Discussion: Reallocation of Intangible Capital and Secular Stagnation

Andrea Caggese Ander Pérez-Orive

Claudio Michelacci, 15th Macro-Dynamics Workshop

Motivation

- Three (known) facts:
  1. Real rates have fallen to unprecedented low levels: saving glut and **secular stagnation**
  2. **Intangible capital** has become more important for aggregate investment and productivity
  3. US corporate sector has become a net saver rather then a net lender: **corporate saving glut**
- **Question**: Can 1) and 2) be expansionary once taken in isolation but be contractionary when taken together?
- **Answer**: Yes, because 1) and 2) together can lead to increased misallocation
- Some new evidence on increased misallocation in sectors with greater intangible capital

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A simple useful model (why in the appendix ?)

- Two firm's types $j = l, h$ with output $y_j = z_j k_j$
  1. Firms $j = l$ are financially unconstrained, $z_l = \underline{z}$
  2. Firms $j = h$ are **constrained**, wealth a_0, $z_h = \overline{z} > \underline{z}$
     They should hold all capital
- q : price of capital. Financial constraint:

$$b \leq \frac{\theta q k}{1+r} \quad \text{s.t.} \quad qk = (1+r)a_0 + b + y_0$$

  which implies that

$$k = \frac{(1+r)a_0 + y_0}{q\left(1 - \frac{\theta}{1+r}\right)}$$

- Aggregate capital is in fixed supply K (endogenous price)
- Price of capital set by $j = l$ firms: $q = \frac{z_h}{r + \text{wedge}}$
- **Key point:** Effect of decrease in r (saving glut) depends on θ (low θ means capital is intangible, no pledgeability)

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The mechanism

- Remember:

$$k = \frac{(1+r)a_0 + y_0}{q\left(1 - \frac{\theta}{1+r}\right)}$$

- Effect of a reduction in r depends:
  1. Value a_0: negative or **positive**
  2. Response of q: how much it **increases**
  3. Effects on financial multiplier, $\frac{\theta}{1+r}$: **increases** k
- Paper argues that when θ low (intangible capital), then a_0 positive.
- A reduction in r can lead to a fall in k, when q increases sufficiently
- Notice **pecuniary externality** through financial constraint

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Two obvious questions

- **Does it make sense?**

  Yes, it does

- **Is this the story?**

  I do not know. It requires

  1. Large response of q
  2. a_0 fixed (independent of q, real estate inheritances?)

  $$k = \frac{(1+r)a_0(q) + y_0}{q\left(1 - \frac{\theta}{1+r}\right)}$$

  3. Financially constrained firms are high productivity

- Evidence on **collateral channel** suggests that higher q is expansionary on investment and business creation: **positive pecuniary externality**
- But authors argue that misallocation increased (more later)

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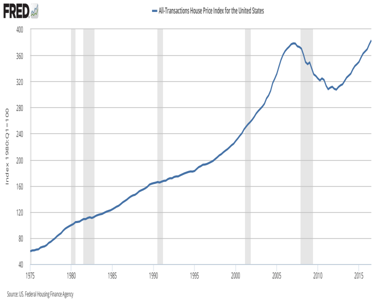
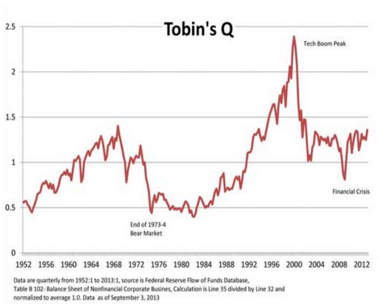
Key channel 1: Increase in q. Which price are we talking about?



(a) House Prices

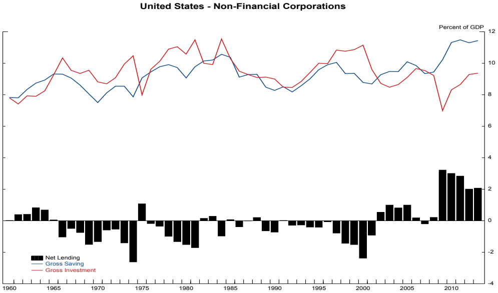


(b) Tobin q

Key channel 2: The corporate saving glut

Gruber and Kamin (2015)

- **Investment** (red)= spending on capital formation
- **Saving** (blue) = after-tax profits minus dividends
- **Net lending** (**black**) = Saving-Investment



(a) Saving and Investment of non-financial corporations

Corporations are **now net lenders** nor borrowers by more than **3 percent of GDP**!

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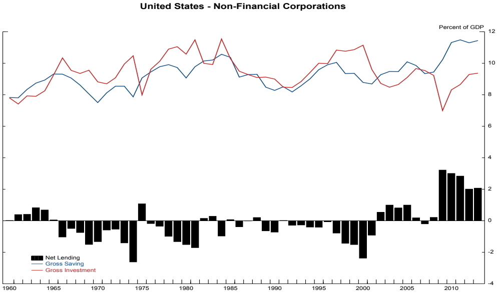

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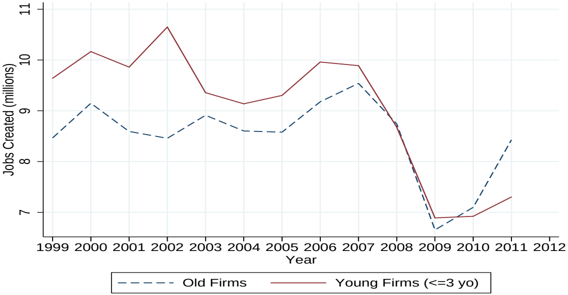
Financial frictions for new firms?

Small young firms have created very few jobs over the current recovery:

- "Fact": bulk of job creation & recruitment effort is in young firms



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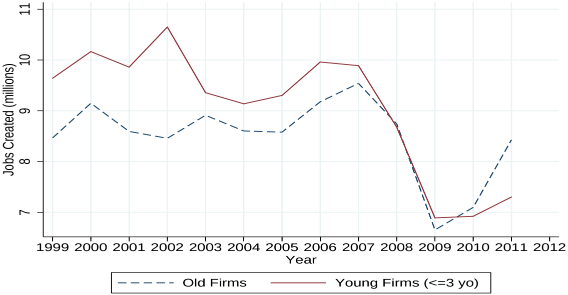

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Some caveats about increased misallocation

- Misallocation is about heterogeneity in **marginal productivity of labor or capital**, which should be perfectly equalized under perfect capital ad labor markets
- **not** about heterogeneity in **TFP**
- Concerns about
  1. time to build (to produce) with intangible capital, which might lead to increased **measured misallocation**
  2. measurement error in **output**
  3. measurement error in **labour skill**, which is of first order importance when intangible capital is embodied in workers

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Quantitative model

- It falls a bit short of its objective. No attempts
  1. to match a **firm size distribution** or a firm life cycle
  2. to match **correlation** between financial constraints and firm's productivity
  3. to identify well key model parameters
     1. Adjustment cost to investment that drives **elasticity** of price of capital to r-shock
     2. **Initial wealth** of newly born high productivity firm (which might be indexed to q)
- **Question:** Are pecuniary externality driven by financial constrains **positive** or **negative**?
- Important first order question

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