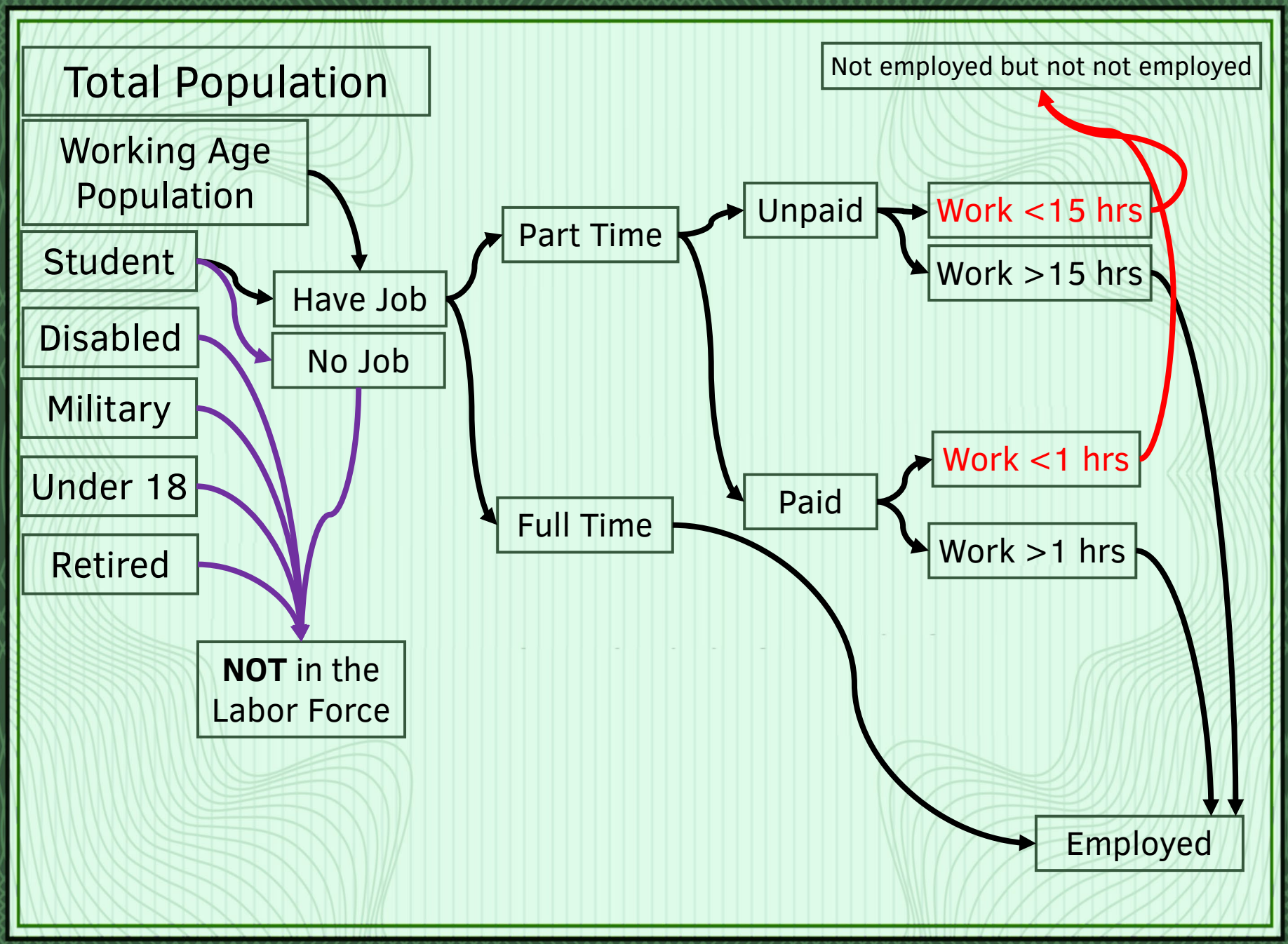
Unemployment

