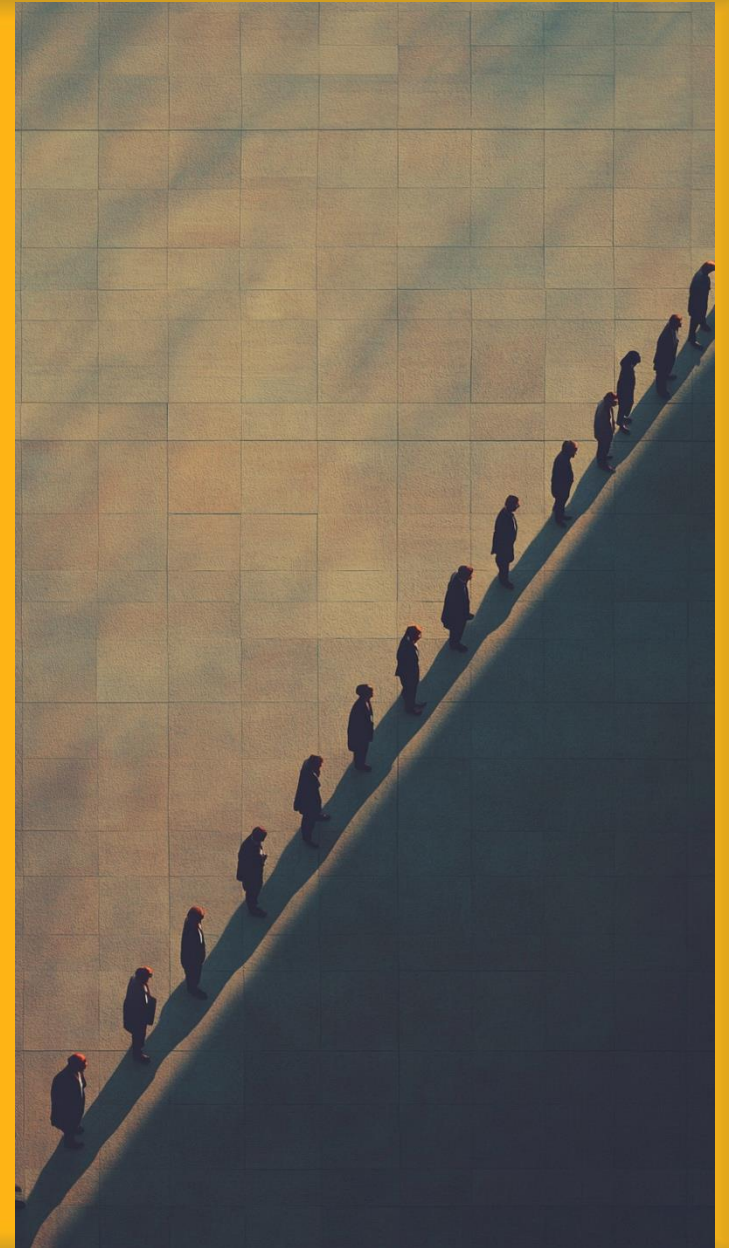


# **ECON 002:**

## **Principles of Macroeconomics**

### **Lecture 6: Stable Prices and Full Employment**



# Consumer Price Index

GDP Deflator Growth: measure of inflation

Do the prices of ALL goods and services matter to consumers?



# Consumer Price Index

- How do we calculate an “average price” for all goods purchased by consumers?
- **STEP 1: What do consumers purchase?**
- Determine basket of goods:



# Consumer Price Index

- How do we calculate an “average price” for all goods purchased by consumers?
- **STEP 2: How heavy is each good in the basket?**
- Determine the weight of goods and services in the basket:



# Consumer Price Index

- How do we calculate an “average price” for all goods purchased by consumers?
- **STEP 3: Calculate the weighted cost of a basket**
- Similar to GDP, calculate the cost of the average good bought by a household





