# Cross-Border Institutions and the Globalization of Innovation

*Bian, Meier, and Xu*

Discussion – SFS Cavalcades – May 2021

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# This Paper

**Diffusion of innovation across national borders**

- How do two countries exchange knowledge?
  - Investments
  - Human contacts (meetings)
- What are the brakes to knowledge diffusion across countries?
  - Contractual frictions (this paper)
  - Culture (language, law system, etc.)

**In the background**

- Global growth
- Growth convergence between countries
- Optimal international innovation policy

# This Discussion

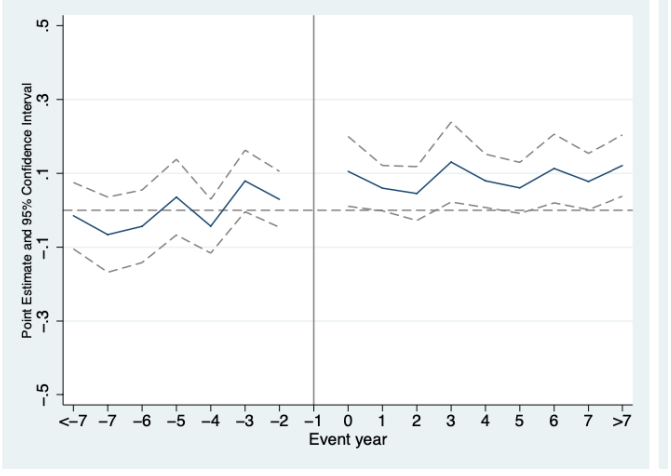
A lot to cover ...

- What are Bilateral Investment Treaties (BITs)
- Empirical framework and results
- Heterogeneity

# Plan

# Bilateral Investment Treaties (BITs)

- BITs are good → more innovation



# Bilateral Investment Treaties (BITs)

- BITs are good → more innovation
- Methodology — Death by 1000 cuts
  - extensive margin; different type of patents;
  - tech-convergence
  - treatment intensity: institutions, arbitration ruling shock
  - cross-sectional variations: types of innovation, types of countries
  - effect on investments (M&A, etc.)

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- Channels of innovation transmissions?
  - Favors contractual frictions
  - What about cross-border investments? Market penetration?

# Why are BITs a good shock to bilateral country relations

**Lots of bilateral country agreements out there**

- Bilateral trade agreements
- Multilateral trade agreements that can be strong and weak: WTO, TAFTA, EU
- Foreign policy (matters for trade)

**How are BITs special?**

- Focus mostly on contractual frictions: BITs protect investors from expropriation in a foreign country
- Chilton (2015)
  - US promotes BITs not for direct trade/investment but for "political considerations"
  - BITs are not predicted by trade flows but by communism
  - Does it predict trade ex-post? Exclusion restriction?
  - "Political motives" does not mean there are no economic interests
- Treaties are signed because they are misunderstood by mid-level bureaucrats (sic)

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- Treaties are signed because they are misunderstood by mid-level bureaucrats (sic)
  - Why are these treaties so unimportant?
  - If the US is using this as a political tool, isn't this proof that they are actually important?

# How do BITs work in Practice

**Details of the politics of BITs?**

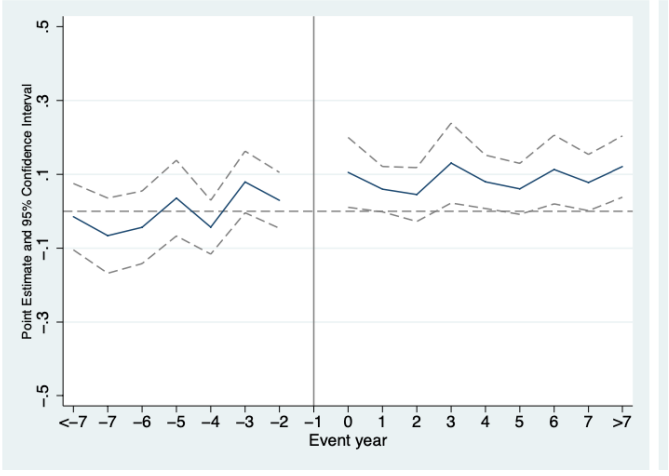
- Only 12% of country-pair sign those (how does it compare to different level of trade integration)
- Are these contracts lopsided, exploitative (see the U.S. behavior above)
- If they are part of a more global foreign policy reach it is hard to take them in isolation
  - Unlikely the US/China will just go to Kenya and lower contractual frictions without other concurrent policy tools

**Correlation of BITs?**

- Other measures of country integration

# Plan

# Bilateral Investment Treaties (BITs)



# Why this is an interesting paper

**Put together lots of data sources**

- From PATSTAT Global to UNCTAD; from SDC to Comtrade
  - Other connex sources (judge shock, process innovation measures etc.)

**Detective novel**

- Correlation not taken for granted
- Explore the who? and to some extent the why?

