

# **Inflation, pt. 1**

**EC 103–003**

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Motivation

# Housekeeping

- **Required reading:**

- CORE, ch. 13, section 13.8.
- Consumer Price Index: Frequently Asked Questions

- **Required listening:**

- The Ezra Klein Show: Interview with Paul Krugman
  - Krugman talks about inflation until minute 34.
- Planet Money podcast: Inflation & drinking buddies

# What is going on?

The recent numbers:

- `BLS website`
- `FRED historical series`

# What is going on?

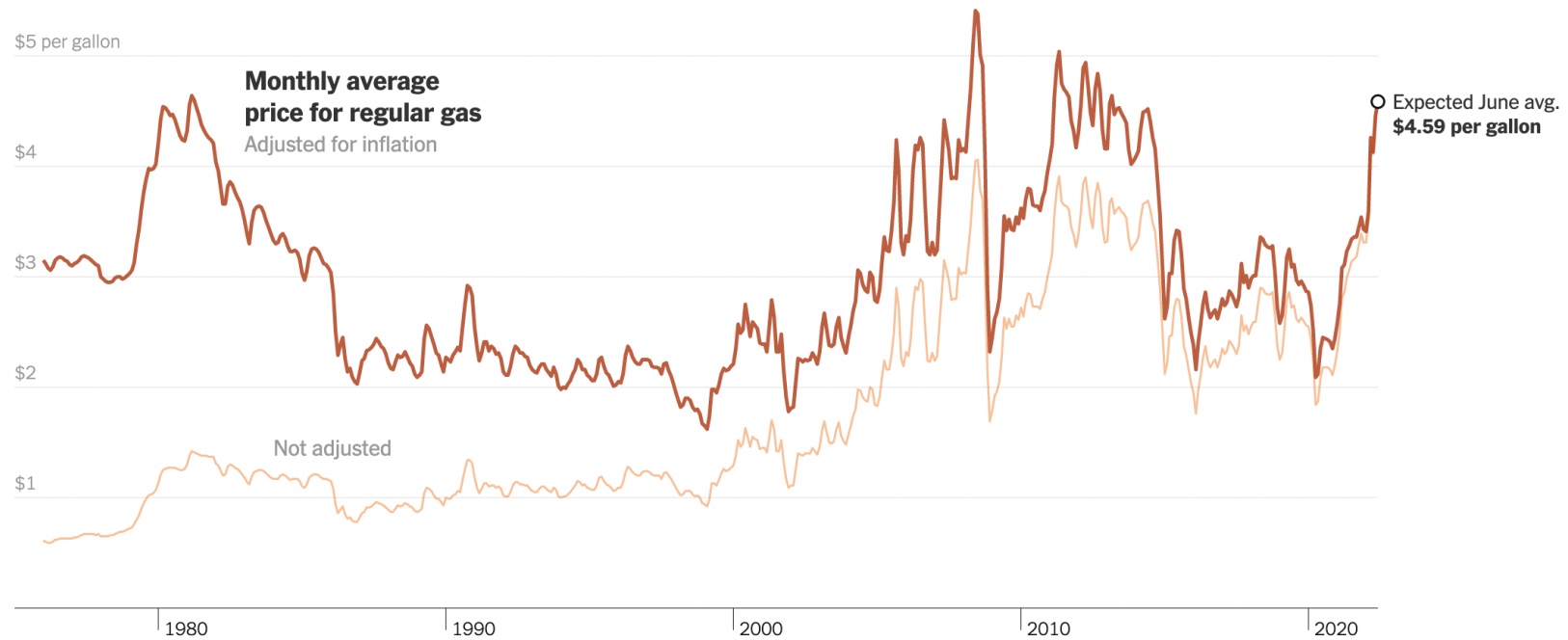
BUSINESS

The New York Times

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## Why Gas Prices Are So High

By [Ella Koeze](#) and [Clifford Krauss](#) June 14, 2022



Source: Energy Information Administration • Note: Prices adjusted for inflation are in June 2022 dollars. The average price for June is a forecast.

Gas prices in the United States are at record highs. And even when

# What is going on?

What if we exclude food and energy prices?

# Defining inflation

# Defining inflation

In **market economies**, prices of individual goods *continually* change, as **consumption** and **production** patterns vary over time.

In **Microeconomics**, one major concern is how **relative** prices change over time.

- For example, why have *internet services* become less expensive over time, while *healthcare* more expensive?

**Macroeconomics**, on the other hand, is more interested in the **overall** price level of goods and services over time.

The prices of the almost *uncountable* number of goods and services we consume **do not** rise and fall at the same rates, so measuring inflation is a *challenging* task.