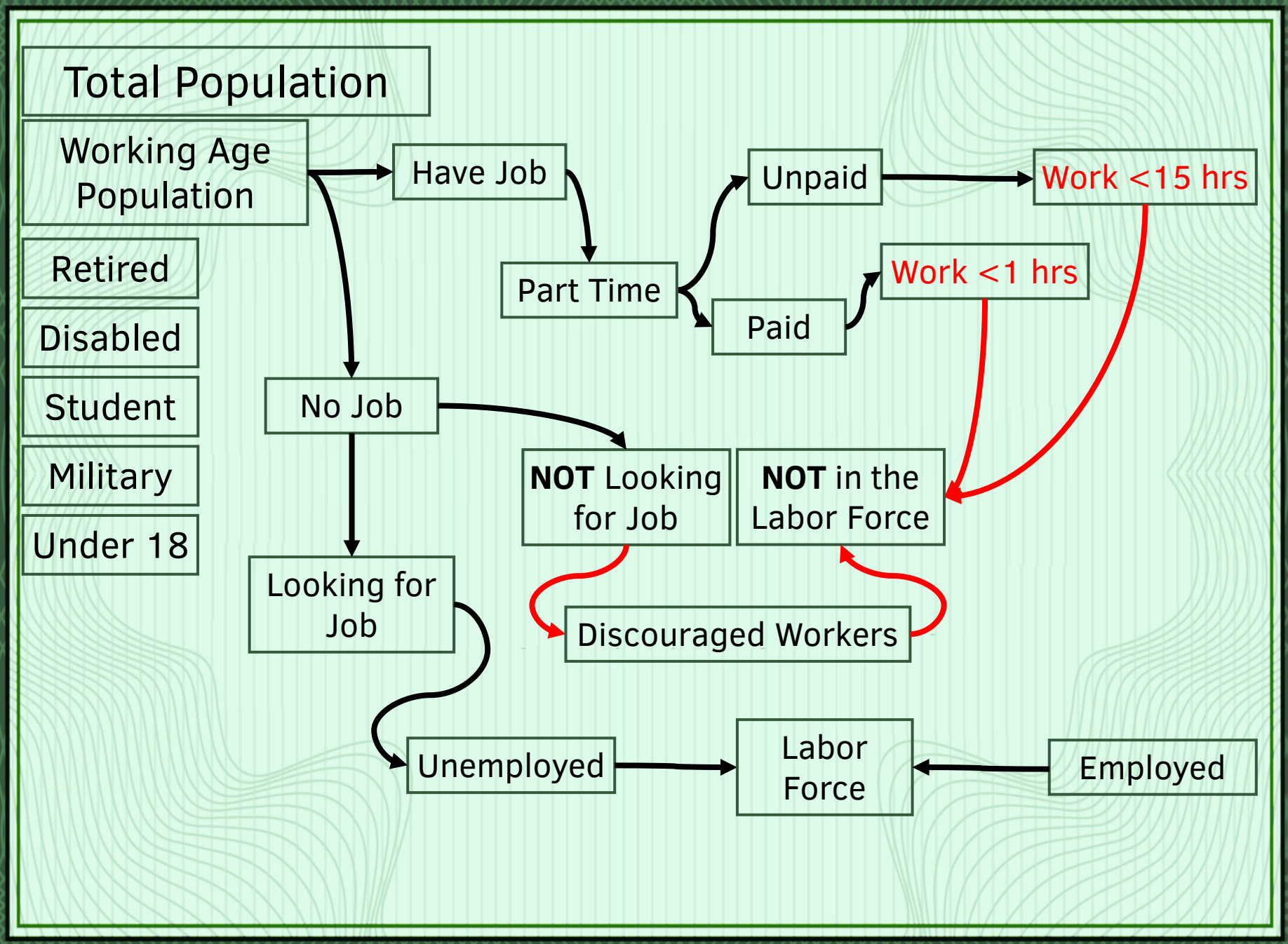
3/25

