

How Rich Countries Became Rich and Why Poor Countries Remain Poor: It's the Economic Structure . . . Duh!

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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;
 - (Kuznets (1966), Kaldor (1967), or Chenery, Robinson, and Syrquin (1986)). (Felipe et al. 2009). Hidalgo et al. (2007) (Hausmann and Klinger (2007); Lall 1992, 2000a, and 2000b)
 - 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. IONNIDÉS (1999) generalized his findings, adding the importance of land endowment.

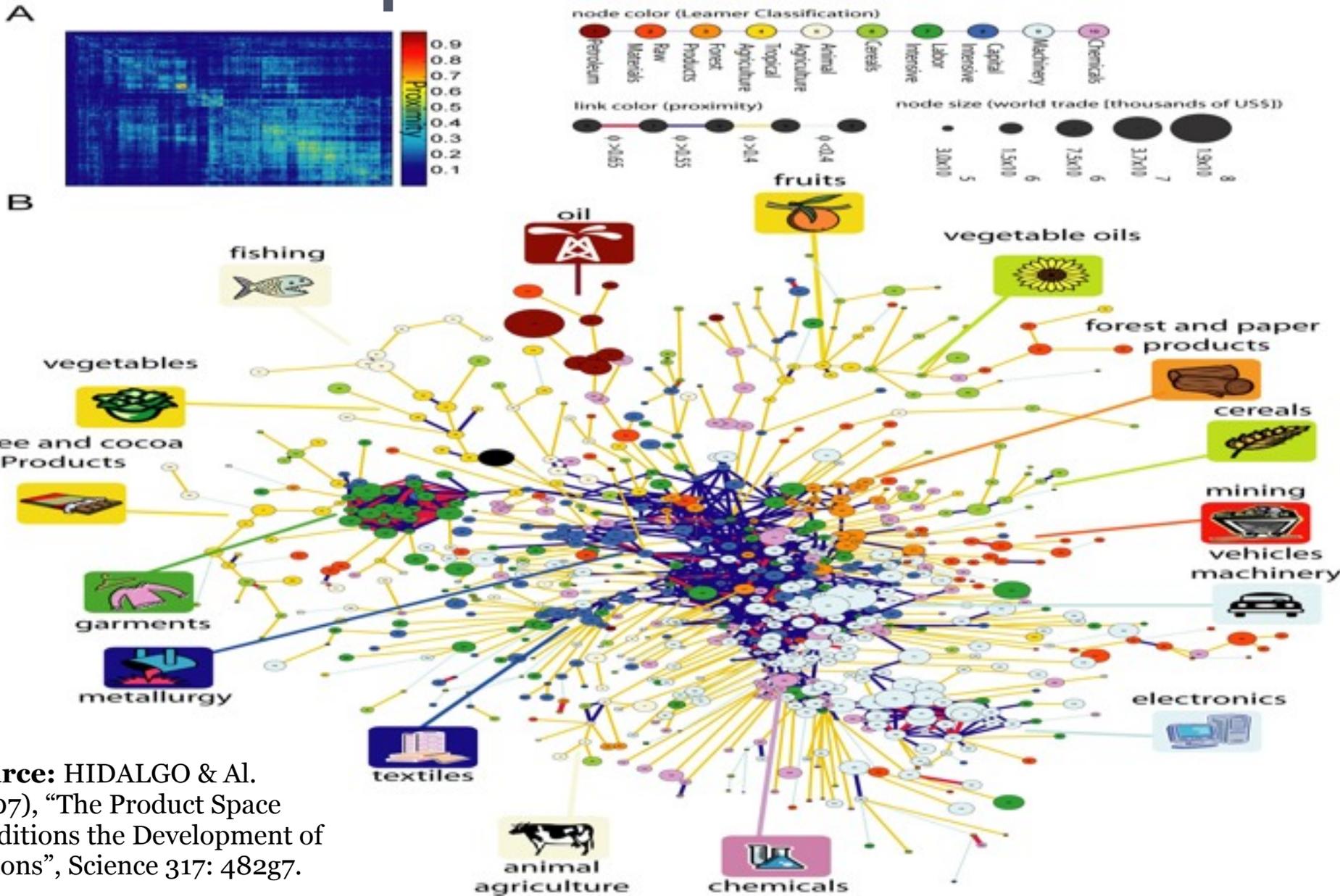
*Tell me what you export and I will tell
you why you don't grow...*

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



Source: HIDALGO & Al.
(2007), "The Product Space
Conditions the Development of
Nations", Science 317: 482g7.

