$u^* = \sqrt{uv}$: THE FULL-EMPLOYMENT RATE OF UNEMPLOYMENT (FERU) IN THE UNITED STATES

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HOW TO INTERPRET THE LEGAL CONCEPT OF FULL EMPLOYMENT?

- Employment Act of 1946:
    - Full employment allows "to foster …general welfare"
- Full Employment and Balanced Growth Act of 1978:
    - Away from full employment, the economy "is deprived of the full supply of goods and services, the full utilization of labor …and the related increases in economic well-being"

↝ Full employment = social efficiency

↝ FERU = efficient rate of unemployment

COMPUTING THE FERU

- Planner's objective: minimize nonproductive use of labor $u + v$
  - Unemployment rate u: value of home production & recreation is offset by psychosocial cost of unemployment
  - Vacancy rate v: 1 vacancy requires 1 worker devoted to recruiting
- Subject to hyperbolic Beveridge curve $u \times v = A$
  - u and v cannot be reduced simultaneously
- First-order condition gives efficient unemployment rate u^*:

$$\frac{d[u + A/u]}{du} = 0 \Rightarrow 1 - A/(u^*)^2 = 0 \Rightarrow u^* = \sqrt{A}$$

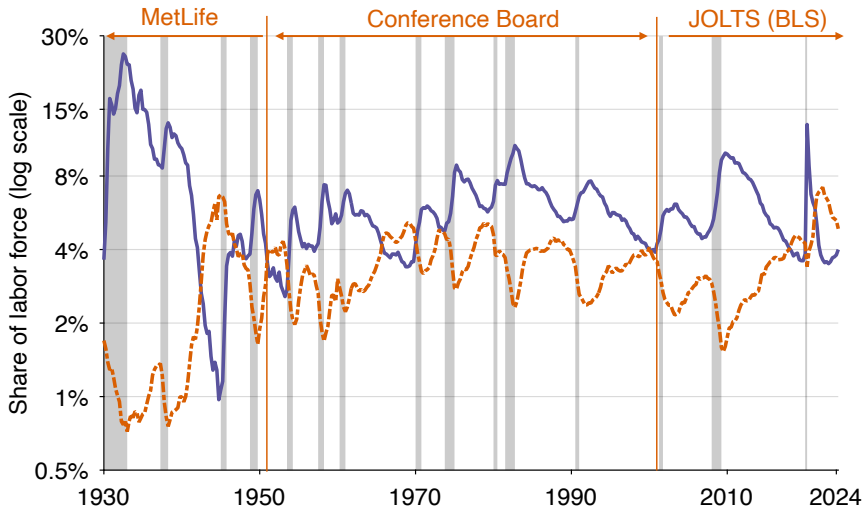- FERU is geometric average of u and v: $u^* = \sqrt{uv}$

CRITERION FOR FULL EMPLOYMENT

- Economy is at full employment when $u = u^* = \sqrt{uv}$

  ⇝ At full employment when $u = v$

- Economy is inefficiently slack when $u > u^* \sqrt{uv}$

  ⇝ Inefficiently slack when $u > v$

- Economy is inefficiently tight when $u < u^* = \sqrt{uv}$
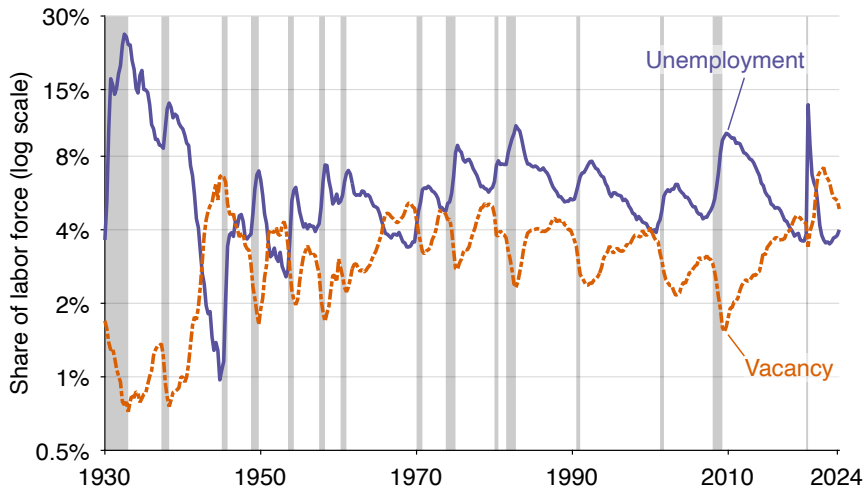
  ⇝ Inefficiently tight when $u < v$

