Misallocation Cycles

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WFA Discussion

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Your Craftsmanship is Evident

A few things I loved about the paper:

Your powerful quantitative mechanism
- You're going after big money, with negatively skewed shocks generating powerful misallocation and amplifying cycles

Your attention to the power law
- Most hetero firms bus. cycle models ignore ubiquitous power laws
- Instead, they're natural in your work and linked to the cycle

Your computational parsimony
- Random walk shocks, small state space, linked shocks
- Parsimony allows for a rich firm-level shock structure, GE solution, fancy asset pricing preferences, SMM estimation

What's actually going on at firms?

Unpacking the macro implications

Some small points on computation

A Strong Mechanism Demands Strong Scrutiny

The Core Argument

- Firms experience severe micro disasters during recessions
- With k AC, a lot of big firms are stuck with too much k
- Generates powerful countercyclical misallocation

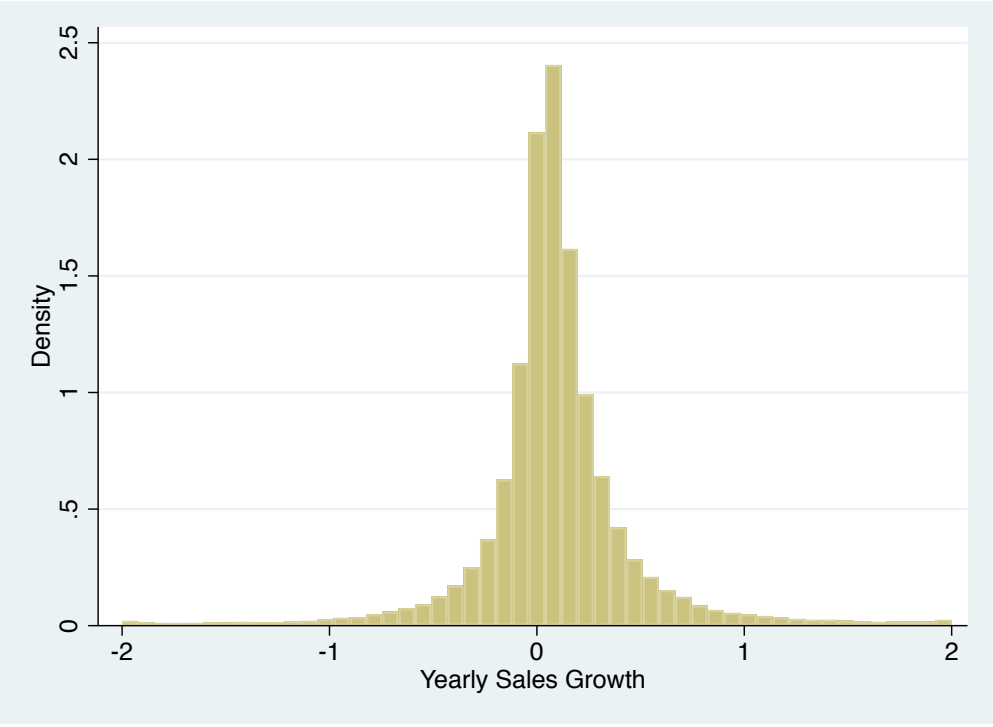
A Strong Mechanism

- Misallocation reduces output by 4.5% on average
- Quantitatively comparable or larger than gains from trade, welfare costs likely way larger than standard costs of cycles

So What's Going On at Firms?

What are "micro disasters" in reality? Do they pass the smell test for generating such large misallocation?

Quick & Dirty Compustat Sales Growth



- Sales growth rates in Compustat Annual, $\Delta y_{it} = 2\frac{y_{it}-y_{it-1}}{y_{it}+y_{it-1}}$
- Unbalanced panel 1990-2015, $\geq$ 10 yrs in sample, 226K firm-years

"Micro Disasters" $\iff$ bad sales at a big firm

1) Sales growth in 5-10%-iles, and 2) firms in 90-95%-iles of sales

You Can Read about Large Public Firms

fyear	conm	salesgr~h
2001	ADAMS RESOURCES & ENERGY INC	-.3926806
1995	BEAM INC	-.2366327
2007	TRANE INC	-.4028985
2009	APACHE CORP	-.3591957
1997	APPLE INC	-.3254109
2001	APPLE INC	-.392627
2001	APPLIED MATERIALS INC	-.2627406
2002	APPLIED MATERIALS INC	-.367728
2001	ARROW ELECTRONICS INC	-.2453038
2002	ARROW ELECTRONICS INC	-.3125343
2006	ASHLAND GLOBAL HOLDINGS INC	-.2513424
2011	ASHLAND GLOBAL HOLDINGS INC	-.3235787

Disasters Do Happen

Around 200 firm-years satisfy this "micro disaster" definition, with plunging sales for a big firm, and a few are listed above

Digging Deeper

Large public companies have annual reports and media coverage, so let's cherry pick a few and read about them

Some Stories Fit but Others Don't

Apple: sales plunged by 39% in 2001

- Steve Jobs in annual report: "...it was a challenging year."
- But...
    - the first Apple Store & iTunes opened that year
    - the iPod was released the next month

Story Doesn't Fit: resources at Apple didn't drag down the economy

Eastman Kodak: sales declined by 25% in 2007

- Annual report: "...completed a four-year corporate restructuring..."

Story Fits Well: resources stuck at Kodak seem misallocated, and the company only slowly divested them over time

My Takeaway

- Your new shock process at firms is elegant and quantitatively powerful
- But before running with it quantitatively, produce more systematic empirical info about what's actually happening at firms

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Two Universal Questions from a Macro Audience

Question #1: Does it matter?
Need to provide readily comparable macro results

Question #2: Should I steal it?
Need to separate contributions of each piece of the model

A Macro Audience Still Craves
- Std. business cycle second moments, with comparable discussion of amplification/propagation
- IRFs as in Koop, et al. 1996, with emphasis on tricky consumption dynamics (always difficult in these models)
- Welfare costs of cycles
- PE version with fixed interest rate to understand GE's contribution

Many Moving Pieces
Report with/without skewed shocks, with/without skewed + first-moment bundling

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Computational Approach

A carefully done, impressive paper. But I still have questions about...

...the KS Approach
- c makes some sense, but jump variables can be poor choices. Must justify.
- Need c IRF to understand the info content relative to K, $\sigma(k)$, etc...
- Need standard evaluation of fcst rule accuracy (DH stats & R^2's)
- Need to check against alternative rules, e.g., conditioning on η_X lags
- Why are you using off-eqbm allocations to update rules?

...the structural estimation
- Your SE's are super tight. Are these iid formulas? If so, use a time series bootstrap or clustering approach to get the moment covariance matrix right
- Also, identification discussion would benefit from expansion

...several small points
- "Our paper is the first to estimate..." (perhaps strong given Winberry 2017 MLE, Vavra 2014 SMM, Bloom, et al. 2014 SMM in the same basic model space)
- Footnote 12 is out of date qualitatively. Also, it's not a great justification for using c on its own, which is the real question in your case.
- Strong claims about "dynamic inconsistencies" in Khan & Thomas (2008), even though they clear markets and price (simple) assets correctly

My Conclusions

Skewed shocks at firms are powerful
The new shock process generates a lot in the model, but we need to know more about them in the data.

This paper has a lot of moving pieces
Because of the micro-level richness, gleaning macro takeaways in the current draft is tough.

The computational side can use more justification
Please share more about the sausage-making process, especially as it relates to the use of consumption in the KS rules.