

Discussion of
“Are supply curves convex? Implications for
state-dependent responses to shocks”,
Boehm, Flaaen and Pandalai-Nayar

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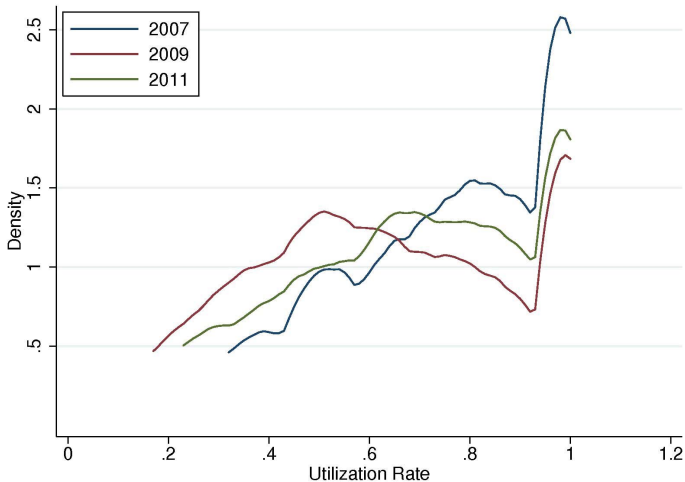
- Do capacity constraints generate state-dependent responses to demand shocks?
- Important for monetary/fiscal policies
- Policymakers seem to (intuitively) recognize this channel
 - ▶ “... there are ... risks that could unexpectedly boost inflation more rapidly than expected, such as resource utilization having a stronger influence when the economy is running closer to full capacity.” (Yellen, Oct 15 2017)
 - ▶ “We have already approached the limits of our capacity ... so we don't have that extra capacity to create growth.” (Bernanke, May 17 2017)

- Main contribution: empirical
 - ▶ Industries with low initial capacity more responsive to industry-level demand shocks (exchange rate shocks, government spending shocks)
 - ▶ Specification derived from putty-clay model
- Industry-level output response seems to be state-dependent
- Question: does it also imply output response to be state-dependent at the macro level?

A simple example

- RBC model with government spending shock
- Representative household that supplies capital and labor
- Government spending financed by lump-sum tax
- Firms: two types
 - ▶ “Constrained” firms: $Y_t = A_t \bar{K}^\alpha \bar{H}^{1-\alpha}$
 - ▶ “Un-constrained” firms: $Y_t = A_t K_t^\alpha H_t^{1-\alpha}$

Figure 2: Densities of plant capacity utilization



Notes: The data are from the QSPC of the U.S. Census Bureau. The figure shows kernel density estimates which are truncated below the 5th and above the 95th percentile due to Census disclosure requirements.

A simple example

- χ_t fraction of firms constrained and $1 - \chi_t$ un-constrained
- “Good” times: more firms constrained (χ_t large)
- “Bad” times: less firms constrained (χ_t small)
- In this example, aggregate output response to government spending shock is constant irrespective of χ_t

A simple example

- In response to an increase in gov. spending, the household wants to work more
- Un-constrained firms will absorb the increased labor supply irrespective of the share of constrained firms
- Need a mechanism that dampens the off-setting actions of un-constrained firms

What are we missing in the simple example?

Input-output linkage

- Upstream industries close to constraint:
a positive demand shock raises input prices sharply and increases the costs of downstream industries
- Downstream industries close to constraint:
a positive demand shock will not have much effect on demand for inputs produced by upstream industries
- Check the empirical responses of “close-by” industries

What are we missing in the simple example?

Imperfect labor mobility & household demand

- Suppose workers cannot easily move across industries and aggregate output is demand determined (e.g. sticky prices)
- A positive shock demand shock to industries close to constraint would not raise workers' income much \rightarrow smaller transmission to aggregate demand

Conclusion

- Promising paper on an important topic
- For macro implications, general equilibrium effect may be a concern: in an extreme case, the share of capacity constrained industries/firms is irrelevant for aggregate elasticities
- Suggestion: check that the effect of capacity constraint does not cancel out by off-setting actions by un-constrained industries