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Technology transfer/spillover and international rule making in the 2nd and 3rd unbundling

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1. “Unbundlings” and technology acquirements by LDCs

- East Asia has led the second unbundling, particularly in machinery industries.
 - “Idea” moves from DCs to LDCs.
 - Changing channels for technology acquirements by LDCs.
 - Implication for international rule making.
- Now, the digital economy (eventually going to the third unbundling) arrives.
 - One already observed issue is the enhanced values of data and program codes.
 - Almost no international policy discipline on the flow of data, forced disclosure of program codes, and various regulations on e-commerce/new businesses.

Figure 1 “Unbundlings” to overcome distance

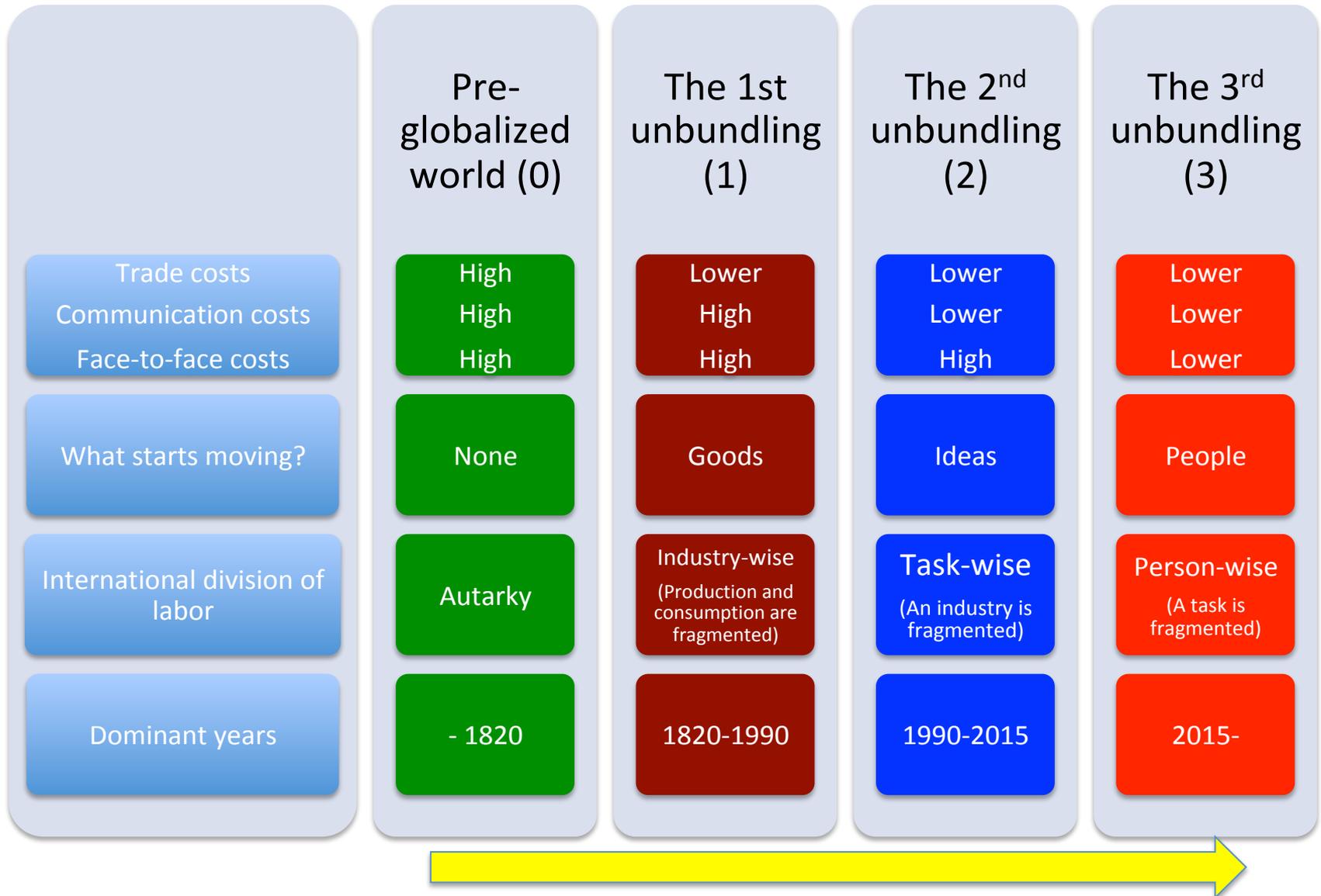
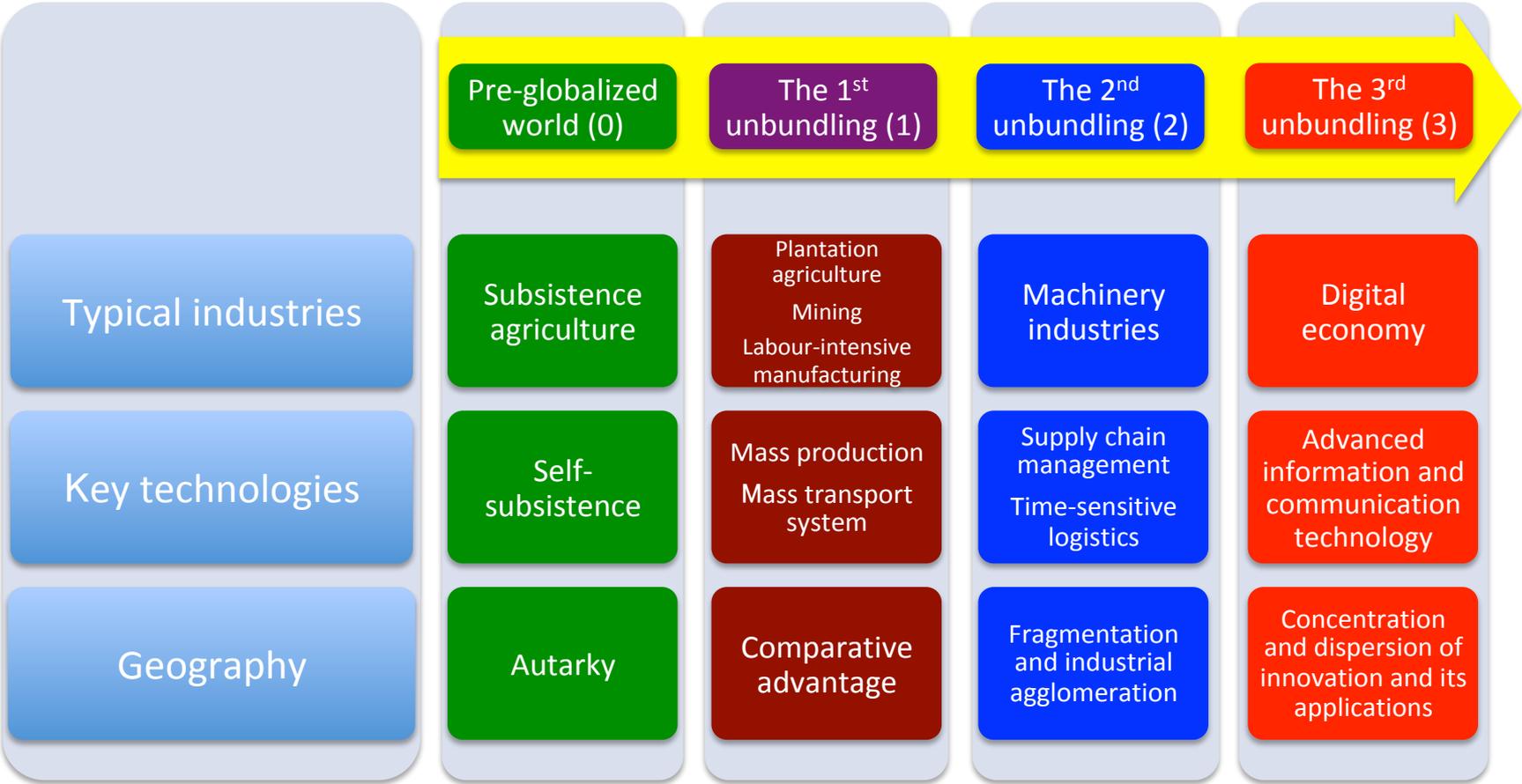


Figure 2 “Unbundlings” and industrialization



Source: The ERIA-IDE-JETRO Team.

2. Technology requirements in the second unbundling

- In the second unbundling, “idea” physically moves from DCs to LDCs.
 - How to acquire technologies?
 - Shifting weights from traditional channels (own R&D, cross-border tech. acquisitions, ...) to
 - Forced technology transfer
 - Imitate/steal technologies
 - Technology transfer through transactions between foreign firms and local firms
 - What sort of technologies?
 - Process/product innovation, targeted/general technologies, involvement of government?
- Possible issues in international rule making
 - IPR protection (levels/coverage, implementation)
 - Technology transfer requirements in FDI (TRIM, RTAs, ...)
 - Subsidy and other government support for technology acquisitions
- How far can we generalize China’s case?

3. One issue in the digital economy

- Values of “data” and “program codes”
- How to discipline governments’ interventions?
 - E.g., forced disclosure of program (cf. CPTPP, Jp-EU EPA)
 - E.g., forced disclosure/localization of data
- To achieve “free flow of data,” a series of back-up policies must be harmonized.
 - Consumer protection, privacy, IPR, competition policy, taxation, culture, cyber-security, ...