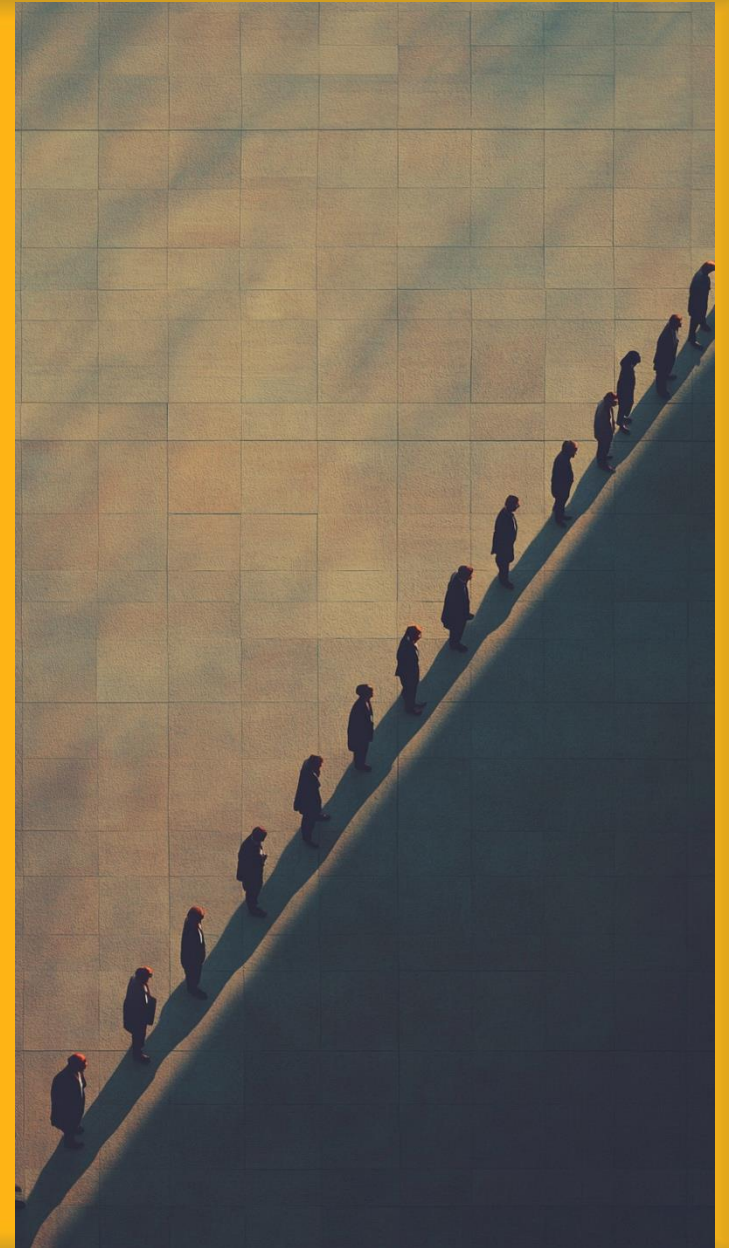


ECON 002:

