Coordination Frictions in Macro-Development

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Empirical evidence shows that there are large and persistent differences in technology and productivity between countries, cities, or regions that cannot be explained by any observables on worker or firm characteristics. The slow adoption of new technology is especially puzzling, as most of the technological improvements are readily accessible to less-advanced locations, and not covered by intellectual property law in practice. Moreover, even if local adoption of the technologies is difficult, ideas embodied in individuals and firms are also mobile. This paper has three related objectives: (1) identifying why domestic firms do not upgrade to use better technology; (2) assess why firms already using a better technology don't move to exploit lower costs; and (3) determine the interaction where the ventures of a foreign firm with better technology can push, or deter, local firms into using better technologies

We propose that a source of locations being stuck with older technology is coordination frictions in production and in forming supply chains. From this perspective, (1) even if it were costless for a firm to adopt a new technology, there may be difficulties in ensuring that the rest of the firm's supply chain adopts compatible technologies, and (2) while a firm already using a high technology in another location finds low wages enticing, it may not invest or move to the lower-technology country because of the difficulties in creating a supply-chain compatible with the firm's more advanced technology.