

SMALL AND LARGE FIRMS OVER THE BUSINESS CYCLE

Crouzet and Mehrotra

discussion by

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[†]The views expressed here are those of the authors and do not necessarily reflect those of the Board of Governors or the Federal Reserve System.

Introduction

- ▶ Great work on the (lack of) empirical foundations of financial accelerator mechanism!
 - Q1 Any excess cyclical sensitivity of small firms?
 - Q2 If yes, does that amplify the cyclicity of aggregates?
 - Q3 Is any excess sensitivity driven by financial constraints?
- ▶ Crucial questions, as financial constraints are the backbone of an extensive set of work \Rightarrow need for solid micro evidence

This paper

- ▶ Data: Quarterly Financial Report from U.S. Census
 - ▶ Balance sheet and income statements
 - ▶ Importantly, on small private firms!

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- ▶ Relative to top percentile

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- R2 Limited effect on aggregate cyclical
 - ▶ Activity skewed to large firms

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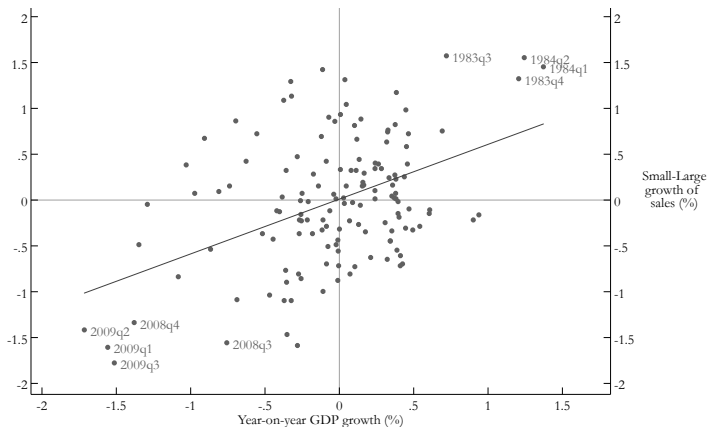
- ▶ Activity skewed to large firms

R3 No evidence that it's driven by access to finance

- ▶ Survives controls for financial strength, debt-use response to identified monetary shocks not different across firm size
- ▶ A non-financial candidate for excess sensitivity: diversification

Main specification

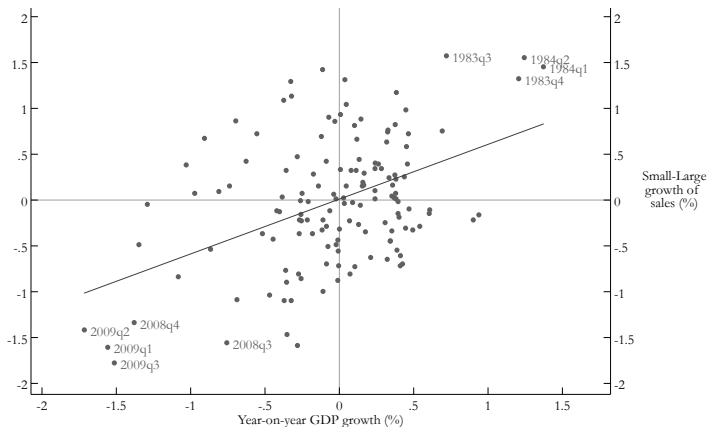
FIGURE: Difference in avg. sales growth of small and large firms vs. GDP growth



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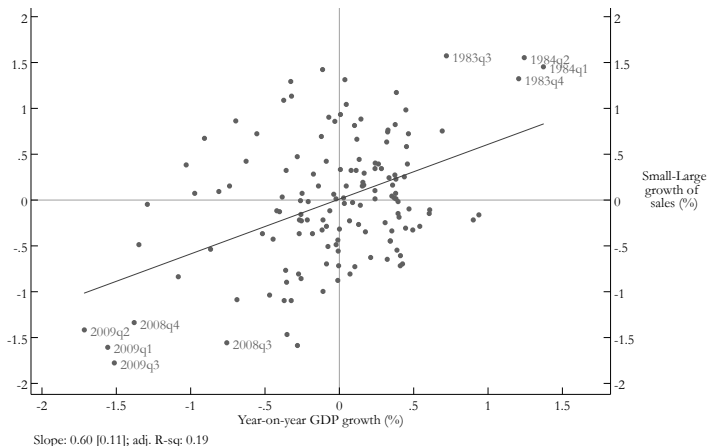


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$$g_{it} = \sum_{\mathcal{J}_{size}} \alpha_{\mathcal{J}} \mathbf{1}_{\{i \in \mathcal{J}\}} + \sum_{\mathcal{J}_{size}} \beta_{\mathcal{J}} \left(\mathbf{1}_{\{i \in \mathcal{J}\}} \times \Delta GDP_t \right) + \delta_{ind} + \varepsilon_{it}$$