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

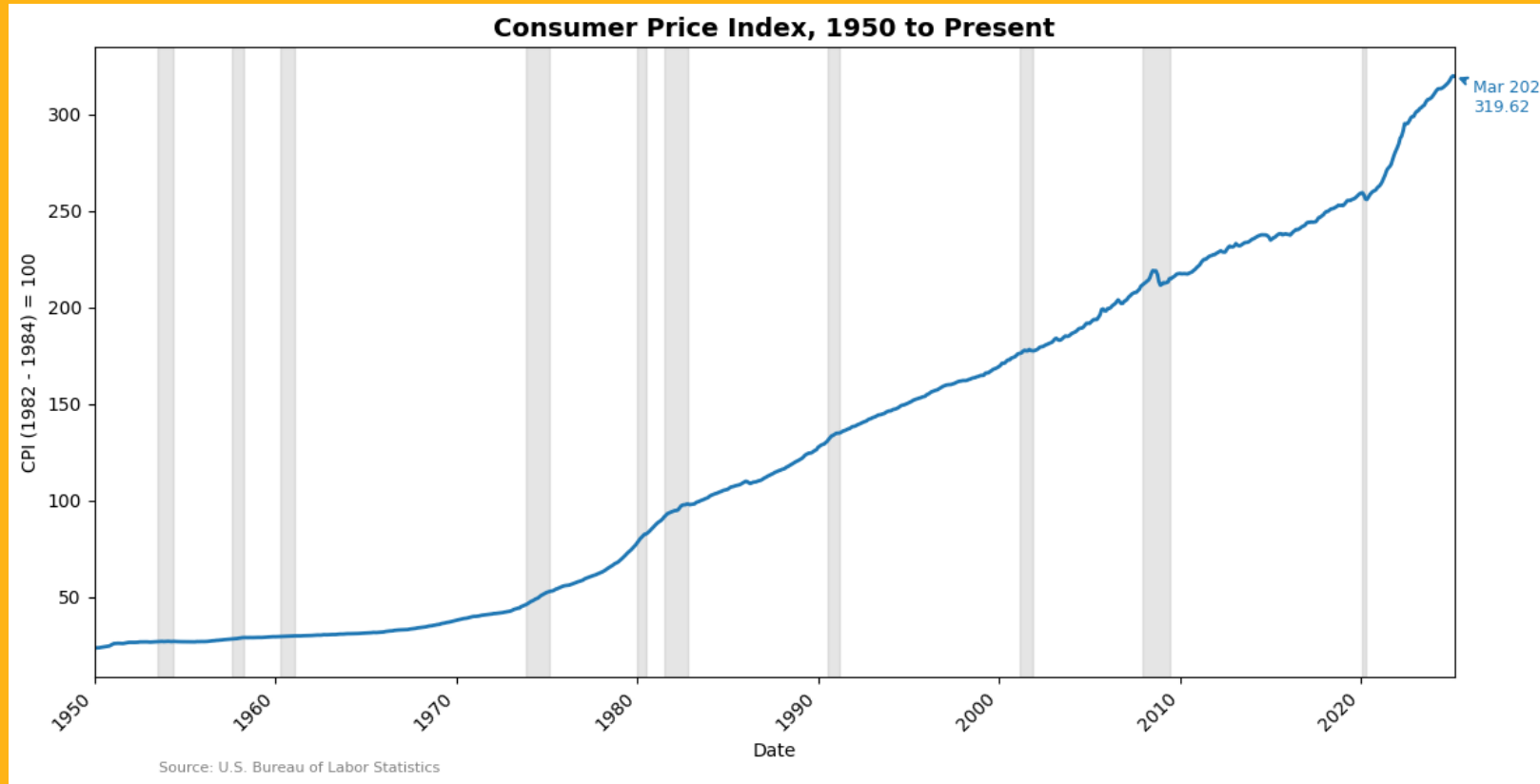
Calculate Current Year (CY) Basket Cost:
CY Prices x BY Q

