Work Effort and the Cycle: Evidence from Survey Data

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Research question: How does work effort move over the business cycle?

- Labor hoarding theory (Okun, 1963): procyclical effort
- ‘Shirking’ model (Shapiro and Stiglitz, 1984): countercyclical effort

Our approach

- In this paper, we test these two competing theories
- Difficulty: effort unobserved and therefore hard to measure
- We use self-reported work effort, cross-country and individual-level

Key result

- Work effort robustly procyclical → consistent with labor hoarding
What determines a worker’s effort on the job? Two theories:

1. **Labor hoarding**: Effort adjusts to avoid costly changes in employment/hours → high in expansion when demand is high

2. **Shirking model**: Effort arises from fear of lay-off when caught shirking → high in recession when job finding rate is low

Age-old question: what drives business cycles?

- Procyclical labor productivity (Ohanian and Raffo, 2012)
  - Consistent with technology shocks as main driver of business cycles
  - Also consistent with demand shocks & variable factor utilization, such as procyclical work effort

- Labor hoarding reduces importance of technology shocks (Burnside et al., 1993; Basu and Kimball, 1997)

- Shirking model requires implausibly large technology shocks in RBC model (Uhlig and Xu, 1996)
Self-reported work effort from WOS

Which of the following statements best describes your feelings about your job? In my job...

1. ‘I only work as hard as I have to.’
2. ‘I work hard, but not so that it interferes with the rest of my life.’
3. ‘I make a point of doing the best work I can, even if it sometimes does interfere with the rest of my life.’

Alternative proxies

- Job-related stress and exhaustion from Work Orientations Survey (WOS). Caveat: Could reflect other aspects of job unrelated to effort
- Attitudes to work effort from World Values Survey (WVS). Caveat: Measure a person’s work ethic rather than actual effort
Self-Reported Effort vs. Cyclical Unemployment

- Data

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Effort and the Cycle
## Regression Results: Ordered Logit

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Work Effort</th>
<th>Exhaustion</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclical Unemployment Rate</td>
<td>0.361*** (0.001)</td>
<td>0.957*** (0.008)</td>
<td>1.028*** (0.010)</td>
</tr>
<tr>
<td>HP Unemployment Rate</td>
<td>0.390*** (0.002)</td>
<td>0.806*** (0.004)</td>
<td>1.014** (0.006)</td>
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<tr>
<td>Output Gap $Y^*-Y$</td>
<td>0.782*** (0.003)</td>
<td>0.958*** (0.011)</td>
<td>0.986* (0.008)</td>
</tr>
</tbody>
</table>

| Observations          | 7388 | 21418 | 35139 |
| Country FEs           | X    | X     | X     |
| Year FEs              | X    | X     | X     |
| Occupation FEs        | X    | X     | X     |
Results: Effort Cyclicality and Employment Protection

Notes. Predicted probabilities of self-reported effort levels vs. cyclical unemployment, for increasing strictness of employment protection (Q1-Q3), with 95% confidence bands.
Conclusion

Key findings

- Self-reported work effort robustly procyclical
- Consistent with labor hoarding view, inconsistent with shirking model
- Increased employment protection $\rightarrow$ more procyclical effort

Policy implications

- Effort reduces costs of employment protection $\rightarrow$ support for employment stabilization programs that ‘subsidize labor hoarding’ (Giupponi and Landais, 2018)
- Effort makes productivity more procyclical, which dampens inflation fluctuations (Lewis et al., 2019)


