Ontario’s cross-border economy

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Borders and Regions
Preliminaries

- **Boundaries vs. Borders**
  - Lines of impedance
  - Discrete change in areal characteristics

- **Border Functions**
  - Customs, immigration, security
  - Tariffs declining
  - *Clandestine Transnational Actors*

- **Border placement seldom makes economic sense**

- **Geography 101: formal and functional regions**
Formal region
Formal region
Functional region
Functional region
Border that does not make economic sense
How might this happen?

- Rivers and lakes are natural highways
- Functional regions develop around them
  - Indus and Nile Valleys
  - The Ruhr
- Rivers and lakes provide convenient boundary locations
- Functional regions are divided
  - Congo River
  - Great Lakes
Dem. Republic of the Congo
(source: CIA World Factbook)
Ontario’s Cross-Border Economy
History

- Great Lakes avenue of continental penetration
- Eastern border created by 1783 Treaty of Paris
- 1879 MacDonald’s National Policy (tariffs)
- Parallel industrial development in Great Lakes States and Southern Ontario
- Gradual integration
Canada-US Border
(Source: Wikipedia Commons)
Canada-US Trade

- World’s largest bilateral trade relationship
- About 50% in Ontario

- **Cross-border economy**: systems of production and consumption are highly dependent on cross-border movements of goods, people, information, funds.
Ontario’s total exports 2010 ($mil)
Highway distance from Toronto (km)
Ontario merchandise exports by industry, 2010

- Motor Vehicle Mfg: 37%
- All Other Industries: 13%
- Other Mfg: 50%
Ontario-US Truck Crossings

Ontario Border Crossings by Truck Volume

Legend
- Ontario Border Crossings
- Truck Crossing by Volume
- U.S. Roads
- Canadian Roads
- Great Lakes
- Border States
- Ontario
- States

Michigan

New York
Cross-Border Supply Chains

- More than just exchange of finished goods, an intermingling of production systems
- Windsor, Ontario’s largest automotive plants
  - Vans assembled from US parts
  - Engines for US-assembled trucks and cars
- Just-in-Time: little tolerance for delays, disruptions (down time valued up to $13,000 per minute.)
- Border costs make firms engaging in cross-border supply chains less efficient and competitive
Cost of the Border
Border crossing costs for goods

- Duties, fees, tolls
- Customs administration, other document prep
- Empty backhauls
- Average Delay
- Delay Uncertainty
- Compliance with “trusted trader” programs
- Cross-border business trips
Bottom-up assessments of border crossing costs for freight

- Taylor et al (2004) study found that border costs are equivalent to 2.7% *ad valorem* tariff (4% for trucks)
  - Carrier costs only about 25% of total
  - Customs administration is a major component

- Statistics Canada (Brown and Anderson, 2012) study, estimating border increment for trucks
  - Increment is 20% to 40% of domestic cost
  - .4 to .9% tariff equivalent
Border increment on trucking costs as *ad valorem* tariff equivalent

Top-down estimates of border cost

- Gravity model of trade among provinces and states

\[
X_{ij} = \mu \frac{Y_i Y_j}{d_{ij}^\beta} \exp(\lambda b_{ij})
\]
Border dummy variable

bij = 1
bij = 0
bij = 1
Results

- Early studies (McCallum, 1995; Helliwell, 1997) found very high border effects.
- Anderson and van Wincoop (2003), interprovincial trade is 10 times state provincial trade after controlling for income and distance.
- Tariff equivalent range around 20% (depends on assumed elasticity of substitution).
- Brown and Anderson (2002): much lower border effects with a different specification.
Why the gap in estimates of tariff equivalent border costs?

- Border crossing costs are only part of the “border effect.”

- Other factors
  - Inconsistent regulations
  - Variations in tastes, brand recognition
  - Exceptions to “free trade”
  - Sparse cross-border interpersonal networks
General equilibrium effect

- Nguyen and Wigle (2011) CGE model of Canada at provincial level with links to US
- 1% increase in border costs results in a 1.3% decrease in welfare for Ontario (1% for Canada)
- Decreased Canada-US trade results in a decrease in interprovincial trade
Trends and effect of 9/11
Impact of 9/11

- **Enhanced security regime ("thickening")**
  - More rigorous inspections (delays, uncertainty, fees)
  - Increased documentation requirements
  - "trusted trader" programs

- **Contemporaneous factors**
  - High and unstable Canadian dollar
  - Trends in automotive sector
  - Global competition
Exports to the US

![Bar chart showing exports to the US from 1992 to 2010. The chart compares total exports and Ontario's contribution over the years.](chart.png)
Exports to the US

- Oil and Gas
- All others
Evidence of 9/11 effect on Canadian exports

- Evidence on personal vehicle crossings is more clear cut.
Estimates of 9/11 effect on same personal vehicle crossings from Canada to US (Anderson, Maoh and Burke, 2012)
Three types of policy

- 1. Making the border crossing more efficient
  - Infrastructure, staffing
  - Technology
- 2. Moving functions (customs, security, immigration) away from the border
- 3. Policy harmonization to make border functions unnecessary (perimeter approach)

Overarching strategy: risk assessment
Research Directions
Topics for regional scientists

- More work on gravity and CGE
- More focused work on mechanisms behind the border effect
  - Supply chain perspective
  - Cross border social networks
- Cross-border infrastructure
- Consequences of border disruption
- Attitude toward border