CPI = Ratio of Basket Costs

Inflation = CPI Growth Rate



Consumer Price Index

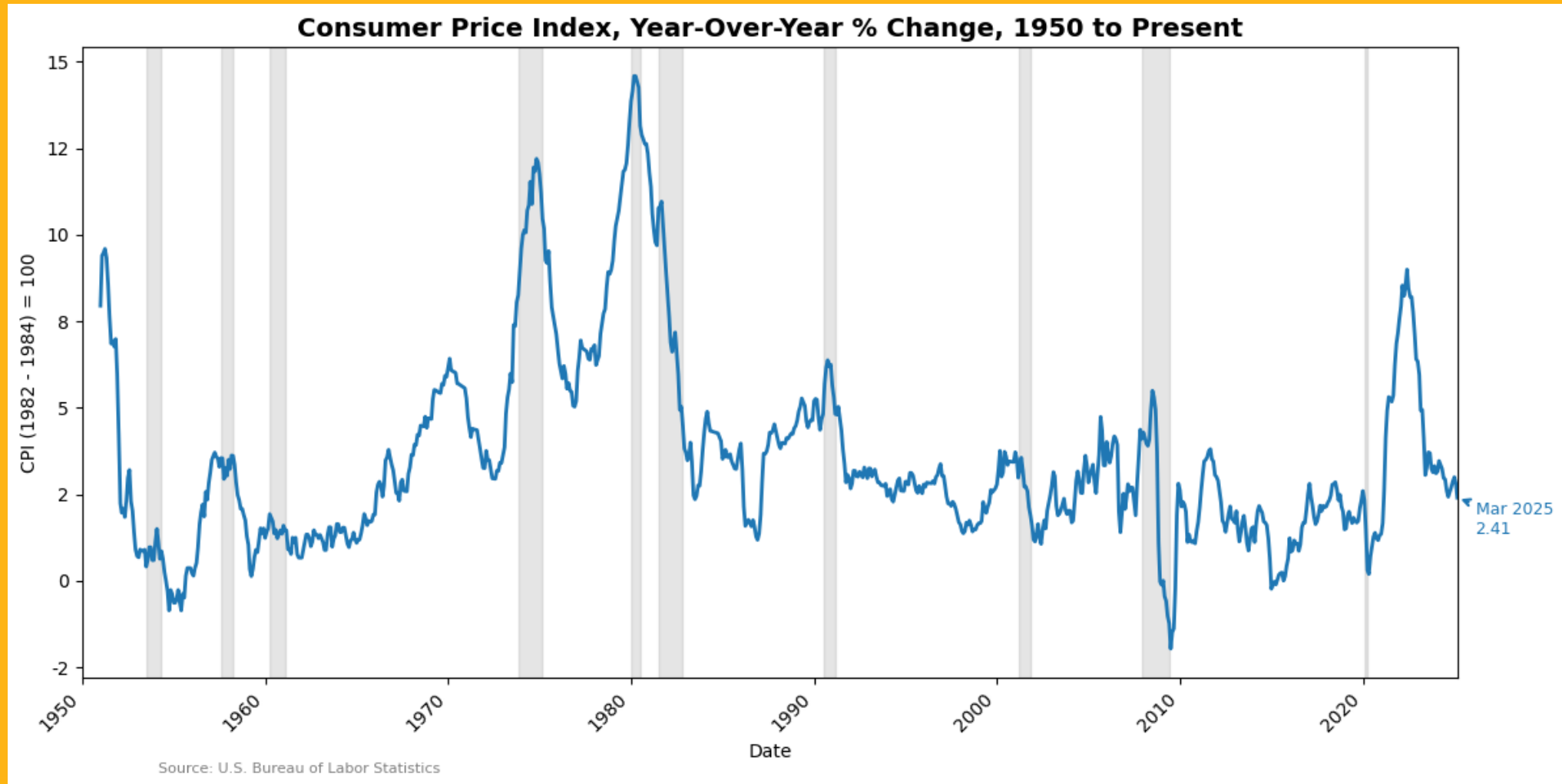


Base Year: 1982-1984 Average Weights/Prices, CPI = 100

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.

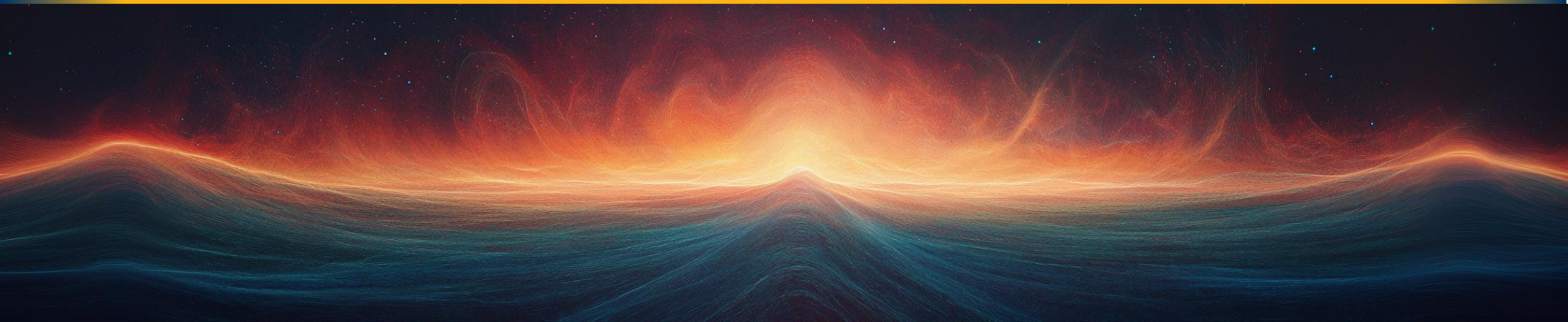
4. **Cyclical Unemployment:** Job loss that results directly from changes in economic production.