# Consumer Price Index

**Calculate Base Year (BY) Basket Cost:**  
**BY Prices x BY Q**

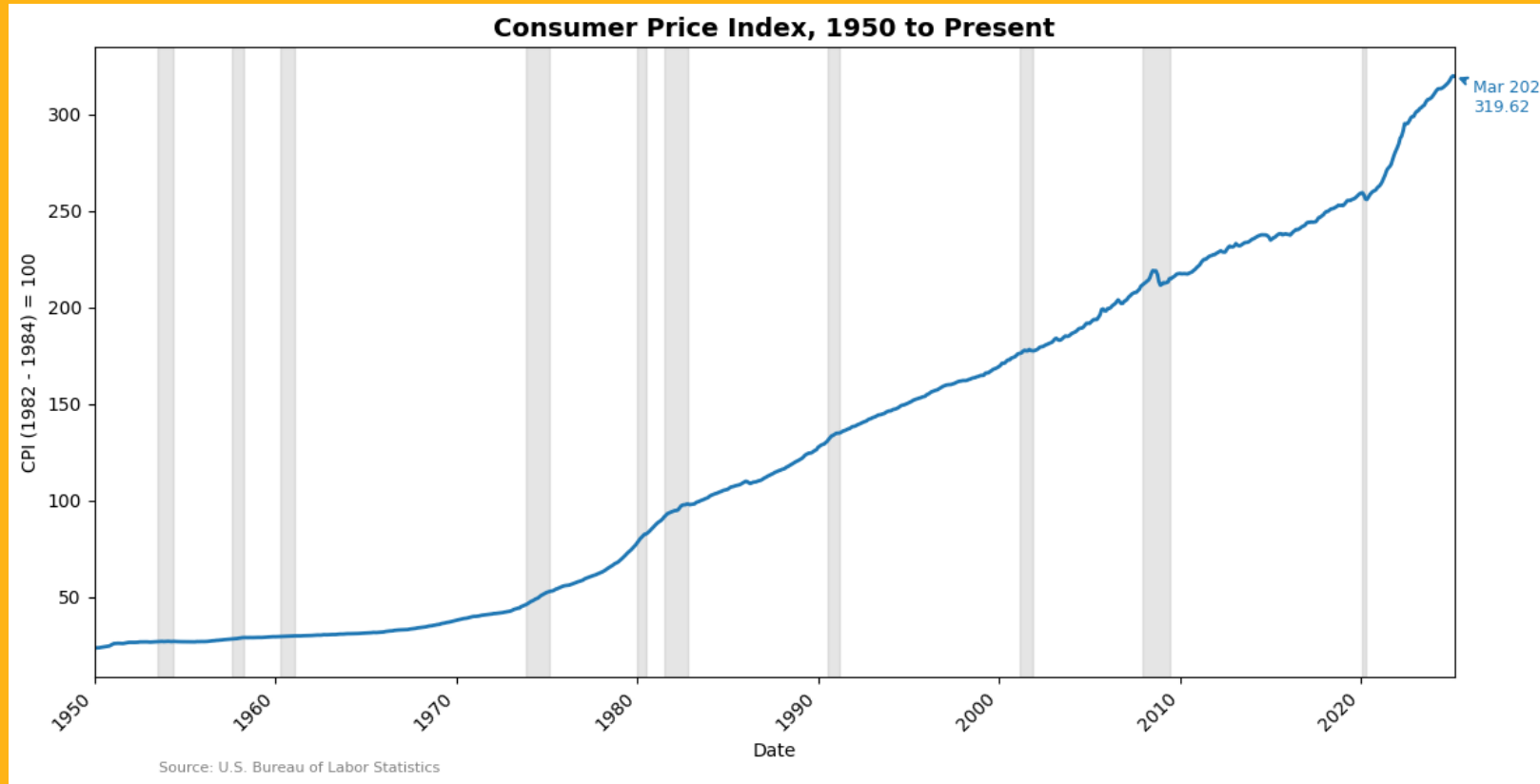
**Calculate Current Year (CY) Basket Cost:**  
**CY Prices x BY Q**