# Empirical Results

$$Y_{ij,t} = \gamma_{ij} + \kappa_t + \beta BIT_{ij,t} + \varepsilon_{ij,t}$$

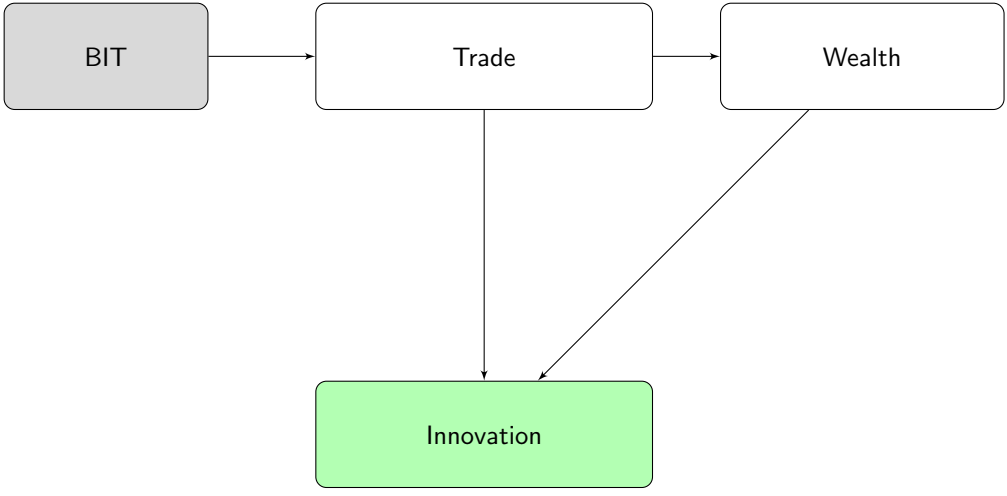
**Baseline results**

- After a BIT the share of patents increases by $0.13\%$
  - Baseline is $1/150 = 0.671\%$
  - Is this the correct baseline? BIT countries have larger share (US)? Magnitudes?
  - Why shares? We want to look at growth in innovation not reallocation
  - Some results with patent values (cit. weights); what about stock price?

**Most interesting is heterogeneity**

- Treatment intensity ... more on this later

# Mechanism



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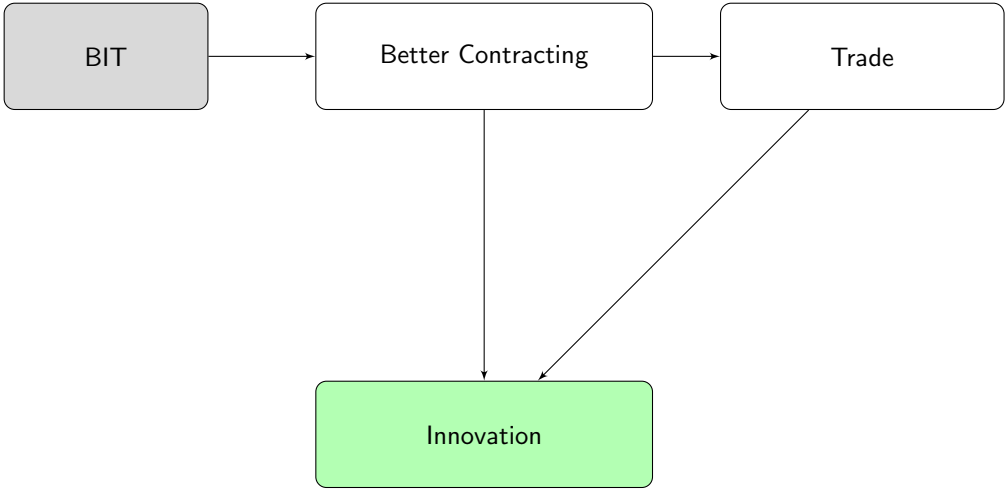

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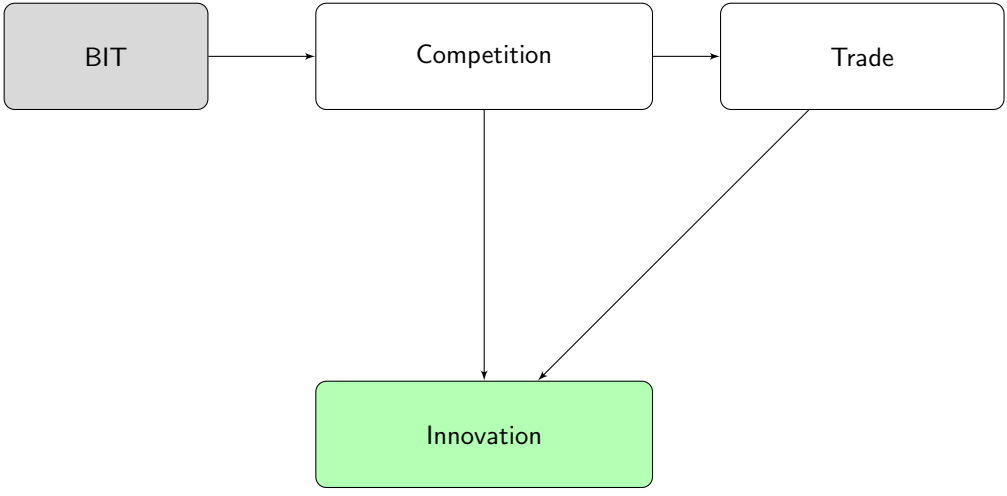

# Heterogeneous Treatment

**Focus on variation in contracting frictions**

- Across firm investments benefit more than within firmsAfter a BIT the share of patents increases by $0.13\%$
  - Should we see a rise in contracts across firm (1st order effect) and fewer M&As?

**Other variation**

- Type of innovation: more process than product innovation
  - Suggest offshoring? Apple (or local contractor) sets plants in Vietnam and patents some production process
  - More about global supply chains than about sharing innovation
- Distance in technological development
  - Larger effect in countries that are further from frontier
  - Suggests less collaboration than partnership in production

# Final Thoughts

**Very interesting Paper!**

**Take away**

- Foreign policy can promote exchanges between countries: goods, persons, and ideas
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**Great Paper!**