

Capital Misallocation and Secular Stagnation

Andrea Caggese and Ander Pérez-Orive

Discussion by Josep Pijoan-Mas (CEMFI and CEPR)

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The paper in a nutshell

The ideas

- Starting in the early 80's, three recent aggregate trends
 - ① Increase in intangible capital
 - ② Increase in corporate savings
 - ③ Decline in the interest rates
- The first two have already been related (*Falato et al, 2014*)
 - Intangible capital cannot be pledged for borrowing
 - Increase in intangible capital weakens borrowing capacity of firms: need to accumulate retained earnings within the firm
- This paper: brings the third fact into the picture
 - Decline in interest rate makes more difficult for firms to accumulate retained earnings and overcome financial frictions
 - ⇒ Increase of misallocation of capital across firms
 - ⇒ Decrease of aggregate productivity

Comments

- Very nice paper
- Interesting [interaction](#) between:
 - Increase in financial frictions (byproduct of new forms of capital)
 - Decline in ability to self-finance (decline of interest rate)
- It links low interest rates to low output (secular stagnation)
- It may help shed light on the Solow Paradox
 - IT-using industries do not seem to perform better in labor productivity (1980-2010) – [Acemoglu et al \(AERpp 2014\)](#)
- In what follows I will comment on
 - A few of the stylized facts that motivate the paper
 - The quantitative exercise used to show plausibility of theory

The facts

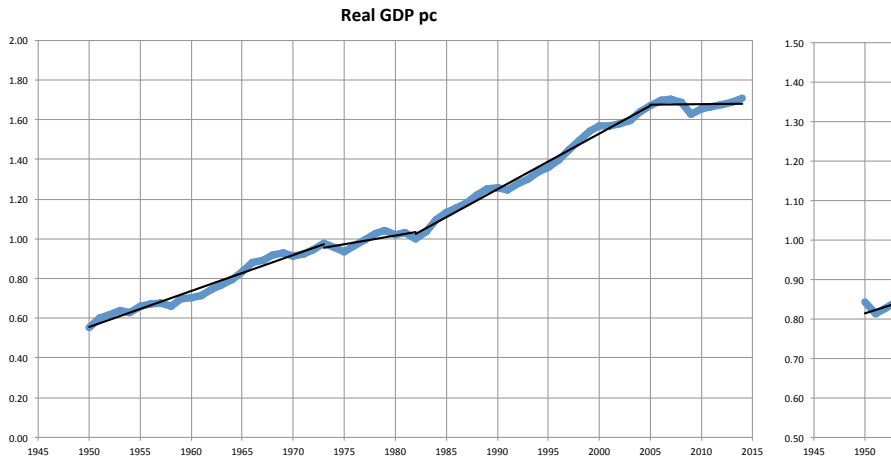
1. *Secular stagnation since the 80's*

- Starting in the early 80's
 - increase in intangible capital
 - decline in the interest rate
- Hypothesis: these trends may explain poor performance of US
- However, the US economy was booming between 1982 and 2005
 - GDP pc grew at an average of 2.26%
 - TFP grew 1.25%

▷ *Want to focus on 1980-2014 or 2000's?*

The US economy after WWII

Productivity



Source: Penn World Tables 9.0

The facts

1. *Secular stagnation since the 80's*

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The facts

2. *Severity financial frictions*

- Well documented increase in the share of intangible capital
 - However,
 - Simultaneous increase in capital share of output
Karabarbounis, Neiman (QJE 2014), Autor *et al* (AERpp 2017)
 - Large increase in asset prices in the 21st Century
- ▷ *What is the overall effect over pledgeability of assets and severity of borrowing constraints?*

The facts

3. *Differential increase in misallocation*

- Very interesting novel fact:
 - Larger increase in dispersion of firm productivity in sectors with more intangible capital
- However, it would be nice to additionally document
 - a) Differential increase in dispersion of firm MRPK across sectors
(The model has no implication for dispersion of firm TFPR or MRPL)
 - b) Differential increase in sectoral TFP: high vs low intangible sectors
 - c) How much of that could the increase in dispersion of productivities explain
 - d) Average of intangible share in high vs low intangible sectors

Quantitative exercise

The role of financial frictions

- Standard models of firm heterogeneity do not place a high role to financial frictions for steady state comparisons
Midrigan, Xu (AER 2014), Gopinath *et al* (QJE 2017)
- Reasons:
 - Idiosyncratic shocks to firm productivity are reasonably persistent
 - High MPKR of constrained firms
 - Retained earnings good enough to overcome constraints
- In this paper: financial frictions (in steady state) matter a lot
 - Why?
 - Model somewhat idiosyncratic, hard to tell

Quantitative exercise

Idiosyncratic elements

- Several ingredients prevent firms from changing their behaviour when financial frictions become more severe
 - Exogeneous share of intangible capital for high productivity firms
 - Prevents shift towards cheaper (less-constrained) capital
 - *CES aggregator?*
 - Exogeneous investment opportunity window (Calvo fairy)
 - Wants to reflect lumpy investment behaviour in micro data
 - Prevents change in frequency of capital purchases
 - *Add (perhaps different) non-convex adjustment cost of investment to replicate lumpy investment?*

Quantitative exercise

Idiosyncratic elements

- Lack of realistic firm dynamics
 - Two types of firms only: high and low productivity
 - Exogeneous measure of each
 - High-productivity always constrained in steady state
 - *Consider proper firm dynamics?* Hopenhayn, Rogerson (JPE 1993)
 - Productivity/demand shocks, DRS/monopolistic competition
 - Realistic framework to quantify the role of retained earnings in growing out of financial constraints

Quantitative exercise

Outcomes of interest

- Macro aggregates do not give a sense of plausibility of mechanisms

Total growth:1980-2014

	Model outcomes		Data
	Intangible	Interaction	
GDP	+1.0%	−0.8%	+67%
TFP	−3.5%	−6.5%	+36%

Data source: [Penn World Tables 9.0](#)

- Perhaps empirical content of theory can be found in the *differential evolution of TFP in industries with different increase in share of intangible capital*
 - Use open economy
(aggregate savings and investment unlinked in the US since the 80's)