US UNEMPLOYMENT RATE (PETROSKY-NADEAU & ZHANG 2021)
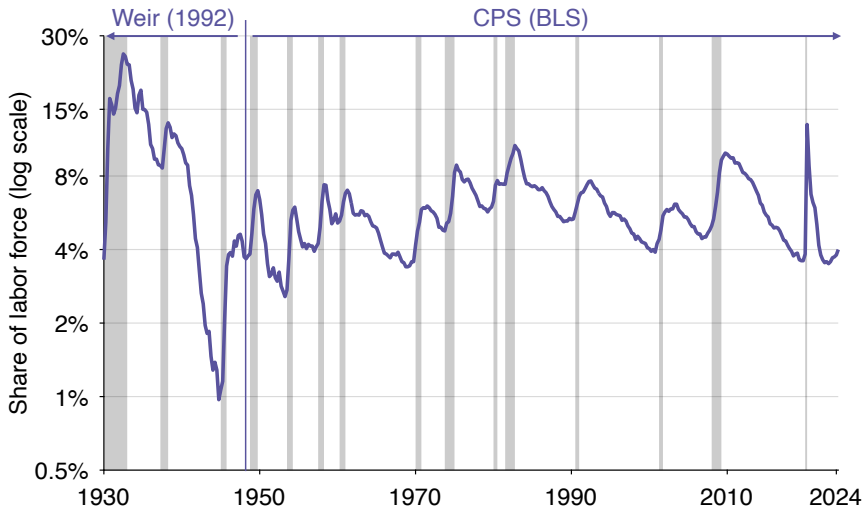
US VACANCY RATE (PETROSKY-NADEAU & ZHANG 2021)

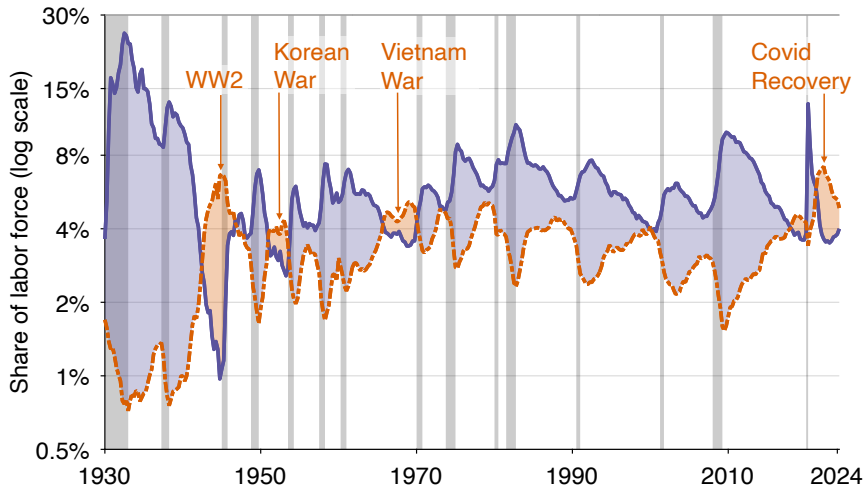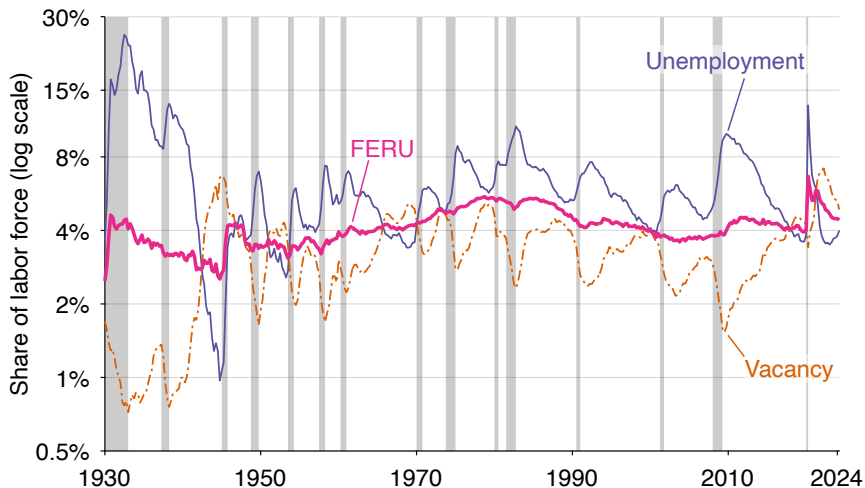# BEVERIDGE CURVE IS A RECTANGULAR HYPERBOLA

