Discussion

"Unemployment and Mismatch in the UK" by Jennifer Smith

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Unemployment and Mismatch in the UK

Jennifer Smith (2012)

- How important is mismatch unemployment in the UK?
- Contributions of the paper
  1. It is not about the US
  2. Measure contribution mismatch to unemployment *dynamics*
  3. Decompose into effects on job finding and job loss
- Findings
  1. Mismatch was important in the GR (half of increase unemployment)
  2. Effect on job loss is larger and more persistent than effect on job finding

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- Findings
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Unemployment dynamics

- Unemployment depends on job loss, job finding and past unemployment

$$u_{t+1} = u_t + \underbrace{s_t \left(1 - u_t\right)}_{\text{job loss}} - \underbrace{f_t u_t}_{\text{job finding}}$$

- Importance of the past depends on turnover

$$u_{t+1} = \rho_t \bar{u}_t + \left(1 - \rho_t\right) u_t$$

where

$$\begin{aligned} \rho_t &= f_t + s_t \\ \bar{u}_t &= \frac{s_t}{f_t + s_t} \end{aligned}$$

Log-linear approximation

$$\Delta \log u_{t+1} = \rho \underbrace{\left(1 - u\right)\left(d \log s_t - d \log f_t\right)}_{\text{change in steady state}} + \left(1 - \rho\right) \underbrace{d \log u_t}_{\text{dynamics}}$$

Unemployment dynamics: Why this matters

- Importance of the past depends on turnover

$$\begin{aligned}\Delta \log u_{t+1} &= \rho \underbrace{(1-u)\left(d\log s_t - d\log f_t\right)}_{\text{change in steady state}} + (1-\rho)\underbrace{d\log u_t}_{\text{dynamics}} \\ &= \rho\left(1-u\right)\left(d\log s_t - d\log f_t\right) \\ &\quad + (1-\rho)\rho\left(1-u\right)\left(d\log s_{t-1} - d\log f_{t-1}\right) \\ &\quad + (1-\rho)^2\rho\left(1-u\right)\left(d\log s_{t-2} - d\log f_{t-2}\right) + \ldots\end{aligned}$$

- Turnover anywhere else is lower than in the US
  (data: Elsby, Hobijn and Şahin)
  - US: $\rho = 0.575 + 0.036 = 0.611$ $(t_{1/2} = 1.6$ months$)$
  - UK: $\rho = 0.133 + 0.010 = 0.143$ $(t_{1/2} = 7$ months$)$
  - Italy: $\rho = 0.041 + 0.004 = 0.045$ $(t_{1/2} = 22$ months$)$

Unemployment dynamics: Mismatch

- Mismatch lowers the job finding rate
  - 'Optimal' allocation
$$\frac{v_1}{u_1} = \frac{v_2}{u_2} = ... = \frac{v_N}{u_N}$$
  - Mismatch: suboptimal distribution of u_i (given v_i)

- Unemployment dynamics propagate this effect

$$\begin{aligned}
\Delta \log u_{t+1} &= \rho \underbrace{(1-u)\left(d\log s_t - d\log f_t\right)}_{\text{change in steady state}} + (1-\rho)\underbrace{d\log u_t}_{\text{dynamics}} \\
&= \rho\left(1-u\right)\left(d\log s_t - d\log f_t\right) \\
&\quad + (1-\rho)\rho\left(1-u\right)\left(d\log s_{t-1} - d\log f_{t-1}\right) \\
&\quad + (1-\rho)^2\rho\left(1-u\right)\left(d\log s_{t-2} - d\log f_{t-2}\right) + ...
\end{aligned}$$

Other measures of mismatch

- Mismatch lowers the job finding rate
  - 'Optimal' allocation
    $$\frac{v_1}{u_1} = \frac{v_2}{u_2} = ... = \frac{v_N}{u_N}$$
  - Mismatch: suboptimal distribution of u_i (given v_i)
- Mismatch across industries, geographic areas, occupations (Şahin, Song, Topa and Violante)
- Measure mismatch directly from dispersion in job finding rates $f\left(\frac{v_i}{u_i}\right)$ (Barnichon and Figura; Herz and van Rens)
  - Longer time series, compare to previous recessions
  - Sources of mismatch (worker mobility, job mobility, wage setting) (Herz and van Rens)

Decomposition effects on job finding and job loss

- Unemployment depends on job loss, job finding and past unemployment

$$u_{t+1} = u_t + \underbrace{s_t \left(1 - u_t\right)}_{\text{job loss}} - \underbrace{f_t u_t}_{\text{job finding}}$$

- For fluctuations, job loss matters as much as job finding (Fujita and Ramey)

- But mismatch affects only job finding

  - [Effect on s_t] $\equiv$ [*dynamic* effect on u_t] $-$ [*static* effect on f_t]

  - Interpretation is confusing

    - "newly unemployed take longer to find jobs"

    - $s_t = EU_t / \left(1 - u_t\right)$, but why would EU_t be unaffected?

Concluding

- Studying mismatch in the UK is interesting
  - Compare the results to those to the US
  - Previous studies using UK data
    (Şahin, Song, Topa and Violante; Barnichon and Figura)
- Dynamics are (potentially) important
  - Compare to static exercise
  - Explore importance dynamics for alternative measures of mismatch
- Decomposition into job finding and job loss is not helpful