- 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.

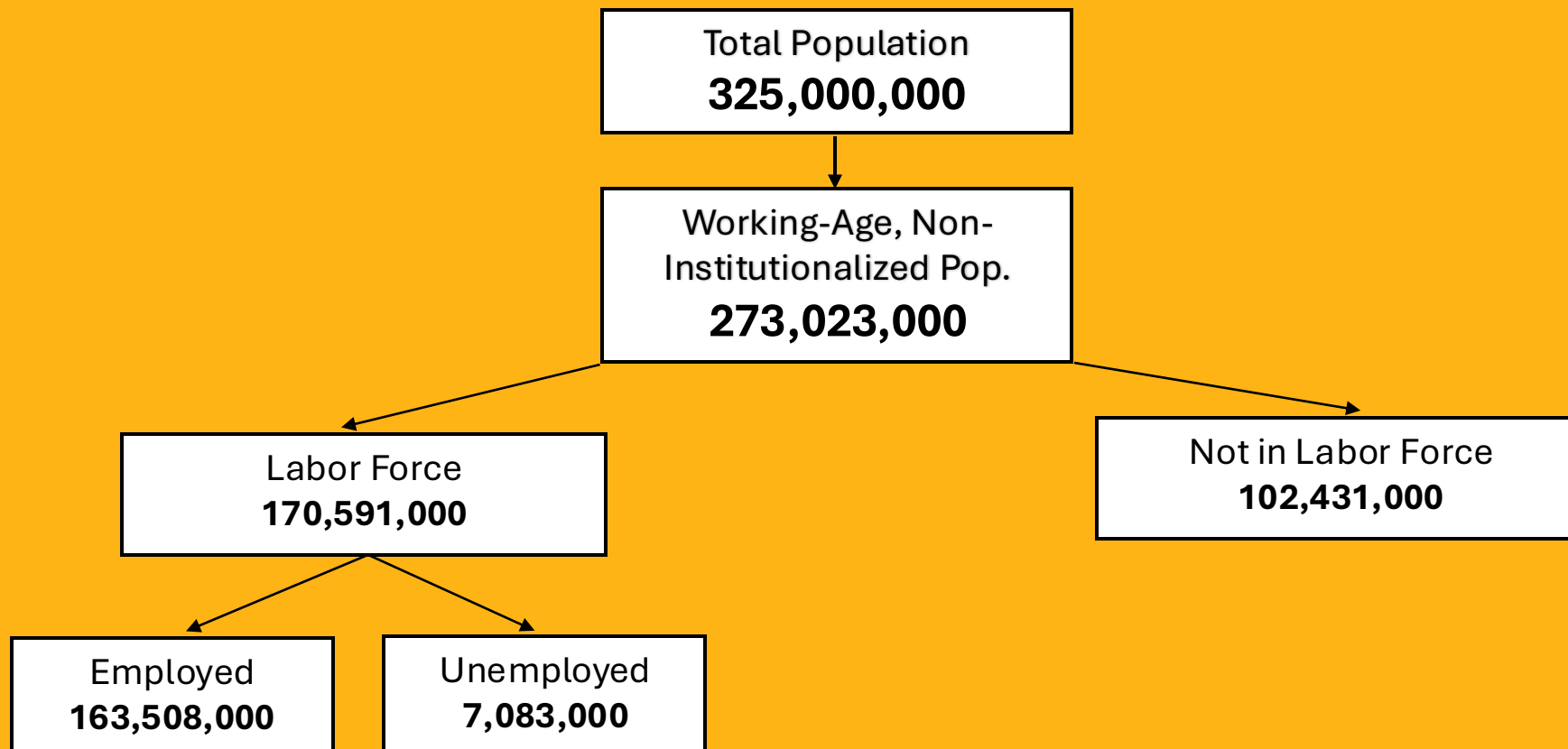


Calculating the Unemployment Rate

- 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 2nd 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**

