



R&D Globalization: Challenges and Opportunities

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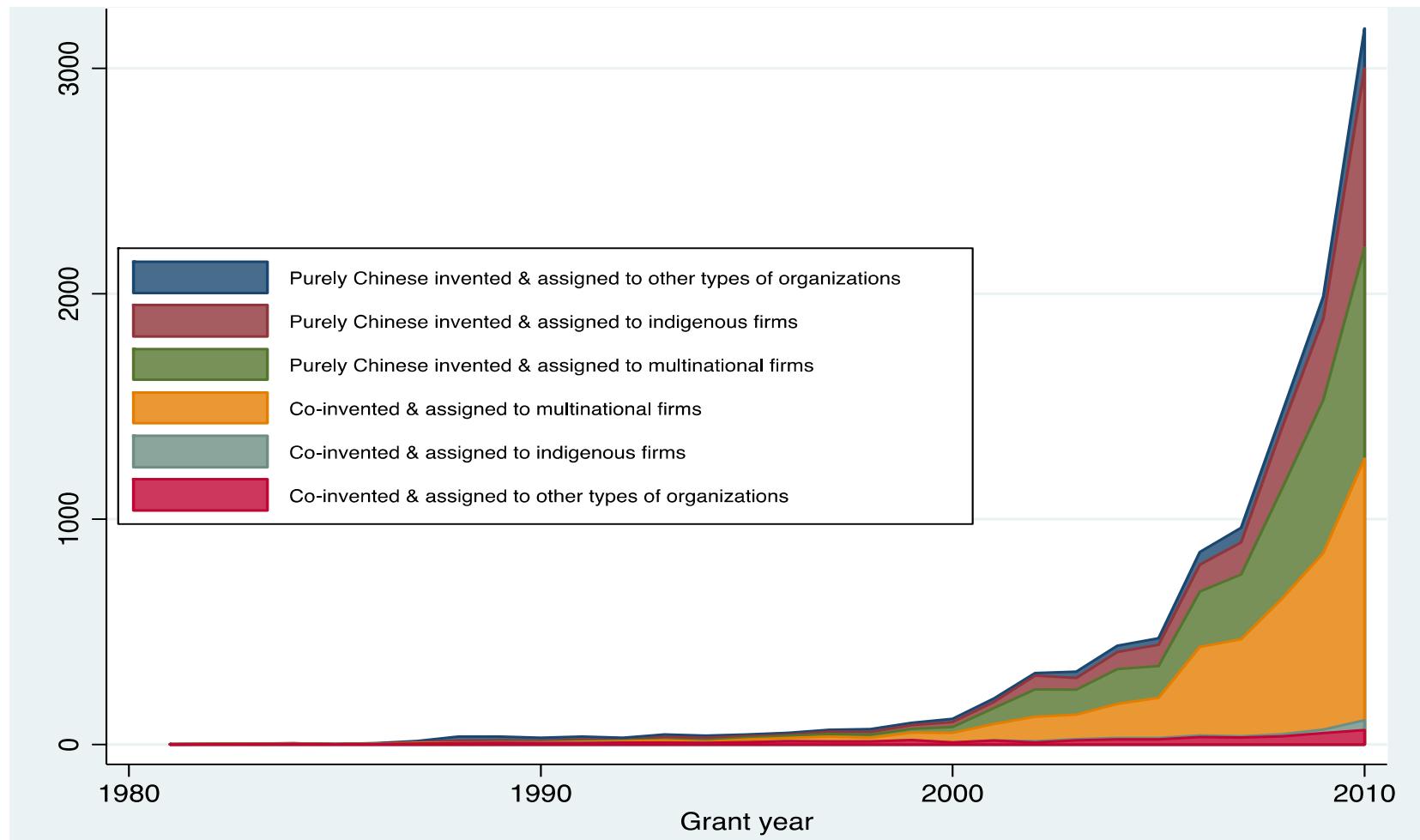
