Intellectual Property, Tariffs, and International Trade Dynamics

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Discussion by

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Important Research Questions

- To what extent are trade and intellectual property protections related and how?
- Do policies governing the enforcement of intellectual property rights interact with trade policy?
- The welfare implications of these policy on each country

Technology Diffusion via Ownership Channel

- Through **ownership** channel: Branstetter et al. (2006)
  - royalty payments= a dummy variable of reform in IPR + controls
  - royalty payments received from affiliates of MNC
  - Firm level data

Technology Diffusion- Supply Chain Relation

- 30-35% of royalty payments received by U.S. parents are from foreign non- affiliates

$$ln(Roy_{it}) = \beta_0 + \beta_1 ln(Imports_{it}) + \beta_2 Size_{it} + \gamma_i + T_t + e_{it}$$

- Additional controls?
  - IP protection variable
  - Parent, host country, characteristics
  - Foreign country's FID openness
  - Current sample : industry-year observations 1999-2004 benchmark year
  - Non-public data: firm-year observation

Technology Diffusion: Affiliates vs. Non-affiliates

- Pricing schemes
  - Transfer via ownership as in Branstetter et al. (2006)
    - ? Lower price
  - Transfer via arms-length relationship
    - ? Higher price , then the quantity of transfer is actually smaller
    - Non crown jewel technology transfer
      - Any difference in IPR – less stringent laws?
- Robustness: R&D investment by non-affiliates industry

Tariff rates or the uncertainty of future tariff rate

- Tufts, Tufts, Kellogg (2019): trade policy uncertainty affects stock returns.
  - China's MFN status must be renewed each year by US Congress – 1990-2000
- Current study: sample period: 1999-2004
  - Modeling the level of tariff rates vs. change in rates?
- Manufacturing industry vs. other industries
  - Intensity of IRP

Strategic interactions between Trade and Innovation

- **Akcigit et al. (2018): tax credit** in 1981 on R&D is effective in generating welfare gains in the long run; increasing tariff is only effective in the short run.
- **Santacreu and Varela** (WP 2019): Chinese trade shock impact on France's imports and innovation
  - The value of Chinese imports surged by four folds (2000-2016)
  - An expansion of R&D in sectors facing higher import penetration from China.
- **Autor, Dorn, Hanson, Pisano, and Shu** (2019) : Rising import exposure intensifies competitive pressure, reducing sales, profitability, and R&D expenditure at U.S. firms.
  - Manufacturing industry, imports from China **lowers** U.S. patenting

Modeling Innovation by Foreign: China

- **Why China Can't Innovate** - **HBS 2014**
- Council on Foreign Relations declared China's **Made in China 2025 industrial strategy "the real existential threat to US technological leadership." –** 2018
- China has also overtaken the US as world leader in terms of the total number of scientific papers published, according to statistics released in January by the US National Science Foundation (World Bank).
- A **repeated** game ??

Tariff war vs. Currency war

- "Tariffs directly lower demand for foreign products, resulting in depreciation of the real exchange rate in Foreign"
- August 5 2019, Mr. Trump announced a threat of 10% tariff on Chinese goods,
  - emerging market currencies plunged
    - Korean won fell 1.4% against USD- > impact on imports from these countries
  - Negative effects on financial markets
  - U.S. GDP growth rate dropped from 3% to 2%
  - RMB depreciation negates the effect of tariff rates ?

Conclusion

- Important and Timely topic
  - YES
- Extend several strands of ongoing research
  - YES
- Extensions