**CPI = Ratio of Basket Costs**

**Inflation = CPI Growth Rate**



# Consumer Price Index

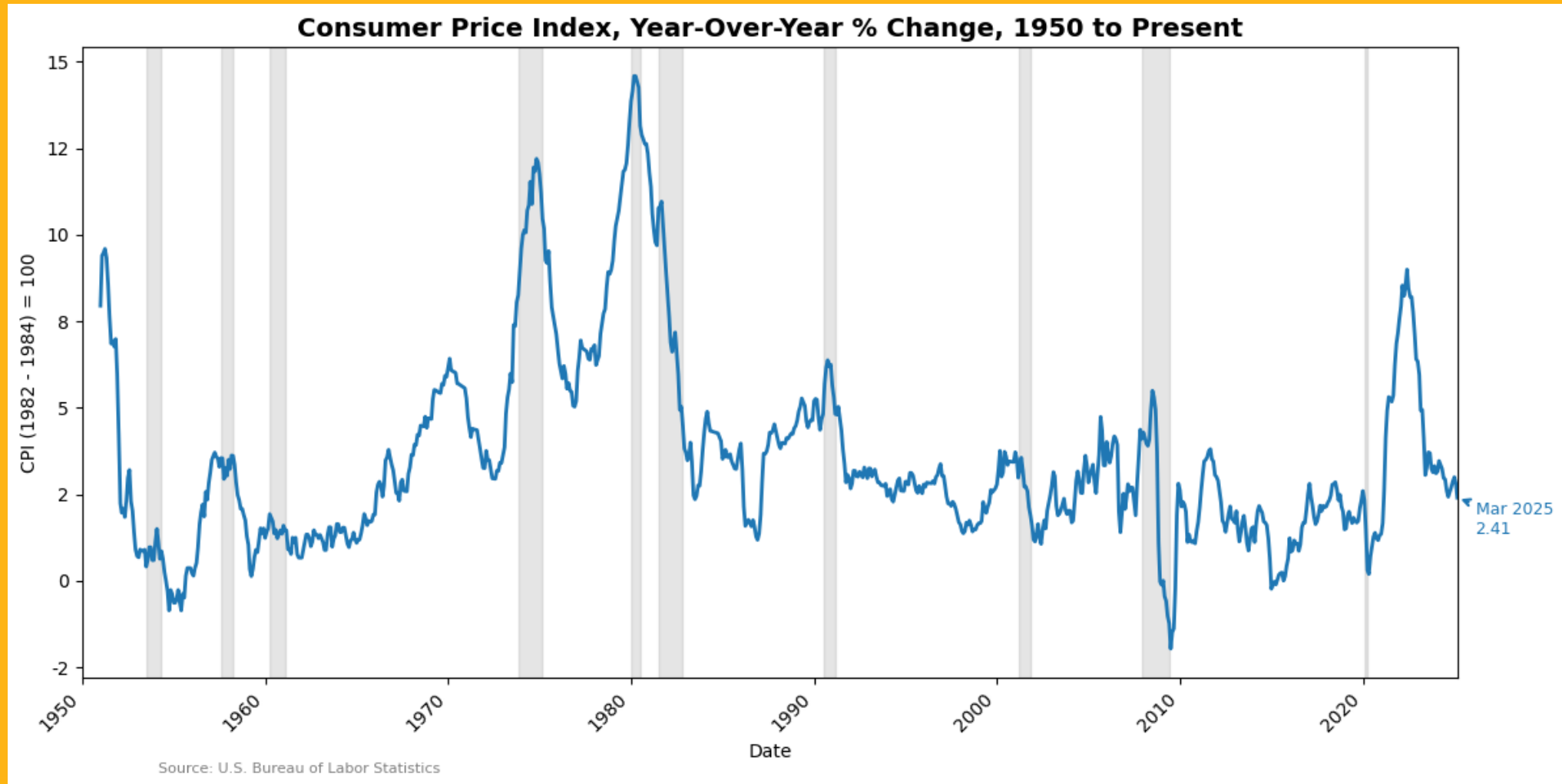


**Base Year: 1982-1984 Average Weights/Prices, CPI = 100**

**Today (March, 2025 released last Thursday), CPI = 319.62**

**1950 CPI = 24**

# Consumer Price Index





# Is the CPI an accurate measure of inflation?

## Some Potential Problems with CPI

**Substitution, quality, and new products can distort inflation measurements.**

**Consumers may change buying habits and price hikes may not always correlate with improved quality.**

**CPI doesn't cover new products or cheap stores/websites.**

**Economists believe it overestimates inflation by 0.5-1%.**



# Full Employment



- Goal 3: Full Employment
- How much unemployment is expected in a healthy economy?
- Today's Natural Rate of Unemployment
- Current Unemployment Rate
- Cyclical Unemployment Rate

# Types of Unemployment

**1. Frictional Unemployment:** Time lag between leaving one job and starting a new one.

- Example: Recent UCSB graduate. Worked at Coral Tree as a student. After graduating, student decides to stop working at Coral Tree and search for work. Months pass before getting a different job.
- Frictions in the labor market come from laws, paperwork, drug/background tests, references, etc.



