Statistical properties of firm growth rates

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BETTER POLICIES FOR BETTER LIVES

Overview

Motivation

- Large amount of data allows for empirically founded analysis
- Lively debate on firms growth dynamics (in economics and in econophysics)

This paper

- Identifies the process describing firms growth
- Finds evidence of cross-firms correlation in growth volatility

Relevance of this Paper for the OECD

Model selection

Economic and financial phenomena show strong statistical regularities and physics laws can be used to model them.

Power Laws have been found to describe:

- Income, wages and wealth
- the size of cities and firms
- Patent growth
- stock market prices
- trading volumes, international trade

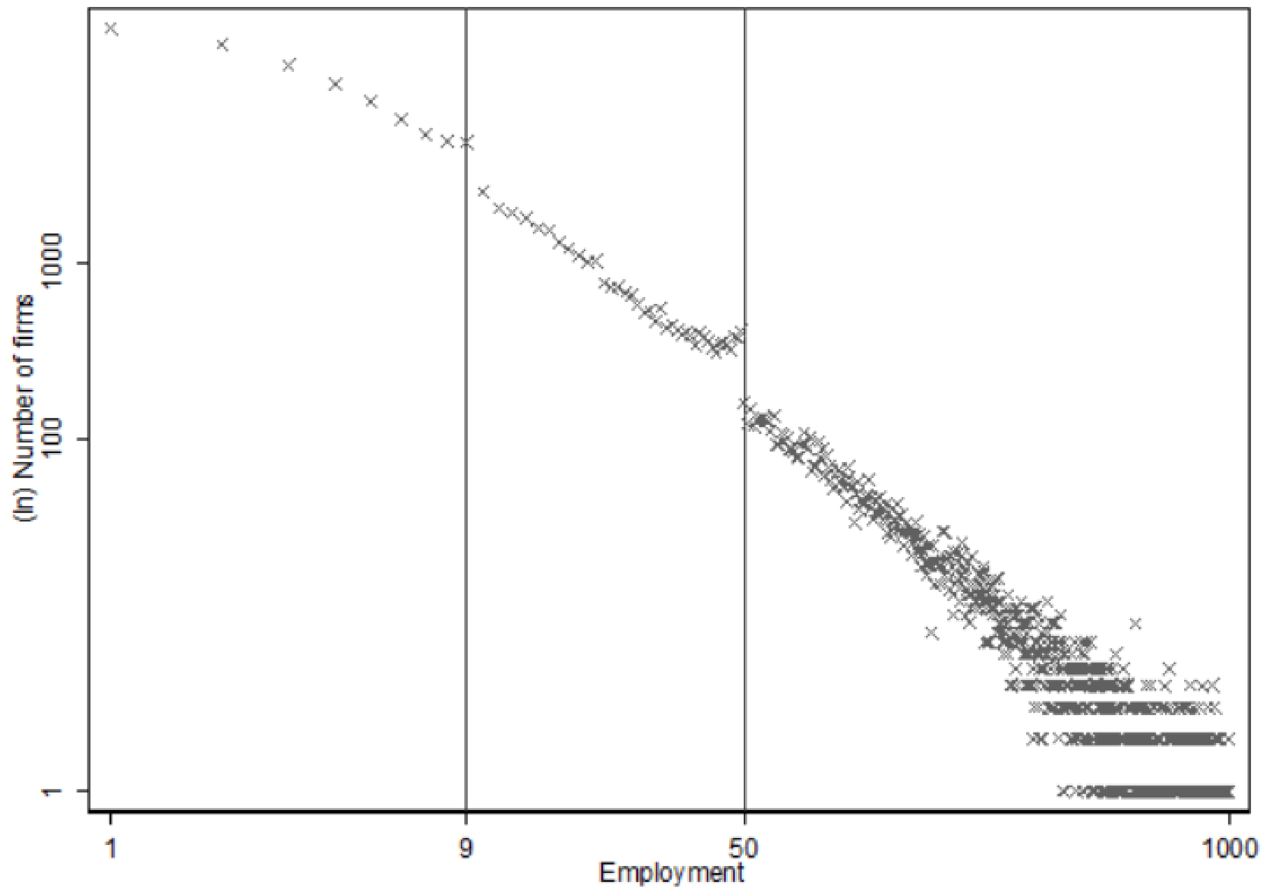
Relevance of this Paper for the OECD

Results and Implications

- These models could be used for forecasting and simulations
- Policies could be found to characterize/affect the deviation from regularity
- Regularities persist despite rapidly changing market dynamics (competition, sectoral shifts, productivity divide, GVC, etc)
- Physics can help define and solve models of more complex interactions

