

Oxford Department of International Development



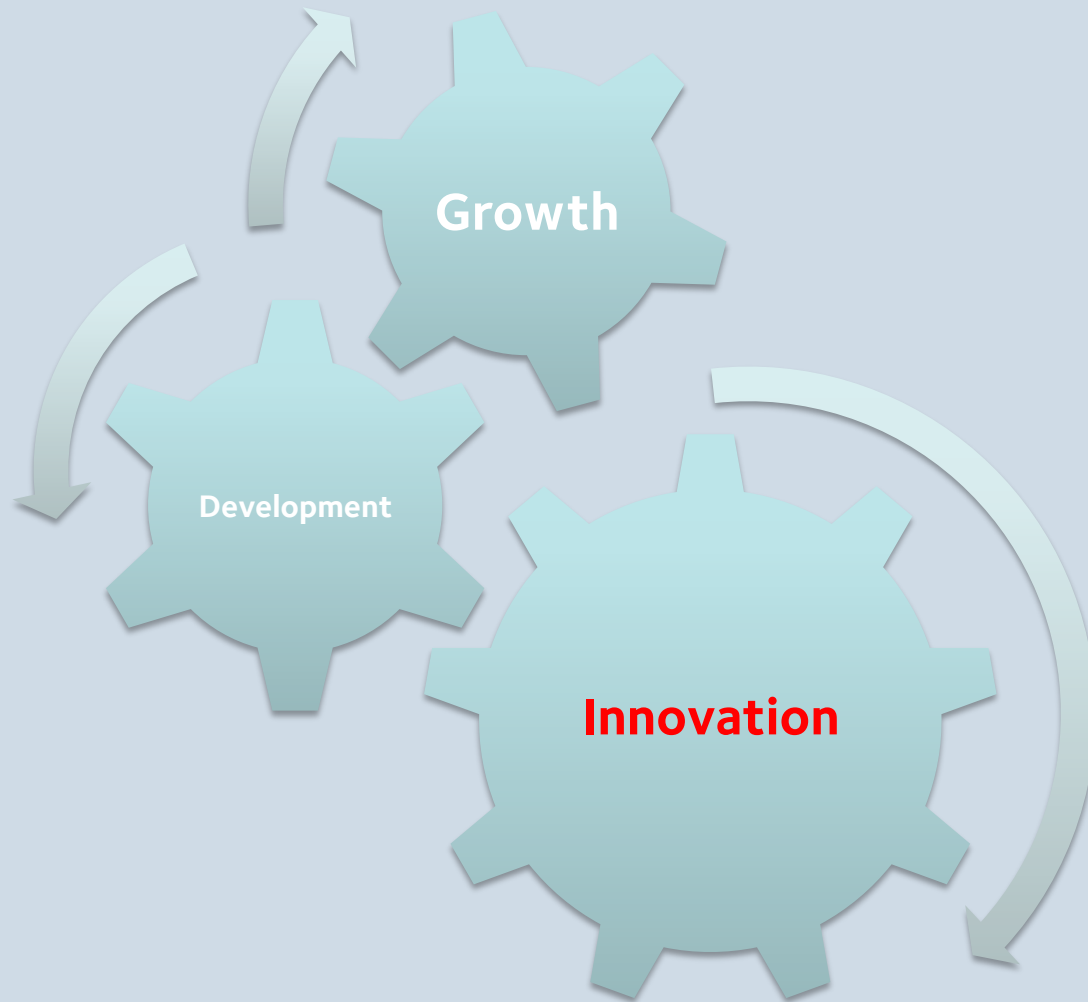
# Innovation for Development: The Received Wisdom

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# Stylized facts: Innovation and development



# Research Questions

- What are the barriers to innovation creation and diffusion in low income Countries (LICs)?
- What are the determinants of knowledge diffusion *in* LICs?
- What is the effect of external knowledge diffusion *to* LICs?

