

How Far from Full Employment? The European Unemployment Problem Revisited

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Context & Research Questions

Context

- Policymakers care about labor-market slack. However, “full employment” is unobservable in the data.
- Traditional approach: **NAIRU**, an inflation-based concept derived from the Phillips curve.
- This paper instead uses the **Beveridge curve** to define full employment as *the unemployment rate that minimizes non-productive search (Michaillat & Saez, 2021, 2022)*.

Key definitions

- **Beveridge-efficient unemployment rate:**

$$u^* = \sqrt{u \cdot v}.$$

- **Full-employment gap:**

$$g = u - u^*.$$

where $g > 0$ indicates **slack** and $g < 0$ indicates **overheating**.

Question: Does this measure **match** what happened from the 1970s to today? Does it **predict** real outcomes like NEET, and differ from NAIRU?

Answer: BECRU Matches Real Labor-Market History(1970s-1990s)

1970s: High matching efficiency before major shocks

- Several EU countries (Germany, Austria, Sweden, Finland) had very low BECRU (< 2.5%) and reached $g < 0$ (full employment).
- The US and UK started with higher BECRU levels than core EU countries.

1980s–1990s: European unemployment problem

- EU: outward Beveridge-curve shifts and increases in full-employment gaps (oil shocks; structural change and deindustrialization; rigid labor-market institutions; macroeconomic shocks).
- The US also had a peak gap in the early 1980s, but it declined sharply by the late 1990s (productivity growth and flexible labor-market institutions).
- The UK: gap rose in the 1980s but stabilized and slightly fell in the 1990s (reduced union power and increased flexibility).
- Finland (1991–1993): collapse of Soviet trade caused a dramatic unemployment surge.

Answer: BECRU Matches Real Labour-Market History (2000s–2022)

2000s: Divergence emerges

- US Beveridge curve shifts inward → higher matching efficiency.
- Europe does not experience a similar improvement; UK moves modestly inward.

2008–2013: Global Financial Crisis

- Full-employment gaps rise everywhere.
- US shows cyclical “wave-like” recovery (cyclic, flexible labor market); EU countries recover more slowly with “step-wise” patterns (structural rigidities).

2020–2022: COVID shock and recovery

- COVID causes unprecedented outward shifts of the Beveridge curve.
- Post-COVID: gaps fall, but **only the US and the Netherlands** reach full employment ($g < 0$).
- Euro Area still shows about **3% slack** by late 2022.

Answer: BECRU Predicts Meaningful Real-world Outcomes

BECRU gaps outperform NAIRU in predicting youth NEET.

- NEET refers to young people *Not in Employment, Education, or Training*.
- BECRU gaps are strongly correlated with the share of youth who are NEET.
- A (near-)zero BECRU gap aligns with low NEET rates because BECRU minimizes non-productive labor use.

BECRU vs NAIRU: different policy implications.

- BECRU suggests **more labor-market slack** in the Euro Area than NAIRU or output-gap estimates from the European Commission.
- Thus, BECRU would call for **more expansionary macroeconomic policy** during and after the euro crisis.

Illustration: BECRU & Full Employment Gaps

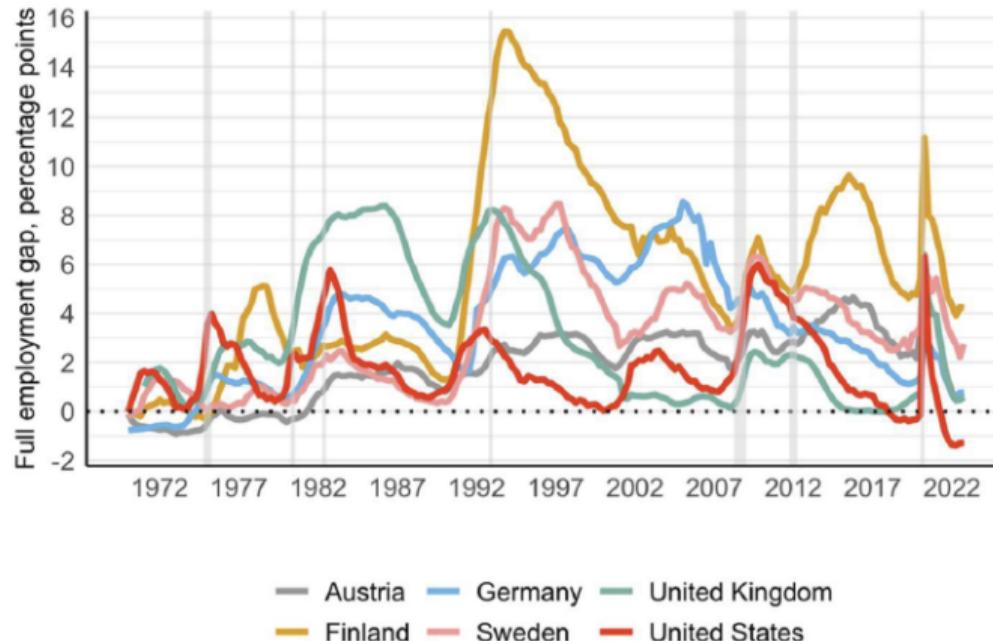


Fig. 6. Beveridge full employment gap for six countries, 1970–2022.

Source: OECD Registered Unemployed and Job Vacancies Dataset, BLS JOLTS, [Michaillat and Saez \(2022\)](#); own calculations. Notes: The grey areas in the figure indicate periods of recession in the aggregated OECD Europe sample. A recession is defined as two consecutive quarters of negative real GDP growth. The data for Germany are for West Germany until 1991. The Beveridge full employment gap (g) is calculated as $g = u - BECRU$.

Positioning in the Literature

- **Traditional view: NAIRU = inflation-stable unemployment rate.**
 - Depends on Phillips curve assumptions.
 - Hard to estimate; sensitive to filtering choices.
- **Recent theory** (Michaillat & Saez, 2021, 2022):
 - Full employment = minimizing non-productive labor (search + recruiting).
 - Provides a matching-based slack measure.
- **This paper's contribution:**
 - First to apply BECRU to Europe over **1970–2022**.
 - Uses long-run vacancy data from OECD administrative series + Eurostat vacancy surveys.
 - Identifies long-run hysteresis patterns and cross-country differences.

Conclusion

- **Conclusion:**
 - BECRU provides a transparent, data-based measure of labor-market slack.
 - EU saw true full employment only in the 1970s; persistent gaps emerged afterward.
 - US matching efficiency improved markedly since the 2000s.
 - Today: US is tight (negative gap); Europe still shows significant slack.
- **Limitations:**
 - Vacancy data may be incomplete or under-reported, especially in some countries.
 - BECRU does not capture informal employment, underutilised labor, or job quality.
 - It cannot show differences across groups (e.g., by age, education, or race) without new data and methods.