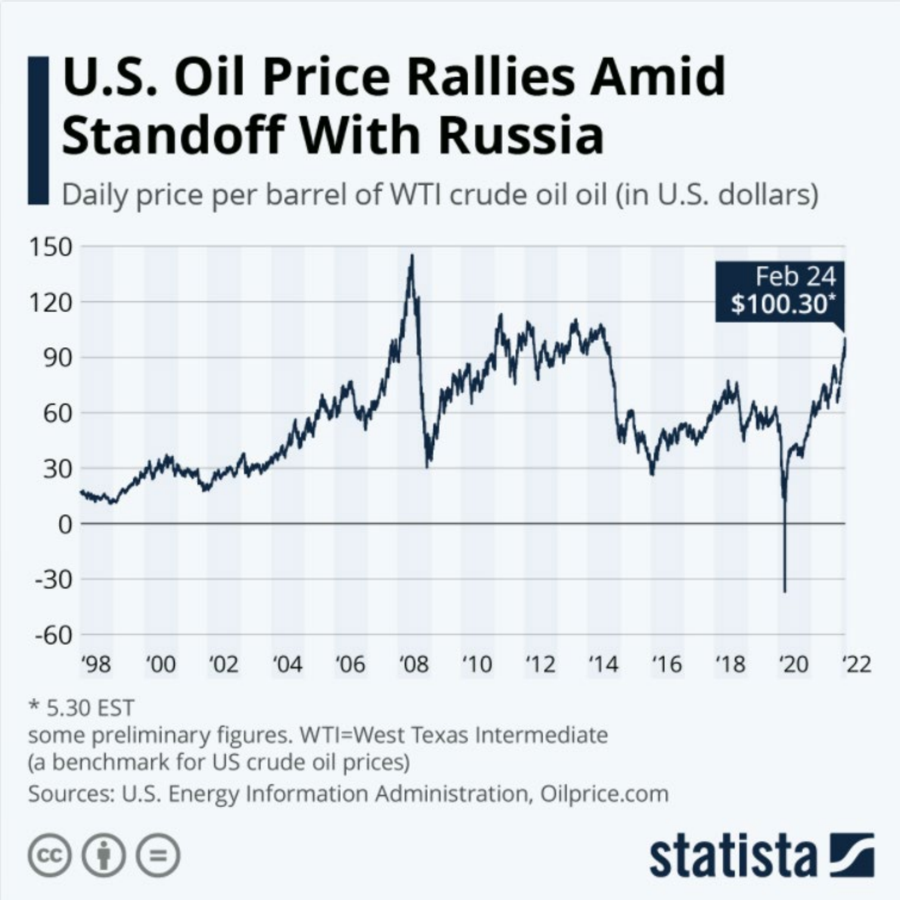
ADDENDUM: WAGE-PRICE SPIRAL?

- There are a lot of comparisons suggesting that the underlying causes of inflation today are like that of the 1970's when there was a wage-price spiral.
- The 1970's inflation was textbook demand-pull inflation as demand and output exceeded potential supply and potential output in the economy. This led to rising inflation and wages rising commiserate with inflation.
- Today, wages are increasing less than inflation. Additionally, there are not embedded expectations of inflation lasting indefinitely among the populace as most see it as temporary.



ADDENDUM: RISE IN OIL PRICES?

- Underinvestment among shale oil players in the United States
- No longer a focus on growth at all costs, but on generating returns for shareholders. Drilling is being led by private operators.
- There are shortages of sand, labor, fracking equipment, and inventory of drillable wells.
- OPEC is not releasing its available reserves.
- Increased risk premium for oil based on expected shortages from the war, albeit coming down to ~$100/bbl vs. ~$140/bbl.



ABOUT SYNTRINSIC

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Matt Kukla joined Syntrinsic in 2022 as a Senior Research Analyst with a particular focus on private markets and alternative assets including venture capital, private equity, hedge funds, real estate, and private debt. He is responsible for researching investment managers, developing capital market expectations, and constructing client portfolios.

Prior to joining Syntrinsic, Matt has worked in a variety of roles throughout the financial spectrum including sell-side equity analysis, buy-side portfolio management, international finance, high net-worth banking, consulting, and data/analytics.

Matt graduated Magna Cum Laude from Cleveland State University with a bachelor's degree in Finance and is a Chartered Financial Analyst (CFA) Level III Candidate.

A native of Cleveland, OH, Matt spends much of his time reading literature on money, banking, finance, and economics. He also enjoys deep thinking and writing in his journals.

PURPOSE

Syntrinsic is co-creating a sustainable and generative world that empowers all people.

Syntrinsic Investment Counsel

Syntrinsic Investment Counsel develops, implements, and monitors customized investment portfolios for nonprofit organizations and civically-engaged private clients committed to using their financial resources for good.

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Freedom Service Dogs of America

Boys and Girls Clubs of Metro Denver

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