Aggregate Demand and Irreversible Investment by Lintong Li

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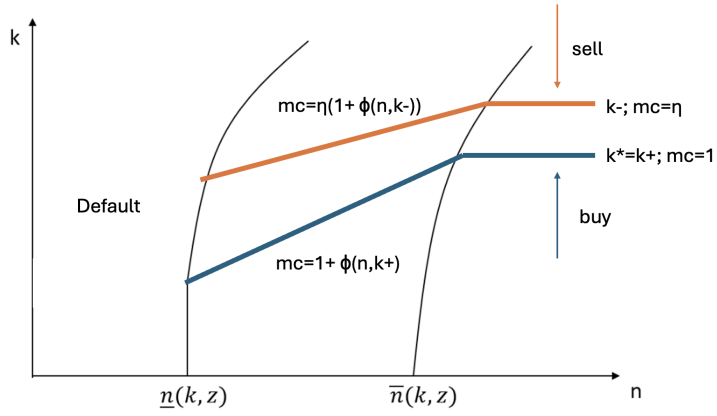
Summary

- Summary of the paper:
  - The micro-interaction between financial frictions and irreversibility
  - The macro dynamics in amplifications of negative TFP shocks
  - The policy implications of countercyclical fiscal policy
- General comments:
  - Bravo! One of the first papers to study this interaction
  - The other is Khan-Thomas'13 with collateral constraints and PI
  - Bridging Ottonellow-Winberry'20 and Baley-Blanco'22 (two of my favorite papers)
  - Well-executed quantitatively work with empirical validation

Summary

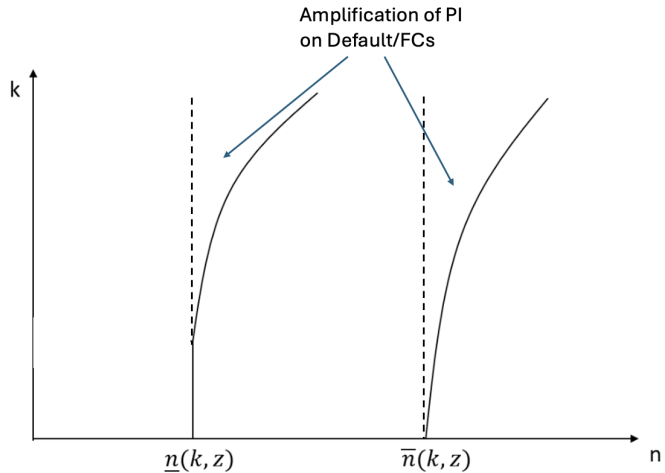
- Summary of my discussion:
  1. Cutting to the core: Another look at the mechanism
  2. The missing role of investment in the results (and the test kit)
  3. How should we think about the amplification effects
  4. How should we think about the non-core components in the model
  5. Policy implications revisit

1. Cutting to the Core



Simplification: (1) Fixed z ; (2) q=1;
Role of FFs: ϕ(n,k) decreases with n, increases with k

1. Cutting to the Core



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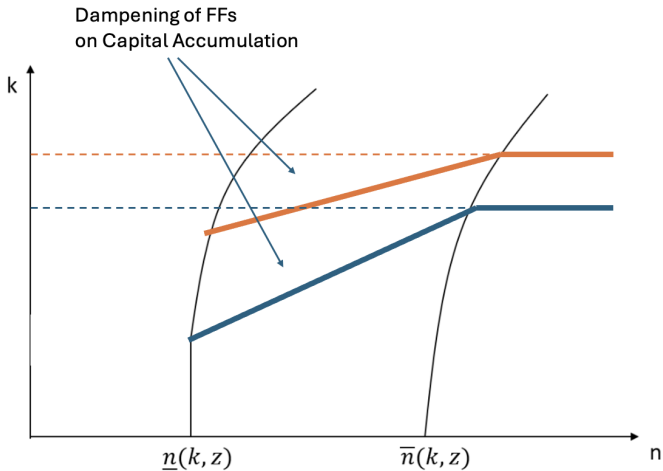

1. Cutting to the Core

- The micro-interactions at the specific regions of decision space:
  - PI amplifies default risk/financial constraints where firms tend to sell
  - FFs dampens capital accumulation where firms tend to borrow
- The aggregate effects of TFP shocks on investment depend on the semi-elasticity of firm-level investment from these regions

2. The Role of Investment

- The missing role of capital in the results: (practical suggestions)
  - Directly show IRFs of Investment (although we could infer as $I/K = q^{\Phi}$)
  - Important to show micro-moments and distribution of investment beside inaction rate (neg. rate, spike rate, auto corr., std., etc.) as untargeted validations
  - Test interest rate elasticity of investment rate $\simeq 7$
    (Zwick-Mohan'17, Winberry'20, Koby-Wolf'20)
- All of these above provide us more confidence in the micro validations

3. The View on Amplification Effects

- The current comparison for the micro-interaction amplification effects is:
  - Model 1 with Micro-PI *vs.* Model 2 with Micro-FFs *vs.* Model 3 with Micro-Both
  - Amplification is defined by: IRF(M3) $>$ IRF(M2) or IRF(M1)
  - But M3 has two frictions in nature: IRF(M3) - IRF(M2 or M1) $\neq$ Amplification
- A better fair comparison in my view: (M3: Baseline, Still Micro-Both)
  - M1: Micro-PI but Macro-FFs (aggregate marginal financial costs)
  - M2: Micro-FFs but Macro-PI (aggregate irreversibility at capital producer)
  - M3-M1: Amplification of FFs on PI *and* M3-M2: Amplification of PI on FFs

4. Cut The Corners

- There are many extra components compared to the core inv. literature:
  - Working capital constraints (additional need to over-borrow, so more default)
  - Monopolistic competition (amplification through aggregate demand)
  - Entrepreneur family (seems not needed here; just need an SDF from all HHs)
- Maybe use more popular/standard ways to hit quantitative targets
  - Main reason: these are not interacting with Micro-PI/FFs on investment
  - Capital quality shocks to generate defaults *or* tax incentive to generate over-borrow
  - Decreasing return to scale/HHs utility curvature to adjust demand externality

5. Policy Implications Revisit

- The main policy in the paper is a gov't expenditure policy (linear, non-targeted)
- However, since we know what is causing the amplification effects, we could:
  - Design non-linear policies that directly target the friction: PI+FFs
  - Investment tax credit may be very useful for relaxing FFs-induced amplification on PI
  - Debt relief may be very effective for relaxing PI-induced amplification on FFs