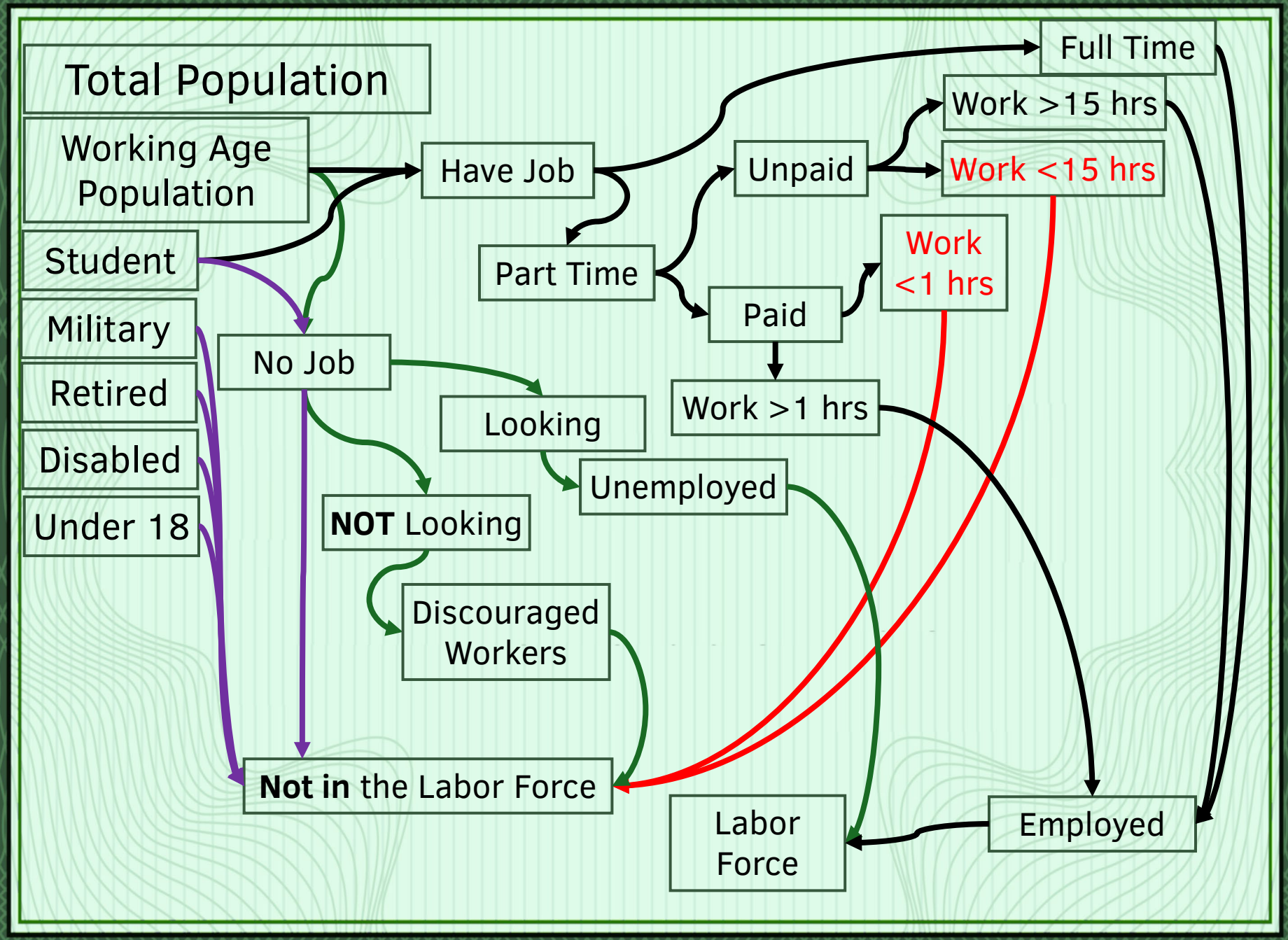
3/27

What is it?