LABOR MARKET IS GENERALLY TOO SLACK

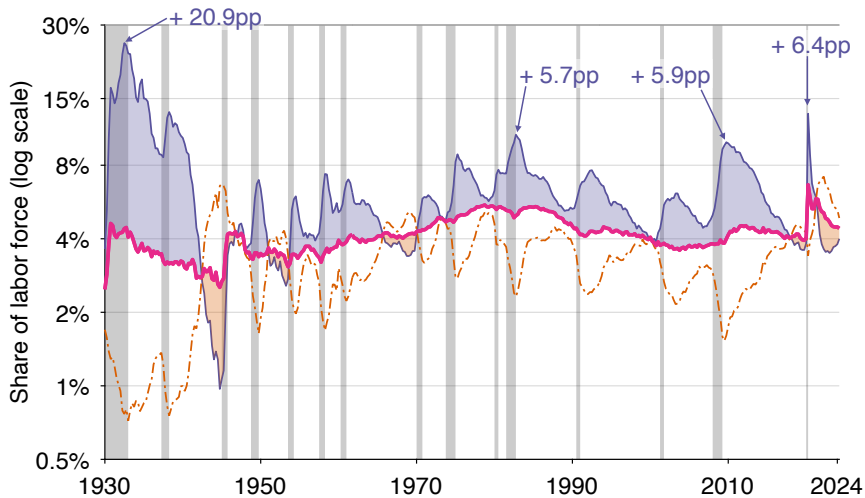Chart showing "Share of labor force (log scale)" from 1930 to 2024, with "Unemployment" (purple) and "Vacancy" (orange dashed) lines. Shaded regions labeled "Inefficiently slack." Y-axis log scale from 0.5% to 30%.
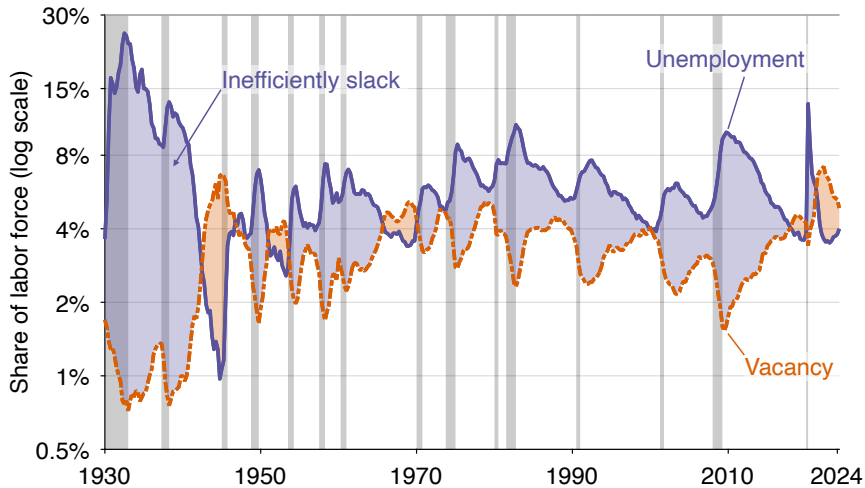
LABOR MARKET IS TOO TIGHT DURING WARS
