# Job Polarization, Skill Mismatch and the Great Recession

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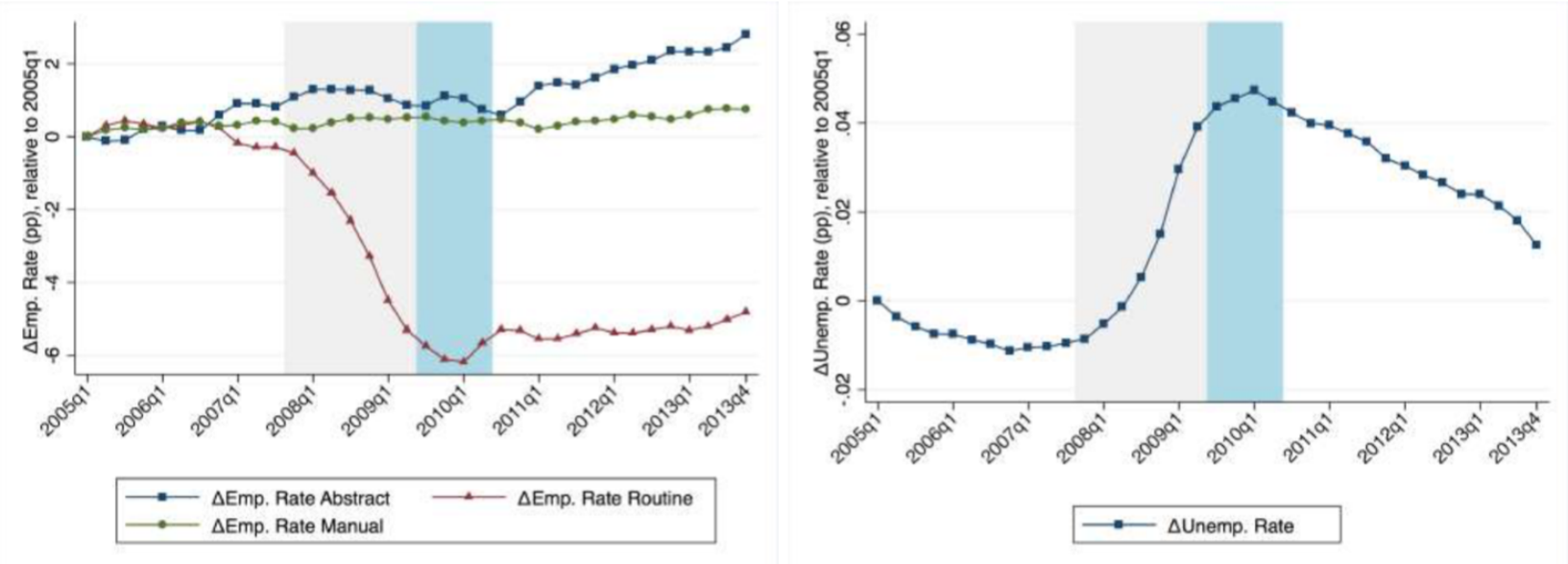
# Job polarization in the GR

Fig. 1. Job Polarization, Unemployment and the Great Recession



# The paper

- A nice paper analyzing the reallocation of heterogeneous workers following job polarization in the GR
- The setup is an extension of the search and matching model of Albrecht and Vroman (2002)
- The equilibrium ranking of jobs resembles the one in Autor and Dorn (2013) — *manual*, *routine*, *abstract*
- Under cross-skill matching, a large share of workers accept jobs below their qualification and more so after a negative shock
- Workers can direct their search towards different occupations. Standard matching frictions within each occupation
- The model is estimated using CPS data for the period 2005-2015 and used to explain both the long-term impact of RBTC and polarization during the GR

# Main results

- A decline in routine employment driven by RBTC leads to a rise in the degree of skill mismatch (overqualification)
  - Routine jobs become scarce
  - Higher reservation productivies in manual and abstract jobs
- There is an important asymmetry between LS and HS workers.
  - The increase in mismatch is mostly transitory for HS workers
  - Mismatch is persistent for LS who suffer large wage losses
- 2/3 of the rise in mismatch is constrained efficient
- The model generates an endogenous drop in matching efficiency during the GR (outward shift of the Beveridge curve)

# Contributions

- One of the first attempts to model the reallocation process after the strong polarization of the U.S. labor market in the GR
- The model is tractable and able to match adjustments along many margins (employment levels, occupational shares of LS and HS workers, occupation-specific returns to skills etc.)