# Methodology I

*“Systematic reviews are a well-established and rigorous method to map the evidence base in an unbiased way as possible, assess the quality of the evidence and synthesize it”*

(DFID, 2012)

# Methodology I

- Four stages
  - Search Engine
  - Establish suitability: Title and abstract
  - Establish eligibility: Full text (Population, Data, Dimension, Study Design)
  - Establish relevance: Full text (validity, reliability and applicability of the studies)
- Statistics
- Synthesize evidence

# Methodology II

**Innovation (#1):** Innovation OR "New Technique\*" OR "New Technolog\*" OR "Factor Intensity" OR "Total Factor Productivity" OR "New Product\*" OR "New Process\*" OR "New Method\*" OR "New Service\*" OR "Techn\* Progress" OR "Techn\* Change" OR "Modern Method" OR "Green Revolution" OR Mechanisation OR "Knowledge Transfer" OR "Technolog\* Diffusion" OR "Technolog\* Choice" OR ... OR "Organisational innovation\*"

**Country definitions (#2):** "Low income country" OR "Low income countries" OR "Low-income country" OR "Low-income countries" OR LIC OR LICs OR "lower-middle econom\*" OR "lower-middle countr\*" OR "Developing country" OR ... OR "Underdeveloped countries"

**Country (#3):** "Afghanistan" OR "Albania" OR ... OR "Zambia" OR "Zimbabwe"

**Total Sample:** (#1+#2) AND (#1+#3) in abstract AND/OR title

**Time Range:** 1985-2012

**Database:** ISI Web of Knowledge (Social Science Journals and Conference Proceedings)

# Methodology III

II STAGE (ABSTRACT SCREENING): Establishing suitability	
Population	Is the study relevant for understanding the innovation-growth-poverty relationship in low-income countries (or synonyms)?
Dimension	Is innovation (or synonyms) independent or outcome variable in the study?
Study Design	Is the study original and not a review of original studies?
III STAGE (FULL TEXT SCREENING): Establish eligibility	
Population	Does the study use data including 'low-income countries' or its synonyms?
Data	Does the study use a documented/recognised data/evidence source for innovation in the industry or services sectors?
Dimension	Is innovation (or synonyms) independent or outcome variable in the study?
Study Design	Does the study have a clearly set out theoretical framework linked to quantitative or qualitative evidence? (CS)  Does the study have a clearly set out empirical framework tested with quantitative evidence? (EM)

# Methodology IV

## IV STAGE (REPORT FINDINGS): Establish relevance

- |                                      |   |
|--------------------------------------|---|
| 1. Validity of construct             | Is the role of innovation in the industry/services sector theorised/ modelled coherently and in the light of existing literature? |
| 2. Validity of method                | Is the method of analysis informed by existing theory/theories?   |
| 3. Reliability of data/ evidence (1) | Is data/evidence documented and its reliability discussed?  |
| 4. Reliability of data/ evidence (2) | Is the evidence related to causal mechanisms postulated in the analysis?  |
| 5. Reliability of findings           | Are the findings related to relevant methodological or theoretical/ analytical literature?  |