The effect of policies on regularities

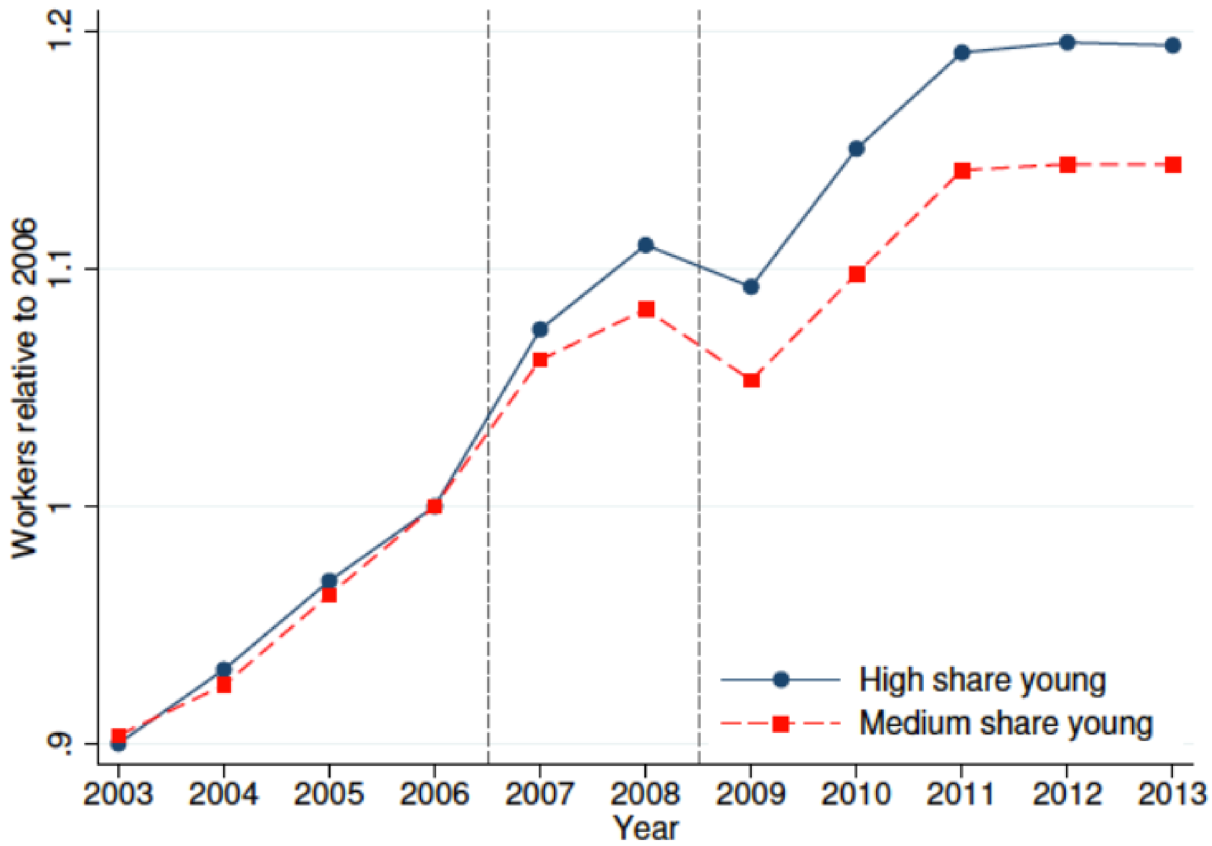
France: many firms choose a small size to avoid the cost of the regulation



Source: Garicano, Lelarge and Van Reenen 2013

The effect of policies on regularities

Sweden: effect of payroll tax cuts. employment grew faster after the reform for affected firms



Source: Saez et al. 2017

Conclusion

- compelling insight into a central topic of current economic and policy debate.
- Inspirational research with strong empirical grounding and possible contribution to:
    - Life of superstar firms and gazelles
    - Market power and competition
    - Productivity convergence
    - Incentives for innovation and growth
    - changing productive structures

Open questions

- Reconcile/acknowledge the (theoretical) work done by economists
- For a truly relevant contribution: reconcile/acknowledge the *interest* of economists
- Risk of over-stating universal empirical regularities
- Too much emphasis on the empirical approach may bias the analysis when data quality is scarce