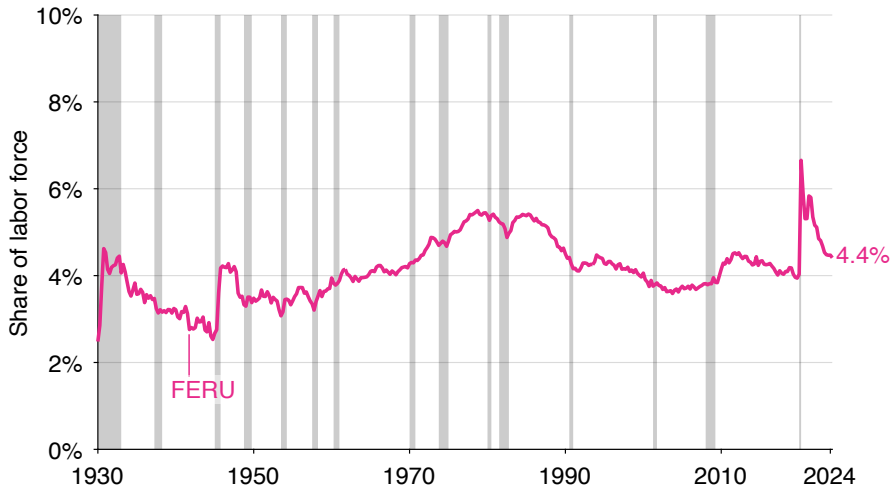
FERU $u^* = \sqrt{uv}$ AVERAGES 4.1% AND IS STABLE
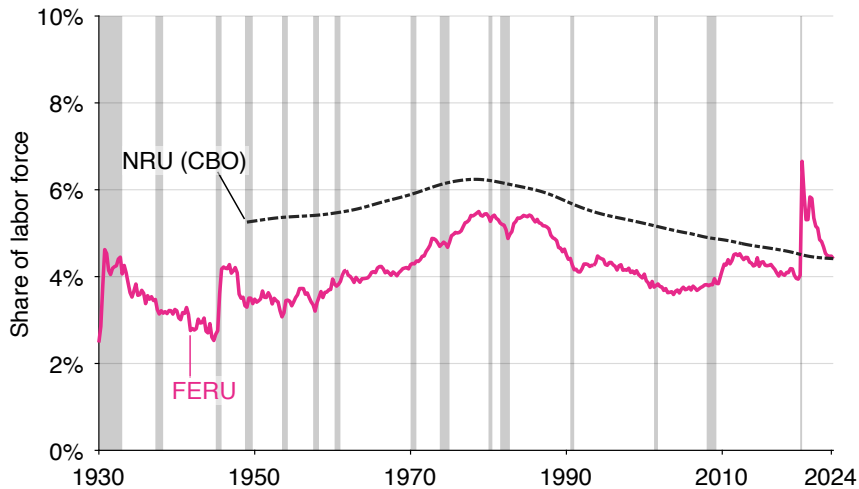
UNEMPLOYMENT GAP IS COUNTERCYCLICAL
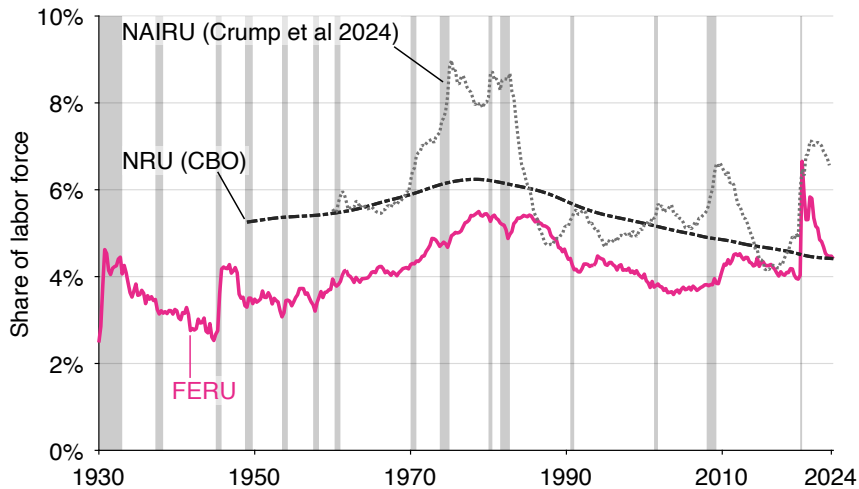
UNEMPLOYMENT GAP IS COUNTERCYCLICAL
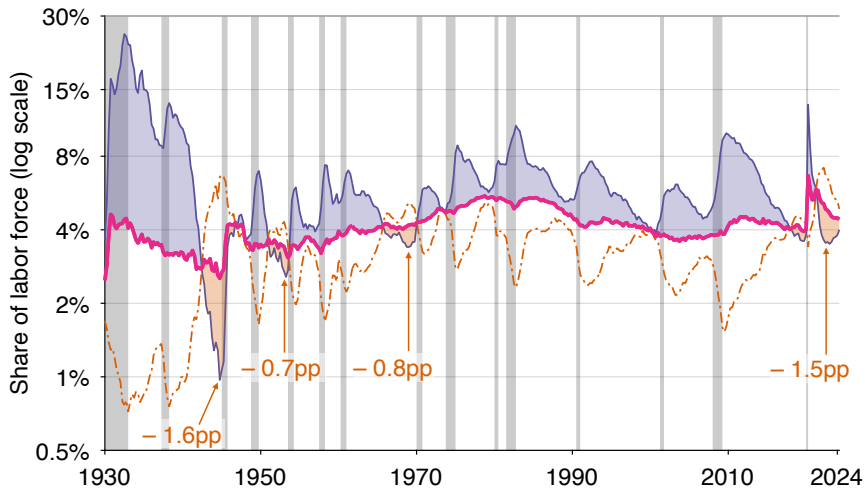
FERU IS LOWER THAN EXISTING UNEMPLOYMENT TARGETS

