



Rapid Technological Change and Inequalities

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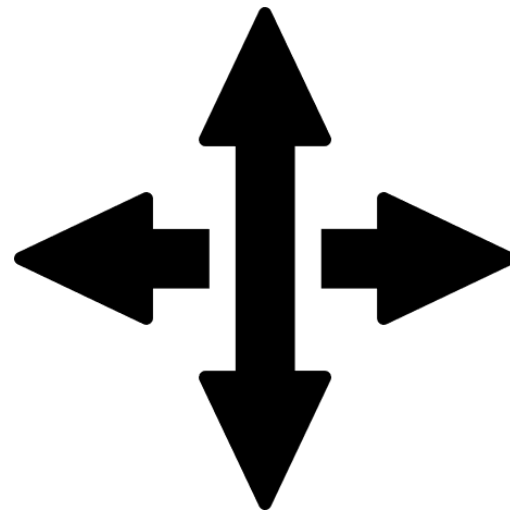
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Inequalities

- Vertical dimension – rich/poor
 - Global inequality at household level
 - Country makes a huge difference.
 - Household livelihood and consumer roles, too.
- Horizontal dimension – culturally defined groups
 - Gender
 - Religion
 - Others
- Dynamics
 - Between countries
 - Within countries
 - Across the world system



Global system

- Colonial
 - Extraction of raw resources
- Industrial
 - Machine manufacturing
 - Exchange raw materials for manufactured goods
- Informational (globalization)
 - Information and transportation technologies
 - Reciprocal exchange of manufactured goods
- Fourth Industrial Revolution (4IR)
 - Data is the raw material, gathered globally.
 - Data analysis, machine learning are key production processes.



Classic innovation theory

- Firms innovate to stay in business and make money.
 - Process innovations – competitive advantage
 - Tend to be employment-reducing
 - Product innovations – monopoly “rents”
 - Tend to be employment-increasing
- In the Fourth Industrial Revolution
 - Business opportunities come from combinations of data and analysis.
 - Analytic skills are at a premium.
 - Jobs generated are often in service.
 - Geographic range is global.



Households in the global system

- “Core”
 - Some households become extremely wealthy.
 - Partly through hyper-wages
 - Partly through accumulation of capital
- “Periphery”
 - Other households are left completely out of the system.
 - “Black holes of the information economy”
 - Huge worldwide informal sector
- “Semi-periphery”
 - Firms and countries seeking their roles in an economy with a new shape.
 - Great inequalities within countries come from different household roles in the global system.



Where do inequality-reducing innovations come from in this system?

- Sometimes the market
 - Example: mobile phones
- Sometimes social entrepreneurship
 - Example: Aravind Eye Institutes
- Sometimes public funding
 - Example: Nerica rice
- Sometimes public procurement
 - Example: Aadhaar identity system



Roles for national policymakers

Lessons learned from case studies

- A little expertise goes a long way.
- Use many kinds of policies
 - Anti-trust
 - Safety regulation
 - Keep distributional consequences in view.
- Think about both primary and secondary employment effects (sales, service, etc.)
- Keep IP accessible



Source: Innovation and Inequalities: Emerging Technologies in an Unequal World, Cozzens and Thakur, Edward Elgar Publishers



Roles for international institutions

- Even the playing field.
- Articulate public standards.
 - Health
 - Food
 - Workplace safety
- Share and analyze success factors.
- Keep the spotlight on the horizontal inequalities.

- In the end, it is about everyone being “agents, not patients.”