However,

- Little amplification nor persistence despite the reference to a jobless recovery — the estimated productivity shocks close trace the evolution of actual unemployment —
- Some of the modelling choices and policy implications are debatable

# Comments

1. Drivers of polarization
2. Frictional assignments
3. On-the-job search
4. Mismatch and Beveridge curve
5. Policy implications
6. Comparable evidence for Spain

# Drivers of polarization

- The paper combines two literatures to disentangle the effects of persist and transitory RBTC:
  - Endogenous reallocation over the business cycle (*e.g.* Carrillo-Tudelo and Visschers, 2013)
  - Job polarization
- The polarization during the GR is striking, but do we understand its causes?
  - Is the large cyclical volatility of manual occupations a regularity?
  - Are there candidate explanations other than RBTC? (heterogeneous impact of trade or credit market disruptions during the GR)
  - Did the GR accelerate the trend decline in routine employment?
- The policy implications of permanent and transitory declines in routine employment are radically different (see below)

# Frictional assignment

- The setup deviates from recent papers that analyze optimal frictional allocations under wage posting and directed search (*e.g.* Shimer 2005)
- The search technology is such that high-skilled seem to be able to send out more applications than the low-skilled
- The assumption of bilateral ex-post bargaining distorts the resource allocation due to wage compression (Blázquez and Jansen, 2008)
- The reallocation of workers across markets generates additional externalities as they alter the average skill levels within occupations
- This seems to explain why the social planner may wish to move HS workers into the routine sector after a transitory *routine-biased* shock