# Defining inflation

**Inflation** is a *general, steady* increase in prices.

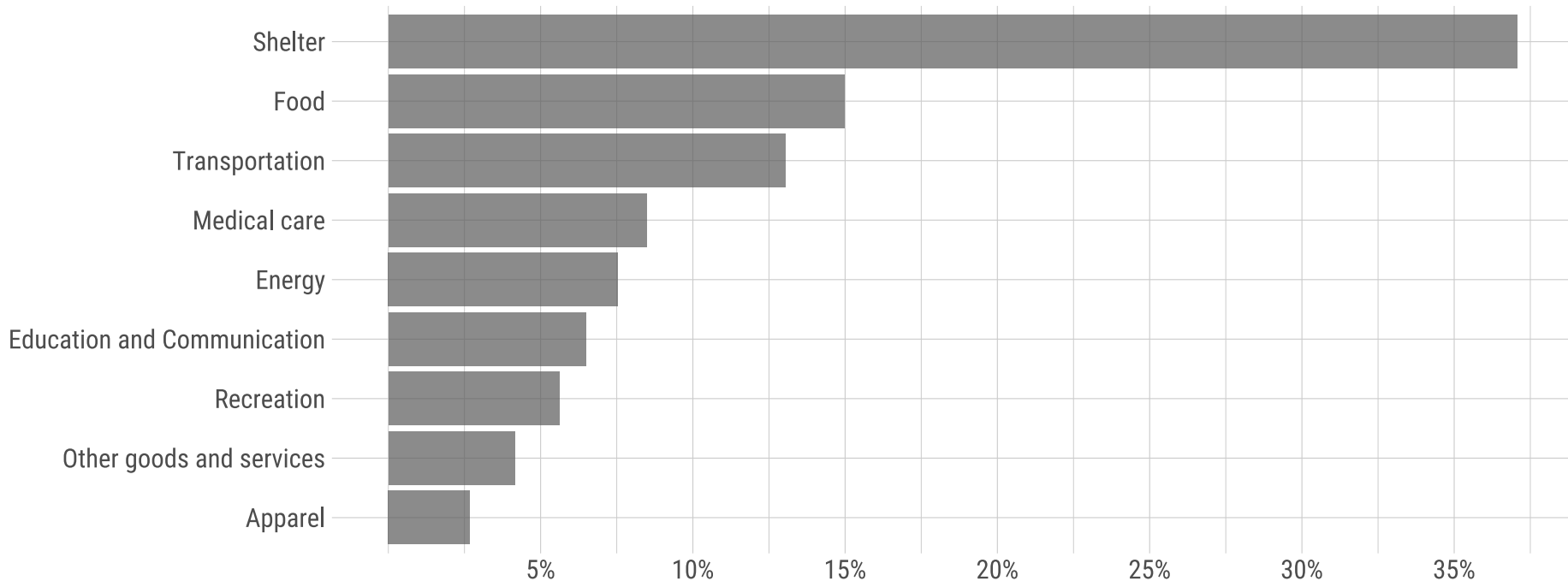
- But **what** prices?
  - Most prices!
  - But what prices?
- Prices of a fixed **basket of goods and services** that represents the purchases of the average family of *consumer unit*.

Every few years, the mix of goods and services in this basket is updated.

# Defining inflation

## Consumer Price Index: Basket of goods

% share (November 2021)



Source: US Bureau of Labor Statistics

# Defining inflation

Inflation is a **real** phenomenon.

- It is **real** because it **deteriorates** the *purchasing power* of money.
- If one's monthly **income** was \$4,000 in 2019, how is this person in 2022?

Thus, if income adjustments **do not** compensate for a general increase in the prices of goods and services, (almost) everyone is worse off in an inflationary scenario.

Cases to think about:

- *Fixed* incomes;
- *Indexed* benefits/contracts;

# Measures of inflation

# Measures of inflation

Depending on what goods and services considered—and their respective *weights*—an inflation index will be different.

In the US economy, we have a few relevant **measures of inflation**:

1. The Consumer Price Index (CPI);
2. The CPI's *Core* Index;
3. The Personal Consumption Expenditure deflator (PCE);
4. The GDP deflator.

# Measures of inflation

The most popular measure of inflation in the US is the **Consumer Price Index** (CPI).

The basket of goods and services it uses is based on **urban** households.

