Romer or Ricardo?

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Discussion by Sam Kortum

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Goal of the Paper

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- Introduce trade into a growth model to harness product-level trade data
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  - … what would product-level bilateral trade look like under various innovation scenarios
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• I like this agenda!
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  • else the model loses its ability to illuminate
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• Suggestion: revisit Krugman (1979, JPE)
  • collapsed into two figures …
• Varieties produced in North and South (US and China) \( n = n_N + n_S \)

• Innovation (North) and imitation (South) \( \dot{n} = \iota \times n \) \( \dot{n}_S = \tau \times n_N \)

\[
\dot{x} = \tau - (\iota + \tau)x
\]

steady state

\[
\ddot{x} = \frac{\tau}{\iota + \tau}
\]

\( x = \frac{n_S}{n} \)
• Fit’s into DFS

\[ n = n_S + n_N \]

South exports: \[ n_S \]

North exports: \[ n = n_S + n_N \]

South relative efficiency: \[ \left( \frac{L_N/n_N}{L_S/n_S} \right)^{1/\sigma} \]

\[ w_S/w_N \]
1. US exports are nearly all Romerian; China’s nearly all Ricardian
Krugman and the Five Findings

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2. Products migrate from US to other rich countries, then to developing countries
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4. Half of world growth comes from innovation on imports and 1/3 from new products

5. Most small-country growth comes from foreign innovation, but only 1/4 for the US
Gagnon and Rose: Contrarians


- Key statistic is normalized trade balance of product $i$:
  \[
  NB_{it} = \frac{X_{it}}{\sum X_{i't}} - \frac{M_{it}}{\sum M_{i't}}
  \]

- Finds little evidence for Krugman-type product cycles (here South was Japan)

- In 1962, nearly 48% of US trade was in products with surplus (1 std. dev. above balance)
  - 29% was still in surplus by 1988, and only 1.6% had moved to deficit (1 std. dev. below balance)

- In 1962, about 23% of Japanese trade was in products with deficit
  - 14% remained there by 1988 and only 5% had moved to surplus
Conclusion

• We need more evidence on the nature of innovation
  • product-level trade data is a good vein to tap!

• Look for more parsimony in the model: e.g. Krugman

• Look for additional statistics: e.g. Gagnon and Rose
  • try to resolve the puzzle: why were their findings so negative on product cycles?