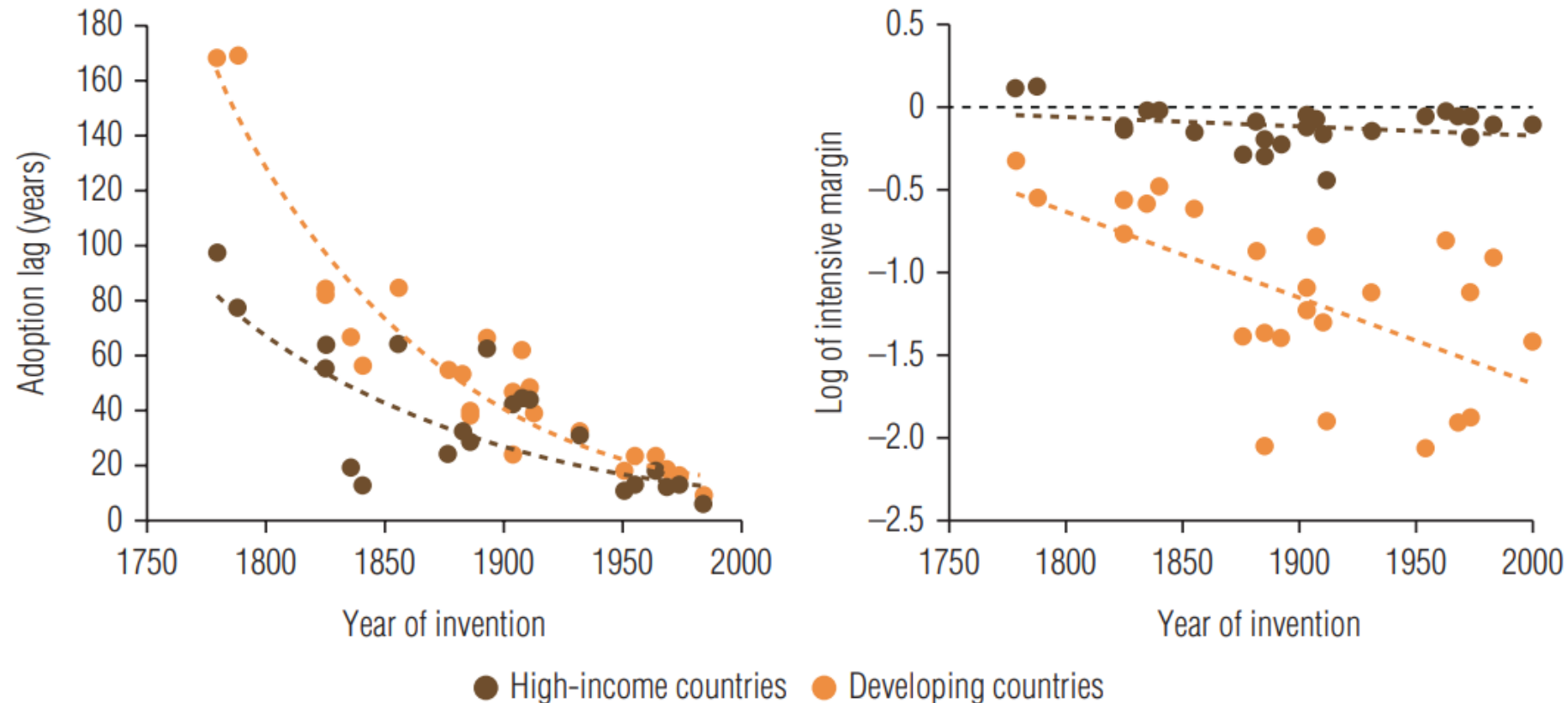


Technology Standards in Developing Countries

Xavier Giné, World Bank

Framing the Issue

- Technology standards can accelerate the diffusion of technologies



Framing the Issue

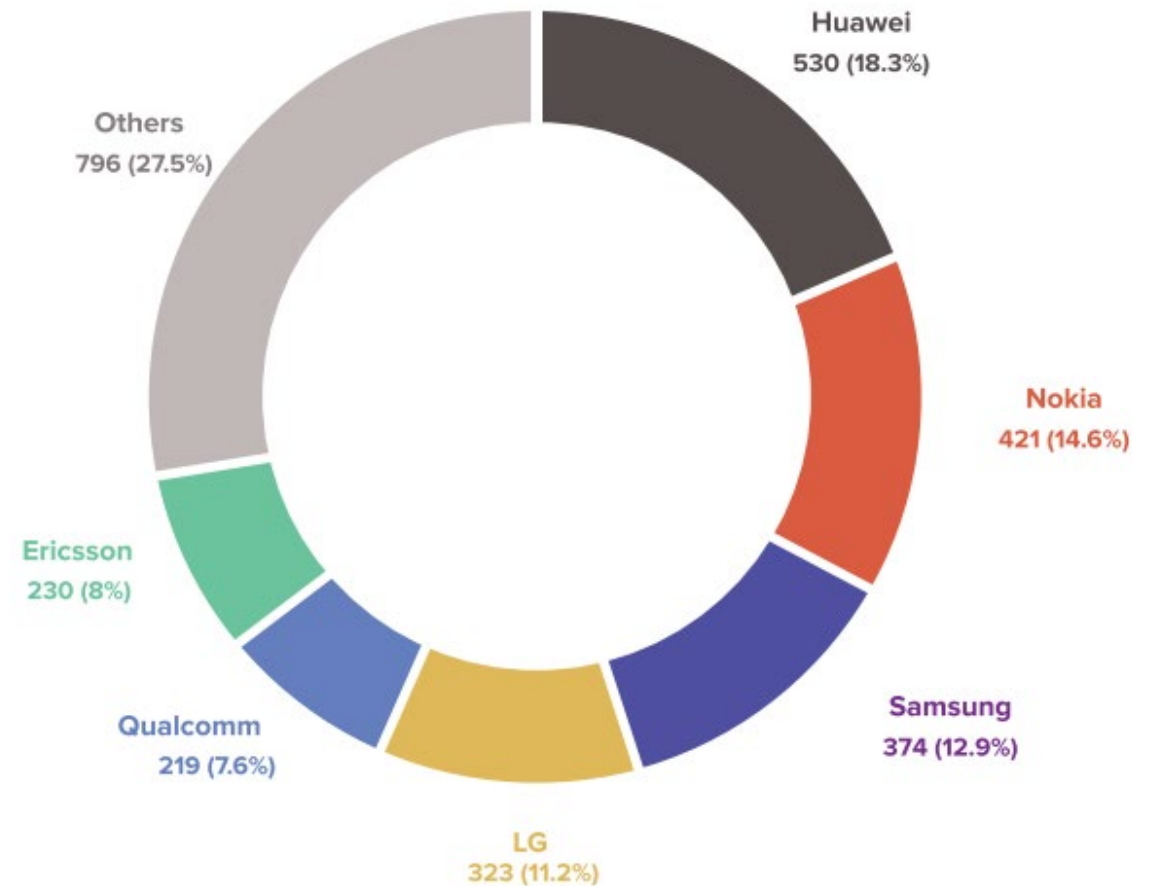
- Developing countries are mostly standard takers
- Standard essential patents (SEPs) are central ICT/digital but involve licensing and royalties under fair, reasonable, and non-discriminatory (FRAND) terms.
- Developing countries face a key tension
 - SEPs allow them to adopt cutting-edge technologies (like 4G/5G), but they can also increase costs and dependency on foreign technology holders.

Challenges for developing countries

- FRAND ambiguity is a major issue: 'fair and reasonable' has no precise definition.
 - SEP holders may exploit this to charge higher fees or delay licenses.
- Market concentration reinforces dependence on a few foreign firms.
- Developing countries have limited negotiating leverage and often lack institutions to resolve SEP disputes.
- Focus rest of talk on three areas:
 - Litigation
 - Decoupling
 - Open vs proprietary standards

Litigation

- Six firms hold over 70% of core SEPs for 5G
- Smaller firms in developing countries lack the resources to effectively negotiate with established MNCs.
- In many cases, MNCs will not enforce violations but as markets grow this will change.

