The Origins of Top Firms

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Lisbon Macro Workshop

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Summary

This paper studies the origin of **top firms** and their life cycle:

1. $\rightarrow$ *ex ante*
   - top firms are eight times larger at entry
   - start with high capital investment, but *average* labor share.
2. $\rightarrow$ *ex post*
   - top 1 firms grow six times faster than bottom 99 firms
   - top (bottom) firms' capital-output ratio declines (increases) and the labor share declines (stable) as they age
   - profit share dramatically increases w.r.t bottom firms

- Rationalize empirical findings with a firm dynamics model:
  1. ex-ante heterogeneity
  2. non-homothetic input costs
  3. forward-looking financing.

Results

Key assumptions in the model:

1. high-growth potential face large input-specific fixed costs.
2. forward-looking financing is available.

Main mechanism:

- **at birth**, *future* top firms use forward-looking financing for high input-specific fixed costs $\rightarrow$ low π/y, high k/y
- bottom firms face tighter financial constraints and small fx.

- as top firms **grow**, fixed costs become smaller relative to output: $wl/y \downarrow$, $k/y \downarrow\downarrow$, and $\pi/y \uparrow$.
- bottom firms accumulate assets and relax their borrowing constraints: $k/y \uparrow$, but wl/y flat (if $\sigma \approx 1$).

$\rightarrow$ Importance of top/bottom firm dynamics for the aggregate.

Comments

- Interesting topic, very well-written paper with empirical and theoretical perspective, counterfactual, policy experiments...
- Robust data - variable re-defined, different thresholds... - and model discussed against alternative potential explanations.
- Overall, a paper a bit on the longer side, but worth your time!

Extensions and Open Questions - Data

Firm in [...] top 1% at age a if its output at age a is in the top 1% of the output distribution among all firms of age a in the data.

→ Why do you use/call it **output**?

- you use VA, i.e. operating revenues minus COGS and other costs (net of WB and K depr.) from BGM (2023)
  → what about price dispersion? Materials?
- in the (baseline) model, y, py, VA are all the same.

Why not **revenues**? (employment best imho)
→ you just compare observables, perfect mapping with the data: low-hanging fruit solution, but more convincing.

Extensions and Open Questions - Model

- Chiavari (2021), Kariel and Savagar (2024), Hasenzagl and Pérez (2024)... on the secular trends in **return to scale**:

You have very different **DRS** between top and bottom firms:

- to me, it is the only remaining source of heterogeneity across types after productivity profile and input-specific fixed costs
- DRS affect the optimal size, in particular for the right tail. Can you check its role vs. other sources for heterogeneity?

$\rightarrow$ what if you fix same coefficient $h = 2$? Only quantitative?

Minor Points

- can you say whether the prevalence of foreign owners/SE is selection *ex post*, e.g. later M&A, or *intensive* entry?

- markup growth for top firms + increase in L shadow costs and $K-$based growth for all firms, with complement inputs:

  $\rightarrow$ can these have required signs over life-cycles?
  $\rightarrow$ still, *the behavior of prices implies that markups do not vary with firm age* (Argente at al., 2024 AER:I)

- exercise where you subsidize all $h = 1$ techs? Welfare?