**2. Seasonal Unemployment:** Predictable changes in the unemployment rate that happen every year

- Example: Jason is a CPA (tax accountant). Easy to get work from Jan-April (tax season)  
May-October? River raft guide at Grand Canyon.  
Nov-December? Odd Jobs or seasonally unemployed.



# Types of Unemployment



3. **Structural Unemployment:** mismatch between skills of workers and needs of employers.

- Example: In 1900s, many jobs at AT&T, US West, BellSouth (Baby Bells).  
Cellular service and internet = fewer operators and jobs at landline companies.  
New jobs at? Internet service providers, Verizon, T-Mobile, Apple, Google
- Unemployment was generated by progress in the economy.  
Long-term problem for some people, not indicative of a poor economy.

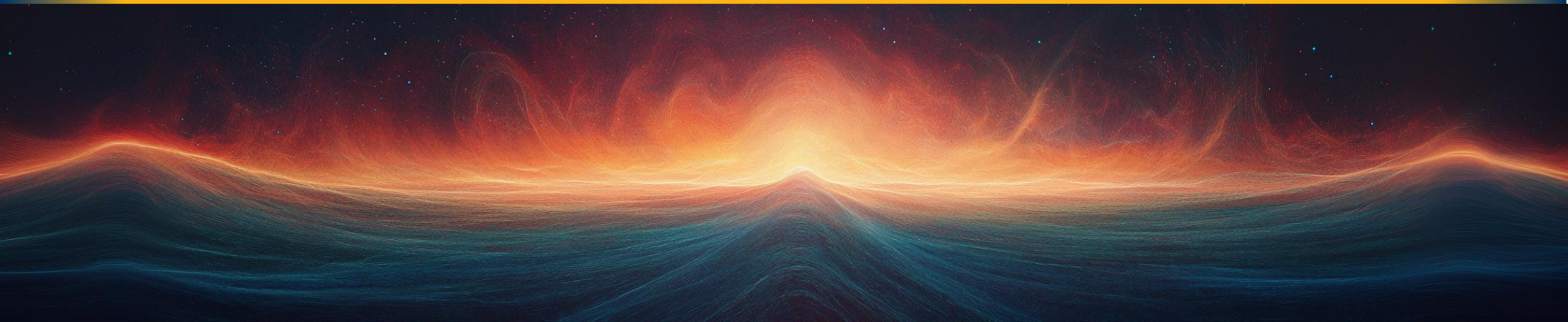
4. **Cyclical Unemployment:** Job loss that results directly from changes in economic production.

- Example: US Car Industry in 2009.  
High gas prices+gas-guzzling cars+housing market crash=permanent job loss.
- Cyclical unemployment is representative of problem in the entire economy.

