Discussion of: "Agency Business Cycle" by Mike Golosov and Guido Menzio

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Equilibrium unemployment (fluctuations) as a discipline device

- Shapiro and Stiglitz (1984)
  - two levels of effort, $e \in \{0, 1\}$
  - output **perfectly correlated** with effort
  - observed at Poisson rate $\lambda = 1$
  - disutility of effort: $c$
  - worker caught shirking is fired
  - flat wage contract, $w$

- No-shirking condition (NSC):
  \[
  \lambda (W - U) = c.
  \]

- **Separation is not costly** to the firm: labor market is frictionless
• Mortensen (1989): matching, \( M(u, v) \), and free-entry of firms.
  • vacancy filling rate: \( \eta(\theta) \) where \( \theta \equiv v/u \)
  • flow cost of creating a vacancy: \( k \)

• Now separation is costly to the firm since:

\[
\text{Value of a filled job} = J = \frac{k}{\eta(\theta)} > 0
\]
Adding bargaining

• Rocheteau (2001,2002): Nash bargaining s.t. NSC:

\[ W - U = \max \left\{ \cfrac{c}{\lambda}, \cfrac{1 - \gamma k}{\gamma \eta(\theta)} \right\} , \]

where firm’s bargaining power is \( \gamma \).

• \( \lambda \) chosen by the firm
Layoffs in equilibrium

- GM: productivity as a noisy signal of effort (Holmstrom, 1979):
  \[
  \Pr[y = y_H] = q_e \\
  \Pr[y = y_L] = p_e = 1 - q_e
  \]

- High productivity more likely if high effort, \( q_1 > q_0 \)
- Worker is fired in case if \( y_L \) with probability \( d \)
- NSC becomes:
  \[
  c = (p_0 - p_1) d (W - U)
  \]
  high effort: reduced prob from being fired

- **Efficient bargaining** over \( w \) and \( d \)
Employment contract

- Labor contract specifies $w, e, d_H, d_L$
- $d$ contingent on $y$ but not $w$
- The contract is renegotiated every period
  - A repeated game: Not obvious the use of an axiomatic solution is appropriate here
  - Mechanisms to avoid inefficient separations (promotions, tournaments...)
  - wage-tenure contracts (Stevens, 2004; Burdett and Coles, 2003)
Unrestricted contracts (risk-neutral workers)

- Add an upfront fee to the contract (Stevens, 2004)
- Pay $w = y$ subsequently
  - Worker gets full productivity: incentives are taken care of.
- Pissarides with "crime on the job" (Eigenhardt et al, 2008).
- No need for inefficient separations
Sunspot equilibria

- For such equilibria to exist \( J/(W - U) \) must be lower in the high-unemployment state
- Make workers risk averse and liquidity constrained:

\[
\frac{J}{W - U} = \frac{\gamma}{1 - \gamma v'(w)} \frac{1}{v'(w)}
\]

- \( J/(W - U) \) is low when \( w \) is low
- To get \( w \) to depend on unemployment directly, assume \( M \) has decreasing returns to scale.
Imperfect capital markets

• Workers are risk-averse and face an idiosyncratic risk
  • incentives to save but are not allowed to
  • they cannot invest by financing firms

• Who owns firms?
  • risk-neutral entrepreneurs
  • have access to perfect capital markets
Firing: A discipline device?

- Model: same wage dynamics for fired workers and shut-down workers
- In the data:

Michaud (2015), "An Information Theory of Worker Flows and Wage Dispersion"

- Employer learning accounts for 63% of displacements to unemployment
Alternative: Ex-ante heterogeneity with undirected search

- Workers’ output: $z \times y$
  - $z \in \{z_L, z_H\}$ is an aggregate shock
  - $y \in \{y_L, y_H\}$ is worker specific
- Undirected search
  - $y_L$ workers are employable in good times but unemployable in bad times ($z_L y_L < b$)
- Average productivity:
  - $z_H \mathbb{E}_t [y]$ in good times
  - $y_H z_L$ in bad times
- If $z_H / z_L \approx y_H / \mathbb{E}_t [y]$ then productivity is acyclical
To sum up

- A novel and clever theory of labor market fluctuations based on an agency problem

Suggestions:

1 **THEORY:**
   - Give agents more freedom:
     - To agree on better incentive schemes (repeated game vs static Nash bargaining)
     - To react (optimally) to their environment (e.g., self-insurance)

2 **EMPIRICAL SUPPORT:**
   - Provide micro evidence for the mechanism at work