- A measure of how many people needs jobs.
- Sample of everyone 16 and older, employment status, monthly


Total Population
Working Age Population
Student
Disabled
Military
Under 18
Retired
Have Job
No Job
NOT in the Labor Force
Part Time
Full Time
Unpaid
Paid
Work <15 hrs
Work >15 hrs
Work <1 hrs
Work >1 hrs
Not employed but not not employed
Employed


Total Population
Working Age Population
Retired
Disabled
Student
Military
Under 18
Have Job
No Job
Part Time
Unpaid
Paid
Work <15 hrs
Work <1 hrs
NOT Looking for Job
NOT in the Labor Force
Looking for Job
Discouraged Workers
Unemployed
Labor Force
Employed


Total Population
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Retired
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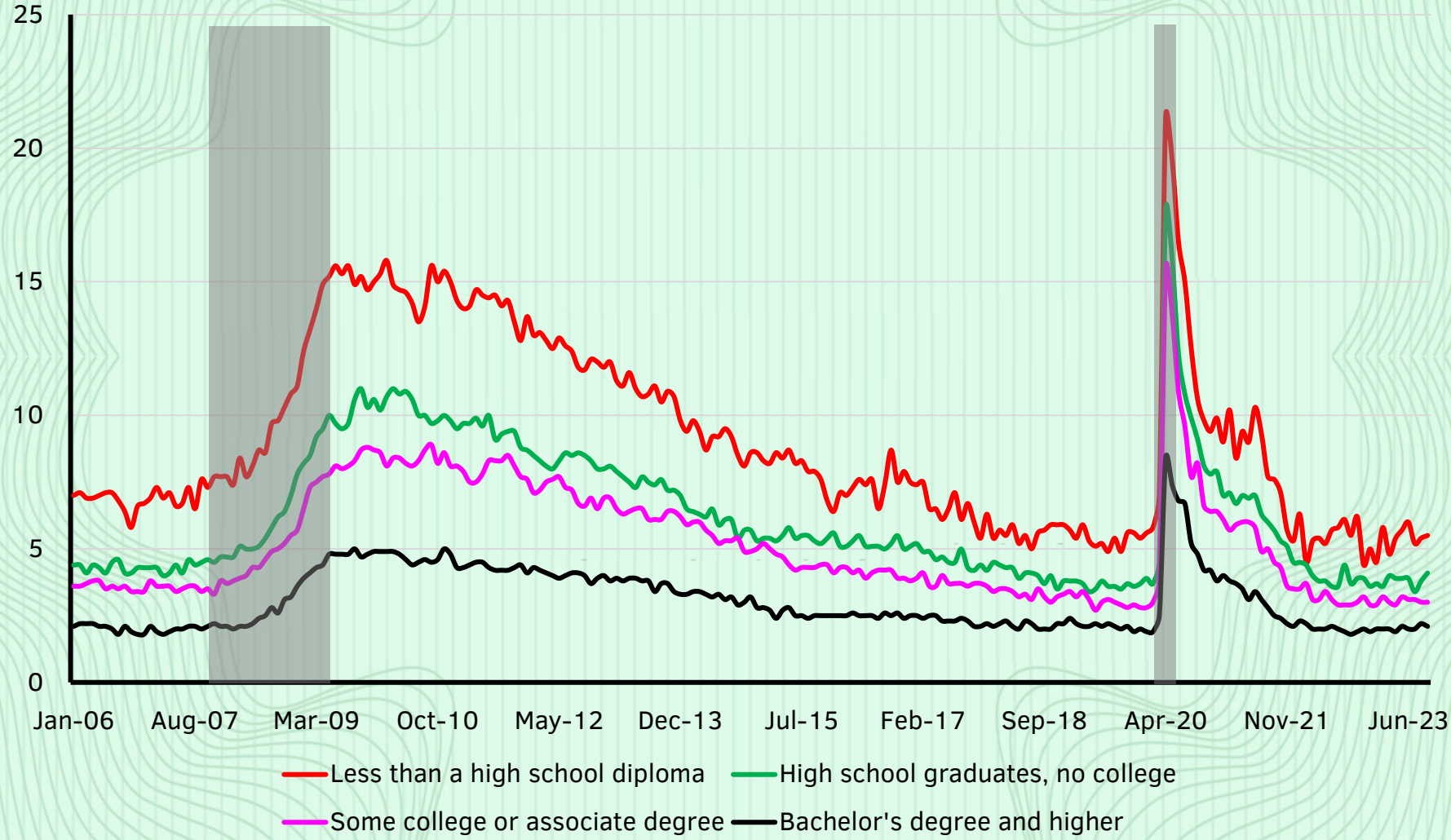
Under 18
Have Job
No Job
Full Time
Work >15 hrs
Work <15 hrs
Unpaid
Part Time
Paid
Work <1 hrs
Work >1 hrs
Looking
Unemployed
NOT Looking
Discouraged Workers
Not in the Labor Force
Labor Force
Employed