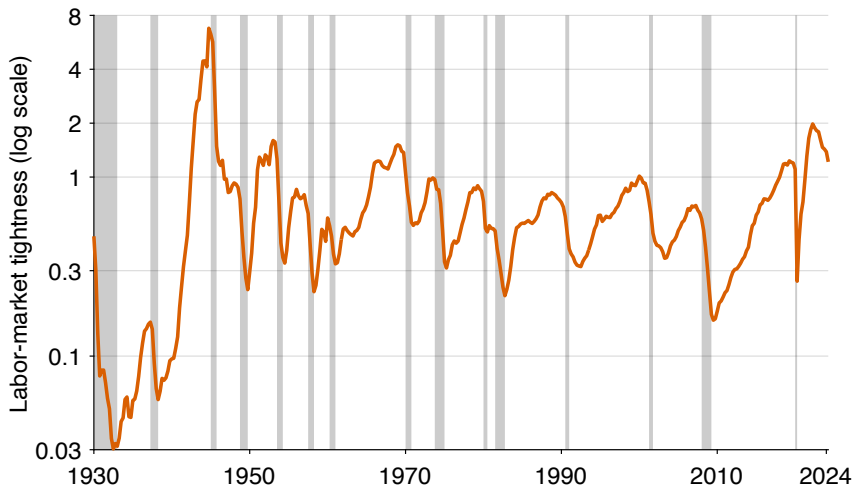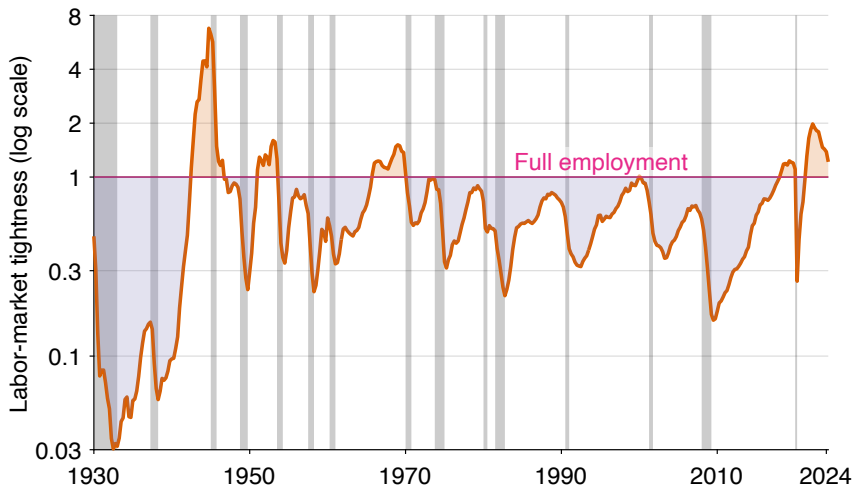# FERU IS LOWER THAN EXISTING UNEMPLOYMENT TARGETS
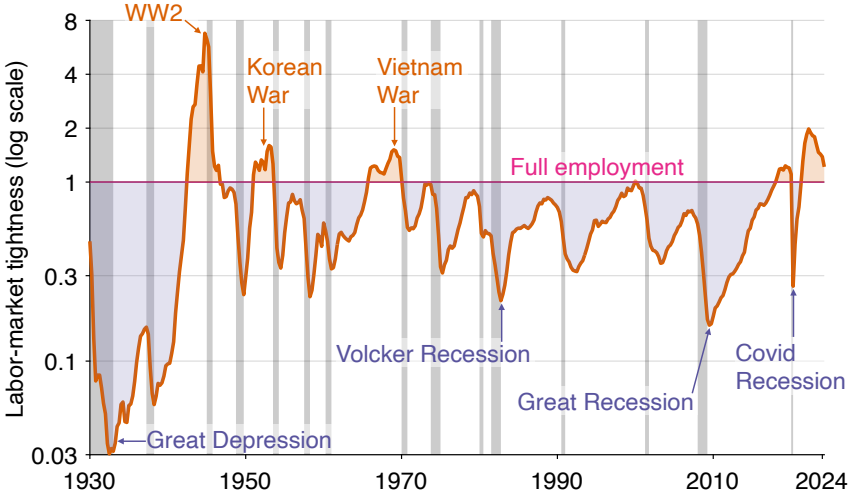
FERU IS LOWER THAN EXISTING UNEMPLOYMENT TARGETS

