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Discussion of De Haas, Sterk and Van Horen:

"Startup Types, Structural Policy and Macroeconomic Performance in Europe."

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ProdTalks

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De Haas, Sterk and Van Horen (2022)

Roadmap and High Level Thoughts

- Thought provoking and very ambitious paper! In line with recent nowcasting literature (using ex-ante heterogeneity).
- Using very rich data on business startups and balance sheet data from a large number of European countries.
- Two distinct contributions:
  - Data descriptive: It provides a rich set of new descriptive statistics describing startups in Europe.
  - Estimation of potential impacts from structural policies. Very welcome paper that takes a very broad perspective.
    - Subsidies, loan guarantees, grants and tax incentives to innovative firms and startups is a long standing policy tool to promoting innovation, job creation, and productivity growth but often little thought to macro impacts.

- I'll make some suggestions that I think can make the paper even more interesting.
- I'll point to areas that I struggled with a bit…

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Goals

- Analyzes potential macroeconomic gains from improving the mix of startups in European economies.
- Uses unsupervised machine learning methods to develop a categorization of startup types from micro level data.
  - Estimates performance parameters after entry: Survival rate, average employment and productivity, by firm age.
  - Estimates net present value of startup types across countries, industries, and for different cohorts
  - Estimates the elasticities of firm entry as a function of net present value.
- Using these estimates explores impact on economy from policy experiments (applying different tax rates) on different startup types.

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Findings

- Authors identify five distinct startup types based on ex-ante balance sheet characteristics
  - Remarkably consistent across economies and time
- Very different post entry average performance in terms of survival, average employment, and productivity growth.
- Elasticity of entry varies considerably across countries and types.
- Large potential gains from targeting tax policy to encourage some types of startups over other.

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Comments on descriptive

- Very cool and rich new facts.
- Nice use of unsupervised machine learning algorithms for new data driven classification.
- Estimation of startup performance by startup type is reasonable and super interesting (average survival, LP, TFP, Profit", Wage/employee)
  - Want to see lots more! Age and country effects on Table 2 are hidden!
    - Table 2 estimates average effects (necessary): but would be good to see aggregate effects (using activity weights)
    - Explore employment effects with age (all margins: JCR/JDExits/Continuers). Confirm up-or-out dynamics. How do firm dynamics differ across startup types and countries?
  - Section 4.3. interpretation of estimates based on current literature reads speculative. Much richer with the above → Tie in to firm dynamics literature!
- Elasticities of firm entry are super interesting and new to the literature → would be nice to tie to other literature looking at elasticities to Tobin's Q (Gutierrez & Philippon (2019)).
  - Do we see declining responsiveness? Current focus on average effects but intercept term suggests a decline also (constant term suggests a negative trend decline)
  - Explore basic properties of the estimated elasticities across countries
    - New data. So explore it and show us properties.
  - More intuitive to me to have firm present value on the right hand side.

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Key underlying assumptions for macro effects

- Ex-ante characteristics of the firm are entrepreneurial choice variables ➔ The same entrepreneurs can be pushed into better business practices ➔ more jobs, more productive, better paid.
- Very strong assumption!! (authors acknowledge)
  - Ex-ante balance sheet variables might reflect heterogeneity in entrepreneurial characteristics and acumen (access to finance, access to markets, knowhow (HK), growth outlook (how innovative), access to networks…). ➔ Not easily movable!
  - Evidence:
    - Subsidies might yield marginal entrepreneurs and employer startups [Caliendo et al. (2015)] ➔ Performance of new startups not as good as those of existing startups ➔ life-cycle estimates change with policy intervention.
    - Impact of entrepreneurial education is mixed (Astebro & Hoos (2021)).
    - Success is a function of experience (Azoulay et al. (2020)).
- If assumption does not hold ➔ Discouraging some types of entrepreneurs (lifestyle) vs other (transformational).
  - Why is this reasonable from a policy perspective?
  - What are implications from policy?
    - If lifestyle entrepreneurship is an occupational choice for:
      - Individuals with limited options in labor market or (e.g. immigrants).
      - Professionals that want to be their own boss (plumbers, doctors, lawyers).
    - If different startup types provide different quality product services ➔ Limiting product varieties.

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Key underlying assumptions

- No consideration of general equilibrium effects
  - Larger more productive firms and higher wages should lead to less firm entry and fewer entrepreneurs (Lucas (1978), Azoulay et al. (2019) ➔ elasticities in response to changes in expected value are likely to change.
    - Intuition: opportunity cost of starting a business goes up with wages ➔ It takes higher discounted present value for an entrepreneur to want to start a business.
- Calculation of firm present value
  - I believe profit and survival age effects come from Table 2?
  - Not allowed to vary across startup types? Common estimated function with a shifter parameter. But exit rates and average profit of survivors likely very different with age.

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Comments

- Use the data to validate estimated impacts.
  - There have been tax changes in Europe. Exploit variation to see if impacts from current assumptions are reasonable (or driven by something else?). Also check cross-elasticities.
- In the paper tax incentives are applied on a very coarse classification of startup types. Governments are targeting their policies more surgically (on the agenda):
  - Evidence suggests lots of careful design of these programs for them to be effective
    - Evidence from R&D grants programs is mixed (Lerner (2009), Howell (2017)).
- Would love to see a lot more work drilling down into specific industries and geographies (more targeted policies and understanding drivers of ex-ante choices) → <u>many more facts to discover!</u>
  - High-tech industries vs lifestyle intensive industries.
  - Traded goods industries (not subject to local demand conditions).
  - Rural/Metro.
- Elasticity of entry varies considerably across countries and types. Some not credible.
  - Some likely data issues (Spain and Lithuania).
  - Lots of room to explore drivers of elasticity in a follow up paper?

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Comments

- Discuss use of weights:
  - CompNet underlying microdata often not universe and not representative by firm size. Aggregates obtained via use of weights.
  - More on the underlying properties of the time series.
  - Is identification of elasticities from changing samples? Does it reflect changing underlying economic conditions?
- Unit of analysis (don't think this matters but…)
  - Legal unit: Czech Republic, Denmark, Spain, France, Poland and Portugal
  - Enterprise unit: Croatia, Finland, Hungary, Italy, Lithuania, the Netherlands, Romania, Slovakia and Sweden

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Thank you again and look forward to next version!