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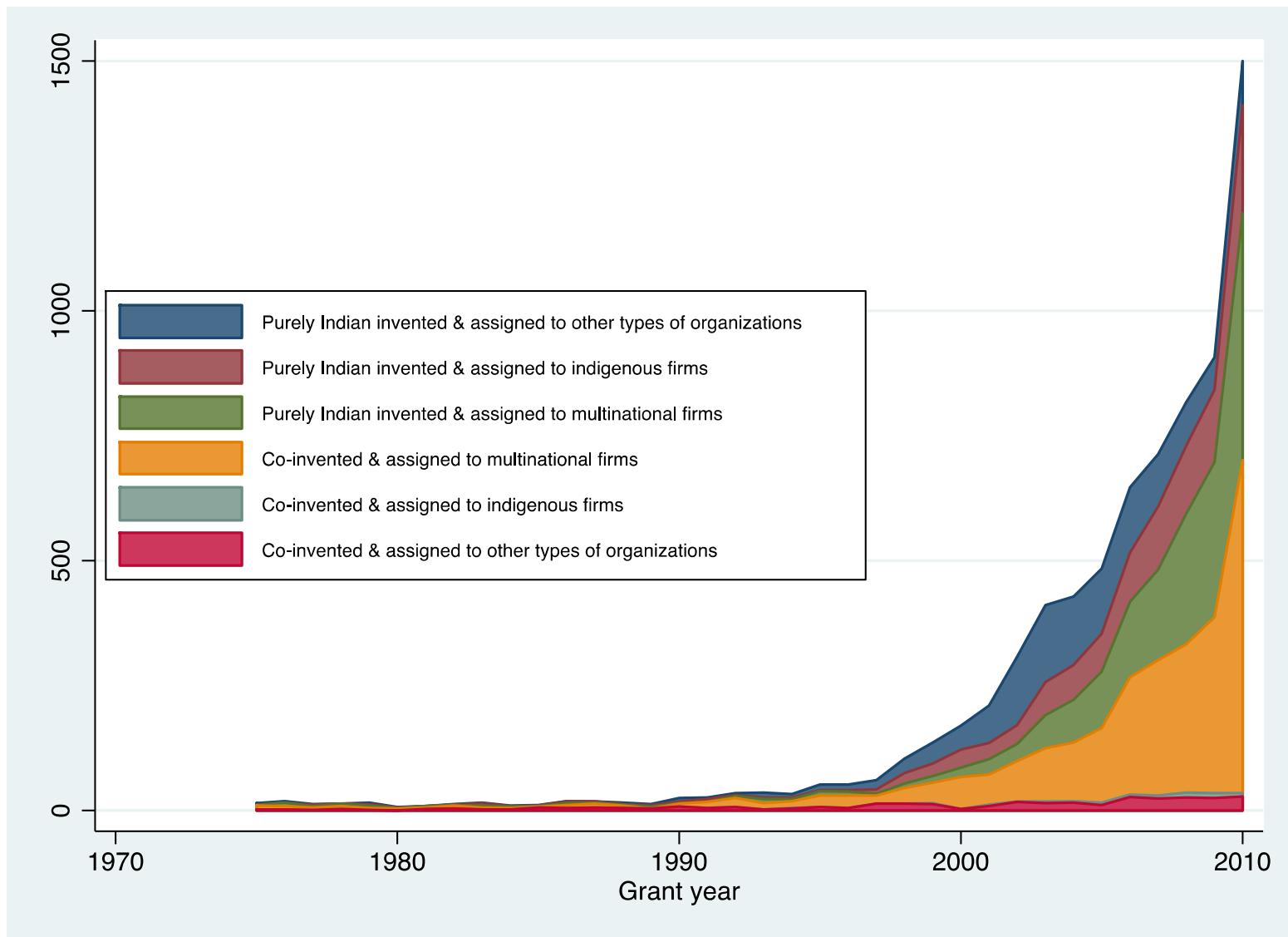
R&D globalization: what's new?

