

# Microeconomics and Macroeconomics

Choices and Outcomes

# Economics defined

Economics, as a discipline, is about (a) choice and (b) the consequences of those choices.

This is especially interesting when the consequences of peoples' choices are *unintended*.

Both macro and micro examine how social phenomena emerge from individual choices.

# Microeconomics vs Macroeconomics

m**I**croeconomics — behavior of **I**ndividuals, firms, households, and industries. “Fascinating answers to mundane questions.”

m**A**croeconomics — outcomes at the **A**ggregate level, but not just size. “Frustrating answers to fascinating questions.”

Be careful of thinking about micro (“small”) and macro (“large”).

# It's not a question of Size

The US automobile industry in 2023 had revenues of \$104.1B, which is about 3% of US GDP.

\$104.1B in GDP would make the US auto industry the 98th largest national economy in the world, between Bahrain and Honduras

# Not Size, Abstraction

We don't use macroeconomic models and tools to study the US auto industry; we use various different microeconomic models and tools of analysis to make sense of this industry.

The difference between micro and macro is largely a difference of **abstraction**: What do we try to explain? What do we leave out?

# An Analogy from Biology

Making sense of micro and macro is a bit like understanding the interactions and relationships among parts of a living **organism**:

Individuals are like cells; the most basic level of analysis.

Organizations, households, firms, etc. are like tissues; collections of cells working together to accomplish something.

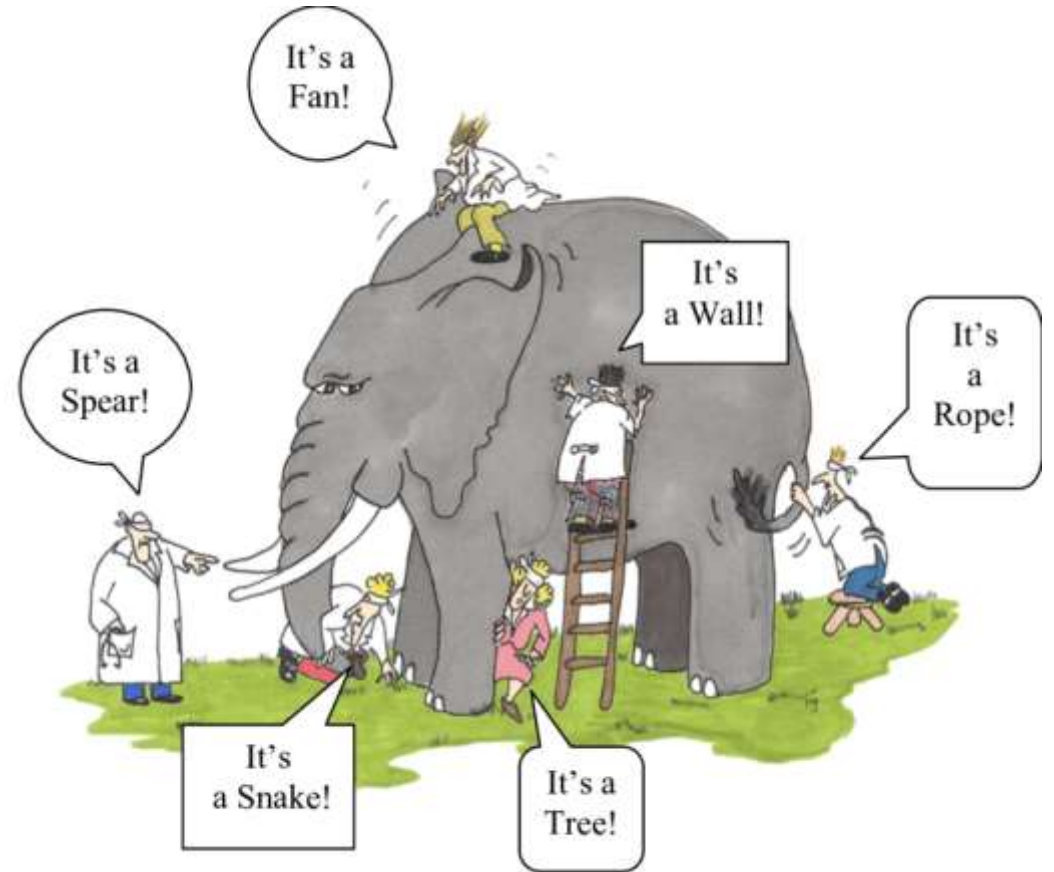
Markets and industries are like organs and organ systems; collections of tissues of various kinds.