A line chart titled "Share of labor force" (y-axis, 0% to 10%) by year (x-axis, 1930 to 2024), showing three series: NAIRU (Crump et al 2024), NRU (CBO), and FERU.

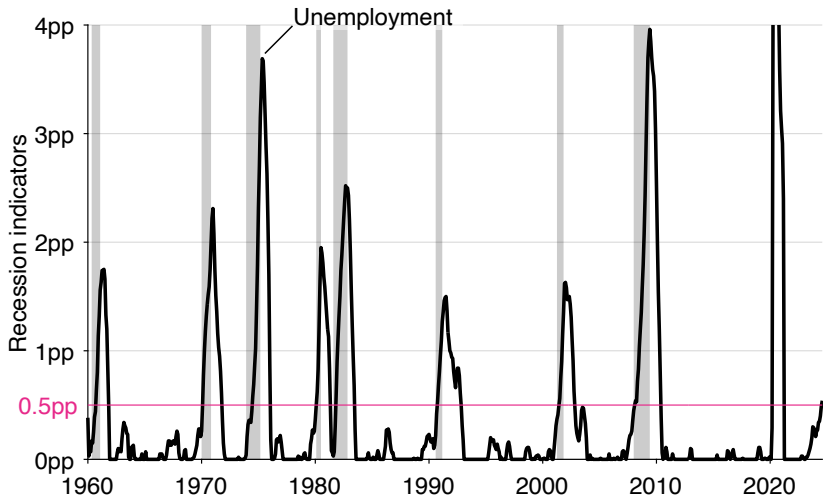# TIGHTNESS v/u SUMMARIZES STATE OF LABOR MARKET