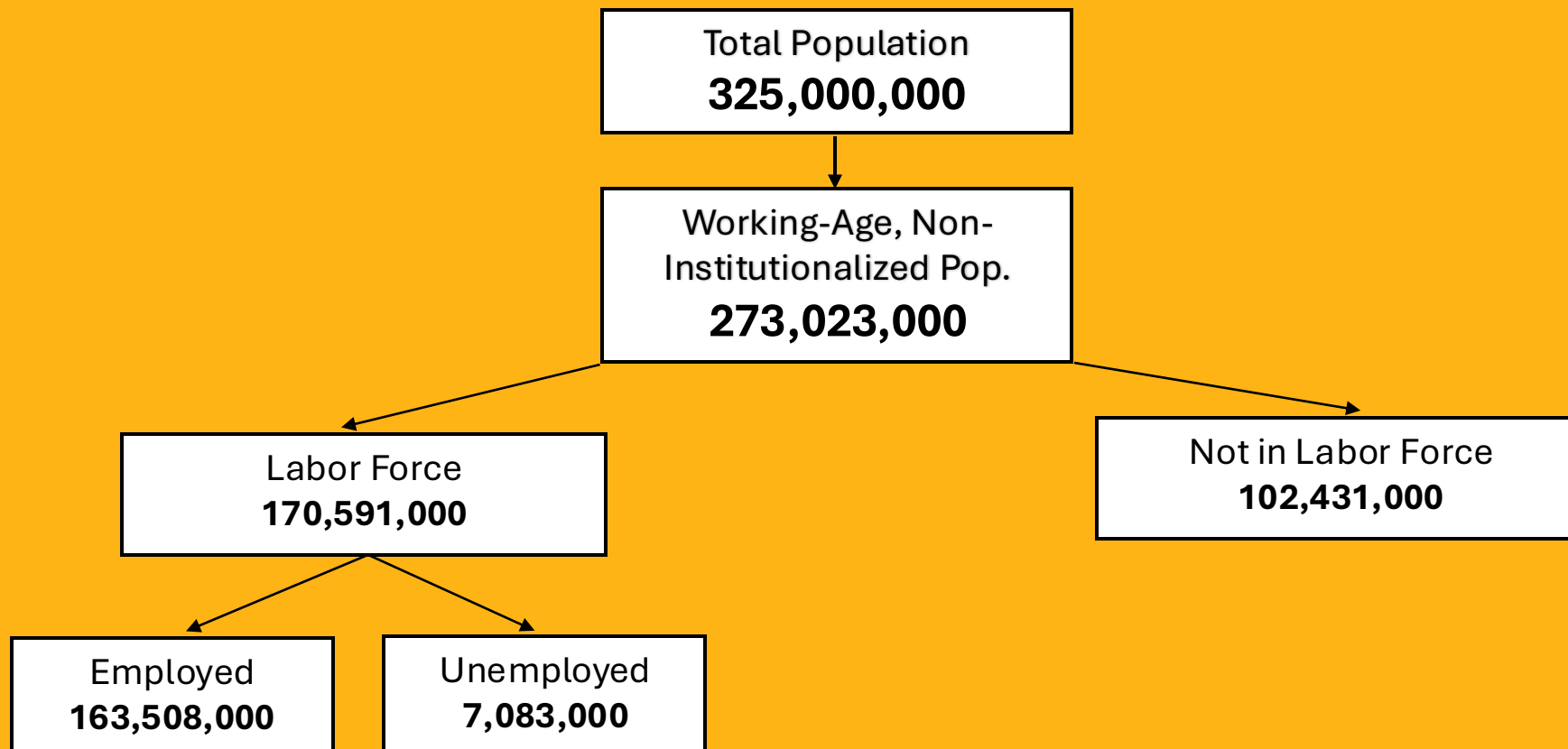


# Calculating the Unemployment Rate

- Bureau of Labor Statistics (BLS)
- Today there are ~325 million people in the US, 7.35 billion in the world! Do not expect all of them to be employed.
- BLS calls 60,000 households in the 2<sup>nd</sup> week of the month → households chosen so they represent the population
- In December, 2024:
- Civilian, Working-Age, Non-institutionalized Population = 269,638,000
  - Age and Institutionalization Restrictions
  - Other Restrictions?



