Discussion of "Falling Interest Rates and Misallocation: Lessons from General Equilibrium" by Asriyan, Laeven, Martin, Van der Ghote, and Vanasco

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Falling interest rates and misallocation

Secular decline in interest rates in recent decades. Many causes

Conventional wisdom: Low rates stimulate investment and output

Growing concern that low rates can create misallocation, zombies...

This paper: Low rates can induce **inefficient** misallocation **through GE**

Discussion: Simpler version to illustrate forces and **policy implications**

Model: Het. productivity and borrowing constraints

Two periods $0, 1$. Single consumption good. Preferences $E_0 [c_1]$

Small open economy: Can borrow and lend at the gross rate R

Entrepreneurs (E): Production function Ak

- **Two types:** $A \in \{A_L, A_H\}$ with unit mass and endowment w_L, w_H
- **Borrowing constraint:** Only fraction, λ, of output is pledgeable

Capital producers with a convex cost $\chi(k) \Longrightarrow$ Capital supply $K^S(q)$

Equilibrium conditions: Marginal E has low productivity

Suppose H-types are constrained (w_H is low). Equilibrium:

- **L-types are marginal. They determine the price of capital**:

$$q = \frac{A_L}{R}$$

- Capital market clearing: There is $\tilde{w}_L < w_L$ such that:

$$\underbrace{\frac{w_H}{q - \lambda \frac{A_H}{R}}}_{k_H} + \underbrace{\frac{\tilde{w}_L}{q - \lambda \frac{A_L}{R}}}_{k_L} = K^S(q).$$

- **H-types' investment determines productivity:**

$$Y_H = A_L K^S(q) + (A_H - A_L) k_H$$

Low R has competing effects on output and productivity

$$k_H = \frac{w_H}{q - \lambda \frac{A_H}{R}} \text{ where } q = \frac{A_L}{R} \text{ and } K^S(q)$$

1. Low R expands $K^S(q)$ (**greater "neoclassical" investment**)
2. Low R enables H-types to expand more (**improved allocation**)
3. Low R raises q and induces H-types to shrink (**misallocation**)

Low R can reduce output if misallocation is severe

Special case with inelastic supply ($K^S(q) = 1$) and $\lambda < \frac{A_L}{A_H}$:

$$Y_H = A_L + (A_H - A_L) k_H \text{ where } k_H = \frac{w_H}{q - \lambda \frac{A_H}{R}} = \frac{w_H R}{A_L - \lambda A_H}$$

Low R can even **decrease the output!**

Discussion of the main result

Inefficient congestion on H-types via **GE pecuniary externality**:

- Social NPV of k_L is negative, even though private NPV≥ 0
- Different than efficient allocation to less productive firms
- Different than inefficiencies in PE (MH, evergreening/reach for yield)

Extends to a **surprise rates** changes in a dynamic setting

- Kiyotaki-Moore (1997) "balance sheet" externalities are temporary
- Productive Es are (eventually) net buyers of capital/factors

Suggestion: Extend to **broader factors**. Congestion via wages/rents

Normative result: Targeted policies can improve welfare

Paper considers **targeted interventions** based on Es productivity

- Planner respects budget and borrowing constraints but chooses $\{k_A\}_A$
- Suppose planner sets binding limit $\overline{k}_L$. Problem with inelastic supply

$$\max_{\overline{k}_L} A_L + (A_H - A_L)\, k_H + (w_H + w_L)\, R$$

$$\text{s.t. } k_H = \frac{w}{q - \lambda \frac{A_H}{R}} = 1 - \overline{k}_L$$

- Set $\overline{k}_L = 0$ and $k_H = 1$. Avoid misallocation and maximize output!

How about non-targeted interventions, e.g., "monetary policy"?

Raising the interest rate can improve welfare

- Suppose planner subsidizes savings $R + \tau$
  - Financed with lump-sum period-1 taxes on each E
- Planner's problem with inelastic supply:

$$\max_{\tau} W = A_L + (A_H - A_L) k_H + (w_H + w_L) R$$

$$\text{s.t. } k_H = \frac{w}{q - \lambda \frac{A_H}{R+\tau}} \leq 1 \text{ and } q = \frac{A_L}{R + \tau}$$

- Set τ so that $k_H = 1$. Avoid misallocation and maximize output!

Result generalizes to elastic supply: This model still has $\frac{dW}{d\tau}\Big|_{\tau=0} > 0$

- Second-order distortion on capitalists' surplus, $\left(qK^S - \chi\left(K^S\right)\right) R$

"Prudential" monetary policy (R>R*) can improve welfare

Can extend result to monetary policy (closed economy + nominal rigidity)

- Raising R has macro costs: reduces aggregate demand & output
- But the macro costs are second order at the efficient factor utilization (Caballero-Simsek (2020) "Prudential Monetary Policy")

Aside: Macroprudential policy, $\overline{\lambda} \leq \lambda$, tends to worsen misallocation

- Binds relatively more for H-types than L-types
- Some support for monetary policy in favor of macroprudential policy!

Conclusion: Intuitive and policy-relevant mechanism

Elegant model with a very intuitive mechanism. Two conditions:

- **L-types are marginal** and determine the price of scarce factors
- **H-types are constrained** and determine aggregate productivity

$\Longrightarrow$ **GE congestion. Social NPV** $<$ **Private NPV.** Low rates can hurt

Some suggestions:

- Focus on **welfare** not output. W declines under weaker conditions
- Given competing effects (on allocation), empirical evidence would help
  - Plan is reasonable: Interact low rates with land supply elasticity
- Broaden the argument to facilitate new empirical approaches:
  - **Factors beyond capital/land**. Skilled labor, commodities...
  - Heterogeneity in **rate-sensitivity** of capital: residential/nonresidential