Economies are like organisms themselves.

# An illustration

Different microeconomic perspectives provide insight into particular macroeconomic problems.

However, without unity and synthesis, each of these will miss important parts of the big picture.



# Annual physicals and vital signs

“So, doc, how is the economy doing?”

Take its vital signs!

- GDP (changes in production, output, income)
- Inflation (changes in purchasing power of money)
  - Interest rates?
- [Un]Employment (changes in labor markets)



# GDP, quickly

1. Market value – for sale at prices determined by markets
2. Final – not intermediate goods
3. Goods and services – consumption, investment, government spending
4. Produced – New production, not resale
5. Geographical area and given time – the problem of imports, exports, and international markets

# Measuring GDP: Expenditures

$$Y = C + I + G + (X - M)$$

Consumption = household spending on durables, non-durables, and services

+

Investment = corporate capital accumulation, home construction, inventories

+

Government Spending = When governments pay people, consume, or invest

+

Net exports = eXports minus iMports

# The value of GDP

GDP tells us the market value of final goods and services produced in a geographical area over a given time period.

How can we use it to understand the world around us?

What is GDP **actually** good for? We'll get there, but first...

# Not being fooled by GDP statistics

When comparing over time, the value of money changes (due to inflation or deflation). Since GDP measures the **market value**, it must account for differences in the value of the currency used.

**Real GDP** does this by using the same yard stick to measure different time periods.

Be careful if you hear someone talk about GDP changes over time without making the correction to Real GDP.

# A brief digression on Math

When doing **Real GDP conversions**, I bring over “dimensional analysis” (or “the factor label method”) from my high school chemistry class—because I’m not good at algebra.

Suppose we have nominal GDP in 1996 of 8 trillion dollars. We have a nominal GDP in 2021 of 20 trillion dollars. If we know that a 1996 dollar would buy 1.75 2021 dollars, we can figure out 1996 real GDP in 2021 dollars.

# Working the conversion

\$8T in 1996, \$20T in 2021, 1 1996 dollar to 1.75 2021 dollars

$$8 T \$_{1996} \times \frac{1.75 \$_{2021}}{1 \$_{1996}} = 14 T \$_{2021}$$

What is \$20T in 1996 dollars?

# Not being fooled by GDP statistics again

When comparing GDP between countries, we must be careful to account for the number of people living, producing, and earning in those countries. After all, more people likely means more GDP.

GDP per capita does this by dividing GDP by the population; this gives us a useful 'average' to compare across countries.

Be careful if you hear someone talk about GDP differences between countries without making the correction to GDP/capita.

# STILL not being fooled by GDP

We now know we need to worry about Real GDP. And we should be looking for GDP/capita. But even if we took Real GDP per capita, does the same unit of currency buy the same goods all around the world? Of course not!

We have to adjust for the going price of similar goods and services in different economies. We do this with **purchasing-power-parity**.



# Are we there yet?

**Real GDP per capita in purchasing-power-parity** (or “Real GDP-PPP”) is **the gold standard** of GDP that we could use to compare economies over time and around the world.

But it’s still imperfect. GDP neglects nonmarket activity or informal economies, income distribution within countries, changes in product quality, and economic “bads.”

# Where GDP thrives

What can we reliably use GDP for? GDP is **great** at telling us about **short-term fluctuations** in the **production** of goods and services **a single economy**. GDP is good for helping us see recessions retrospectively.

The “problem” with GDP is that it is **so strongly correlated** with other things (quality of life, healthcare, environmental quality, etc.) that we try to use it everywhere and for everything.

