Comments on

Endogenous Labor Market Participation and the Business Cycle

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Objective of the paper

Develop a model with

- search and matching frictions, and
- endogenous labor market participation

capable of explaining a set of business cycle labor market facts

Basic set of labor market facts

	$\rho_{x,GDP}$	$\frac{\sigma_x}{\sigma_{GDP}}$
Employment rate	0.896	0.660
Vacancies	0.821	8.581
Unemployment	-0.918	6.566
Participation rate	0.549	0.231
Real wages	0.353	0.832

US data, 1976-2001, HP detrended series in logs with smoothing parameter λ=10^5

Related literature and challenges

- Costain and Reiter (2003), Hall (2005), Shimer (2005)

  Conventional search and matching model cannot explain magnitude of fluctuations in employment, unemployment and vacancies

- Faraglia (2003), Shimer (2004), Tripier (2002), Veracierto (2004)

  Allowing for endogenous labor participation in a variety of models with labor market frictions counterfactually generates procyclical unemployment

$\Rightarrow$ Hard job for HR: need to address both challenges

Model

Conventional search and matching model with

- Three employment states:

  employed (z, w), out of the labor force (h), unemployed (b(h))

- Endogenous participation decision:

  - Participation decision depends mainly on "relative productivity" z-h

    Agents homogeneous in z, heterogeneous in h (distribution F(h), arrival rate χ)

  - Participation threshold h^c: $h^c = b(h^c) + \lambda S(h^c, z)$

    $h > h^c$ do not participate, $h \leq h^c$ participate

Main model's implications

- Procyclical participation rate: $z \uparrow \Rightarrow h^c \uparrow \Rightarrow F(h^c) \uparrow$

- Allowing for a participation margin, other things being equal, makes

  1. employment more procyclical and more volatile: good

  2. unemployment less countercyclical and less volatile: bad

  3. market tightness and vacancies less procyclical and less volatile: bad

     $z \uparrow \Rightarrow h^c \uparrow \Rightarrow$ average $b(h) \uparrow \Rightarrow$ average $w \uparrow \Rightarrow$ firms' hiring incentives $\downarrow$

Why is the model successful?

1. Wage rigidity
   - boost firms' hiring incentives in booms $\Rightarrow$ larger fluctuations in n, u, v, λ
   - larger fluctuations in λ help absorbing new entrants faster $\Rightarrow$ u less procyclical
2. Small mass of agents close to the participation margin
   - participation only mildly procyclical, unemployment not too procyclical
3. Simplifying assumption b(h)=bo
   - isolate w and firms' hiring incentives from cyclical changes in participation

Distribution of home productivity: calibration

- F(h) uniform in (h-σ,h+σ)

- Set σ to match cross-sectional dispersion of relative productivity:

$$\phi_{model} = \frac{(w-h)(3^{rd}decile)-(w-h)(1^{st}decile)}{w(2^{nd}\ decile)}$$

- Use only wage data, no home production/leisure data:

$$\phi_{data} = \frac{w(3^{rd}decile)-w(1^{st}decile)}{w(2^{nd}\ decile)}$$

- Not necessarily a good approximation if
  - large dispersion in h across individuals
  - w and h correlated: corr(w,h)>0 $\Rightarrow$ overestimate ϕ_{data} $\Rightarrow$ overestimate σ
- Time-use surveys provide information on agents time allocation across:

  market work (work for pay, searching for a job...), non market work (shopping, food preparation...), leisure (recreation, entertainment, social activities, ...)
- Lots of information (see Aguiar and Hurst, 2006) that may be used to measure:

  cross-sectional dispersion in h and correlation between w and h
- Other possibility: more direct measure of mass of agents close to the participation margin from flows? At least as a check.

Wage rigidity: calibration and wage dynamics

- Ad-hoc wage rigidity - countercyclical worker's bargaining power: $\alpha = 0.5 - \Delta_\alpha z$
- Degree of wage rigidity Δ_α set to match wage elasticity to output:

$$\varepsilon_{w,GDP} = \rho_{w,GDP}\frac{\sigma_w}{\sigma_{GDP}}$$

- Resulting wage dynamics:

	$\rho_{w,GDP}$	$\frac{\sigma_w}{\sigma_{GDP}}$	$\varepsilon_{w,GDP}$
HR rigid wage model	0.91	0.30	0.27
US data, 1976-2001	0.33	0.81	0.27

Summary and questions

- Provide tractable model to explain joint fluctuations in n, u, p and v

- Main ingredients for success:
  - wage rigidity - but model fails to explain wage dynamics
  - cross-sectional dispersion of home production - but best possible calibration?