

Global Supply Chain Disruptions and Product Market Competition

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Summary-I

- **Questions:**

- How do supply chain disruptions affect firms?
- What is the role of product market competition?
- Do shocks propagate differently in competitive and non-competitive industries?

- **Setting:**

- Coronavirus outbreaks as shocks to production
- Granular supply chain relationship data from FactSet Revere and import-level transaction data from the Panjiva Supply Chain Intelligence
- Using difference-in-differences, they compare firms **with** Chinese suppliers to firms **without** Chinese suppliers.

- **Main findings:**

- (1) Sales decrease significantly for U.S. firms with Chinese suppliers compared with U.S. firms without Chinese suppliers in 2020q1, 2021q2, 2021q3, and 2021q4.
- (2) For the EU and Asian firms with Chinese suppliers, sales decrease only in 2020q1.
- (3) No reduction in sales for other international firms even when they have Chinese suppliers.
- (4) Significant declines in stock market and bond market values for the U.S. firms with Chinese suppliers.
- (5) Sales and market values decrease only in less competitive industries.

Background

- The origin of aggregate fluctuations is a very important question in economics. The idea that microeconomic shocks to firms or sectors can lead to aggregate fluctuations was discarded by Lucas (1977).
- Gabaix (2011): Averaging out will not work if the firm size distribution is heavy-tailed.
- Acemoglu, Carvalho, Ozdaglar, and Tahbaz-Salehi (2012): Averaging out will not work if firms or industries are interconnected.
- Even small negative shocks, such as bankruptcies or natural disasters, are transmitted to firms upstream and downstream (Barrot and Sauvagnat, 2016; Carvalho, Nirei, Saito, and Tahbaz-Salehi, 2021).

Center of the discussion: Product market competition

- The main contribution of this paper is to show that product market competition affects whether/how shocks propagate in production networks.
- My next five points will focus on this new competition determinant.
- Suggest new ways to ensure that it is really the product market competition that drives all the results in the paper.

Comment 1: Input specificity

- Barrot and Sauvagnat (2016): Input specificity is an important determinant of shock propagation.
- Industries producing differentiated products might be harder for competitors to enter. Such industries might rely on specialized suppliers that are harder to substitute.
- Therefore, the effect might come from the nature of the product or the input specificity rather than the competitive threat faced by firms.
- Suggestion: Control for input specificity using Rauch (1999) measure or other firm-level measures used in Barrot and Sauvagnat (2016).

Comment 2: Uncertainty?

- Elliott, Golub, and Leduc (2022): “By investing more, a firm can increase the probability that one of its potential suppliers for each of its essential inputs is able to supply it, hence allowing the firm to produce its output and make profits. Maintaining multiple relationships that facilitate production and provide backup in case of disruption is costly. Firms trade off these costs against the benefits of increased robustness. In our model, firms choose a level of costly investment toward making their supply relationships stronger i.e., likelier to operate”
- Why didn't treated firms make these investments? Were they subject to increased uncertainty?
- Hassan et al. (2019): Political events do not have a uniform effect across firms in a given industry. Most of the variation in political uncertainty occurs at firm-level rather than sector-level.

Comment 3: Management of Supply Chain Risk

- Why were the sales of firms in non-competitive industries negatively affected?
- Lack of competition \Rightarrow Agency issues \Rightarrow Not managing supply chain risk properly.
- Page 15: “Did affected firms underestimate the risks of a China-based supply chain, or did they accept the risks because of the economic benefits associated with a China based sourcing strategy?”
- The paper can provide additional evidence. How?

Suggestions based on Ersahin, Giannetti, and Huang (2023)

- (1) Do firms in non-competitive industries mention supply chain risk less in their earnings calls?
- (2) Do firms in non-competitive industries invest less prior to the Covid outbreaks?
- (3) Quantity vs. Quality:
 - 2020q3, Mark Aslett, the President and CEO of Mercury Systems, Inc., talks about a firm behavior he describes as **“flight to quality suppliers.”**
 - Ersahin, Giannetti, and Huang (2023): Firms that experience an increase in supply chain risk establish relationships with **geographically closer** and **domestic** suppliers and with suppliers that are **industry leaders**.
 - Ersahin, Giannetti, and Huang (2023): Firms that experience an increase in supply chain risk have a higher propensity to engage in **vertical integration**.

Comment 4: Common Shocks?

- Can shocks affecting the customers of treated firms drive the decrease in sales?
- The paper uses industry-year-quarter fixed effects: “Our tests thus mitigate possible concerns that our results capture changes in demand for different products sold by treated and control firms during the pandemic.”
- Concern: As treated firms within the same industry show variation in supplier disruption status, customers in the same industry might show a similar variation too because they use Chinese suppliers for some of their other inputs.
- Suggestion: By using FactSet Revere data, control for whether customers of treated firms have suppliers in China.

Comment 5: What makes American firms special?

- Philippon (2019): American firms are giving up on healthy competition. EU is doing better.
- The authors can strengthen the competition channel by comparing the competitive threat faced by U.S. firms with from the rest of the world.
- Suggestion: Can a global fluidity, TNIC, or an earnings call-based measure of competition be constructed?

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Conclusion

- A lot to like in the paper!
- We learn about a new determinant of the propagation of firm-level shocks: Product market competition.
- Additional tests to ensure that the effects are really coming from differential exposure to competitive threats and not from other things would definitely help the already great and very interesting paper.
- Good luck!