

# Unemployment Insurance Take-up and the Business Cycle

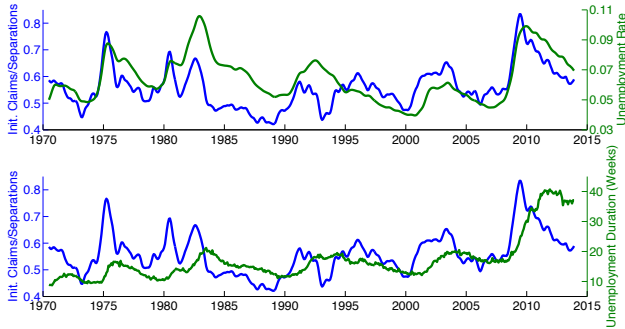
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## 1. Motivation

Figure: Unemployment Insurance Take-up over the Business Cycle



Source: Bureau of Labor Statistics

Table: Reasons for not claiming UI (excerpt)

	Percent
Do not need money/do not want the hassle	10.40
Do not know about UI/how to file	10.19
Negative attitude about UI	3.74
Barrier to filing (e.g. language, transportation)	2.49
Job expected/became employed	28.27

Source: CPS 2005

- Take-up of unemployment insurance (UI) far below 100% and countercyclical
- Trade-off between claiming costs and expected unemployment duration seems to be important
- I incorporate this into a stochastic extension of the Pissarides model
- With Nash bargaining, take-up will affect the cyclicity of wages
- Use policy discontinuity in Austria to calibrate the model.
- Use calibrated model to explore consequences for cyclicity.

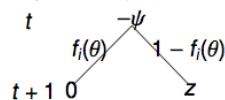
## 3. The model

**Environment:** Extension of Diamond-Mortensen-Pissarides matching model with stochastic shocks

**Take-up decision:** Fixed costs and uncertain benefit length

- Simplify analysis by assuming that UI benefit  $z$  has to be claimed one period in advance at cost  $\psi$
- With some heterogenous probability  $f_i(\theta) = f(\theta) + \varepsilon_i$  a job is found in between, where  $\theta$  denotes the labor market tightness
- Lower take-up rate if the job-finding rate is higher (high labor market tightness  $\theta$ )

Figure: Payoff Profile



**Wages:** Nash bargaining

- Lower end of bargaining range increases in take-up: If bargaining fails, the registered unemployed are in a better position
- Higher take-up leads to upward pressure on wages (ceteris paribus)
- If take-up is countercyclical, this dampens the procyclicality of wages

**Equilibrium:** Zero profit condition

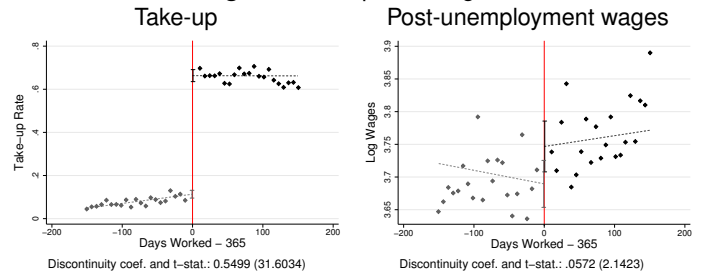
$$\underbrace{\frac{c}{\delta q(\theta)}}_{\text{Expected hiring costs}} = \mathbb{E}_p \left\{ \underbrace{p' - w(p')}_{\text{Expected discounted profits}} + \frac{(1-\lambda)c}{q(\theta(p'))} \right\}$$

- Pins down equilibrium  $\theta$  as a function of productivity
- More rigid wage translates into more procyclical profits, leading to larger fluctuations of equilibrium  $\theta$ .
- Translates into more volatility in unemployment and vacancies

## 4. Results

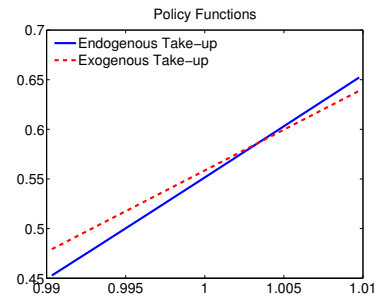
- Test whether post-unemployment wages indeed react to take-up
- Exploit policy discontinuity in Austria:
  - Claimants need to have worked at least 12 of the 24 months preceding job loss
  - Fuzzy design: part of the tenure is not observed in data (e.g. civil service), eligible unemployed will deliberately not take up
  - Various tests suggest balancedness around the cutoff
- Austrian Social Security Data, job losses between 1985 and 2010, males between 25 and 50.
- Increases in take-up of about 54 to 55 % associated with post-unemployment wage increases of 5.7 to 7.6%.

Figure: Take-up and Wages



- Steeper implied policy functions  $\theta(p)$  compared to a model where take-up is exogenously fixed

Figure: Policy functions



- Simulations: Volatility of  $\theta$ ,  $u$  and  $v$  increases by almost 30% in baseline calibration.

## 5. Conclusions

- Two main contributions:
  - Theoretical: Simple and yet realistic way of introducing a take-up decision in a stochastic version of the DMP model
  - Practical: Disciplining calibration using quasi-experimental findings demonstrate that the effect can also be quantitatively relevant, with fluctuations increasing by almost 30%.
- Form of endogenous wage rigidity introduced by a varying take-up rate.
- However: only one channel, interaction with search effort also important (ongoing project)