Brexit and International Agricultural Trade

Lorraine Mitchell

Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium’s (IATRC’s) 2017 Annual Meeting: Globalization Adrift, December 3-5, 2017, Washington, DC.
Brexit and International Agricultural Trade

Lorraine Mitchell
USDA-ERS
IATRC Winter Meeting, December 2017
The UK’s Place in the EU

• The UK has voted to withdraw from the EU
• The UK is 12 percent of the population of the EU, and 16 percent of the GDP
• One of the few large countries that is a net contributor to the EU budget
• 44 percent of UK exports go to the EU, and 2/3 of its agricultural trade is with the EU
The Terms of the UK Withdrawal from the EU

• Two years from the invocation of Article 50, which happened in March 2017
• Many issues to negotiate, i.e. trade agreement
• The single market is more than trade
  – Regulation
  – Product standards
  – Tax incentives
  – Professional/transactional licensing/insurance
  – Free movement of labor
• EU exit payment
Some Brexit Issues are Unique to Agriculture

• The UK is not food self-sufficient
  – Seventy percent of UK land in agricultural production
  – Still, agricultural and food imports are almost 3 times as high as agricultural and food exports

• Farmers receive quite a bit from the CAP.
  – CAP style payments will continue for two years after Brexit
  – Unclear what happens after that
  – Widespread view that payments will fall
A Number of Distinct Potential Effects

• Trade – Tariffs
  – Particular concern that failed negotiations will mean that the EU imposes MFN tariffs on UK goods
  – Treaty of Lisbon
• Trade regulations, harmonization
• Macro shocks
  – Reduction of jobs in financial sector (GDP of financial sector = 35 billion GBP)
  – Lump sum payment (20 – 60 billion euros)
  – Reduction in labor supply
Other Work on Brexit

- Boulanger and Phillipidis (2015) a net welfare loss to the UK
  - Assumes EU –Canadian tariffs are applied to the UK, and that the UK loses the intra-EU trade cost reduction of 2-5 percent.
- IMF (2016)
  - an EFTA type scenario would result in a 1.5 percent decline in UK GDP
  - MFN tariffs (no agreement) would lead to a 4.5 percent decline
- Van Berkum et al. (2016)
  - MFN or FTA with EU lead to increased prices and farm incomes
  - Trade liberalization leads to a decline in farm incomes, unless direct payments are preserved.
Why Do This?
Arguments from the Referendum

• Reduced fiscal pressure from net payments to EU
• More trade with third countries
  – Can negotiate to favor the UK’s comparative advantage
  – Can align product regulations more closely with UK preferences
• Less trade, more domestic production
• Higher wages with lower labor supply
The views expressed are those of the author and should not be attributed to the Economic Research Service or USDA
How Do We Begin to Weigh Different Aspects of Trade?

• Where do the advantages of EU membership come from?
  – What is the marginal effect of an increase in tariffs?
  – What is the marginal effect of dropping out of the EU, beyond tariffs
  – What is the marginal effect of joining EFTA, above and beyond belonging to the EU

• What is the effect of distance/contiguity on agricultural trade
  – Is distance so determinative of trade costs that it outweighs RTA benefits?

• Are these costs and benefits different for the UK?
Basic Gravity Model

• Poisson model (Silva and Tenreyro, 2006)
• Fixed effects
• Agricultural Imports = log Distance + Contiguity + Common Language + EU Membership + EFTA Membership + log Tariff + Other RTA membership + $\sum$ Fixed Effects_{importers} + $\sum$ Fixed Effects_{exporters}
• Interactive terms for the UK (either exports or imports)
Data

- Global Trade Atlas for agricultural imports – 75 countries
  - Major players
  - 2015
  - WTO definition of agriculture
- CEPII data for distances, language, contiguity
- WITS tariff data – simple average over agricultural tariff lines, 2015
- Binary variables for RTA membership (WTO website)
Gravity Coefficients, Overall

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contiguity</td>
<td>1.157</td>
<td>0</td>
<td>***</td>
</tr>
<tr>
<td>Log distance</td>
<td>-0.225</td>
<td>0</td>
<td>***</td>
</tr>
<tr>
<td>Common Language</td>
<td>0.268</td>
<td>0.008</td>
<td>***</td>
</tr>
<tr>
<td>EU Member</td>
<td>0.478</td>
<td>0.037</td>
<td>**</td>
</tr>
<tr>
<td>EFTA Member</td>
<td>1.592</td>
<td>0</td>
<td>***</td>
</tr>
<tr>
<td>Log tariff</td>
<td>0.214</td>
<td>0.694</td>
<td>***</td>
</tr>
<tr>
<td>RTA</td>
<td>0.502</td>
<td>0</td>
<td>***</td>
</tr>
</tbody>
</table>

The views expressed are those of the author and should not be attributed to the Economic Research Service or USDA
# Gravity Coefficients, UK Interactive Terms

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Contiguity</td>
<td>0.905</td>
<td>0.038</td>
<td>**</td>
</tr>
<tr>
<td>UK Distance</td>
<td>0.094</td>
<td>0.513</td>
<td></td>
</tr>
<tr>
<td>UK Common Language</td>
<td>0.046</td>
<td>0.865</td>
<td></td>
</tr>
<tr>
<td>UK EU member</td>
<td>0.061</td>
<td>0.842</td>
<td></td>
</tr>
<tr>
<td>UK Log Tariff</td>
<td>-1.108</td>
<td>0.491</td>
<td></td>
</tr>
<tr>
<td>UK RTA</td>
<td>-0.08</td>
<td>0.719</td>
<td></td>
</tr>
<tr>
<td>UK Importer</td>
<td>1.528</td>
<td>0.222</td>
<td></td>
</tr>
<tr>
<td>UK Exporter</td>
<td>0.944</td>
<td>0.453</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

• Determinants of UK agricultural trade are not that different from the determinants of agricultural trade in the rest of the world

• Exception is contiguity
  – This represents trade with Ireland
  – Effect of contiguity is greater than that of two random neighboring countries
  – Major issue: what is to become of this trade, nature of the border, implications for NI
  – Can’t just add coefficients for UK and overall contiguity – see Shang et al. (2017)
Discussion (cont.)

• Sources of trade policy benefits
  – High marginal benefits from being an EU member
  – High marginal benefits to being an EFTA member
  – Benefits to RTA similar to those of being in the EU
  – Benefits of just tariff reductions less clear

• Distance and contiguity are very important

• Adding the benefits of small distances to the benefits of being in the EU might require a better RTA than average
Future Directions

• Improve tariff data
• Disaggregate
• Add structural components, like GDP
  – Methodological challenges
  – May never be able to measure the sum of all of the possible shocks in a partial equilibrium model
• More investigation of the relationship between UK and Irish trade