Comments on "It takes (more than) a moment..."

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Main Idea

- Is the first moment of a sector's firm-level productivity distribution a sufficient statistic for explaining that sector's export fixed-effect in a bi-lateral gravity equation?
- The current paper highlights some convincing evidence that the answer is no!
  - Other moments, related to dispersion and skewness of the productivity also matter

Interpretation of Results

- Can therefore confidently reject joint assumptions of:
  - Ricardian comparative advantage with CES preferences across sectors, Frechet productivity distribution, and iceberg trade costs
  - Monopolistic competition with CES preferences within sector (no sub-sectors), Pareto productivity distribution, and iceberg trade costs

Follow-up questions:

- What subset of assumptions (possibly all) generates the statistical violation?
- How does the observed departure from those assumptions matter?
  - Evaluation of welfare gains from trade using aggregate moments
  - What types of reallocations will be induced by trade, and what effects will those have on aggregate productivity
- How do additional moments help to answer these questions (or others....)?
  - ... a "macro" approach versus the micro-level ones requiring the use of the full underlying distribution of firm productivity and exports

Some Further Thoughts

- Single (1-dimensional) index for firm performance ("productivity") does not imply that a single sufficient statistic (even if not 1st moment) of the productivity distribution is enough
  - $\longrightarrow$ Theory highlights potential interactions between productivity distribution and other factors (preferences, country characteristics, or bi-lateral determinants)
  - Still, empirically, such interactions maybe either small or "separable". Is this the case?
- Is there evidence for multi-dimensional index (important for predicting aggregate sector response)?