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**

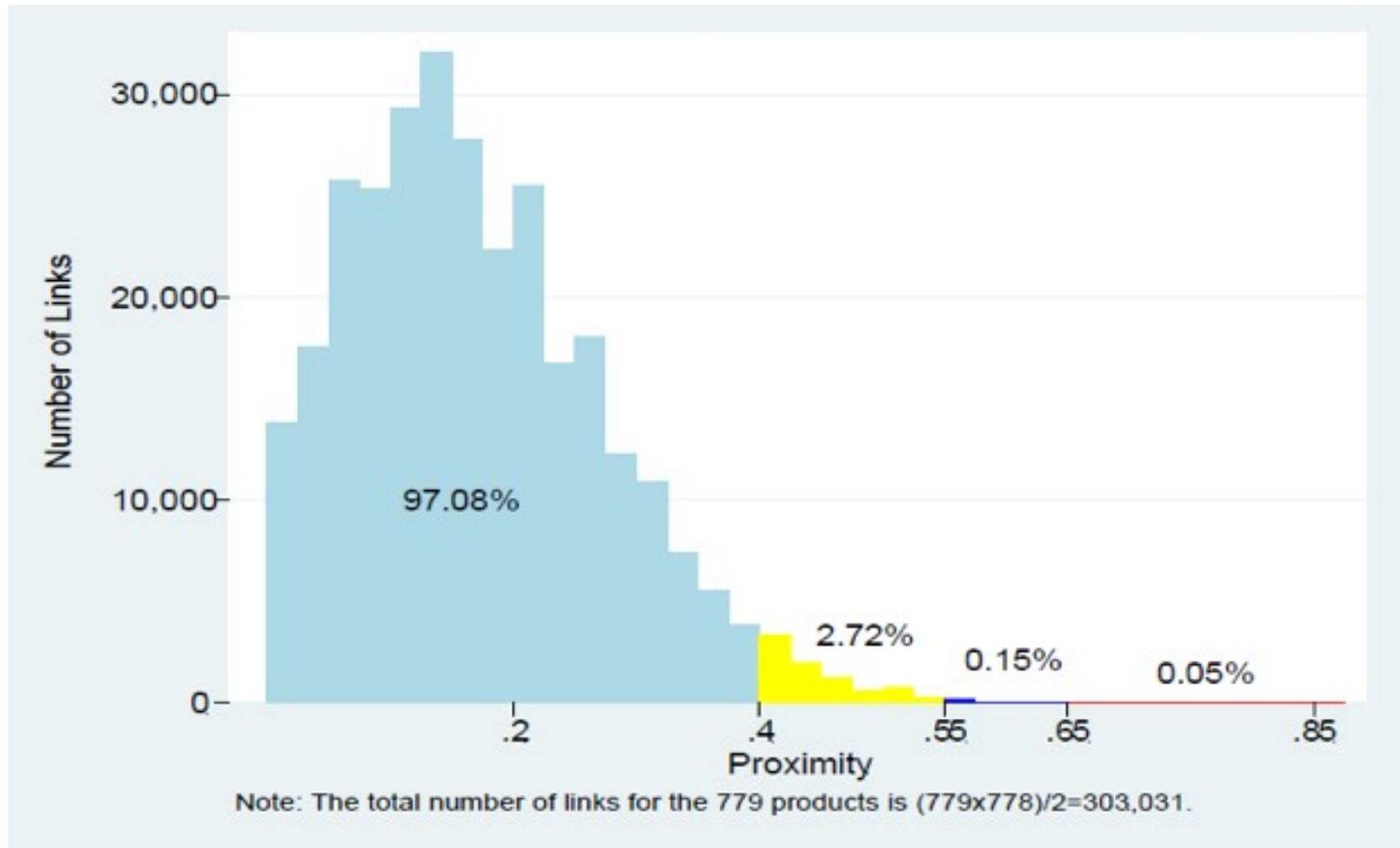
- Highly disaggregated trade data (SITC-Rev.2 4-digit level, UNCOMTRADE Database)
- Average of 2003–07
- 779 products
- Low of \$1,182 for “fabrics, woven of jute or other textile bast fibers of heading 2640”
- High of \$35,885 for “halogenated derivatives of hydrocarbons”
- Rationale:
 - high income 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



