

Discussion on “Investing Like China” by Bai, Liu, and Yao

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¹The views expressed in this paper are those of the author and do not necessarily reflect the views of the IMF.

Summary

- Investing like China: good or bad?
- China's growth miracle: sustainable?
- This paper provides its answer by studying a time period (pre- and post-2008) in Chinese economy with three striking facts
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 - Skill premium (w_S/w_I) \uparrow before 2008 and \downarrow after 2008
 - I/Y \uparrow after 2008, mostly contributed by structure investment
 - Relationship b/w ROA and education level (skill intensity) on firm level is negative before 2008 and turns to positive after 2008

What They Do

- Set up a two-sector (infrastructure I vs. general good C) neoclassical growth model with a financial friction (easier credit and hence lower interest rate r_s to I after 2008)
- Quantify the model and solve the transition path with a gradual reduction in r_s
- Simulation results show the model is able to replicate the three facts simultaneously in qualitative sense
- Welfare hinges on whether the I sector can attract migrated unskilled workers. If not, pure welfare loss for higher r_s distortion. If yes, welfare gain

Put the Paper in Literature

- Growth model of China with **financial friction**
 - SSZ (AER 2011): SOE vs. POEs
 - Chang et al. (NBER 2015): heavy (K -intensive) vs. light (L -intensive) industries
 - This paper: I sector vs. C sector
- ISTC and Skill Premium: GHK (AER 1997), KORV (Econometrica 2000), He and Liu (RED 2008)
 - Technical change on **equipment** investment, via equipment-skill complementarity, raise the demand of skilled labor \implies skill premium \uparrow
 - This paper: policy distortion encourages expansion of **structure** investment, I sector is unskilled labor-intensive \implies skill premium \downarrow

Evidence

- The paper's success hinges on a crucial assumption: I sector faces a lower interest rate than C sector after 2008
- Is it true in data?
- Can look at either leverage ratio (total liability/total asset) or implicit interest rate (financial cost/total liability) b/w I and C sector
- Unfortunately CIS would not help (2-digit SIC for construction and infrastructure is 47-50, CIS only covers up to 43). Maybe try Economic Census 2004, 2008?
- What would be the best **dividing line** for credit friction: SOEs vs. POEs, heavy vs. light industry, or I vs. C ?
- Another crucial assumption: I sector is relatively more L -intensive than C sector. Again, it is true in data?

2008 or 1999?

- Is $I/Y \uparrow$ and $C/Y \downarrow$ a post-2008 phenomenon?
- Chang et al. (2015): structural changes started after 2000

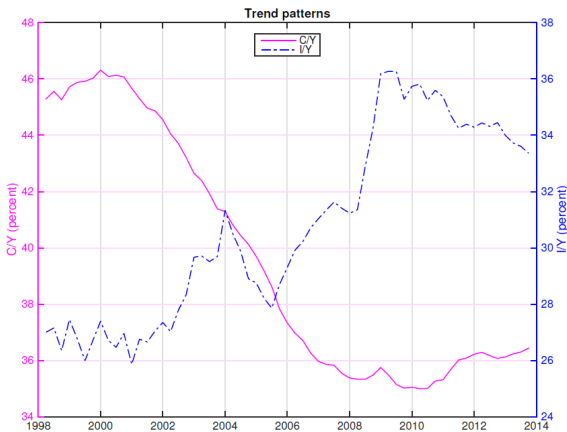


FIGURE 1. Trend patterns of household consumption and business investment, estimated from the 6-variable regime-switching RVAR model

2008 or 1999?

- Invest boom in infrastructure might already exist before 2008 (see Chang et al. 2015)

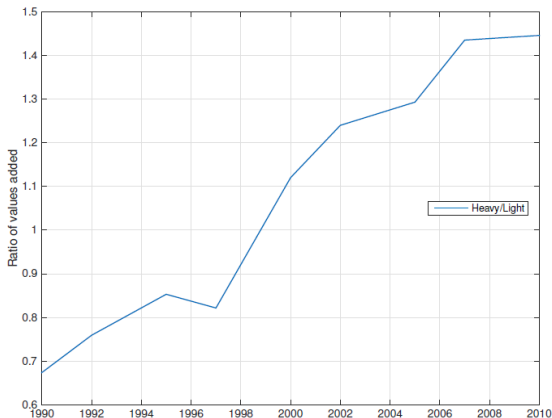


FIGURE 18. Ratio of values added in the heavy and light sectors grouped from the 17 sectors in the NBS input-output data.

Calibration or Simulation?

- I would not call the quantitative exercise “calibration” at this stage
 - No empirical targets to match
 - Model-generated moments are off, e.g., $w_S/w_I = 8.3$ in model, data=1.4
- Elasticity of substitution b/w I and C sector σ is a crucial parameter
 - Decline of labor income share requires $\sigma > 1$
 - Chang et al. (2015) estimate elas. of sub. b/w heavy and light industry always higher than 1
 - Need to do same thing as in Chang et al. (2015) here

Declining Labor Income Share

- Would the model be able to generate declining labor income share in China (see Chang et al. 2015)?
- $w_S \downarrow$, $w_I \uparrow$, but structural misallocation driven by policy distortion also changes the **composition** of employment. Total labor income $w_S S + w_I L$ might go down

Alternative Explanation

- High education expansion after 1999 might increase supply of skilled labor and hence contribute to declining skill premium after 2008
- To truly reject the story, the paper should make $S \uparrow$ and $L \downarrow$ and solve the model again
- Depending on which force is more important
 - demand side effect from policy distortion (raise I)
 - supply side effect from increased S (raise C)

Policy Implication

- Growth path after 2008 could be purely driven by distorted investment
- This growth pattern is welfare-reducing and hence is not sustainable
- **Over-capacity** in infrastructure is a consequence of “investing like China”
- “One Belt, One Road” (and AIIB) cannot fundamentally solve the “over-capacity” problem. China has to remove policy distortion!

Conclusion

- A paper highly needed! A very important question!
- Paper can be improved by further
 - providing empirical evidence
 - disciplining calibration
 - disputing alternative explanations
 - strengthening policy implications