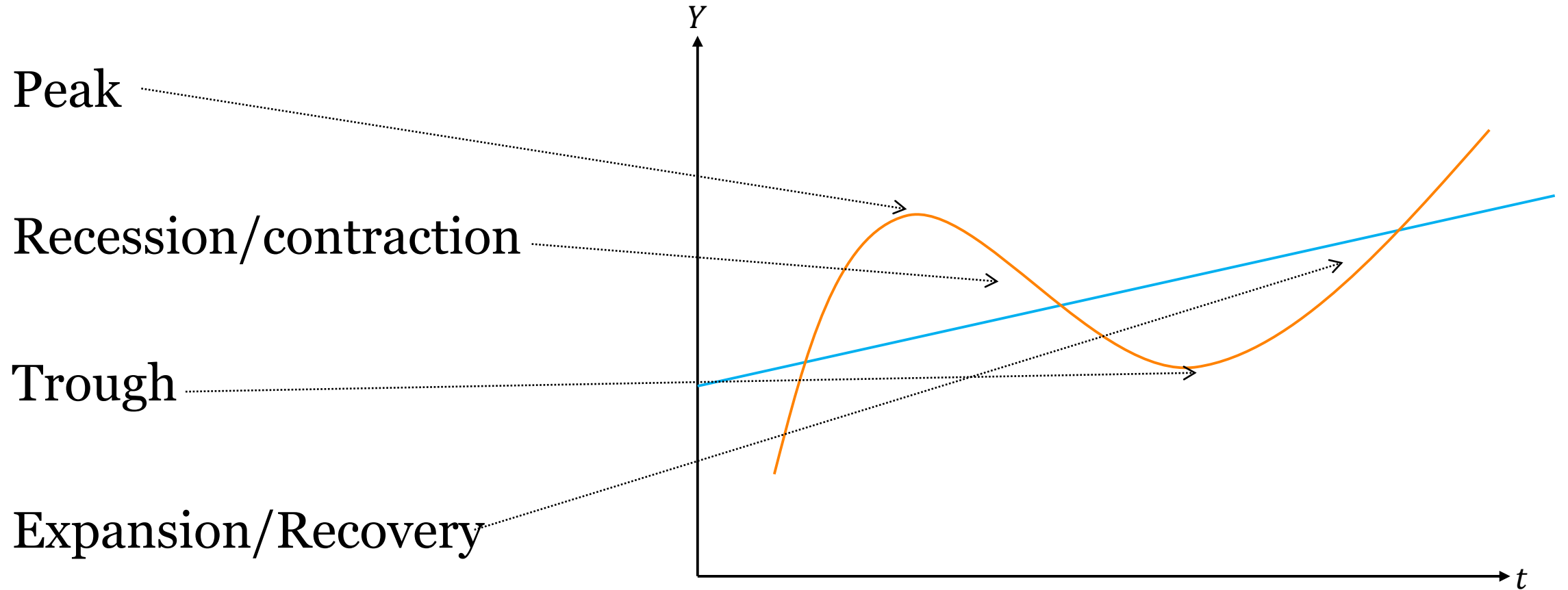
# Short-term Fluctuations

**Booms** and **Busts**, as they're sometimes called, are periods of **expansion** and **contraction** in **economic activity**.

When **contractions** or **downturns** are long enough to be noticed, we label those periods **recessions**.

We use **Real GDP**, **unemployment**, and a host of **other indicators** to point toward recessions, both **beforehand** and **afterward**.

# Phases of the Cycle



# Inflation

Inflation is a **fall in the purchasing power of money**.

It is a decrease in what goods and services a given amount of money can command.

The real phenomenon is a change in the purchasing power of money. While this is not always the same thing as an increase in the money price of goods and services, we **measure inflation with price data**.

# Measuring Inflation

CPI/PCE – consumer- and personal-consumption-expenditure

PPI – revenue-side measurement of prices

GDP Deflator – backward-looking, broadest, and “truest” picture of actual changes in the purchasing power of money

# Highlighting Issues with Measuring Inflation over time

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# Measuring Inflation

Prices in markets are determined by the decisions of suppliers and demanders. Some prices will rise, while others will fall.

Inflation, on the other hand, tries to track the movement of the price level

But what is it really measuring? The average price? The median price? It's a weighted average



# Causes of Inflation

What **causes inflation**, a decrease in the purchasing power of money?

Consider: could there be inflation in a barter economy?

Could there be inflation if the money supply were constant and fixed?

# The Equation of Exchange

To help us think about questions in inflation and money, we can use a simple equation:

$$M \times V = P \times Y$$

$M$  is the money supply;  $V$  is velocity

$P$  is the price level;  $Y$  is real output (real GDP)

# Non-monetary Causes of Inflation

A broad measurement of inflation, like PCEPI or GDP deflator, would catch trends of movement in prices (up or down) and the rate of that movement.