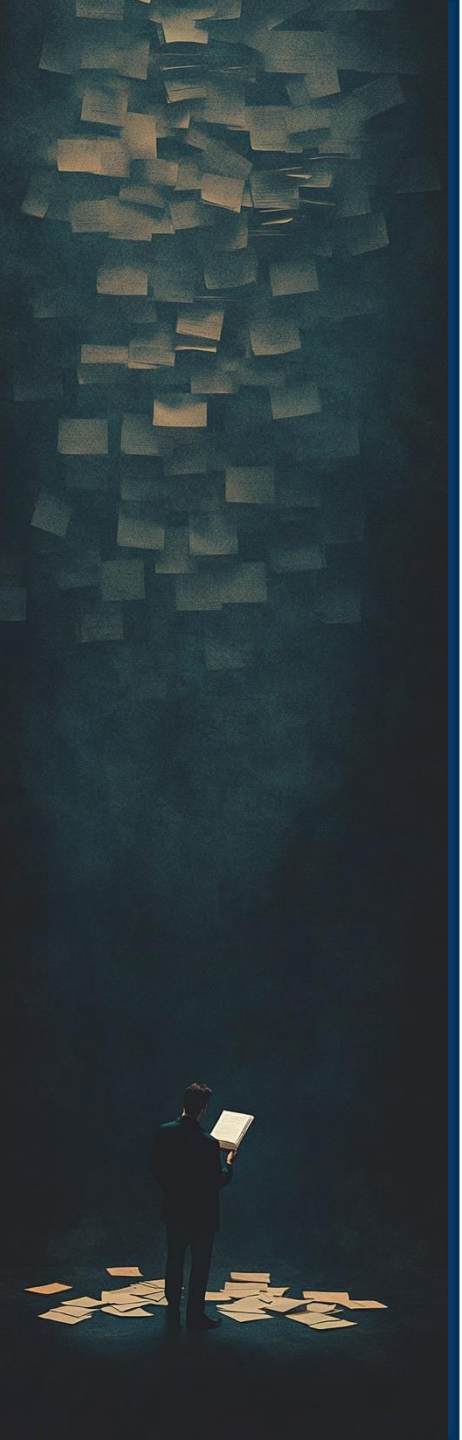
Employed Workers: any work done for pay in the past week

- 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 2022,
$$\text{UE Rate} = \frac{6,886,000}{161,661,000} \times 100 = 4.1\%$$
- Civilian Labor Force: Individuals who are employed or actively searching for work.
- $$\text{LF} = \text{Employed} + \text{Unemployed} = \mathbf{161,661,000 + 6,886,000 = 168,547,000}$$
- Labor Force Participation Rate = fraction of Working-Age, Non-institutional Population in the labor force.
- $$\text{Labor Force Participation} = \frac{\text{Number in LF}}{\text{Working-Age Pop.}} \times 100 = \frac{\mathbf{168,547,000}}{\mathbf{269,638,000}} \times 100 = 62.5\%$$