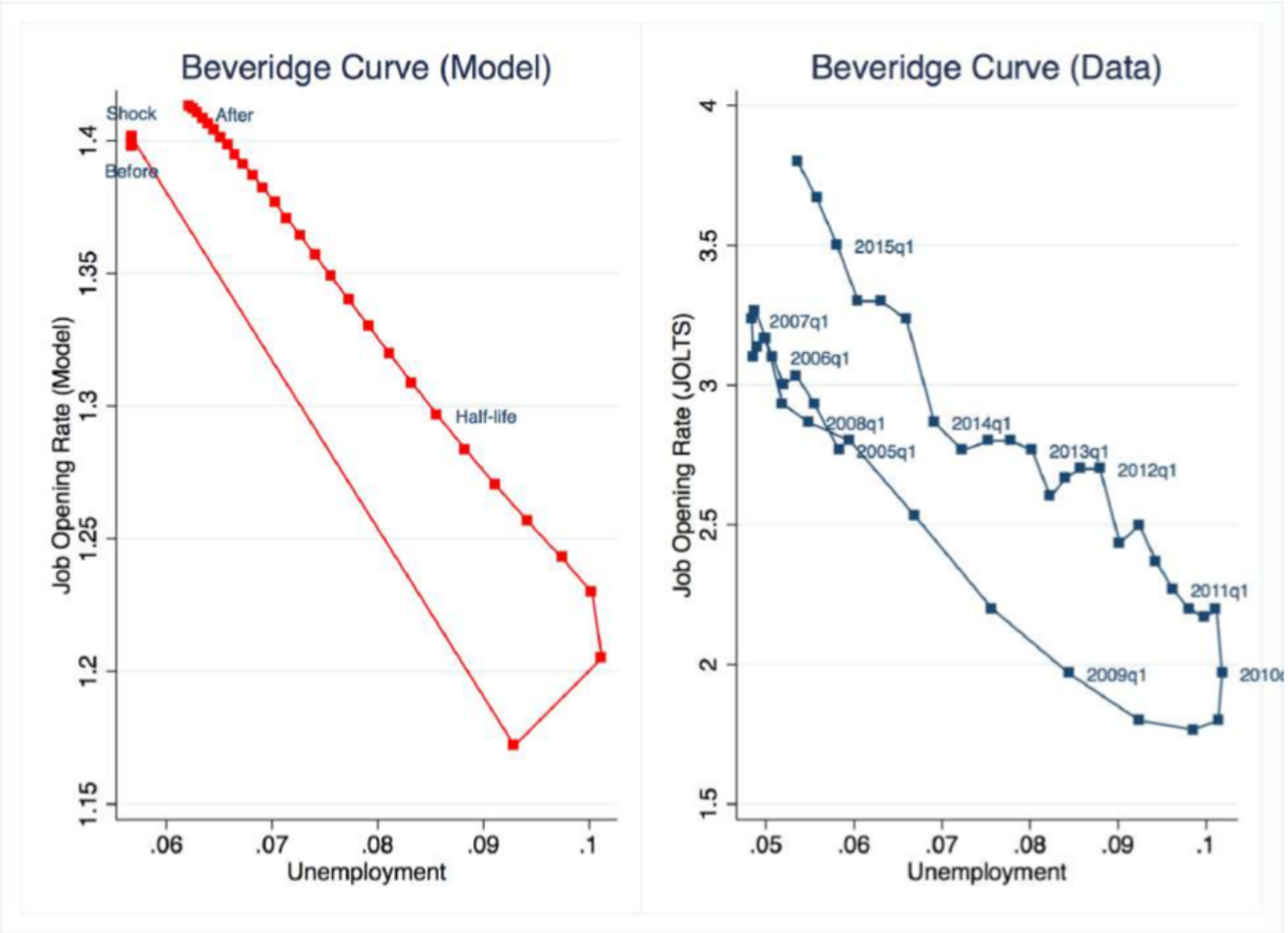
# On-the-job search

The introduction of OJS would add realism to the model:

- Procyclical movements in search intensity of employed workers would reduce (increase) upward mobility of HS workers in recessions (booms)
- Under fairly weak assumptions OJS rules out separating equilibria (Dolado *et al.* 2009)

# Movements of the Beveridge curve

Fig. 9. The Beveridge Curve: model vs. data




Note: the theoretical job opening rate (left panel) is the weighted average of the three market tightness, with weights equal to the unemployment share of workers qualified for the job. Data (right panel) on aggregate job openings come from the Job Opening and Labor Turnover Survey (JOLTS).

# Mismatch

- In the cross-skill matching equilibrium all meetings are consummated.
- Hence, the outward shift of the Beveridge curve is not caused by the coexistence of incompatible job searchers and vacancies in the same submarket
- This suggests that firms do not "flood the market with vacancies" to locate suitable workers among the unemployed
- Could it be instead that the outward shift is due to the relatively low matching efficiency in the manual sector (22pp lower than in routine segment)? Is this realistic?

# Policy implications

- The Social Planner smoothes the impact of the shock by forcing routine employers to post more vacancies and to keep requirements low.

- This policy response makes sense due to the transitory nature of the *routine-biased* shock. Also supply creates its own demand in this model

- The trend decrease in routine employment demands a different policy response and is the focus of current debates:
  - ALMP or training programs to foster the access to abstract jobs for displaced workers from routine occupations
  - Widening income inequality may call for more redistribution
  - Education programs should foster skills that are complementary to machines
  - Need for lifelong learning to avoid skill obsolence

# Comparable evidence for Spain

The international evidence for polarization is somewhat mixed. Spain is a good example.

- Sebastian (2018) finds evidence of polarization while other studies find trend-upgrading of the quality of jobs
- The collapse of the construction sector muddles the picture during the GR — it led to polarization of the distribution of wages but not employment
- Spain's policy reponse was flawed. It enacted a large-scale public infrastructure which delayed the mobility of displaced workers to other occupations
- **Positive note:** The evidence in Sebastian (2018) suggests that displaced workers from routine occupations mainly move upwards to abstract occupations