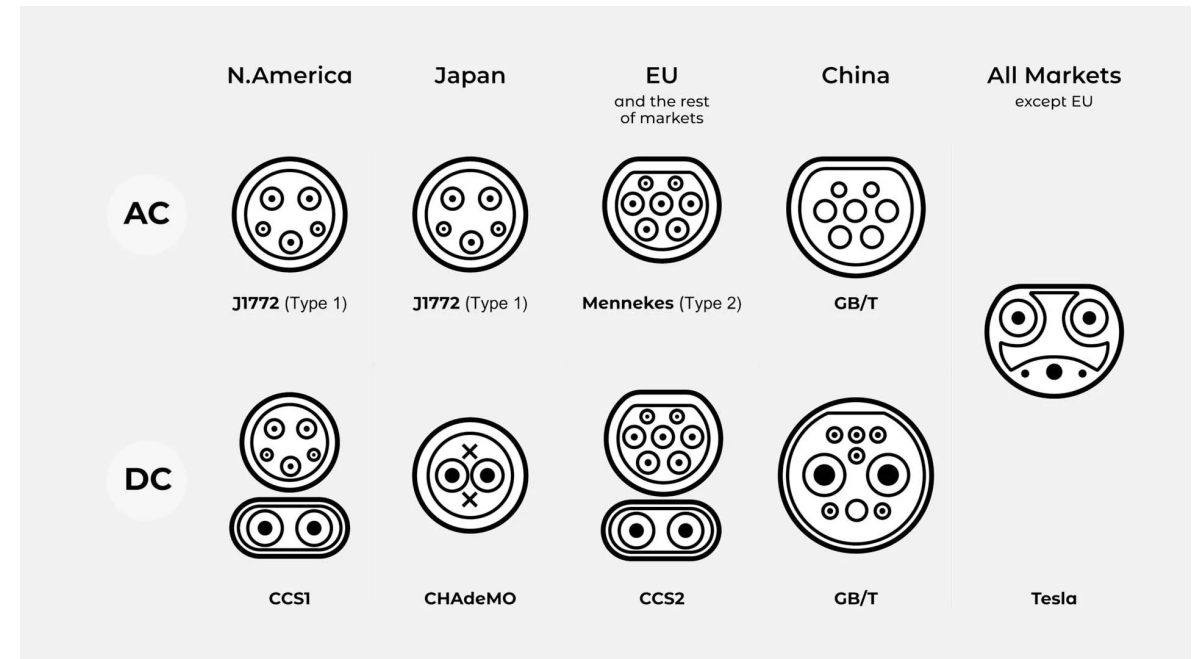


Litigation: Make in India policy

- SEPs are central to telecom and smartphone production. Without licenses, phones cannot be sold.
- Because royalties are often tied to end-product value (not the chip), low-margin producers are disproportionately affected. Royalty stacking makes matter worse.
- Global incumbents (Xiaomi, Apple, Samsung) can negotiate licenses, usually with global scale and capital, absorb SEP royalties and keep operating profitably.
- Indian low-cost brands (Micromax, Lava, etc) couldn't absorb or negotiate SEP fees effectively despite Make in India support — they simply couldn't sustain profits once SEP fees were added.



Risk of Decoupling



Open Standards can fuel innovation



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Recommendations

- Balance is essential: not all standards can be fully open.
- Strategy: mandate open interfaces and APIs, while accepting proprietary SEP-based components where needed.
 - The principle of 'protocols over platforms' allows modularity: open the critical interfaces, keep flexibility to switch vendors.
- Active participation in GPT standardization (AI, digital ID, data protocols) is critical to avoid exclusion.



THANK YOU!