Formulas

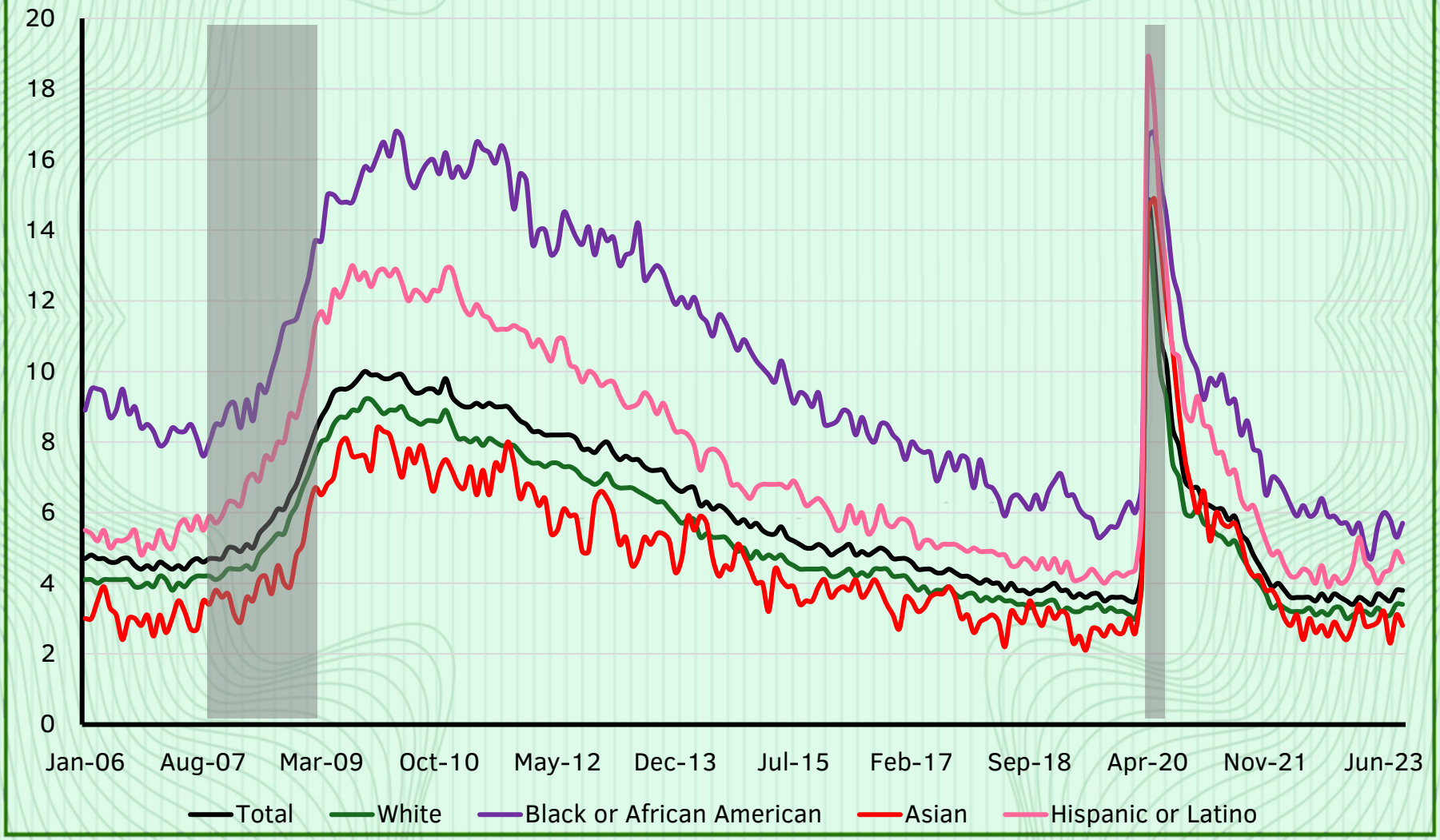
Term	Abbr.
Employed	$= E$
Unemployed	$= U$
Population	$= POP$
Working Age Population	$= W_{pop}$
Labor Force	$= LF = U + E$

