BEVERIDGEAN UNEMPLOYMENT GAP

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A KEY STATISTIC FOR STABILIZATION POLICIES

- US government mandate is to achieve “full employment”
  - unemployment gap = distance from “full employment”
- optimal stabilization policies depend on distance from efficiency
  - monetary policy, fiscal policy, labor subsidies/taxes
  - unemployment gap = distance from efficiency
CHALLENGES IN MEASURING UNEMPLOYMENT GAP

1. statistical approach
   - trend unemployment generally not efficient
2. Phillips-curve approach
   - based on inflation dynamics but not welfare
3. our approach: based on welfare in modern labor-market models
   - Diamond-Mortensen-Pissarides tradition
   - key variables: unemployment & vacancies
   - key relationship: Beveridge curve
US UNEMPLOYMENT RATE

0%
3%
6%
9%
12%
US BEVERIDGE CURVE: 2010–2019

![Graph showing the relationship between unemployment rate and vacancy rate from 2010:Q1 to 2019:Q4.]
US BEVERIDGE CURVE: 2010–2019

Beveridge curve

Vacancy rate

Unemployment rate

Log unemployment rate
-4.2
-3.9
-3.6
-3.3
-3.0

Log vacancy rate
-3.7 -3.4 -3.1 -2.8 -2.5 -2.2

Log unemployment rate
-4.2
-3.9
-3.6
-3.3
-3.0
Log vacancy rate
-3.7 -3.4 -3.1 -2.8 -2.5 -2.2

Log unemployment rate
-4.2
-3.9
-3.6
-3.3
-3

Log vacancy rate
-3.7
-3.4
-3.1
-2.8
-2.5
-2.2
US BEVERIDGE CURVE: 2010–2019

Log unemployment rate
-4.2
-3.9
-3.6
-3.3
-3.0

Log vacancy rate
MODEL: BEVERIDGE CURVE

Beveridge curve

Vacancy rate vs. Unemployment rate
MODEL: SOCIAL WELFARE

- Beveridge curve
- Isowelfare curve

Vacancy rate vs. Unemployment rate
MODEL: SOCIAL WELFARE

Unemployment rate vs. Vacancy rate

- Beveridge curve
- Isowelfare curve

Points:
- Boom
- Slump
MODEL: SOCIAL WELFARE

- Beveridge curve
- Isowelfare curve
MODEL: SOCIALLY EFFICIENT UNEMPLOYMENT

- Unemployment rate
- Vacancy rate
- Beveridge curve
- Best isowelfare curve
Efficiency
Unemployment rate
Vacancy rate
Beveridge curve
0
Isowelfare curve
Beveridge slope
= \frac{\text{cost of unemployment}}{\text{cost of recruiting}}
MODEL: BUSINESS CYCLES

- Unemployment rate
- Vacancy rate
- Beveridge curve
- Isowelfare curve
- Efficient labor market
MODEL: BUSINESS CYCLES

- Beveridge curve
- Gap > 0
- Slump
- Isowelfare curve

Graph showing relationships between vacancy rate, unemployment rate, and isowelfare curve.
Efficiency
Unemployment rate
Vacancy rate
Beveridge curve

Efficiency
HIGHER COST OF RECRUITING

Efficiency
Unemployment rate
Vacancy rate
Beveridge curve

Unemployment rate
Vacancy rate
Efficiency
HIGHER COST OF UNEMPLOYMENT

Vacancy rate

Unemployment rate

Beveridge curve

Efficiency
HIGHER COST OF UNEMPLOYMENT

Beveridge curve

Efficiency

Vacancy rate

Unemployment rate
WORSE MISMATCH

Beveridge curve

Efficiency

Unemployment rate

Vacancy rate
WORSE MISMATCH

Efficiency

Unemployment rate

Vacancy rate

Beveridge curve

Efficiency
RECRUITING COST & UNEMPLOYMENT COST IN THE US

- Recruiting cost: 1997 National Employer Survey (Villena 2010)
  - 4,500 establishments
  - Firms spend 2.5% of labor costs on recruiting
- Cost of unemployment: military administrative data for 1993–2004 (Borgschulte, Martorell 2018)
  - 420,000 veterans
  - During unemployment, only 25% of earnings loss is offset by home production & recreation

\[\text{Cost of unemployment} \approx 75\%\]
EFFICIENT UNEMPLOYMENT RATE: US, 2010–2019

![Diagram showing the Beveridge curve and an isowelfare curve. The x-axis represents unemployment rate, and the y-axis represents vacancy rate. The graph includes data points and a trend line.]
EFFICIENT UNEMPLOYMENT RATE: US, 2010–2019

Efficient unemployment = 3.7%
BEVERIDGE ELASTICITY: US, 2010–2019

Beveridge elasticity = 0.81

Log vacancy rate
2019:Q4

Log unemployment rate
2010:Q1
BEVERIDGE ELASTICITY: US, 1951–2019
OTHER “NATURAL” RATES OF UNEMPLOYMENT

Unemployment rate

Efficient

Actual

0%
3%
6%
9%
12%

OTHER “NATURAL” RATES OF UNEMPLOYMENT

Unemployment rate

- Actual
- Efficient
- CBO

0% 3% 6% 9% 12%
OTHER “NATURAL” RATES OF UNEMPLOYMENT

Unemployment rate

Efficient

CBO

Trend

Actual

Unemployment rate

0%
3%
6%
9%
12%

OTHER “NATURAL” RATES OF UNEMPLOYMENT

Unemployment rate

- Actual
- NAIRU
- Trend
- CBO
- Efficient


Rates: 0%, 3%, 6%, 9%, 12%
OTHER COSTS OF UNEMPLOYMENT

Efficient unemployment rate
Baseline
Cost = 100%