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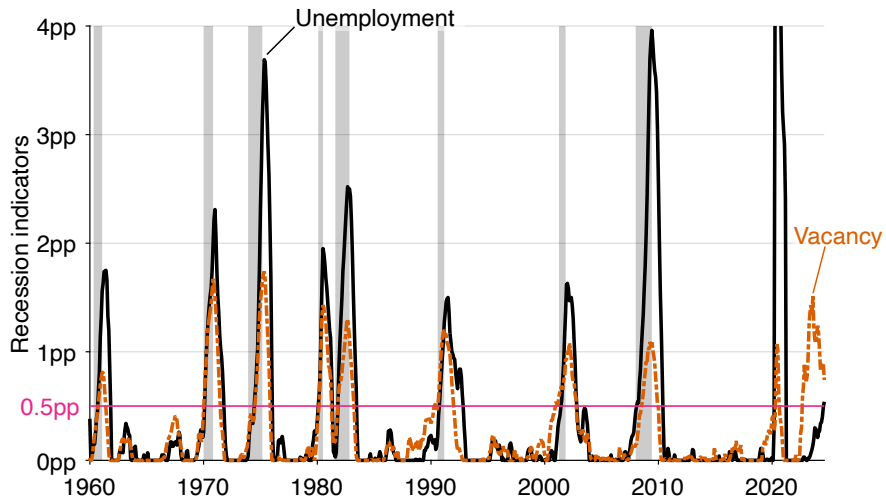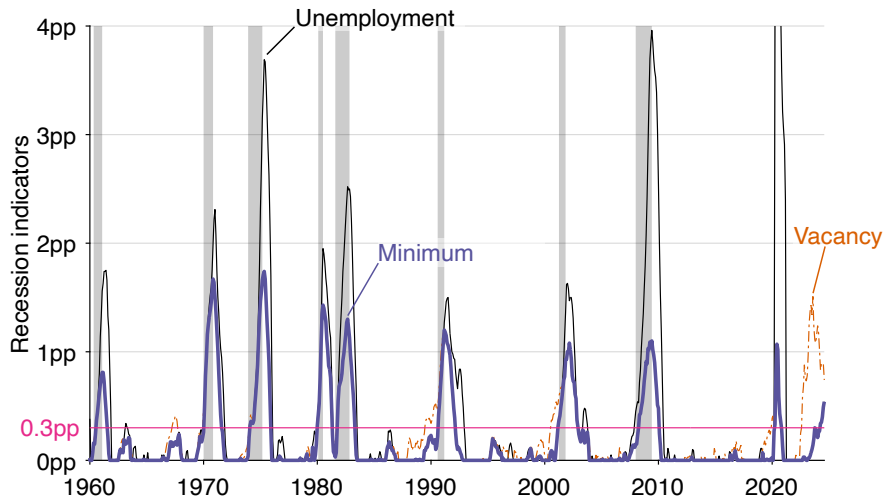
TIGHTNESS v/u SUMMARIZES STATE OF LABOR MARKET

DETECTING RECESSIONS WITH UNEMPLOYMENT: SAHM RULE
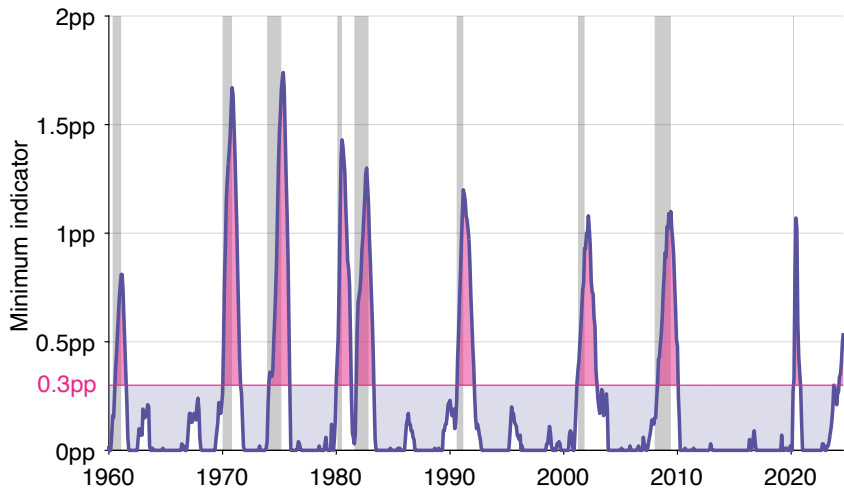

Unemployment

DETECTING RECESSIONS WITH UNEMPLOYMENT & VACANCIES

DETECTING RECESSIONS WITH UNEMPLOYMENT & VACANCIES

RECESSION MAY HAVE STARTED AS EARLY AS MARCH 2024

NEW RULE PERFECTLY DETECTS ALL RECESSIONS SINCE 1929