Shortcomings of the UE Rate Calculation



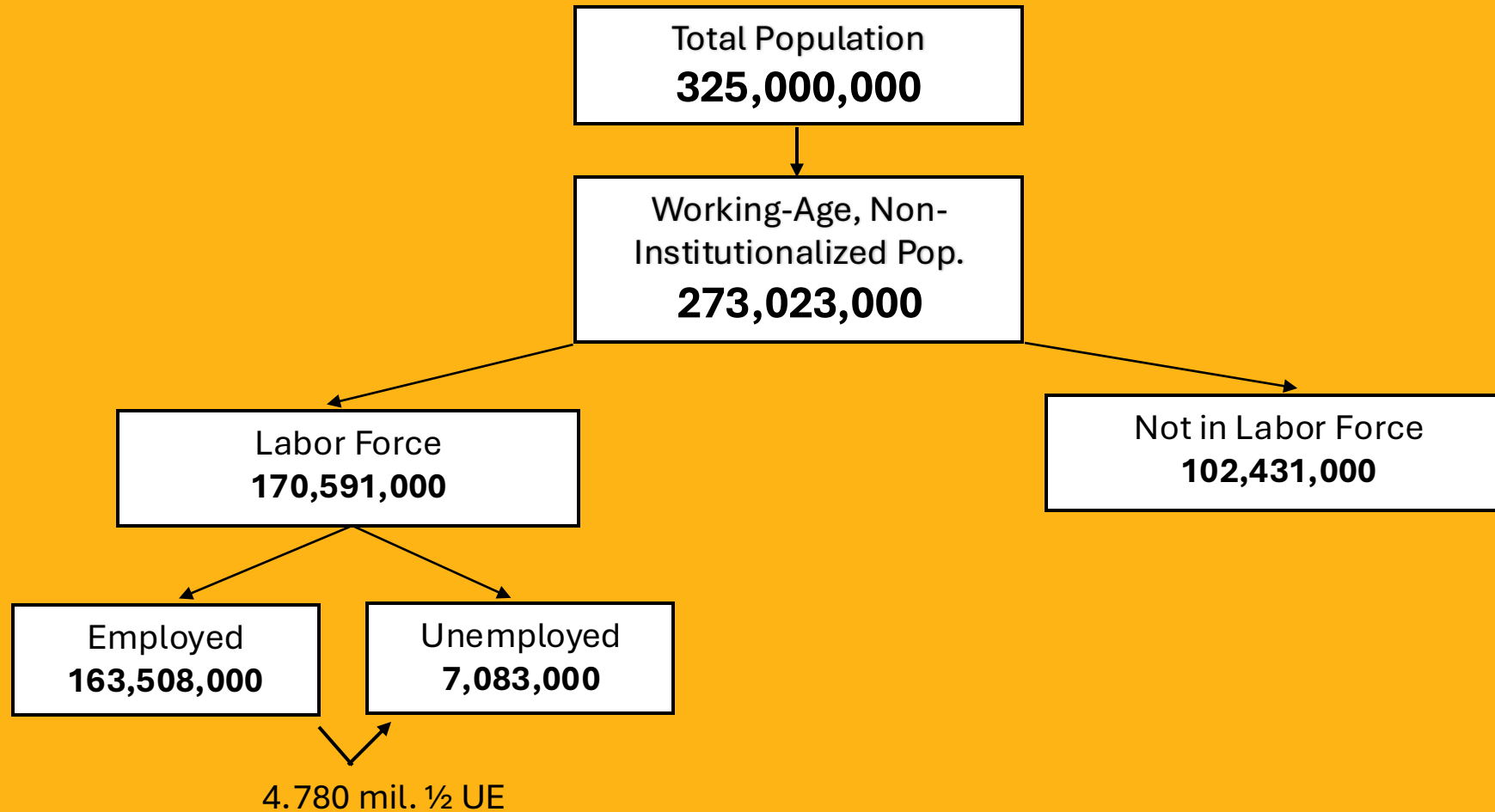
- Two big problems
- 1.
- 2.
- Can we account for these shortcomings?

