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Arnelyn Abdon

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Agenda

- Introduction of the Paper
- Literature Review
  - Internal
  - External
- Methodology/Approach
- Policy Recommendations
- Conclusions
- Class Discussion
- Bibliography
Introduction

Does international trade determine if a country is rich or poor?

“Explaining why most countries in the world are in some sort of economic trap is not easy. Standard growth models (...) or the myriad of endogenous growth models developed since the 1980s (...) somehow address the question of why some countries achieve sustained growth while some others cannot do it, but they were not conceived with the objective of explaining differences between developed and developing countries, and much less explaining why so many countries in the world are trapped.”
Introduction

• What was their approach?
  ▫ Classification of products
    • Sophistication
    • Connectivity

• What were the findings?
  ▫ 4 groups of countries

• What were their conclusions?
  ▫ Policies
Literature Review

• Three different trends of literature as classified by the authors:

  ▫ The oldest trend led by Nelson’s (1956) “low-level poverty trap model” and Myrdal’s (1957) with his model of “cumulative causation”;

  ▫ The trend of structural change or structural transformation;

  ▫ Lastly, “the literature on capabilities” à la Sutton (2001, 2005)”. 
Literature Review

• External Review:
  ▫ First an interesting paper from the same authors, ABDON and FELIPE (2011);
  ▫ Then less recent, HALL and JONES (1999) (importance of “social infrastructure”);
  ▫ DEARDOFF (1997), differentiation of steady-states (low and high) depending on the capital-labor ratio, thus their initial condition;
  ▫ MATSUYAMA (1996), international trade creates symmetry-breaking into rich and poor countries. IONNIDES (1999) generalized his findings, adding the importance of land endowment.
Tell me what you export and I will tell you why you don't grow...

A more complete and innovative approach (with respect to international trade) seems to be the LEAMER's (1987) classification and the product space model introduced by HIDALGO and Al. (2007) and conceptualized by HAUSMANN, HWANG, and RODRIK (2007).
Two Principle Concepts

- **SOPHISTICATION (PRODY):** “the weighted average of the GDP per capita of the countries exporting that product”

- **CONNECTIVITY (PATH):** shows how easily it is possible to jump from one production to another, thus exports, depending on the capabilities that those productions embody
Product Space

Methodology

- Accumulated capabilities are critical for a country’s development prospects
  - Shifting a country’s output and employment structure from low value-added activities into high value-added activities is not easy
    - The process is path dependent
- Role of the kind of products that a country exports with RCA is important to know what policies to impose
  - Products classified based on:
    - Sophistication, and
    - Path
Methodology

• **PRODY**
  - Highly disaggregated trade data (SITC-Rev.2 4-digit level, UNCOMTRADE Database)
  - Average of 2003–07
  - 779 products
  - Low of $1,182 for “fabrics, woven of jute or other textile bast fibers of heading 2640”
  - High of $35,885 for “halogenated derivatives of hydrocarbons”
  - **Rationale:**
    - high income countries able to export despite higher wages because of the characteristics of the products
    - i.e. the level of technology embedded, the availability of natural resources, the quality of infrastructure, intellectual property rights, the degree of divisibility of the production process, transportation costs, and possibilities of knowledge spillovers from agglomeration

• **PATH**
  - Proximity between two products i and j, is the minimum of the pairwise conditional probabilities that a country exports a good given that it exports another one.
    - i.e. can the capabilities that allow a country to export basic mobile phones be redeployed to export smart phones or luxury cars.
Methodology - Product Classification

Distribution of Proximities in the Product Space

Note: The total number of links for the 779 products is \((779 \times 778)/2 = 303,031\).
Methodology - Product Classification

Average Proximity *within* and *between* Leamer Groups

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## Methodology - Product Classification

PRODY-PATH Distribution of the 779 Products

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<th>PATH</th>
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<th>MID PRODY (MPR)</th>
<th>HIGH PRODY (HPR)</th>
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<td>LPA</td>
<td>(LPR_LPA)</td>
<td>(MPR_LPA)</td>
<td>(HPR_LPA)</td>
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<td>No. of Products: 103</td>
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<td>Average PATH: 94</td>
<td>Average PATH: 98</td>
<td>Average PATH: 99</td>
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<td>MPA</td>
<td>(LPR_MPA)</td>
<td>(MPR_MPA)</td>
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<td>Average PATH: 138</td>
<td>Average PATH: 137</td>
<td>Average PATH: 137</td>
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<tr>
<td>HPA</td>
<td>(LPR_HPA)</td>
<td>(MPR_HPA)</td>
<td>(HPR_HPA)</td>
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<td>No. of Products: 66</td>
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<td>Average PRODY: $15,360</td>
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<tr>
<td>Average PATH: 159</td>
<td>Average PATH: 167</td>
<td>Average PATH: 164</td>
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Methodology - Product Classification

Leamer's Classification

The first number above the bar is the share in the respective Prody-Path group.

