The Potential Impact of Escalated Tariffs on the U.S. Economy

Linda L. Tesar
University of Michigan

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Chicago, October 18, 2018
Some basic theory on the gains from trade
... and the costs of restricting it

Country exports $X$ in exchange for $Y$

Balanced trade:
value of exports = value of imports at world prices.
consumption gains = production gains

Magnitude of gains:
$$G_j = 1 - \lambda_{jj}^{1/\varepsilon}$$

Two parameters govern magnitude of gains:
(Arkolakis, Costinot, Rodriguez-Clare)

* trade elasticity
* expenditure share on domestic goods

Extensions:
- Multiple sectors
- Intermediate goods trade
- Monopolistic competition
## Welfare gains from trade

Gains in percentages

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Gains relatively small because trade elasticity is fairly high, and share spent on imports is relatively small.

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Countries differ in sectoral composition and sectoral elasticity lower than trade elasticity. More scope for specialization and larger gains from trade.

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Amplification of gains from specialization.

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Additional margin of firm entry with love of variety magnifies gains from trade.

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18
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_Bown and Kolb, Peterson Institute for International Economics_

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Estimates of US GDP Impact of 20% US Import Tariff

Black dot – unilateral US tariffs
Red dot – global increase in tariffs

Impact on output ranges from less than 1 percent to nearly 5 percent. What accounts for the difference?
### Zhang multi-sector model

#### Unilateral US Tariff 20 percent

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<th>Percent changes</th>
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<th>Labor in goods sector</th>
<th>Wage</th>
<th>CPI</th>
<th>Real wage</th>
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<td>Canada</td>
<td>-0.38</td>
<td>-6.37</td>
<td>-1.29</td>
<td>-1.74</td>
<td>-1.38</td>
<td>-0.36</td>
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<td>-0.04</td>
<td>-2.02</td>
<td>-0.05</td>
<td>-0.54</td>
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<td>Mexico</td>
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<td>-9.57</td>
<td>-0.85</td>
<td>-3.07</td>
<td>-2.46</td>
<td>-0.61</td>
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<tr>
<td>US</td>
<td>-0.28</td>
<td>-9.84</td>
<td>1.63</td>
<td>1.68</td>
<td>1.97</td>
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<td>ROW</td>
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<td>-0.12</td>
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#### Global Tariff Increase of 20 percent

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<td>-11.38</td>
<td>-0.82</td>
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Models where losses from trade barriers are small

• Eaton-Kortum models (Applied GE models)
  – K, L used in each sector
  – Continuum of varieties in each sector – lots of substitutability
  – Most cost effective producers export – gains come from obtaining varieties at a lower price

• Model successfully explains:
  – Intra-industry trade
  – Matches relative country sizes, sectoral size, and input-output linkages (Levchenko and Zhang (2016))
  – Tariff causes output and trade to fall, rising prices and wages (real wage falls) (Zhang (2018))

• Is this a good model for explaining effect of tariffs?
  – Models do not do a good job of predicting which sectors will expand following a trade liberalization (Kehoe et. al.)
  – Model depends on sectoral and trade elasticities – estimates of these are very poor (Ossa (2015), Caliendo and Parro (2010))
So when might the effects of tariffs be large?

• Estimates based on Econometric models (ECB, Bank of England)
  – Feedback effects through exchange rates
  – Monetary policy adjustment

• Trade in a specific factor with no close substitutes
  – Minerals, oil, key components for production
  – E.g. Finland (Gorodnichenko et al 2012) – exported goods specific to USSR, barter exchange for oil, overvalued exchange rate, rigid labor market

• Spillovers to financial system / uncertainty
  – Decline in trade weakens banks; raises cost of capital

• Trade affects TFP
  – Imports embody knowledge
  – Trade encourages physical and/or human capital accumulation

• Dynamics
  – Adds a role for investment
  – Costly transition dynamics
  – But also adds another dimension for substitutability
Summary

• US tariffs will have a smaller impact if:
  – Tariffs affects goods/sectors for which:
    • US firms have alternative sources
    • US consumers have close substitutes
  – Financial markets are not destabilized
  – Retaliation is limited

• Small aggregate consequences could still imply large distributional effects, across states as well as across countries
  – Depends on incidence of trade barriers, composition of consumption and labor mobility (Auer et. al. 2018)