Term	Equation
Unemployment Rate	$= \frac{U}{LF} = \frac{\text{Unemployed}}{\text{Labor Force}}$
LF Participation rate	$= \frac{LF}{W_{POP}} = \frac{\text{Labor Force}}{\text{Working Age Population}}$
Employment Pop Ratio	$= \frac{E}{W_{POP}} = \frac{\text{Employed}}{\text{Working Age Population}}$

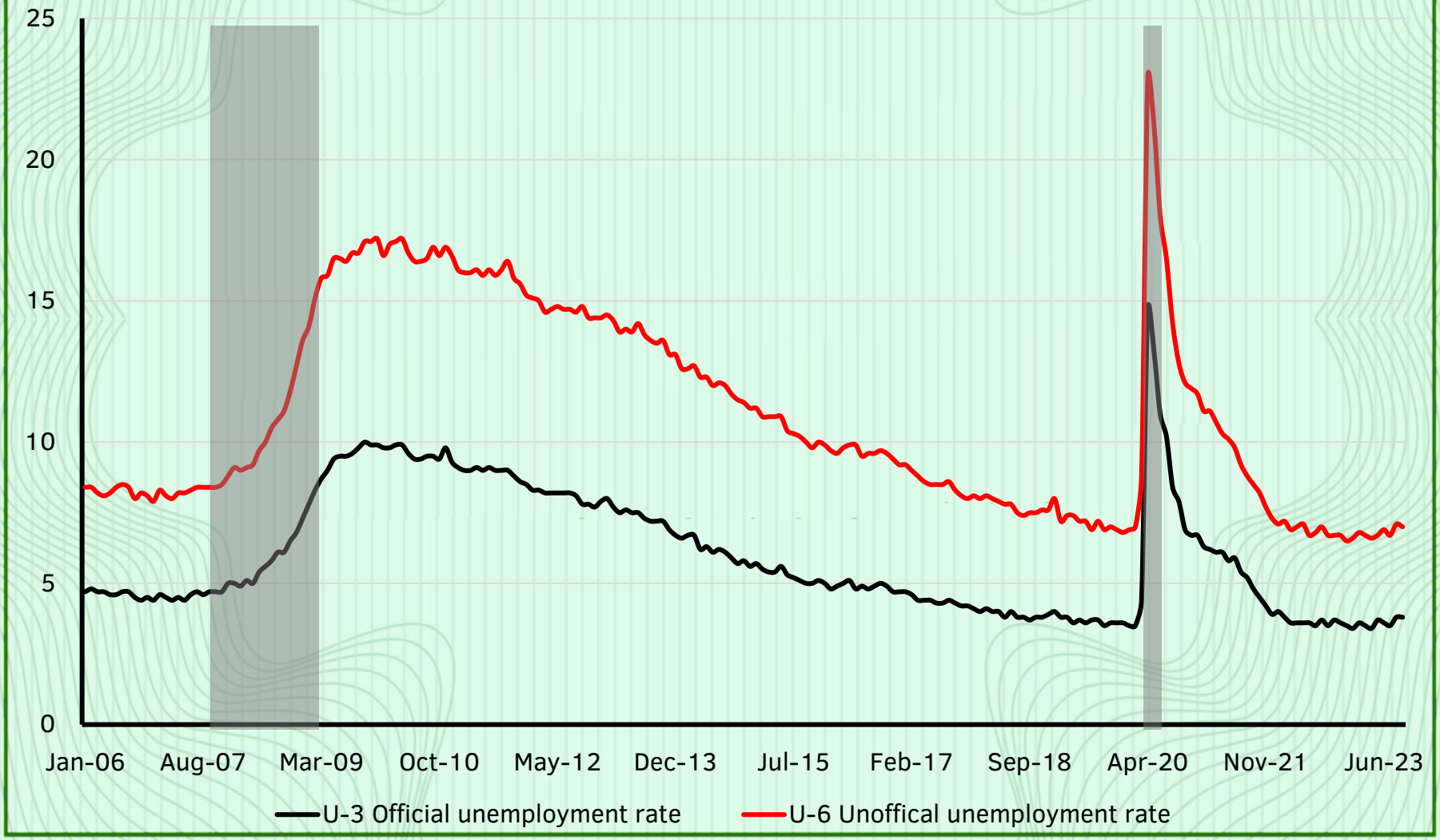
Unemployment by Education



Unemployment by Race



Unemployment



Types of Unemployment

- Frictional
  - In between jobs
- Structural
  - Obsolete job
- Cyclical
  - Recession
  - Bad Economy
- Natural rate (Full employment)
  - Frictional + Structural

What it means when

- **People get jobs.**

$$\text{Unemploy Rate} = \frac{U}{LF} = \frac{U\downarrow}{U\downarrow + E\uparrow} = \downarrow$$

- **Students get jobs.**

$$\text{Unemploy Rate} = \frac{U}{LF} = \frac{U}{U + E\uparrow} = \downarrow$$

- **People stop looking for jobs.**

$$\text{Unemploy Rate} = \frac{U}{LF} = \frac{U\downarrow}{U\downarrow + E} = \varnothing$$

Example Problem.

In the country of Illustratopia, there are 543 m. employed. The unemployment rate is 7.65%, while the labor force participation rate is 70.6%. How many are in the working age population, unemployed, and the labor force?