# A Picture of Employment





# Calculating the Unemployment Rate

- Civilian, Working-Age, Non-institutional Population = **273,023,000**

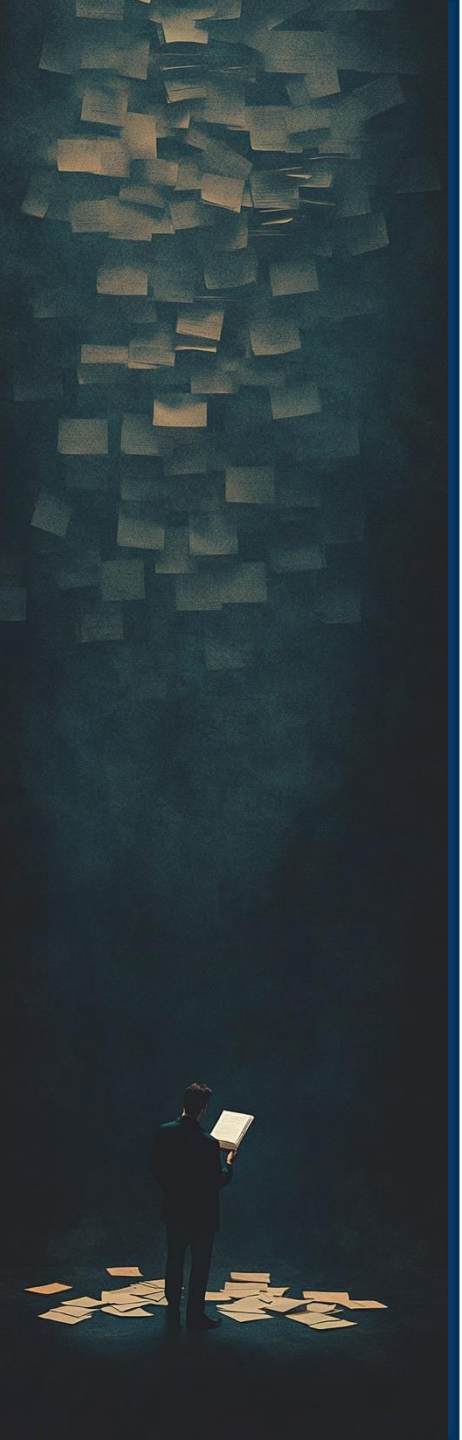
Employed Workers: any work done for pay in the past week

- part-time work
- temporary work
- didn't work last week because of vacation, illness, family, weather, labor dispute
- unpaid family work

- **163,508,000** employed workers in March, 2025

Unemployed Workers:

1. Did not work for at least one hour in the past week for pay.
  2. Actively searched for work in the last 4 weeks.
    - contacting employer, employment agency, submitted resumes, answering job ad
    - does not include passively looking for jobs online
- **7,083,000** unemployed workers in March, 2025



# Calculating the Unemployment Rate

- Unemployment Rate: the fraction of workers in the labor force who are unemployed
- $$\text{UE Rate} = \frac{\text{Number of unemployed}}{\text{Labor Force}} \times 100$$
- In March 2025, 
$$\text{UE Rate} = \frac{7,083,000}{170,591,000} \times 100 = 4.16 \%$$
- Civilian Labor Force: Individuals who are employed or actively searching for work.
- $$\text{LF} = \text{Employed} + \text{Unemployed} = \mathbf{163,508,000 + 7,083,000 = 170,591,000}$$
- Labor Force Participation Rate = fraction of Working-Age, Non-institutional Population in the labor force.
- $$\text{Labor Force Participation} = \frac{\text{Number in LF}}{\text{Working-Age Pop.}} \times 100 = \frac{\mathbf{170,591,000}}{\mathbf{273,023,000}} \times 100 = 62.5\%$$