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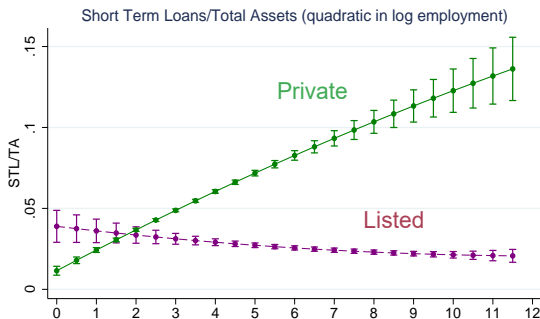
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Comments

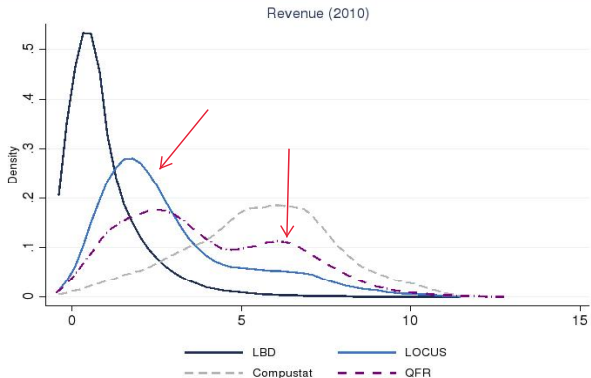
1. Main regression specification
 - ▶ lagged values, sector-time controls
2. Groupings based on financial strength
 - ▶ Another one by short-term debt ratio
3. Identified monetary shocks
 - ▶ Why not finer groupings for this exercise?
 - ▶ Quarterly aggregation: Does this identify the shock of interest?
4. Excess cyclical of labor and exit may be more pronounced, as recognized
 - ▶ Agarwal and Gort (2002), Fort, Haltiwanger, Jarmin, and Miranda (2013)
5. Export market diversification
 - ▶ may imply availability of trade credit \Rightarrow relaxation of constraints (looks like you have trade credit data to control for)
 - ▶ Becker, Chen, and Greenberg (2013), Chor and Manova (2012), Manova (2013), Manova, Wei, and Zhang (2015)
6. Listed vs. private firms

Dinlersoz, Kalemli-Ozcan, Hyatt, Penciakova (2018)

- ▶ Leverage over firms' life-cycle
- ▶ Data: LBD+Orbis+Compustat
 - ▶ Balance sheet, income statement + employment (firm size)
- ▶ Key results
 - ▶ *Size is a good predictor of financial constraints*
 - ▶ Small private firms are financially constrained; listed firms are *not* financially constrained since small listed firms can borrow short-term



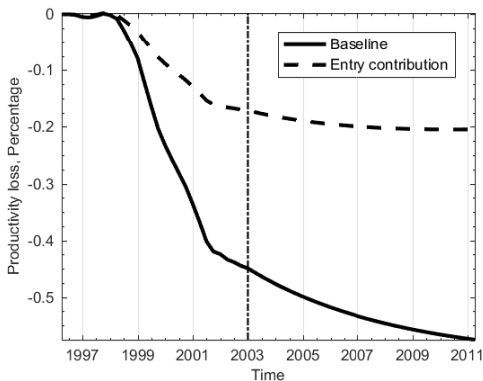
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- ▶ Different conclusions due to size composition?
- ▶ Or sectoral composition (manufacturing vs. services)?

Relevance of Small Firms: Ates and Saffie (2018)

- ▶ Permanent effects of financial crisis on productivity
 - ▶ SOE-RBC model with endogenous entrant&incumbent innovation
 - ▶ Entry depends on external financing
 - ▶ Chile's post-1998 Russian Crisis experience



Entry behavior crucially matters beyond short-run!

- AGARWAL, R., AND M. GORT (2002): "Firm and Product Life Cycles and Firm Survival," *American Economic Review*, 92(2).
- BECKER, B., J. CHEN, AND D. GREENBERG (2013): "Financial Development, Fixed Costs, and International Trade," *The Review of Corporate Finance Studies*, 2(1), 1–28.
- CHOR, D., AND K. MANOVA (2012): "Off the cliff and back? Credit conditions and international trade during the global financial crisis," *Journal of International Economics*, 87(1), 117 – 133, Symposium on the Global Dimensions of the Financial Crisis.
- FORT, T. C., J. HALTIWANGER, R. S. JARMIN, AND J. MIRANDA (2013): "How Firms Respond to Business Cycles: The Role of Firm Age and Firm Size," *IMF Economic Review*, 61(3), 520–559.
- MANOVA, K. (2013): "Credit Constraints, Heterogeneous Firms, and International Trade," *The Review of Economic Studies*, 80(2), 711–744.
- MANOVA, K., S.-J. WEI, AND Z. ZHANG (2015): "Firm Exports and Multinational Activity Under Credit Constraints," *The Review of Economics and Statistics*, 97(3), 574–588.