We will construct, later in this course, a model of Aggregate Demand and Aggregate Supply. Anything that puts upward pressure on the price level in this model would constitute **inflationary pressure**.

- Increases in AD
- Decreases in AS

# The Monetary Cause of Inflation

“Inflation is **always** and **everywhere** a monetary phenomenon, a result of too much money, of **a more rapid increase in the quantity of money than output.**” – M. Friedman

The **purchasing power of money** falls because there is more money in the economy chasing a smaller amount of goods.

This is an **institutional** definition of inflation.

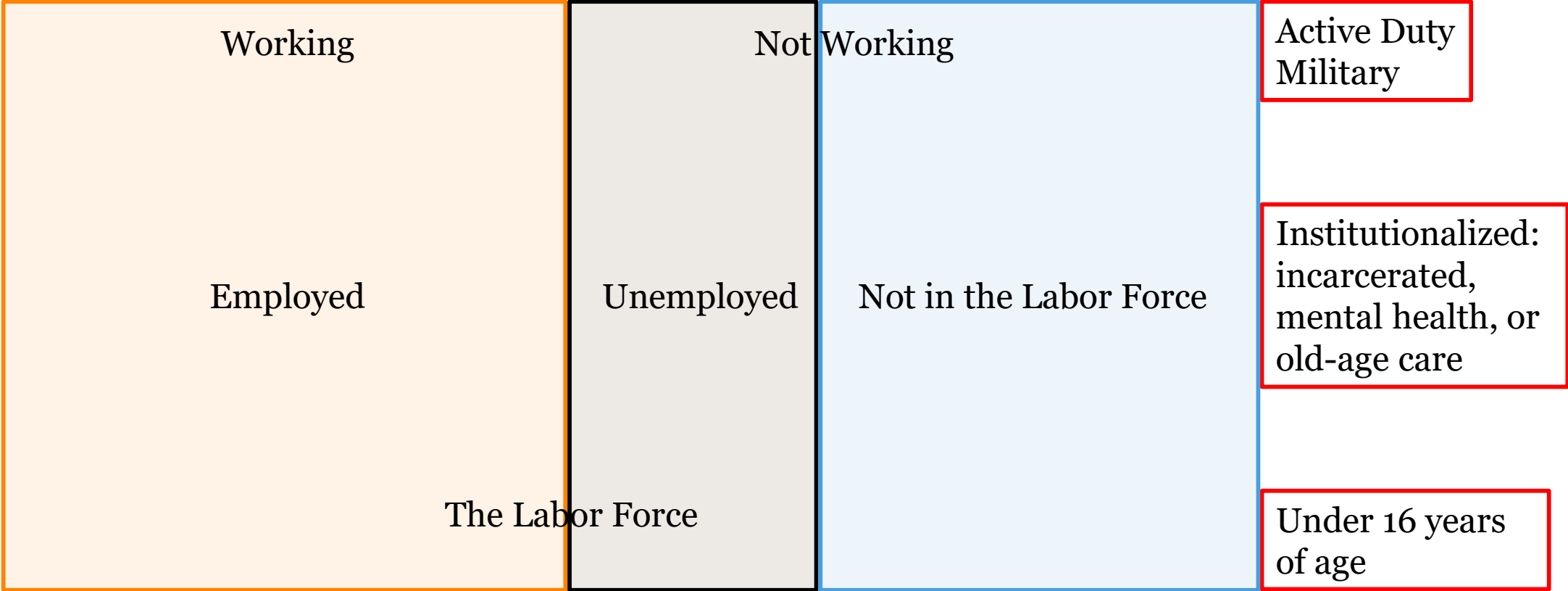
# Why Inflation Matters? **Uncertainty**

There is sound theory and compelling evidence that the **level of inflation** (disinflation, even deflation) is **not** a source of problems *provided that the level corresponds to people's expectations.*

The problems of inflation stem almost entirely from issues of unexpected **timing**, unexpected **magnitude**, and **variance**.