Methodology - Product Classification

Average Proximity *within* and *between* Leamer Groups

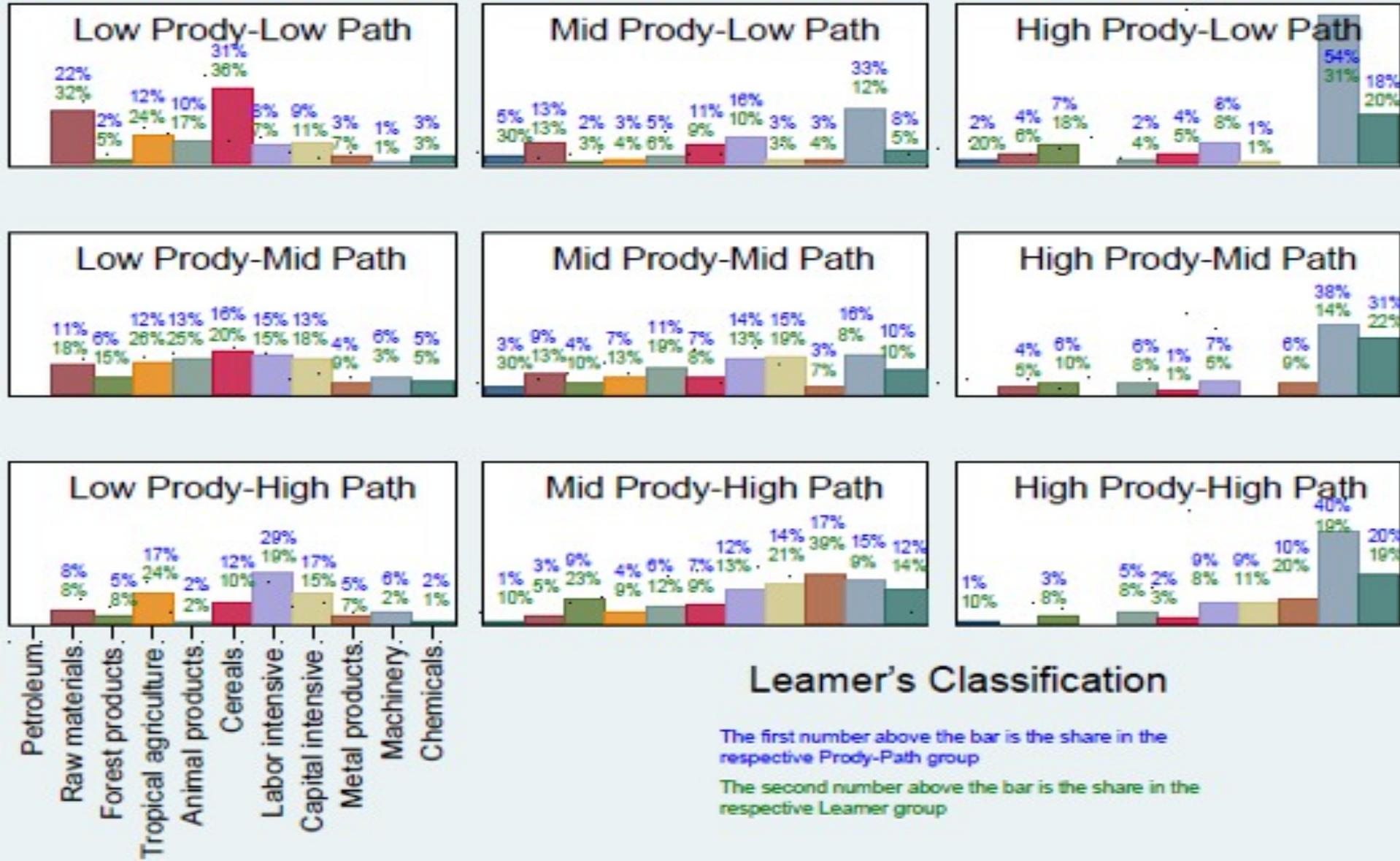
	PET	RAW	FOR	TRO	ANI	CER	LAB	CAP	MET	MAC	CHE
PET	0.356										
RAW	0.111	0.335									
FOR	0.106	0.157	0.513								
TRO	0.126	0.147	0.174	0.454							
ANI	0.119	0.146	0.183	0.198	0.435						
CER	0.105	0.127	0.141	0.163	0.160	0.286					
LAB	0.105	0.131	0.178	0.167	0.158	0.131	0.434				
CAP	0.116	0.133	0.171	0.169	0.160	0.144	0.212	0.480			
MET	0.135	0.170	0.221	0.175	0.169	0.149	0.204	0.223	0.568		
MAC	0.109	0.113	0.158	0.110	0.121	0.108	0.168	0.169	0.205	0.447	
CHE	0.145	0.140	0.162	0.147	0.160	0.141	0.157	0.166	0.204	0.198	0.485

