DO MATCHING FRICTIONS EXPLAIN UNEMPLOYMENT? NOT IN BAD TIMES

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RESEARCH QUESTIONS

Do Matching Frictions Explain Unemployment?

- Existing search-and-matching models of unemployment are inadequate to study recessionary unemployment

This paper proposed a searching-and-matching model in which jobs are rationed in recessions: with the absence of matching frictions, some unemployment still remains.

MAIN IDEA

Frictional unemployment and Rationing unemployment

- All unemployment is frictional at any point of the business cycle (frictional unemployment)
- Rationing unemployment increases and drives the rise in total unemployment in this model (rationing unemployment)

This model built on the Pissarides (2000) model by relaxing two assumptions: completely flexible wages and constant marginal returns to labor

We will see later that the two assumptions contributed the full employment absent matching frictions.

THE MODEL

- Labor market:

$$u_t = 1 - (1 - s)n_{t-1}$$

- Job Finding probability:

$$f(\theta_t) = \frac{h_t}{u_t}$$

  where h_t is constant-returns matching functions $h(u_t, v_t)$

- Beveridge curve

$$n = \frac{1}{(1 - s) + \frac{s}{f(\theta)}}$$

Implication: Increased vacancy rate will bring up the tightness θ, so the job finding probability $f(\theta)$ will also increase $\rightarrow$n *increases*

THE MODEL

- Wage schedule:

$$w_t(i) = w(n_t(i), \theta_t, n_t, a_t)$$

- Firms:

$$\pi_t(i) = g(n_t(i), a_t) - w_t(i)n_t(i) - \frac{ca_t}{q(\theta_t)}h_t(i)$$

- Budget constraint

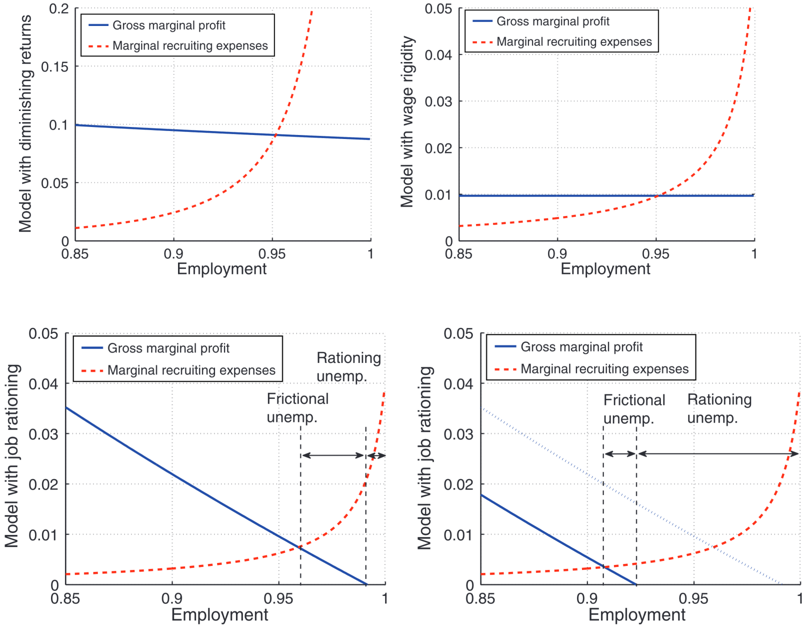
$$n_t(i) \leq (1-s)n_{t-1}(i) + h_t(i)$$

- FOC

$$\frac{\partial g}{\partial n(i)}(n_t(i), a_t) = w_t(i) + \frac{ca_t}{q(\theta_t)}$$

$$+n_t(i)\frac{\partial w}{\partial n(i)}(n_t(i), \theta_t, n_t, a_t) - \delta(1-s)E_t[\frac{ca_{t+1}}{q(\theta_{t+1})}]$$

EQUILIBRIA



Gross marginal profit
Marginal recruiting expenses
Model with diminishing returns
Model with wage rigidity
Model with job rationing
Employment
0.85
0.9
0.95
1
0.2
0.15
0.1
0.05
0
0.05
0.04
0.03
0.02
0.01
0
Frictional unemp.
Rationing unemp.

EXISTENCE OF JOB RATIONING

- Static environment:

$$\alpha n^{\alpha-1} - wa^{\gamma-1} = [1 - (1-s)\delta]\frac{c}{q(\theta)}$$

- $a < a_R$:

$$\alpha n^{\alpha-1} - wa^{\gamma-1} = 0$$

  $n^R(a) < 1$ is a unique solution
- Rationing unemployment

$$u^R(a) \equiv 1 - n^R(a)$$

- Frictional unemployment

$$u^F(a,c) \equiv u(a,c) - u^R(a)$$