Thijs van Rens
University of Warwick, Centre for Macroeconomics (LSE), IZA and CEPR

Wage developments in the aftermath of the crisis
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Reservation wages and the wage flexibility puzzle

Three contributions:

1) Wage flexibility puzzle:
   DMP model does not match fluctuations in unemployment and wages
   - Unemployment volatility puzzle, documented in a different way
   - Puzzle is similar, but different

2) New evidence on reservation wages
   - Constructed from micro-data for UK and Germany
   - Reservation wage flexibility puzzle

3) Propose modification of the model that is consistent with the data
   - Reference dependence in reservation wages
   - Makes reservation wage and wage less cyclical
Contributions 2 and 3 make this an important paper

- Reservation wage plays an important role in search models
- We know very little about reservation wages in the data
- Self-reported data are not perfect, but surely informative
- Reference dependence in reservation wage is plausible, and
  it is testable with the new data (and supported)

Contribution 1 is very interesting, but:

- It is orthogonal to contributions 2 and 3
- The puzzle is slightly different, but this is not discussed
- I am not convinced of the difference
1. How is the wage flexibility puzzle different from the unemployment volatility puzzle?

2. What explains the different finding? (wage rigidity does not help)
Wage flexibility puzzle cf unemployment volatility puzzle

Aproach

- Unemployment volatility puzzle (Shimer 2005):
  - BC driven by changes in productivity \( p_t \)
  - Match data for
    \[
    \frac{\partial \ln u_t}{\partial \ln p_t} \leftrightarrow \frac{\partial \ln w_t}{\partial \ln p_t}
    \]
  - Model simulations

- Wage cyclicality puzzle:
  - “agnostic about the nature of demand shocks”
  - Match data for wage curve
    \[
    \frac{\partial \ln u_t}{\partial \ln w_t}
    \]
  - Similar to labor supply elasticity
Simplified derivation of the wage curve

- Wage shares match surplus
  \[ w_t = \rho_t + \beta (p_t - \rho_t - 0) = \beta p_t + (1 - \beta) \rho_t \]

- Profits are constant
  \[ \frac{p_t - w_t}{r + s} = C + \frac{c}{q_t} = C \]

- Therefore, only wage cyclicality from reservation wage
  \[ (1 - \beta) w_t = \beta (p_t - w_t) + (1 - \beta) \rho_t \iff w_t = \beta (r + s) C + \rho_t \]

- Reservation wage depends on benefits and future wages
  \[ \rho_t = u_t z + (1 - u_t) w_t \]

- Combining both equations gives the wage curve
  \[ w_t = z + \frac{\beta (r + s) C}{u_t} = z + \beta (r + s) C \frac{s + \lambda_t}{s} \]
Wage flexibility puzzle cf unemployment volatility puzzle

- A stake through the heart of the DMP model!
  - Changes in productivity do not affect unemployment (no congestion externality)
  - Changes job finding and unemployment rate exogenous (?)

Findings

- Need implausibly high replacement ratio to match the data (Costain and Reiter 2008, Hagedorn and Manovskii 2008)
- Wage rigidity (infrequent bargaining) does not help (Pissarides 2009, Haefke, Sonntag and van Rens 2013)
  - even if applies to newly formed matches (Different from: Hall 2005, and many others)

- Does the different approach explain the different finding?
Wage rigidity

In the standard model,

- The job finding rate is directly related to the job filling rate
  \[ \lambda_t = \theta_t^{1-\mu} = \left(\theta_t^{-\mu}\right)^{-\frac{1-\mu}{\mu}} = q_t^{-\frac{1-\mu}{\mu}} \]

- Job filling rate is determined by the JCC
  \[ C + \frac{c}{q_t} = E_t J_t \]
  \[ = \alpha J(w_t^r) + (1 - \alpha) J(w_t^a) \]
  \[ = J(w_t^r) + (1 - \alpha) \frac{w_t^a - w_t^r}{r + \phi + s} \]

- Wage rigidity new matches ('backward looking component')
  - New matches start at the average wage \( w_t^a \) with probability \( 1 - \alpha \)
  - But this wage is then rebargained with probability \( \phi \) in each period
  - This strongly mitigates the effect on unemployment volatility
    \( \phi = 8.3\% \) per month (contract length 1 year) \( >> r + s = 1.25\% \)
Conclusions

- Paper makes an important contribution
  - New evidence on reservation wages
  - Reference dependence offers plausible and *testable* theory of wage rigidity
  - New data support new theory

- Interesting agenda: wage flexibility puzzle
  - Is it reasonable to assume profits are acyclical?
  - Is this still the same model?
  - Is the puzzle substantively different? How? Why?