Methodology - Product Classification

PRODY-PATH Distribution of the 779 Products

		PRODY		
		LOW PRODY (LPR)	MID PRODY (MPR)	HIGH PRODY (HPR)
PATH	LOW PATH (LPA)	(LPR_LPA) No. of Products: 93 Average PRODY: \$5,480 Average PATH: 94	(MPR_LPA) No. of Products: 64 Average PRODY: \$15,552 Average PATH: 98	(HPR_LPA) No. of Products: 103 Average PRODY: \$23,434 Average PATH: 99
	MID PATH (MPA)	(LPR_MPA) No. of Products: 101 Average PRODY: \$7,196 Average PATH: 138	(MPR_MPA) No. of Products: 91 Average PRODY: \$15,027 Average PATH: 137	(HPR_MPA) No. of Products: 68 Average PRODY: \$22,697 Average PATH: 137
	HIGH PATH (HPA)	(LPR_HPA) No. of Products: 66 Average PRODY: \$9,132 Average PATH: 159	(MPR_HPA) No. of Products: 105 Average PRODY: \$15,360 Average PATH: 167	(HPR_HPA) No. of Products: 88 Average PRODY: \$21,227 Average PATH: 164

Methodology - Product Classification



Methodology - Country Classification

HIGH CORE		PRODY		
		Low PRODY (LPR)	Mid PRODY(MPR)	High PRODY (HPR)
PATH	Low PATH (LPA)	---	---	Guinea-Bissau Malaysia
	Mid PATH (MPA)	Armenia Belize Brazil Burundi China Cyprus Gambia Georgia Hong Kong India Israel Jordan Lebanon	Liberia Mexico Niger Panama Philippines Russia Saint Kitts, Nevis and Anguilla Samoa Senegal South Africa Thailand	Malta Republic of Korea Ireland Japan Singapore
	High PATH (HPA)	Bulgaria Ukraine	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

Middle Product Trap

Methodology - Country Classification

LOW CORE		PRODY						
		Low PRODY (LPR)				Mid PRODY (MPR)		High PRODY (HPR)
PATH	Low PATH (LPA)	Angola Central African Rep. Chad Congo	Côte d'Ivoire Dem. Rep. of the Congo Ecuador	Equatorial Guinea Guinea Mauritania	Nigeria Papua New Guinea Suriname	Low Product Trap		
	Mid PATH (MPA)	Albania Algeria Argentina Australia Azerbaijan Bangladesh Benin Bolivia Burkina Faso Cambodia Cameroon Chile Djibouti Dominican Rep. Egypt El Salvador Ethiopia	Fiji Gabon Ghana Guyana Haiti Honduras Iceland Indonesia Iran Jamaica Kazakhstan Kenya Kiribati Kyrgyzstan Lao People's Dem. Rep. Lithuania	Madagascar Malawi Mali Mauritius Mongolia Morocco Mozambique Nepal Nicaragua Pakistan Paraguay Peru Rep. of Moldova Rwanda Sri Lanka Sudan Syria	TFYR of Macedonia Tajikistan Togo Tunisia Turkmenistan Uganda United Rep. of Tanzania Uruguay Uzbekistan Viet Nam Yemen Zambia			Bahrain Kuwait Libya Oman Qatar Saudi Arabia Trinidad and Tobago UAE Venezuela
	High PATH (HPA)	China, Macao SAR Guatemala Latvia				Colombia Estonia Greece	New Zealand Turkey	---

Middle-Low Product Trap

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 ?**

Class Discussion

“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

- ABDON and FELIPE, 2011. “The Product Space: What does it Say About the Opportunities for Growth and Structural Transformation of Sub-Saharan Africa?”, Levy Economics Institute, Working Paper No. wp_616.
- Deardorff, Alan V., 1997. “*Rich and Poor Countries in Neoclassical Trade and Growth*”, Discussion Paper No. 402, University of Michigan, 1997
- Hall, Robert E. & Charles I. Jones, 1999. “*Why Do Some Countries Produce So Much More Output per Worker than Others?*,” NBER Working Papers 6564
- Hidalgo, C., B. Klinger, A.L. Barabasi, and R. Hausmann. 2007. “*The Product Space Conditions the Development of Nations.*” *Science* 317: 482g7.
- 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.
- Matsuyama, Kiminori, 1996. “*Why are There Rich and Poor Countries? Symmetry- Breaking in the World Economy*”, NBER Working Paper 5697, 1996