Strategies for facilitating the emergence of more productive and greener jobs

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Job centered inclusive growth and green economy

 экономическ: Growth
• Increase employment
• Increase productivity (with resulting higher wages)
• Shift share of employment from low to more productive activities

(Environment: Sustainability
• Reduce global CO2 emissions

Social: Reduce Inequality
• Increase employment
• Increase productivity (with resulting higher wages)
• Shift share of employment from low to more productive activities

Growth with more productive and greener jobs
Theoretical framework
Based on evolutionary growth models (Silverberg and Vespiagen, 2005) & Economic complexity (Hidalgo and Hausmann, 2009)

Economy as a set of different economic activities, each producing a single product \( (x) \) with different employment \( (e) \), productivity \( (q) \) and output \( (y) \)

\[
e_1 + e_2 + e_3 + \ldots + e_n = L
\]

\[
q_1 < q_2 < q_3 < \ldots < q_n
\]

\[
y_1 + y_2 + y_3 + \ldots + y_n = Y
\]

\( e_0 = \text{unemployed} \)

Each product requires a specific combination of productive capacities to be produced

Capital-embodied technologies (infrastructure, machines)

Labour-embodied technologies (methods, processes)
CO$_2$ emissions as a function of the structure of the network and the sources of energy

How to create more productive jobs?

Diversify by adding technologies and/or links to the network of technologies (Increasing complexity)
Development is associated with diversification
(Imbs and Wacziarg, 2003; Carrere et al, 2007; ESCAP, 2011)

\[ y = 15.596x^{0.5162} \]
\[ R^2 = 0.8064 \]

Two ways to diversify through a greener path

1. Foster new economic activities that in addition of being more productive are also more energy efficient
2. Increase share of renewable energy sources
How diversification would come about?

Path dependency
- New activities tend to exploit the productive capacities that were previously developed for other activities

Emulation vs Innovation
- Emulation: new to the country
- Innovation: new to the world

Economic institutions
Specific rules of the game: set incentives and constraints for acquisition and combination of technologies

Emulation
How to facilitate the emergence of new technologies that would allow emulation of more productive and greener activities?
**Laissez-faire vs strategic approach**

What is the probability that socially desirable outcomes would emerge given the existing technologies and market incentives?

Empirical question

Which economic activities are more likely to emerge given the existing technologies in the economy?
- The Product Space (Hidalgo, Klinger, Barabási, Hausmann, 2007)

Which of those have higher productivity and are greener?
- Method of reflections (Hidalgo and Hausmann, 2009)

What is the probability of those socially desirable activities emerge given the market incentives?
- Export opportunity (ESCAP, 2012)
- Import substitution opportunity
Laissez-faire

Strategic – exports
Laissez-faire – import substitution

Strategic – exports
Laissez-faire – import substitution

Source: Author based on data from the United Nations Commodity Trade Statistics Database (COMTRADE).

emulation innovation

Number of new opportunities with higher complexity and greener

Diversification (number of existing product)
Two-step approach
Step 1: Identify economic activities with desirable social outcome to facilitate discovery of feasible business models by the private sector and address coordination externalities

role of the government
- Facilitate the emergence of new economic activities
- Schumpeterian policies
  - direction
  - investment
  - infrastructure
  - human capital
- Keynesian demand management policies
  - foster demand for greener products and renewable energy

Economic institutions
Specific rules of the game: set incentives and constraints for acquisition and combination of technologies

Exogenous Demand
Step 2: Identify additional constraints to emergence and growth of economic activities with desirable social outcome

Problem: Low levels of private investment and entrepreneurship

Low return to economic activity

- Low social returns
- Bad infrastructure
- Low human capital

Low appropriability

- Low domestic savings + bad international finance
- High cost of finance
- Bad local finance

Government failures

- Information externalities
- Translational externalities

Market failures

- Low competition
- High risk
- High cost

Addressed by step 1


Thank you

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