**Employment & Unemployment**

**Agenda**

- Employment & Unemployment.
  - Definitions & Measurement.
- Sources of Unemployment.
- Okun’s Law.
- The Costs and Benefits of Unemployment.

**Employment**

- Definition: The number of people 16 years old and above who are working for pay.

- Measurement:
  - Payroll survey of 400,000 business firms.
  - Household survey of 60,000 households.

**Unemployment**

- Definition: The number of people aged 16 years old and above who are not working BUT are willing and able to work AND are actively searching for a job, UN.

- Measurement:
  - Household survey of 60,000 households.

**Unemployment**

- Decomposition of the (Noninstitutional) Adult Population.
  - Total Population, POP.
  - Not in the Labor Force.
  - Civilian Labor Force, CLF.
  - Employed, N.
  - Unemployed, UN.
Composition of the Population

Employment Status of the Population
July 2003

- Not in Labor Force: 74.7 million
- Unemployed: 9.062 million
- Employed: 137.488 million
- Labor Force: 146.550 million

Unemployment

- Key Ratio:
  - Unemployment rate: U = UN/CLF * 100.

Unemployment Rate

Unemployment and Policy

- In a dynamic economy, some U is inevitable but also beneficial.
  - Allows for labor resource re-allocation.
- However, there are costs associated with U.
  - Lost income and output.
  - Inequitable distribution.
- Therefore, what is the appropriate level of U?
  - How low is “low unemployment”?

Job Vacancies

- Businesses always have job vacancies.
  - Workers leave and positions are open.
  - New positions are created.
- Job vacancies are strongly procyclical.
  - The more job vacancies there are, the lower the duration of unemployment.
- If job vacancies exist, why is there U?

Unemployment

- Search costs: job search and labor search are both costly and time consuming.
Flows into Unemployment

• Reasons for Unemployment:
  ➢ Job destruction or loss.
    • Employer determined.
  ➢ Job leavers.
    • Employee determined.
  ➢ New Entrant/Re-entrants to the Labor Force.
    • Job seeker determined.

Sources of Unemployment

• Types of Unemployment:
  ➢ Frictional or Turnover Unemployment.
  ➢ Structural or Mismatch Unemployment.
  ➢ Insider-Outsider or Disequilibria Unemployment.
  ➢ Cyclical Unemployment.

Sources of Unemployment

• Types of Unemployment:
  ➢ Frictional or Turnover Unemployment.
    • Results from the normal turnover in jobs and search by workers.
      ➢ Job search and labor search are both costly and time consuming.
      ➢ Sector shifts cause dislocations.
    • and public policy.
      ➢ Policies that reduces frictional unemployment.
      ➢ Policies that raises frictional unemployment.
    • Frictional unemployment is unavoidable.
      ➢ Even in normal times.
      ➢ Even when wages are at their equilibrium level.

Sources of Unemployment

• Types of Unemployment:
  ➢ Structural or Mismatch Unemployment.
    • Mismatch of skills.
      ➢ Lack of job training.
      ➢ Inflexibility of relative wages.
      ➢ Discrimination.
    • Mismatch of location.
      • and public policy.
      ➢ Policies that reduces structural unemployment.

Sources of Unemployment

• Types of Unemployment:
  ➢ Insider-Outsider, or Disequilibria, Unemployment.
    • Occurs when W > We.
      ➢ Helps insiders (who have jobs).
      ➢ Creates unemployment among outsiders (who do not have jobs).
    • Sources of increased wage pressure.
      ➢ Labor unions.
      ➢ Government.
      ➢ Efficiency wages.
        • Reduces employee turnover.
        • Attracts larger pool of applicants.
        • Boosts employee morale.

Natural Rate of Unemployment

• Definition: The level of unemployment that exists when the economy is at potential GDP.
  ➢ Also called the Non-Accelerating Inflation Rate of Unemployment (NAIRU)
Natural Rate of Unemployment

- Natural Rate of Unemployment =
  - frictional plus
  - structural plus
  - insider-outsider unemployment
  - in “normal” times.

Natural Rate of Unemployment

- The Natural Rate will change with:
  - Demographic changes.
  - A changing proportion of inexperienced workers.
  - Changes in job search/labor search costs.
  - A change in unemployment benefits,
    - The rise of Internet job sites/spread of temporary job agencies.
  - Structural changes in the economy.
    - Large sector shifts,
    - A change in union strength,
    - A change in minimum wages,
    - A change in incarceration rates.

Sources of Unemployment

- Types of Unemployment:
  - Cyclical Unemployment.
    - The level of unemployment that exits because GDP is not at its potential (natural) level.
    - The difference between actual and natural unemployment.
    - Can be either positive or negative.
    - and public policy
    - Effective macroeconomic policy is designed to minimize the fluctuations of output around potential.

Cyclical Unemployment

- Costs of Cyclical Unemployment:
  - Measured by the gap between actual output and potential output.
    - When Y < Yn.
    - The unemployment rate is closely related to deviations of real GDP from potential GDP.
    - Measured using Okun’s Rule of Thumb (or Law).
Okun’s Law

- Okun’s Rule of Thumb (Law):  
  ➢ The inverse relationship between the unemployment rate and output growth (relative to potential) or the output ratio.

Mathematically:

\[ U = Un - 0.5 \times \hat{Y} \]

If \( \hat{Y} = 0 \), then \( U = Un \)

For each percentage point increase in the unemployment rate, there will be a 2 percentage point decrease in GDP growth (relative to potential).

\[ \Delta U = -0.5 \times \Delta \hat{Y} \]

1% increase in \( U \) => $200 billion decrease in GDP per year.

$2,000 per household

The unemployment rate changes approximately 1/2 of the change in the output ratio, but in the opposite direction in a year.

For each percentage point \( U > Un \), real GDP is 2% < potential GDP
Costs of Unemployment

• Costs of Cyclical Unemployment:
  ➢ Economic costs.
    • Average recession lowers GDP approximately 10% below potential GDP over a 2 year period.
    • Therefore,
      ➢ Lower disposable income,
      ➢ Lower corporate profits,
      ➢ Lower tax revenues, and
      ➢ Higher unemployment.

Costs of Unemployment

• Costs of Cyclical Unemployment:
  ➢ Equity costs.
    • Rising unemployment disproportionately affects
      ➢ Young people,
      ➢ Minorities,
      ➢ Those with low skills, and
      ➢ Those with marginal labor force attachment.
    • Skills degradation if unemployment is prolonged.
      ➢ Hysteresis

Costs of Unemployment

• Costs of Cyclical Unemployment:
  ➢ Social costs:
    • Loss of self-esteem,
    • More crime,
    • More physical illness,
    • More mental illness, and
    • More suicides, alcohol and drug abuse, family disputes.
  ➢ Marginal social costs of unemployment are higher at higher rates of unemployment.

Benefits of Unemployment

• Benefits of Unemployment:
  ➢ The ability to engage in other activities (that have value).
    • Leisure,
    • Travel, or
    • School.