- A working definition: corporate R&D activity that takes place outside, or partly outside, the home country.
- America's leading multinationals have been doing this for a long time...
- Since the late 1990s, there has been a pronounced shift towards much more activity in emerging markets.
- These new hosts of international R&D activity present a unique set of opportunities and challenges.

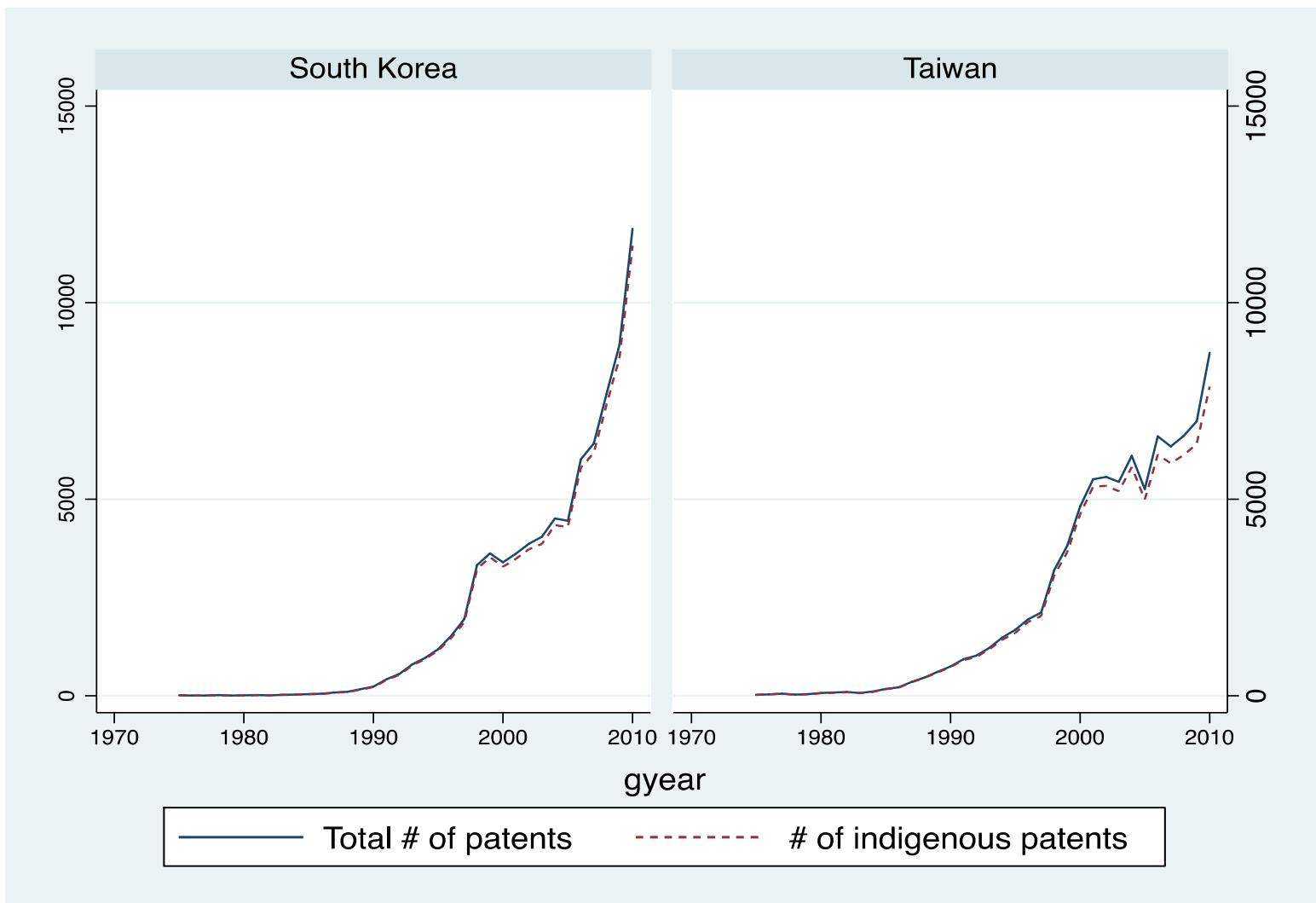
We see explosive growth in USPTO patents granted to inventors based in China...



And in India...



China and India differ from Taiwan and Korea in the composition of their innovation surges



An encouraging view of recent developments...

- R&D processes can now be disaggregated into multiple stages, which are then located where they can be undertaken most effectively.
- The best of China and India's vast legions of science and engineering graduates can be plugged into global R&D operations, managed by the world's most sophisticated multinationals.
- The possibility of a win-win outcome for a more integrated global innovation system that can benefit both emerging and advanced economies.
 - The entire world benefits from the scale and low cost of the Chinese and Indian S&E workforce
 - China and India engage in frontier R&D at an early stage in development
 - Western technologies are redesigned to meet Indian and Chinese needs
 - China and India won't eat our lunch, they will take us out to dinner!

But these new hosts also present important challenges...

- Inadequate protection for multinational intellectual property rights.
- A deliberate strategy to accelerate the development of indigenous high-tech “national champions” through:
 - Strong financial incentives for local R&D
 - Forced localization of production (LCRs)
 - Organized efforts to steal trade secrets, through “cybertheft” and more traditional means.
 - “Voluntary” technology transfer
- Multinationals rarely have the upper hand when bargaining with a determined sovereign government.
- How should the United States – and other Western FDI source countries -- respond to this?

Existing legal remedies have their limits...

- “Forced” technology transfer is WTO-illegal, but relatively easy to disguise.
- And LCRs can also be set up in a way that makes them hard to address with standard legal remedies.
- Only governments have legal standing to press these cases at the WTO.

Moving toward a more strategic response

- Finding out what is really going on - from anecdote to systematic evidence.
- A major effort to challenge forced localization (and forced technology transfer) using the WTO.
- India and the link between high-skill immigration, trade, and FDI.
- Alternative points of leverage vis-à-vis China.
- The existence of “indigenous innovation” strategies in host countries seems to call for a more strategic response by source countries.