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

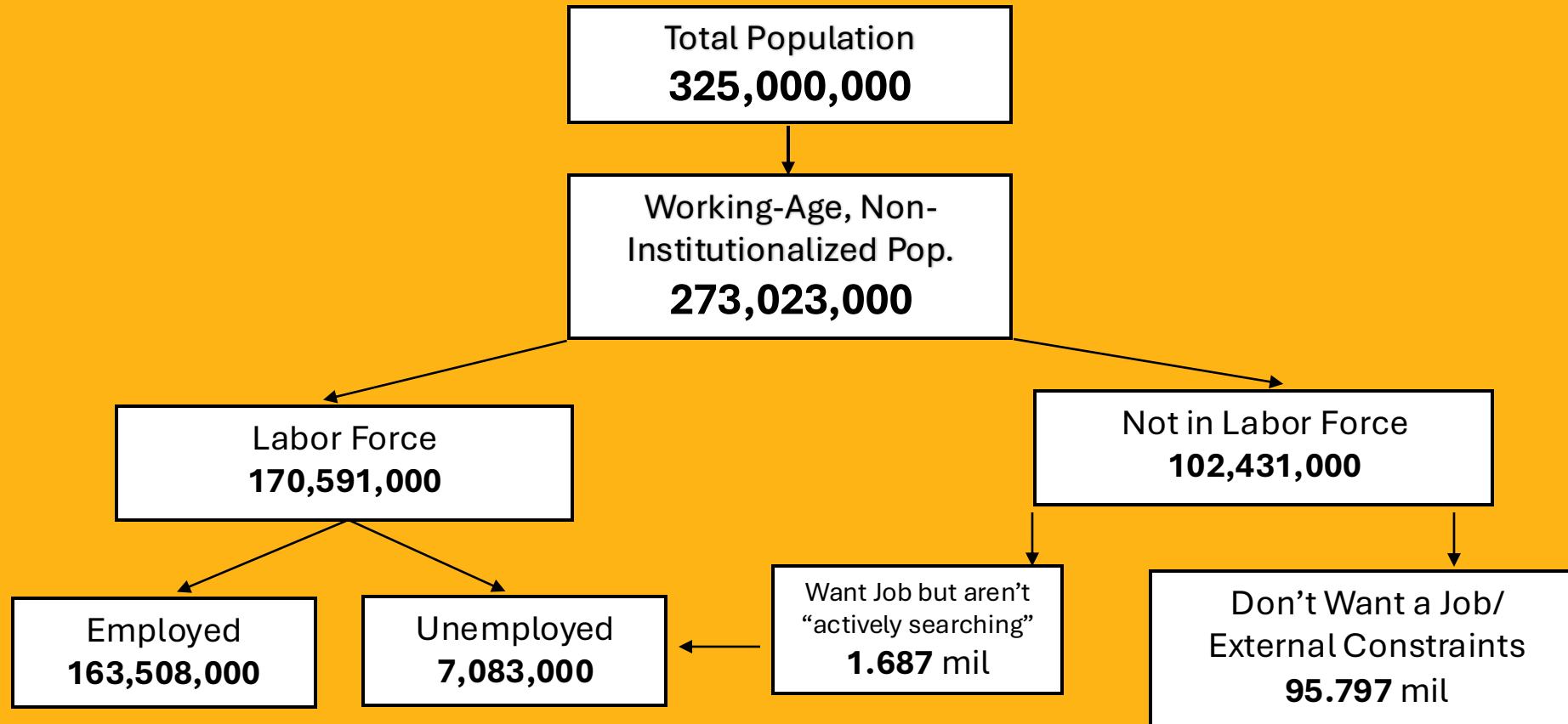


A Picture of “Not in the Labor Force”

- 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.

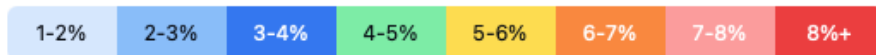
U-5: U-4 + marginally attached workers.

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
U-1: Unemployed 15+ weeks	1.3%	1.7%	1.6%	1.5%	1.5%	1.5%	1.5%
U-2: Job losers	1.8%	2.0%	1.9%	1.9%	1.9%	1.9%	1.9%
U-3: Total unemployed (official)	3.9%	4.2%	4.1%	4.0%	4.1%	4.2%	4.1%
U-4: Total + discouraged	4.1%	4.5%	4.4%	4.3%	4.4%	4.4%	4.4%
U-5: Total + marginally attached	4.8%	5.1%	5.0%	4.9%	5.1%	5.1%	5.0%
U-6: Total + part-time for economic reasons	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