# Shortcomings of the UE Rate Calculation



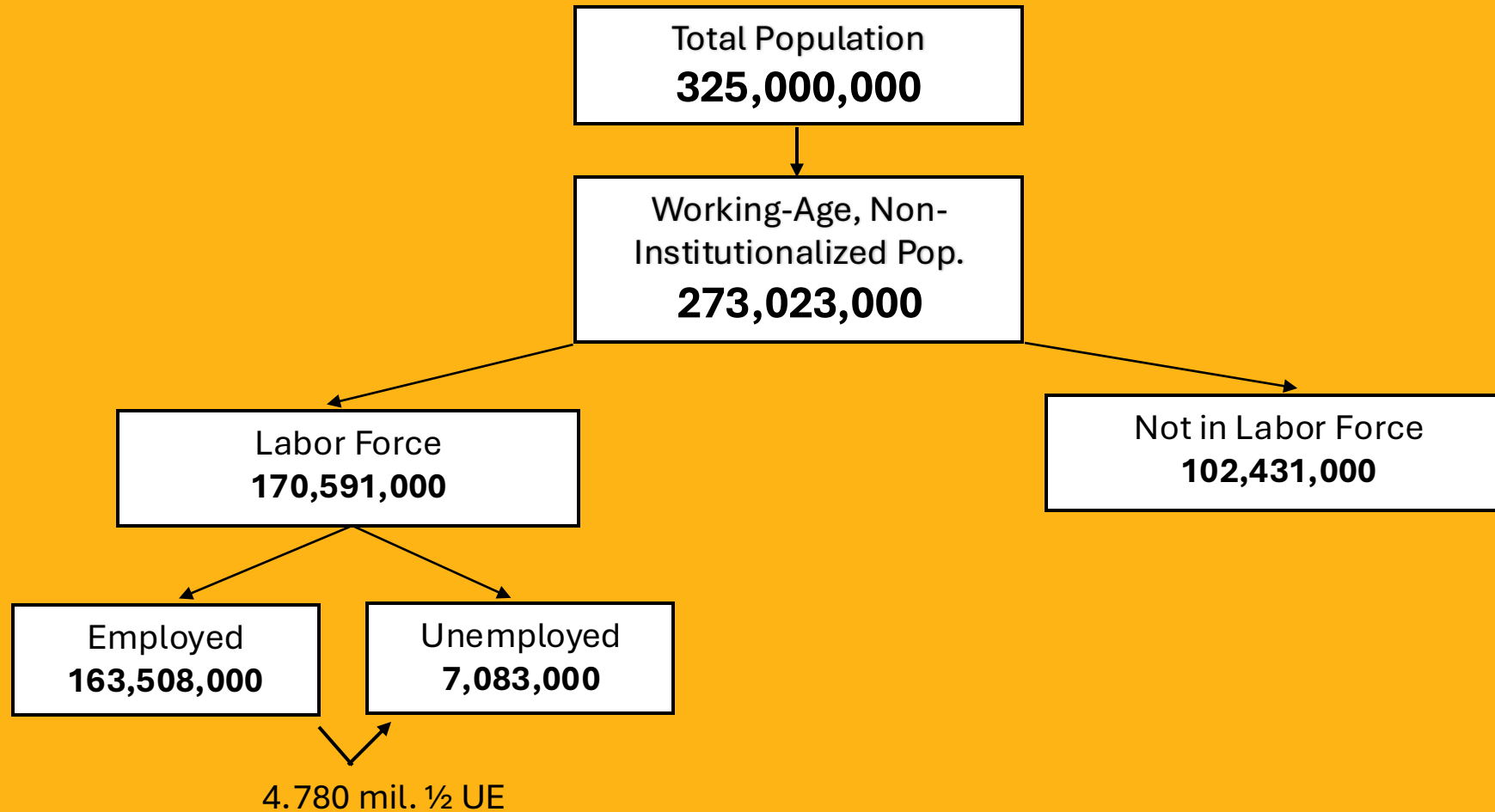
- Two big problems
- 1.
- 2.
- Can we account for these shortcomings?

# Involuntary Part-Time Workers

- Many workers want a full-time job, but only have a part-time job.
- Example: Individual wants to work 40 hours a week, but can only find 20 hours of work.
  - This individual is  $\frac{1}{2}$  unemployed.
- Involuntary Part-Time Worker:
- Unemployment Rate with IPT Workers=



