Comments on
The New Global Invention Machine
And
Multinationals in the Digital Economy

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The New Global Invention Machine

• “U.S. multinational firms are creating a global division of R&D labor akin to global value chains in goods production…”
• Since 2000, big increase in U.S. MNC R&D in the three new hubs: China, India, Israel
• Large share of patenting from the new hubs assigned to MNCs
• Policy obstacles from the U.S. and the hubs, especially China
Research value chain different from manufacturing GVCs

• U.S. MNCs domestic share of R&D declined from 88% around 1990 to 84% in 2013
• By comparison, domestic share of Korean manufactured exports in the 30-40% range
• Large number of developing countries involved in mfg GVCs, but only China and India for R&D
Domestic value added in South Korean exports

Source: Authors’ calculation based on South Korea’s national IO table.
Policy obstacles from the U.S.

- Restrictions on skilled immigration
- Trade war with China
- Technology decoupling with China
Policy obstacles from China

• Weak IPR protection
• Forced data localization
• But also...
• Indigenous innovation policy
• Made in China 2025
• Restrictions on FDI in services
Made in China 2025 Targets 10 Industries with subsidies and protection (?)

- Artificial intelligence and quantum computing
- Automated machine tools and robotics
- Modern rail transport equipment
- Self-driving and new energy vehicles
- Biopharma and advanced medicine
- Aerospace
- Maritime equipment
- Power equipment
- Agricultural equipment
- New materials
USPTO patents granted to Chinese inventors 2013 (from Figure 7b)
Overall FDI Restrictiveness Index, 1997-2018 (0=Open; 1=Closed)
Multinationals in the Digital Economy

• “Core digital MNCs, distinctive in that they build digital offerings as their primary product or service”
• 7 of 10 top market capitalization globally are digital MNCs (5 U.S., 2 Chinese)
• Only 1 of these (Amazon) is in the top 10 in terms of employment
• “Bottom line is that the digital economy is more centralized than some intuition might have predicted”
Digital MNCs and Labor

- Paper speculates that buying services through digital MNCs does not stimulate local output and employment
- Is this serious enough to affect the whole labor market?
- What would be a rational policy response?
Digital MNCs and Regulation

• Initially it was thought that digital MNCs might be able to evade law/regulation because of lack of physical presence
• Uber flaunting of laws was a case in point
• But increasingly digital MNCs do have servers and employees in country, making them easier to regulate
Future of Digital MNCs: Some Questions

• How feasible are the plans of some Democratic candidates to break up the tech titans?
• What would that landscape look like?
• Different approaches to cross-border data flows in EU, U.S., and China: can these be reconciled into a single standard?
• What is the implication for digital MNCs of three different data localization regimes?