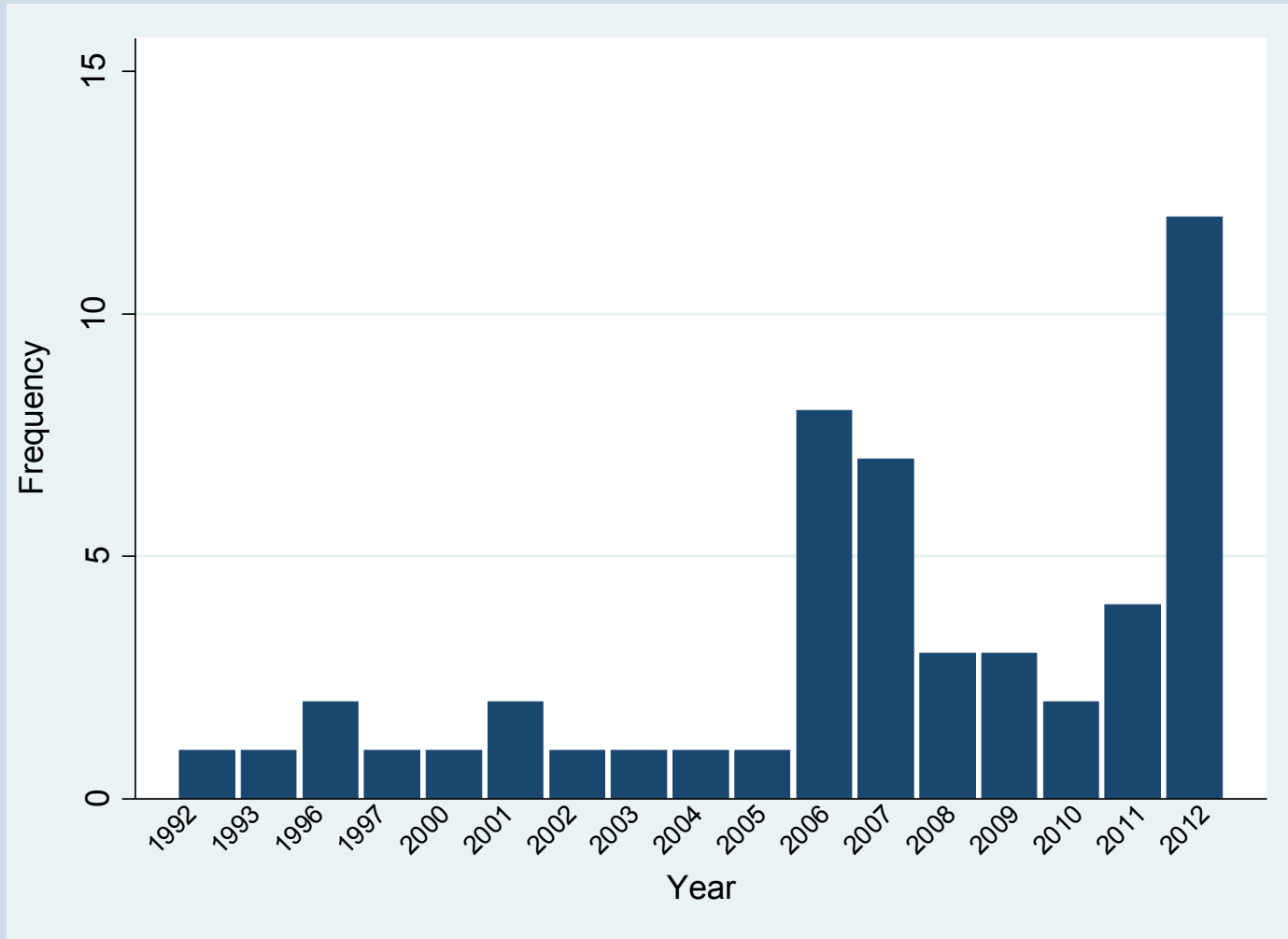
# Results I

- Four stages:

I: n=7385 → II: n=512 → III: n=131 → IV: n=58

- Nature: Adaptive or incremental (no “new to the world”)
- Type: Process or organization > product innovation
- Journals areas: Development studies (50%), Management & Social Science (20%), Innovation studies (22%), Engineering (7%)
- Sectors: Industry (42%), Services (8%), Multi-sector (52%)
- Geographical focuses: Asia (36%), Africa (32%), Latin America (4%), Multi-Country (30%)

# Results II



# Barriers to innovation diffusion *within* LICs

- External constraints:
  - Political
    - E.g. Unstable political system, corruption
  - Economic
    - E.g. Openness of economy, poor infrastructure
  - Institutional
    - E.g. fragile legal system, interaction private-public
- Internal constraints:
  - Capabilities
    - E.g. educational and managerial skills
  - Resources
    - E.g. financial capital and information

# Knowledge diffusion *in* LICs

- “Survival” Clusters
  - Situations exploited for market access and the collective efficiencies associated with tool sharing, labour pooling, and ready access to inputs. Relevance of word of mouth advertising.
- Public – Private partnership
- Bottom of the Pyramids
  - As consumers: Affordability and sustainability, not premium pricing and abundance, become the new beliefs of effective innovation.
  - As producers / entrepreneurs: “bridging enterprise”

# Knowledge diffusion *to* LICs

- Theory suggests four main channels: trade, FDI, migration, and licensing
- Degree of openness of an economy is a pre-requisite
- Three dimensions of FDI impact: spillovers, linkage externalities, and competition
- Vertical and horizontal channels of knowledge transmission
- Weaker evidence: international cooperation and remittances

# What we do not know much

- How innovation spread in the informal sector?
- Is there a potential role for open innovation networks in LICs?
- What impact South-South trade have in innovation diffusion?
- What can we learn from policy failures (e.g. public – private initiatives)?

# Standing on the giants' shoulders: Case study

- Two industries (food processing and textile)
- Two sectors (formal and informal)
- Sample of eight firms, two in each group
- In-depth interview with a range of actors within the firm (managers and workers)
- Un-structured questionnaire covering adoption and creation of innovation, barriers to creation and diffusion of innovation, policies innovation

# The highlights

*“We have survived so far because we have been innovative”*

*(MD Food processing firm)*

*“I am curious and ask questions to people. I want to understand”*

*“Policies are good, but their implementation is poor”*

*(MD Textile firm)*

*(MD textile firm)*



# The highlights

*“Money is not the main constraint.  
There is a market out there”*

*(MD textile firm)*

*“Willpower and determination  
drive the innovation process”*

*“I have no incentive to  
be innovative”*

*(MD Food processing firm)*

*(Worker in textile firm)*