# A Picture of Employment





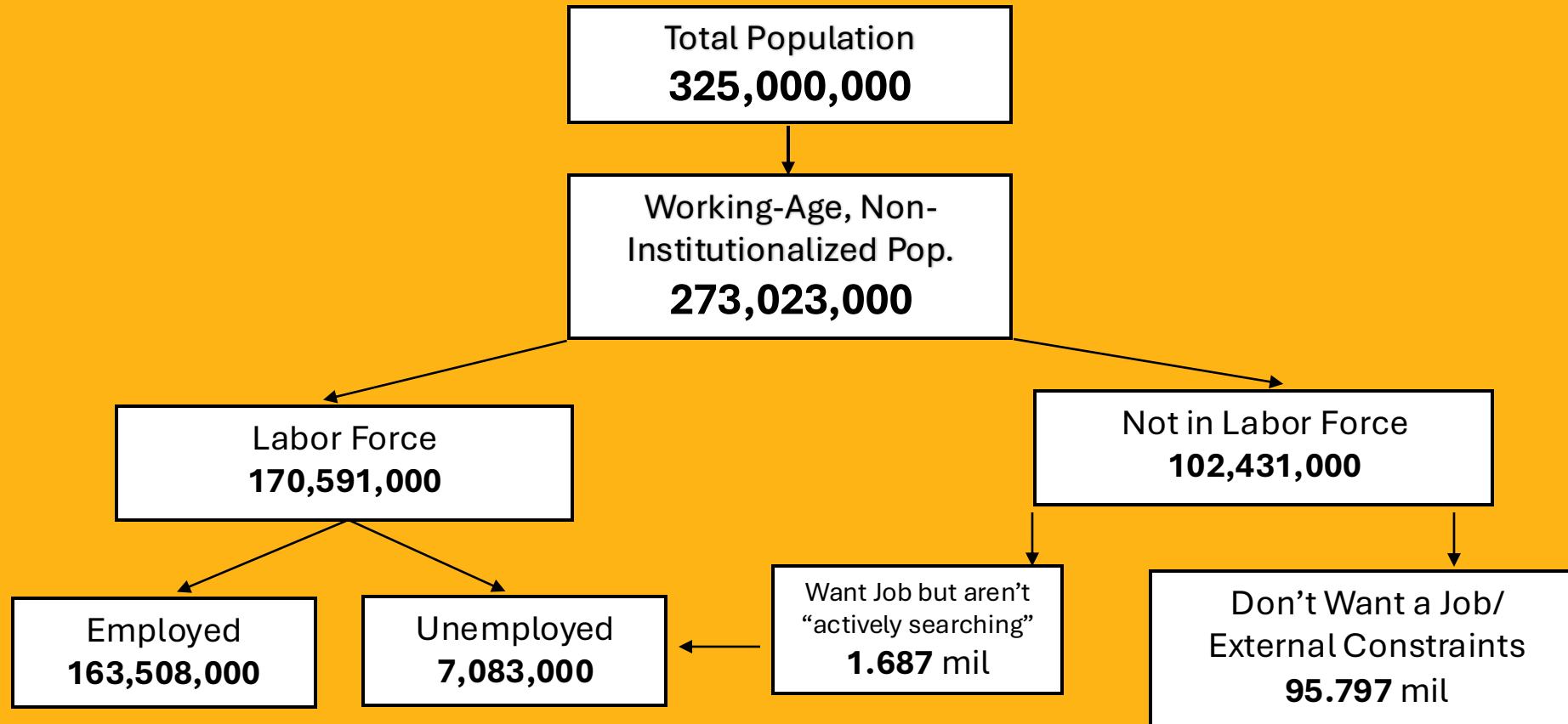
# A Picture of “Not in the Labor Force”

- Which workers would take a job if offered one?
- Discouraged Unemployment Rate =





# A Picture of Employment



# Unemployment Reporting

- **Notes:**

**U-1:** Long-term unemployment (15 weeks or longer)

**U-2:** Job losers and persons who completed temporary jobs.

**U-3:** Official unemployment rate.

**U-4:** U-3 + discouraged workers.

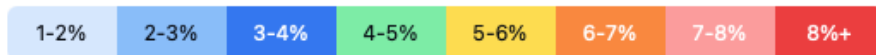
**U-5:** U-4 + marginally attached workers.

**U-6:** U-5 + part-time workers for economic reasons.

**U1-U6 Unemployment Rates (Mar 2024 - Mar 2025)**

	Mar-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Average
<b>U-1: Unemployed 15+ weeks</b>	1.3%	1.7%	1.6%	1.5%	1.5%	1.5%	1.5%
<b>U-2: Job losers</b>	1.8%	2.0%	1.9%	1.9%	1.9%	1.9%	1.9%
<b>U-3: Total unemployed (official)</b>	3.9%	4.2%	4.1%	4.0%	4.1%	4.2%	4.1%
<b>U-4: Total + discouraged</b>	4.1%	4.5%	4.4%	4.3%	4.4%	4.4%	4.4%
<b>U-5: Total + marginally attached</b>	4.8%	5.1%	5.0%	4.9%	5.1%	5.1%	5.0%
<b>U-6: Total + part-time for economic reasons</b>	7.3%	7.7%	7.5%	7.5%	8.0%	7.9%	7.6%

**Color Scale (% of Labor Force)**



Hover over cells to highlight specific data points.

The U1-U6 rates represent increasingly broader definitions of unemployment, with U3 being the official unemployment rate and U6 being the broadest measure including discouraged and part-time workers.

# Unemployment Today

