Infrastructure – Accessibility or Connectivity?

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Overview

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Introduction

• Comments from a Canadian context
• Some results from a study by Apparicio, Dussault, Polèse and Shearmur (2007)
• In our conclusion, we will try to answer some of the questions raised
The Canadian context with respect to transport infrastructure

- Objective: measure the impact of transport infrastructure on local employment growth in Canada (1971-2001)
- Canada divided in 145 urban and 214 rural places (northern Canada is not included in study)
- Three decades separately (71-81; 81-91; 91-01)
The Canadian context with respect to transport infrastructure

• Application of GIS (Geographical Information Systems) techniques combined with econometric modelling

• Integration of continental accessibility variables associated with four transport modes → using modal mixes (harbour-roads; rail; roads-air; air)
The Canadian context with respect to transport infrastructure

• Findings:
• Transportation modes do not act in isolation ➔ necessary, but not sufficient condition for growth
• Different transport modes are associated with different industries.
  – Financial services and producer services ➔ Road-air
  – Manufacturing ➔ harbour-roads; rail
  – Wholesale ➔ all
The Canadian context with respect to transport infrastructure

- The study finds a significant positive relationship between transport infrastructures – via the access they provide to continental markets – and local employment growth.
- The combined positive impact of the four modal mixes on growth in manufacturing employment rises significantly over time.
  - Growth in mfg employment in Canada is increasingly linked to considerations of transportation access to continental markets.
The Canadian context with respect to transport infrastructure

- For manufacturing employment, the strongest – and growing – relationship is with the modal mix of harbours and roads.
The Canadian context with respect to transport infrastructure

• Three conclusions
  – First, the gap between communities that are “well-connected” and those that are not is likely to widen in the future. This is good news for communities – small cities as well as large – in Southern Ontario, in south-western Quebec, and in parts of the Maritimes and in B.C. Lower Mainland, but bad news for communities in Canada’s peripheral regions, less well-connected to continental markets
    • i.e. Infrastructure is not an “antidote” to remoteness
The Canadian context with respect to transport infrastructure

– Second, growth, most noticeably in manufacturing employment and in related industries, will tend to coalesce along trade and transport corridors. The prime example in Canada has always been, and remains, the Windsor-Québec City corridor. Other examples are the Edmonton-Calgary-Lethbridge corridor in Alberta and the Halifax-Moncton-Fredericton corridor, around which growth in the Maritimes is increasingly coalescing.
The Canadian context with respect to transport infrastructure

– Third, investments in transport infrastructure that *significantly* improve the combined road, water, rail, and air accessibility of communities to continental markets should stimulate local employment growth, notably in manufacturing.
Conclusion

• We could make a parallel between new/improved infrastructure and tariff
• As for the elimination of a tariff, new/improved infrastructure will reduce the cost of trade (transport and communication costs) with other regions, both out of the region, but also in the region…
Conclusion

• One difference with trade liberalisation
  – tariff ➔ national economy
  – Infrastructure ➔ regional/local economy
  – Is market size sufficient to think that – in isolation – economies of scale could be achieved?
Conclusion

• As with trade liberalization, the presence of market failures should be addressed
  – Labour and business dimensions…

• Accessibility and connectivity are not substitutes, but rather complementary…
  – Even in service trade, the need for face-to-face meetings is increasing… as witnessed in Canada by the concentration of such employment in larger urban centers, although do not need “all modes” in such context
Conclusion

• The choice in the approach and focus with respect to infrastructure development should be based on the region’s characteristics and its comparative advantage
Conclusion

New / Improved Infrastructure

Case 1: Firms serving local market are “protected” from external competition by deficient infrastructure ➔ LOSS

Case 2: Firms serving local market are competitive on external markets but restricted by deficient infrastructure ➔ GAIN

Case 3: Existing (new) exporters who could be more (become) efficient with better infrastructure ➔ GAIN