Product Switching and Young Firm Dynamics

Seula Kim and Karam Jo - Discussion by Maarten De Ridder

This paper

How does product churn contribute to firm growth?

- Analyze whether product churn changes over the life cycle of firms
- What are the characteristics of added and dropped products

Uses data on the composition of U.S. manufacturing firms (1982-2012). Findings:

- Measure of firm-product match quality based on firm-product revenue relative to product avg.
- Firms drop poor match products, keep good match products
- Young firms: less likely to drop bad matches, more likely to drop good matches
- Rationalized with a model of Bayesian updating by heterogeneous multi-product firms
  - Young firms have limited knowledge about their product-specific competency

Contribution

Paper is part of a growing literature using product data to study firm dynamics

- Bernard, Redding, and Schott (2011 *AER*): Firms frequently change their product mix
- Eckel & Neary (2010 *Restud*): Firms focus on most profitable product; "core competency"
- Boehm et al. (2023 *JPE*): firms update their product mix to achieve input complementarities
- Argente et al. (2025): Firms add products where expertise sharply lowers marginal entry costs

This paper offers a twofold contribution:

- New empirical fact: young firms have a different experimentation pattern than mature firms
- Present a model of learning about core competency as a barrier to entrant growth

Discussion

Great paper with interesting results and a clear punchline:

- Well-timed: understanding barriers to young firms key when productivity growth and entry are low
- Uses fantastic data on the changing composition of firms' product portfolios
- Compelling show that young firms have more product churn than older firms

Three comments :

1. Could the main results be driven by attenuation bias?
2. Alternative interpretation of life-cycle patterns product churn
3. Proposal for further research: look at time trends in behavior of young firms

Comment 1: Effect of attenuation bias on main result

Estimation proceeds in two steps:

- Estimate the firm-product match quality from a regression on sales:

$$py_{ipt} = \theta_{pi} + \phi_{py} + \text{stuff} + \epsilon_{ipt}$$

- Test effect of firm-product match quality on probability product gets dropped over the life cycle:

$$\mathbb{I}_{ipt}^{drop} = \gamma\hat{\theta}_{pi} + \beta\left(\hat{\theta}_{pi} \times \text{Young}_{it}\right) + \text{stuff} + \zeta_{ipt}$$

Young firms will have fewer years to estimate θ: greater measurement error in explanatory variable

- Headline result of the paper is that young firms are less responsive to bad match:

$$\gamma = -1.1^{***} \quad , \quad \gamma + \beta = -0.58^{***}$$

- Attenuation bias dilutes $\gamma + \beta$ to 0: perhaps match quality is just not accurately measured?

Comment 2: Alternative interpretation

Most convincing result in the paper: young firms have higher product churn than older firms

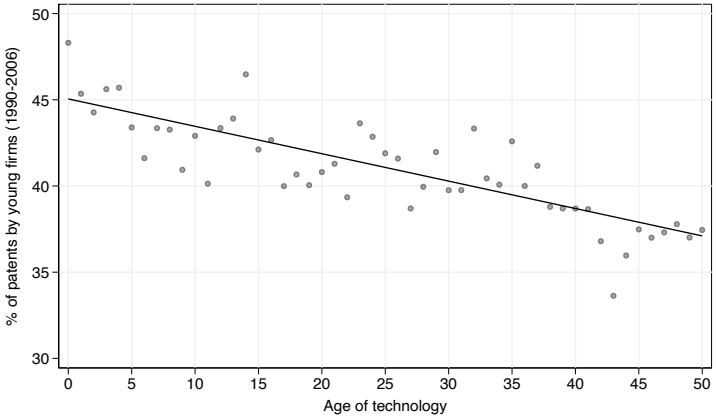
- Paper's interpretation: young firms need time to figure out what they are good at (noise)
- But could the higher product churn reflect something much more benign?

Alternative interpretation: younger firms are more *nimble*

- Key for dynamism, higher contribution to emp growth, up-or-out (e.g. Haltiwanger et al. 2009)
- Churn can reflect successful+radical innovation (Acemoglu et al. '18, Akcigit and Goldschlag '23)
- Not locked into an industry because of sunk capital investments (e.g. Bartelsman et al. 2013)

Example

Young firms are more likely to invest in younger technologies:



Source: Aghion, Bergeaud, De Ridder, Van Reenen (2025)

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Rather than a barrier to growth, young-firm churn can be sign of success + improving allocations

Comment 3: Trends

Proposal for future research: look at trends in product dynamism across young firms

- Share of young firms in total firms or employment declined 1980-2020 (Haltiwanger et al. 2013)
- Firms have become less responsive to changes in productivity (Decker et al. 2020)

These trends can both be reflected in product churn and driven by life-cycle of product churn

- Has the overall degree of product dynamism declined over the 1982-2012 sample?
- Decomposition: if there is a decline, how much of it is driven by the shrinking role of young firms?
- Authors are in the perfect position to answer these questions (much better than EU PRODCOM)

Summary

New paper that assesses the changing patterns of product churn over firms' life cycles

- Uses fantastic census data on the product portfolio of U.S. manufacturing firms for many years
- Find that younger firms exhibit distinct patterns of product dynamism compared to mature firms

Great paper - very much worth reading

- Convincingly show that your firms have more product churn
- Question remains whether young firms really make more 'mistakes' in shredding/adding products
- Future research could look trends in product churn of young/mature firms over time