Discussion of
“Entry vs. Rents: Aggregation with Economies of Scale”
by David Baqae and Emmanuel Farhi (2021)

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Market power in the digital age: measurement, causes, consequences and policies
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An Aggregation Exercise

• How changes in productivities and markups of disaggregated producers shape aggregate outcomes?

• To my knowledge, first such paper that allows for a general treatment of the extensive margin

• The characterization results are then applied to ...
  ▶ explore how product entry and exit determine allocative efficiency
  ▶ social costs of distortions (distance to frontier)
  ▶ second-best policy interventions (markup regulations & entry subsidies)
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Main Result

- decomposition of the macro impact of shocks in terms of changes in
  - (a) technical efficiency
  - (b) pure rents
  - (c) quasi rents
  - (d) markups

**Theorem**

\[
d \log Y = \sum_i \lambda_i F \frac{d \log A_i}{\Delta \text{technology}} - \sum_{i: \text{DRS}} \lambda_i F (1 - \epsilon_i) \left( d \log \lambda_{\pi,i} - d \log \hat{\lambda}_{\pi,i} \right) \\
+ \sum_{i: \text{IRS}} \lambda_i F \left( \gamma_i - 1 \right) \frac{d \log \hat{\lambda}_{\pi,i}}{\Delta \text{quasi-rents}} \\
- \sum_{i: \text{DRS}} \lambda_i F \left( \frac{1 - \epsilon_i}{\pi_i} - 1 \right) d \log \mu_i - \sum_{i: \text{IRS}} \lambda_i F d \log \mu_i
\]

- Two more theorems expressing changes in rents and quasi-rents in terms of model primitives
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d\log Y = \sum_i \lambda_i^F \, d\log A_i \underbrace{\Delta \text{ technology}}_{i:DRS} - \sum_i \lambda_i^F (1 - \epsilon_i) \underbrace{d\log \lambda_{\pi,i} - d\log \lambda_{\pi,i}}_{i:DRS} \underbrace{\Delta \text{ pure rents}}_{\text{DRS}}
\]

\[
+ \sum_i \lambda_i^F \underbrace{(\gamma_i - 1) \, d\log \lambda_{\pi,i}}_{i:IRS} \underbrace{\Delta \text{ quasi-rents}}_{\text{IRS}}
\]

\[
- \sum_i \lambda_i^F \left(1 - \frac{\epsilon_i}{\pi_i} - 1\right) \, d\log \mu_i - \sum_i \lambda_i^F \, d\log \mu_i
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\begin{align*}
\text{d} \log Y &= \sum_i \lambda_i^F \Delta \log A_i - \sum_{i: \text{DRS}} \lambda_i^F (1 - \epsilon_i) (\text{d} \log \lambda_{\pi,i} - \text{d} \log \lambda_{\pi,i}) \\
&\quad + \sum_{i: \text{IRS}} \lambda_i^F (\gamma_i - 1) \text{d} \log \lambda_{\pi,i} \\
&\quad - \sum_{i: \text{DRS}} \lambda_i^F \left( \frac{1 - \epsilon_i}{\pi_i} - 1 \right) \text{d} \log \mu_i - \sum_{i: \text{IRS}} \lambda_i^F \text{d} \log \mu_i
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How General Is the Result?

- **Very General!**
  - input-output linkages
  - non-trivial markups
  - various degrees of returns to scale
  - general treatment of entry (directed, undirected, and anything in between)
What is Not Captured by the Results?

- Markups shape entry, prices, rents, and quasi-rents, but are treated as primitives.
- Still need to specify the market structure to endogenize the markups → another fixed point equation.
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Aggregation Results with Entry

• Paper makes a convincing case that one cannot sidestep modeling the extent and nature of entry.

• Simple economy with no input-output linkages and a single factor of production:

\[ \text{DRS + directed entry: } \frac{d \log Y}{d \log A_i} = \sum_{i=1}^{n} \lambda_i \frac{d \log A_i}{d \log A_i} \]

\[ \text{DRS + undirected entry: } \frac{d \log Y}{d \log A_i} = \sum_{i=1}^{n} \lambda_i \frac{d \log A_i}{d \log A_i} - \frac{\epsilon}{\lambda_E} \text{Cov}_\lambda (1/\mu_k, d \log A_k) \]

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Aggregation Results with Entry

• What should one do with such an observation?

   Next time take the extensive margin seriously!

• But what if one cannot (or does not want to) take an exact, detailed position about what type of firm can enter into each market? Is one out of luck?

• Valuable if the paper can use the main theorem to obtain results that are robust to the specification of $\zeta_{ji} = \mathbb{P}(\text{producer } i|\text{entrant } j)$.

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Potential Application: Monetary Policy

• How would extensive margin + input-output linkages + non-convexities change the positive and normative lessons of the New Keynesian paradigm?

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