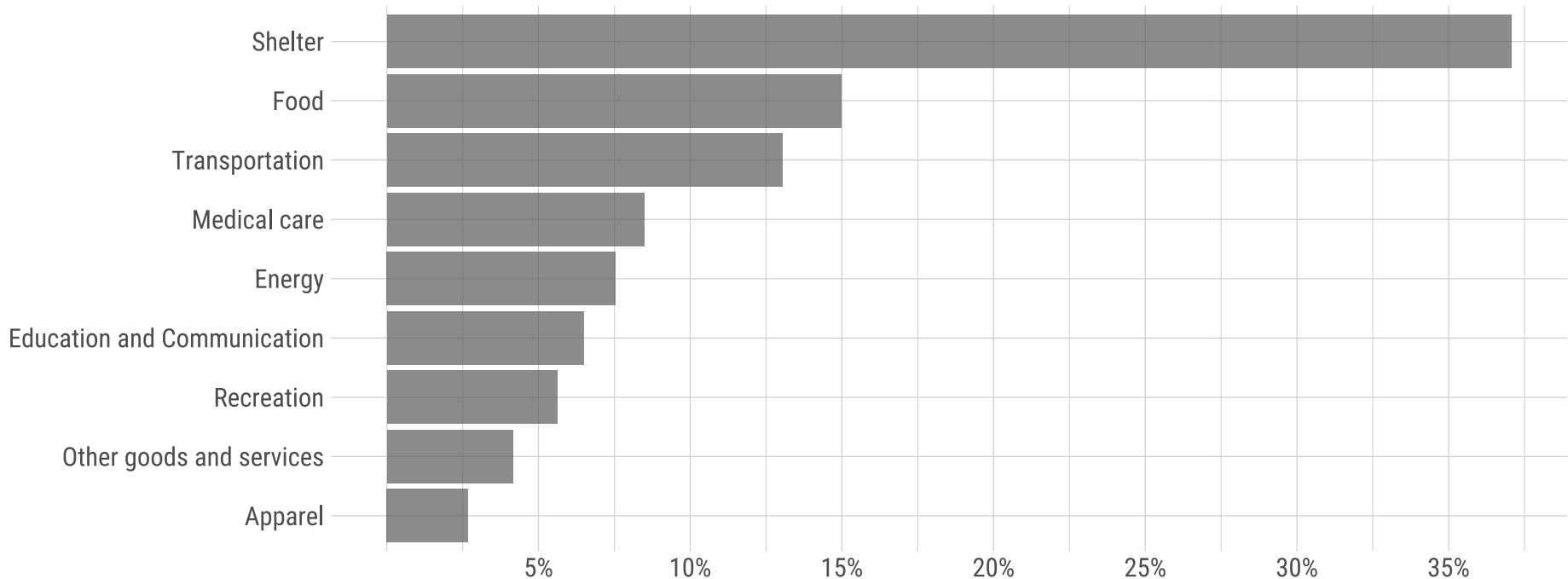
The US Bureau of Labor Statistics (BLS) calculates the CPI, through the Consumer Expenditure Survey (CE).

- Consumer expenditures are divided into 8 groups, including *food and beverages, housing, apparel, transportation, medical care, recreation, education and communication, and other goods and services* (including tobacco, personal services, etc.)

# Measures of inflation

## Consumer Price Index: Basket of goods

% share (November 2021)



Source: US Bureau of Labor Statistics

# Measures of inflation

*"The Consumer Expenditure Surveys (CE) collect information from the Nation's households and families on their buying habits (expenditures), income, and household characteristics. The strength of the surveys is that it allows data users to relate the expenditures and income of consumers to the characteristics of those consumers. The surveys consist of two components, a quarterly Interview Survey and a weekly Diary Survey, each with its own questionnaire and sample."*

[Consumer Expenditure Surveys FAQ page](#)

- Each consumer unit (i.e., household) is interviewed every 3 months over four calendar quarters.
- There are **two** surveys to track different purchasing habits:
  - 3 months and longer (majorly *durable* goods and *regular* expenditures);
  - two consecutive 1-week periods (frequently purchased *smaller* items).



# Measures of inflation

The CPI's Core Index excludes **food** and **energy** prices, which tend to be the most **volatile** components of the CPI measure.

“It provide(s) a better guide to monetary policy than the other indices, since it measures the more persistent underlying inflation rather than **transitory** influences on the price level.”

Ben Bernanke, former chair of the FED.

# Measures of inflation

The **Personal Consumption Expenditure deflator** (PCE), measured by the Bureau of Economic Analysis (BEA), is an alternative inflation measure in which the basket of goods and services is based on sales reported by **businesses**.

- It also accounts for purchases on households made by **third parties**, such as *medical bills* paid by public and private insurance.
- The CPI only includes expenditures made *directly* by households.

