Discussion of “Trade, Jobs, and Worker Welfare” by Erhan Artuç, Paulo Bastos, and Eunhee Lee

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Recent studies with job reallocation and trade
- Artuc et al. (2010), Dix-Carneiro (2014), Caliendo et al. (2019), Traiberman (2019),...
- Sector reallocations due to individual and aggregate shocks
- Limited role for within-sector job reallocation given observables

Here: number of jobs are an autonomous source of welfare gain
- More jobs make it more likely to find a “match”
- Greater within-sector reallocation reveal higher welfare

Interesting potential channel
- Sharp predictions for sector size
- “New” source of welfare gain
- Not explored in trade
Summary of Paper

1. Reduced-form evidence. Sector-level export shock leads to:
   - Less workers leaving and more workers entering
   - More switching within sector

2. Estimate a trade and labor mobility model (+within-sector reallocation)
   - Revisit regressions using model-based welfare measure

3. Counterfactuals: sector-level trade shock
   - Show results with constant number of jobs within sector
Paper extends existing models & builds upon dynamic-hat-algebra tricks

We would like to see:

1. Suggestive evidence
2. Parameters that index the intensity of the new channel
3. Counterfactuals that demonstrate its welfare relevance
Equilibrium in a Nutshell (Steady-State, 2 Sectors)

- \( \{L^i\} \) determined given \( \{w^i, N^i\} \) through dynamic labor supply decision:
  - Value of starting in \( k \)
    \[
    V^k = w^k + \nu \ln \left( OV^k \right)
    \]
    \[
    OV^k = \exp \left( \frac{\beta V^k}{\nu} \right) + \left( N^k - 1 \right) \exp \left( \frac{\beta V^k - \delta}{\nu} \right) + N^I \exp \left( \frac{\beta V^I - C(k, l) - \delta}{\nu} \right)
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  - Employment distributions, inflows=outflows:
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    \frac{L^k}{L^I} = \frac{\text{Prob of switching from } I \text{ to } K}{\text{Prob of switching from } K \text{ to } I} = \frac{N^k}{N^I} \frac{OV^k}{OV^I} \exp \left( \beta \left( V^k - V^I \right) \right)
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- \( \{w^i, N^i\} \) determined given \( \{L^i\} \) through static equilibrium of trade model
  - Tasks: \( O^k = \arg \max O \left( L^k \right) \gamma \frac{1}{O^{k-1}} - cO - w^k L^k \)
  - "Jobs": \( N^k = \rho \left( O^k \right) \)

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Suggestive Evidence?

Implication for job flows across regions?

- This model: higher within-sector worker reallocation in large sector-regions
- vs. Bilal (2020): higher-wage (=larger) regions have low job-finding and even lower job-destruction rates

Paper shows: export shock to $k$, then

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\begin{align*}
\uparrow \frac{\text{Prob of switching within sector } k}{\text{Prob of keeping job}} &= (N^k - 1) \exp \left( -\frac{\delta}{\nu} \right) \\
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Interpretation: through $N^k$ (= “job opportunities”)

Also consistent with standard within-sector reallocations

- Frictionless: Melitz model
- Frictional: Cosar, Guner and Tybout (AER 2016)

Would like to see: sector size (“# jobs”) matters for labor supply

- Conditional on wages and job-finding rate
- Akin to agglomeration effect in urban economics (cf. Diamond 2016)
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- \(\delta\) and \(c\) are differenced out
- \(\tilde{\sigma}\) and \(\rho(O)\) matter through: \(N^k = \rho\left(\frac{P^k \left(L^k\right)^\gamma}{\left(\tilde{\sigma} - 1\right)c}\right)\)
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- A hidden parameter: how differentiated are jobs within a sector?
- In the paper, differentiation across sectors = within sectors
- As if assuming same \(\sigma\) for all goods to measure love from variety
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Counterfactuals and Welfare Effects?

- Key relationship:
  \[ V_t^k = w_t^k + \beta E_t V_{t+1}^k - \nu \ln (1 - \text{probability of leaving job at } t) \]

  - Regressions: relate (estimated) switching probabilities to export shocks
  - Given wages, an increase in switching probability reveals a welfare increase

- But model has only one channel to interpret within-sector relation

- Welfare implications are more nuanced in general
  - No job-to-job transitions (Cosar et al. 2016), switching workers worse off
  - With JTJ transitions (Fajgelbaum 2020), some switching workers better off
  - Welfare implication of average within-sector switching not clear
Main Counterfactual

Why is job opportunity channel more important in agriculture (since the export shock is to manufacturing)?

Table 8: Average changes in present discounted values as a percentage of the annual labor income (%)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>No job opportunity channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate</td>
<td>120.43</td>
<td>92.64</td>
</tr>
<tr>
<td>Agriculture</td>
<td>100.78</td>
<td>71.75</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>124.39</td>
<td>96.83</td>
</tr>
<tr>
<td>Services</td>
<td>120.21</td>
<td>92.42</td>
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</tbody>
</table>

Notes: Table reports for each model specification the average of changes in present discounted lifetime utility as a percentage of the initial annual labor income, weighted by the initial employment share of a labor market.
My Suggestions

1. Show empirical evidence that is more directly suggestive of the channel
   - Key: sector size matters conditioning on wage

2. Remove micro-foundation through tasks – no empirical counterpart anyhow
   - I.e. remove $\rho(N)$ and $\tilde{\sigma}$, use a completely standard trade model
   - Impose that jobs = jobs ($N = L$)
   - Work with nested logit, estimate within-sector differentiation

3. How to deal with other forces leading to reallocations?
   - Across-firms reallocations, job destruction

4. (Mind the writing)