$$\text{Unemployment Rate} = \frac{U}{LF}$$

$$.0765 = \frac{U}{U + 543}$$

$$U + 543 \cdot 0.0765 = U$$

$$0.0765 \cdot U + 41.54 = U$$

$$41.54 = 1U - 0.0765 \cdot U$$

$$\frac{41.54}{0.9235} = U$$

$$U = 44.98$$

$$LF = 543 + 44.98 = 584.98$$

$$LF\text{Partipation rate} = \frac{LF}{W_{POP}}$$

$$70.6\% = \frac{584.98}{W_{POP}}$$

$$W_{POP} = \frac{584.98}{70.6\%}$$

$$W_{POP} = 828.58$$

Problems with unemployment

- Discouraged workers are still unemployed.
- Students are weirdly classified.
- Those underemployed are not considered.
  - Underemployed being working a part time job when you want a full time one.

Jack lost his job 6 months ago, and he’s been actively looking for a job, he is classified as

A) unemployed
B) out of labor force
C) a discouraged worker

Ruby is a college student, she lost her job 3 weeks ago, but she's been actively looking for a job, she’s is classified as

A) unemployed
B) out of labor force
C) a discouraged worker

Another way?

- The establishment survey
  - Asks business not people.
- Job creations through vacancy postings.
- Job destructions through firing, layoffs, etc.
- Will indicate problems before the unemployment increases.
- Is often used for corrections to the unemployment rate.