# Measures of inflation

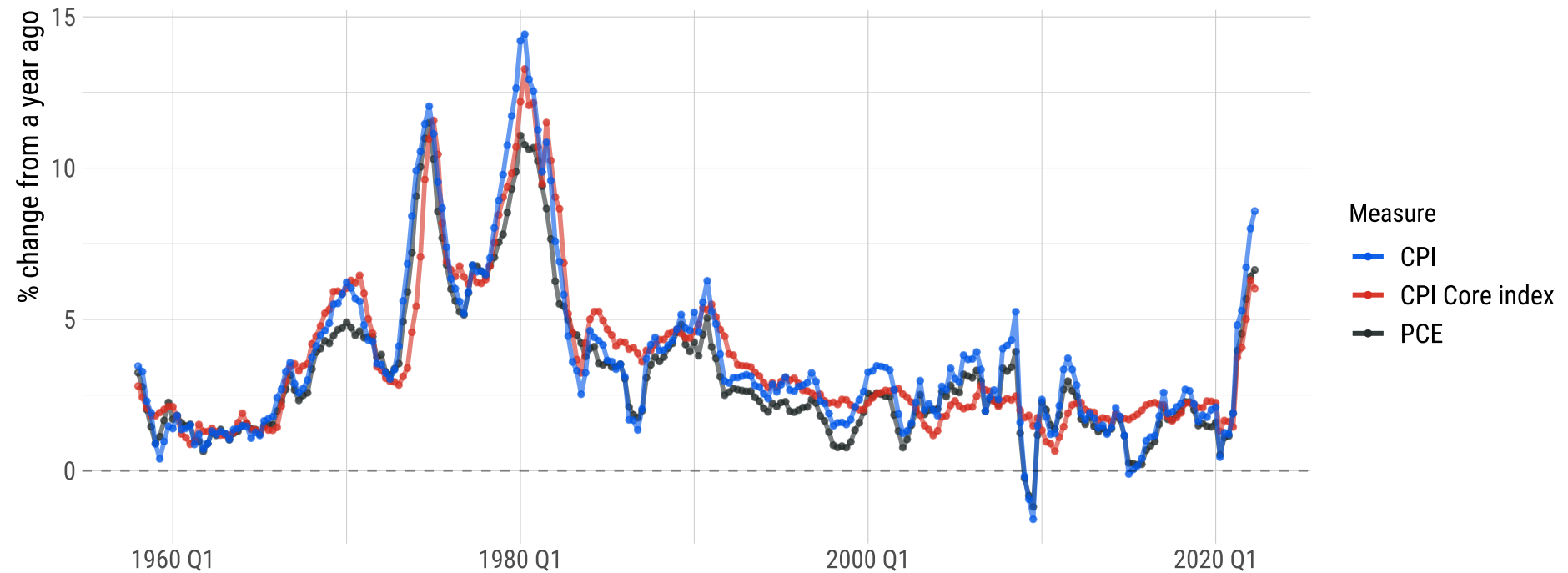
Lastly, the **GDP deflator** includes **investment** goods purchased by businesses, and does not include any imported goods.

- Recall from a few lectures ago that this measure is used to convert **nominal** into **real** GDP.

# Measures of inflation

## Three different inflation measures

US: 1958 Q1 - 2022 Q2



Source: US FRED

# Measures of inflation

While all measures of inflation are **useful**, none of them can be considered a "true" account of it.

Furthermore, how do we track the **same** goods over time?

- Think about *computers* or *phones* 20 years ago and today.

# Causes of inflation

# Causes of inflation

A steady increase in the overall price level of an economy may generally come from **two** main sources:

1. Demand;
2. Supply.

When the root of inflation lies in **consumer** behavior, it is said to be **demand-pull**.

On the other hand, when it is related to what happens at the **firm** level, inflation is said to be **cost-push**.

# Causes of inflation

**Demand-pull** inflation happens when there is an increasing demand for goods and services.

- As it may take time to adjust production to accommodate this new behavior, the limited amount of certain goods and services becomes more valuable.
- *"Too many dollars chasing too few goods."*

Some **causes** for this behavior may include:

- More-than-proportional real wage increases;
- Government policies;
- Lowering interest rates (higher access to credit).



# Causes of inflation

**Cost-push** inflation arises when it becomes more costly to produce certain goods and services.

- Some of these costs can have widespread effects (e.g., oil and natural gas).
- Wage negotiations disfavoring business owners.

Considering a stable demand scenario, increased production costs will be transmitted to the final prices consumers pay for goods and services.



## How bad could Europe's energy crisis get this winter?

*Gas prices have reached record highs in Europe, and supplies are running low, stoking fears for the coming winter.*



# Causes of inflation



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2 minute read · February 21, 2023 1:38 PM EST · Last Updated 5 days ago

## Europe slashed winter gas use amid energy crisis

By Kate Abnett



[2/2] European Commissioner Kadri Simson speaks at a news conference in Brussels, Belgium July 20,

# Causes of inflation



FEDERAL RESERVE

## Fed's Evans says fighting inflation is the top priority even if that means job losses

PUBLISHED MON, OCT 10 2022•12:32 PM EDT | UPDATED 2 HOURS AGO



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Next time: Inflation vs. unemployment