The second number above the bar is the share in the respective Leamer group.
## Methodology - Country Classification

<table>
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<th>High Core</th>
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<th>Mid PRODY (MPR)</th>
<th>High PRODY (HPR)</th>
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<td>Low Path (LPA)</td>
<td>Armenia, Belize, Brazil, Burundi, China, Cyprus, Gambia, Georgia, Hong Kong, India, Israel, Jordan, Lebanon, Bulgaria, Ukraine</td>
<td>Liberia, Mexico, Niger, Panama, Philippines, Russia, Saint Kitts, Nevis, and Anguilla, Samoa, Senegal, South Africa, Thailand</td>
<td>Guinea-Bissau, Malaysia</td>
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<tr>
<td>Mid Path (MPA)</td>
<td>Malta, Republic of Korea</td>
<td>Ireland, Japan, Singapore</td>
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<tr>
<td>High Path (HPA)</td>
<td>Barbados, Belarus, Belgium, Bosnia Herzegovina, Canada, Costa Rica, Croatia, Czech Rep., France, Hungary, Italy, Netherlands, Poland, Portugal, Romania, Seychelles, Sierra Leone, Slovakia, Slovenia, Spain, Austria, Denmark, Finland, Germany, Norway, Sweden, Switzerland, USA, United Kingdom</td>
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### Methodology - Country Classification

<table>
<thead>
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<th>Low PRODY (LPR)</th>
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<td>Turkey</td>
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**Low Product Trap**: Countries marked in blue.

**Middle-Low Product Trap**: Countries marked in green.
Methodology - Country Classification

• **High-core** countries in the **HPR_HPA** cell:
  ▫ **Finland**
    • Significant presence in core products
    • Strong primary and manufacturing sector

• **High-core** countries in the **HPR_MPA** cell:
  ▫ **Ireland and Singapore**
    • Significant export of core products with RCA
    • Many are not in the high-PATH cells
    • Hard to jump to better-connected, sophisticated products
  ▫ Sophisticated and well-connected products
  ▫ In general, man-made
Methodology - Country Classification

- **High-core** countries in the “middle-product” trap:
  - Brazil, China, India, Malaysia, and Thailand
    - Relatively advanced with some core products
  - Export a significant share of core products, although not as sophisticated and well-connected

- **Low-core** countries in the “middle-low product” trap:
  - Saudi Arabia and the United Arab Emirates
    - Certain presence in core products
    - Developed service sector
  - Middle of the sophistication and connectedness scale.
Methodology - Country Classification

- **Low-core** countries in the “low product” trap:
  - Algeria & Nigeria
    - Limited capabilities & core products
  - Bangladesh & Rwanda
    - Better off but no presence in the high-PRODY and high- and mid-PATH categories
  - Australia & Chile
    - Horizontal industrial policy framework with no RCA
  - Mostly export unsophisticated and poorly-connected products.
Policy Recommendations

High-core Countries That Are Exporters of “Good” Products (34 countries)

• Improve R&D

• Upgrade quality of higher education
Policy Recommendations

High-core Countries in the “Middle Product” Trap (28 countries)

- Create an environment for cooperation of government, industry, and cluster-level private organizations
- Concentrate on interventions
- Develop regulation, infrastructure and technology
- Strengthen the supply of skilled workforce
Policy Recommendations

Low-core Countries in the “Middle-low Product” Trap (17 countries)

• Ease horizontal moves to far away products

• Introduce tariff exemptions and subsidies for infrastructure
Policy Recommendations

Low-core Countries in the “Low-product” Trap (75 countries)

- Develop industrialization
- “Big push”- expansion of economic activities
- “Strategic bets”- development of new sectors
- Accumulate new capabilities
Conclusions

“The primary driver of growth is the gradual build-up in firms’ capabilities, which raises the economy-wide real wage.”

- A country’s **productive structure** and the **characteristics of the products** that they export depends on this.

- Are these so easy to manipulate?
“Impossible to become a rich country without creating an industrial sector and an advanced service sector. Likewise, no country has become rich without explicit government interventions that amount to industrial policy in different shapes and forms.”

- Do you think exports really do capture all aspects of growth?

- How to change institutions?

- Is it possible to convince firms to change their pattern of production?
  - i.e. Can you go to a familial farm which has been exporting cotton for decades, and ask them to specialize in the production of textile?
Bibliography


• Ioannides, Yannis M., 1999. ”Why are There Rich and Poor Countries? Symmetry- Breaking in the World Economy: A Note” Department of Economics Tufts University, Discussion Papers Series No. 9914.