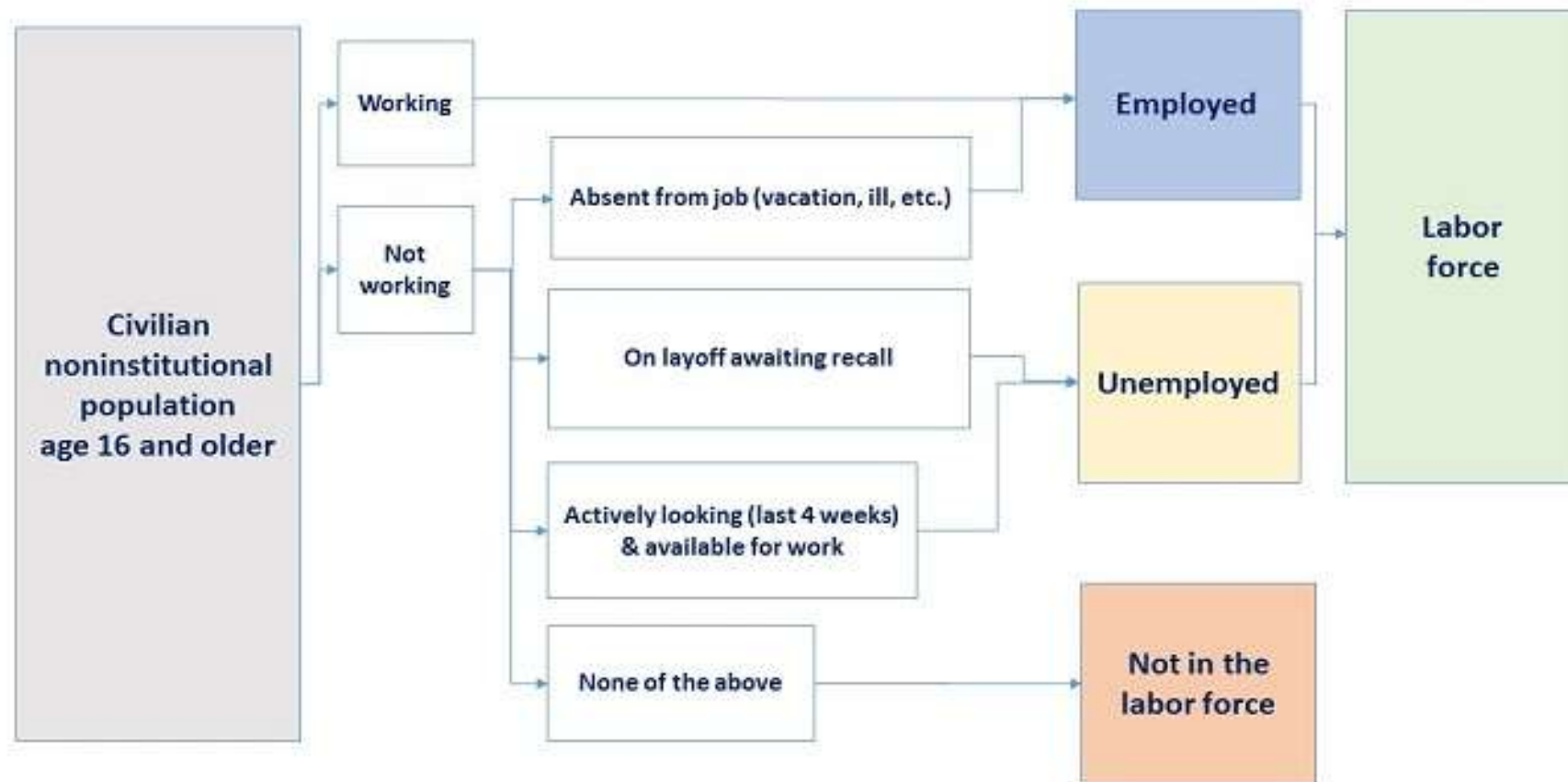
# An Employment Venn Diagram

Civilian, non-institutional population over 16



# “Am I Unemployed?”

## An Employment Flow-Chart (from BLS)



# Unemployment Types

**Frictional** – leaving jobs to find new work

**Structural** – leaving jobs because of a mismatch to the skills desired in a workforce

**Cyclical** – caused by business cycles



# The “Natural” Rate of Unemployment

**Frictional** and **Structural** are **present**; **Cyclical** is **not**.

Macroeconomic policy attempts to reduce cyclical unemployment to 0%. We call this situation “**full employment**” and the GDP level consistent with it “**potential GDP.**”

**Natural rates** will vary across countries and over time, influenced largely by institutional variables.