

Low interest rates, market power, and productivity growth

by Liu, Mian and Sufi

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Overview

- In recent years: significant decline in real interest rates
- Source of concern?
 - ▶ Excessive risk-taking?
 - ▶ Misallocation of resources?
- This paper:
 - ▶ Very low interest rates stifle competition.
 - ▶ Ultimately, low productivity growth (i.e., secular stagnation).
 - ▶ Theory and empirical evidence.

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- Which one dominates?
- **This paper:** for r low enough, anti-competitive effect.

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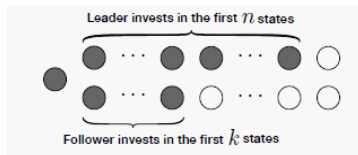
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- Given $R\&D$ investment by leader and follower (η_s, η_{-s}) in interval Δ , productivity gap:
 - ▶ Increases by one step with probability $\Delta \cdot \eta_s$.
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- **Assumption:** flow payoffs negative if both firms invest.

Theory: main results (steady state)

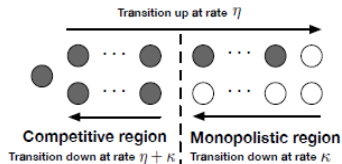
- **Result #1:** leader invests in more states than follower, $n \geq k$.



- ▶ Intuition: suppose $k > n$, leadership is short-lived.

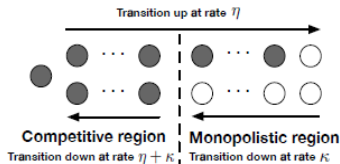
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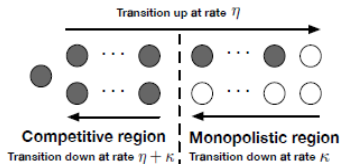
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- **Main result:** $\lim_{r \rightarrow 0} k = \infty$ and $\lim_{r \rightarrow 0} (n - k) = \infty$.
 - ▶ Both $k \rightarrow \infty$ and $n \rightarrow \infty$
 - ▶ Two possibilities: (i) $(n - k) \rightarrow \infty$ or (ii) $(n - k) \rightarrow 0$
 - ▶ Suppose $(n - k) \rightarrow 0$
 - ★ Leader and follower invest in all states.
 - ★ Economy is always in the competitive region.
 - ★ Flow payoffs negative!

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- Ultimately, *all industries monopolistic*, decline in productivity growth!

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- Regress firm stock return on 10-year treasury yield:

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- Theoretical predictions:
 - ▶ $\beta_1 < 0$
 - ▶ $\beta_3 > 0$
 - ▶ Confirmed in their data (post 1980)

General reaction

- Very rich (and long!) paper.
- Provocative message, elegant model, and suggestive empirics.
- My discussion: general comments.

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- After all is said and done, main question lingers.
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 - ★ Horizon of leader vs. horizon of follower
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 - ▶ Low r improves performance of leader.
 - ▶ But low r could also allow development of new industries.
 - ★ e.g. horse-carriage industry vs. development of combustion engine!

[BOOKS](#)

Commentary: Stores like Barnes & Noble used to be the bad guys, but now I'm nostalgic for them

The shuttering of once-mighty video-rental chain Blockbuster, store after store, in the face of competition from Netflix and other streaming services prompted similar twinges.

Written By: Washington Post | Jun 15th 2019 - 9am.

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 - ▶ But low r could also allow development of new industries.
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- Key takeaway of model: decline in r *could* have anticompetitive effects.

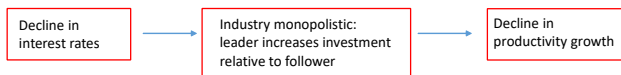
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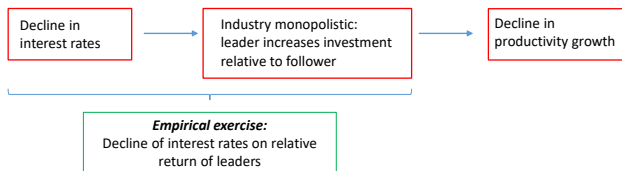
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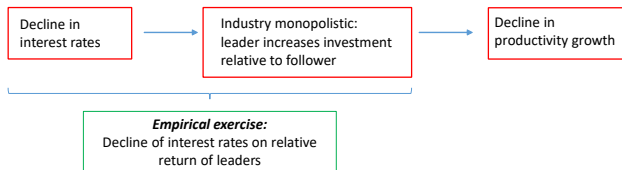
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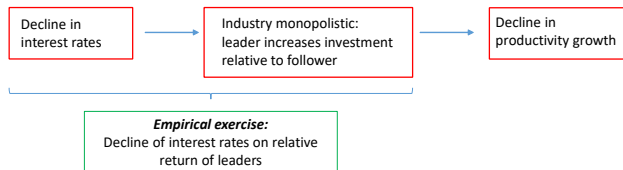


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- More direct evidence?

- ▶ Effect of Δr on *R&D* or productivity growth.
- ▶ Differential effects of Δr across industries (depending on contestability).

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- ▶ Prediction: sign of β_1 should change
- Regressions use *nominal* interest rates.
 - ▶ *Real* interest rates matter for theory.
 - ▶ Significant fluctuations in inflation during sample.
 - ▶ I would stick to real.

Conclusions

- Very thought provoking paper.
- Key takeaways:
 - ▶ Theory: declines in r *could* have anticompetitive effects.
 - ▶ Empirics: declines in r appear to benefit large firms.
 - ★ Is this bad for productivity growth?