



CAPABILITIES FOR PRODUCTIVE TRANSFORMATION AND EMPLOYMENT

Irmgard Nübler

Research Department
International Labour Office

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ECONOMIC TRANSFORMATION: TWO DISTINCT PROCESSES



- Develop productive capacities - investment
- Build up domestic capabilities - learning



A CONCEPT OF CAPABILITIES

Explains

- how capabilities shape economic transformation and catching up
- where domestic capabilities reside
- how capabilities evolve



TWO DIMENSIONS OF CAPABILITIES

- 1. Options for diversification – feasible patterns of economic and technological transformation**
- 2. Competences to innovate, invest and manage transformation process – sustained and rapid process**

Successful catching up requires a continuous increase of options and competences



OPTIONS FOR DIVERSIFICATION

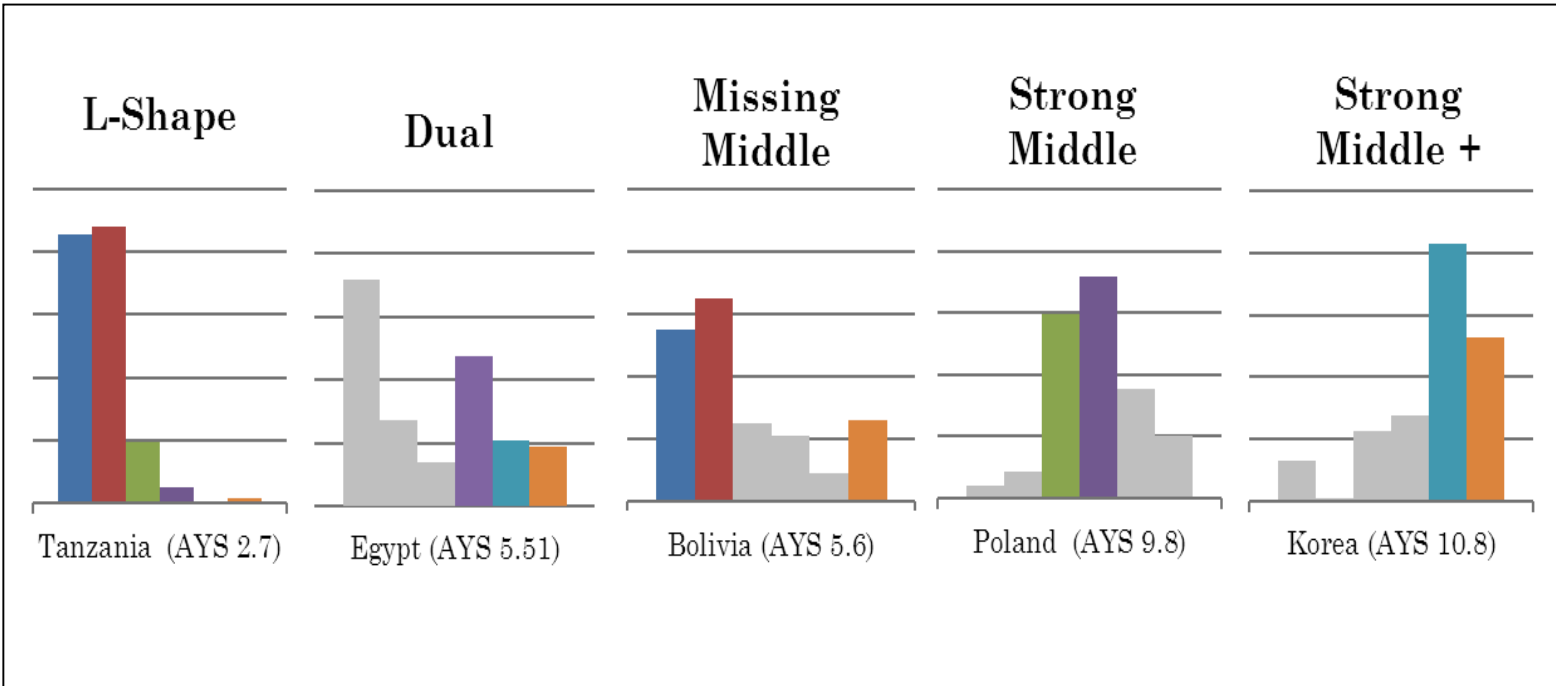
- reside in the particular mix of general, technical, cultural and business knowledge in labour force
- the more **diverse, sophisticated and complex** the knowledge base, the wider the range of new products and industries which can be developed.
- Policies to develop wide options
 - Education, training, industrial, technology policies

OPTIONS FOR DIVERSIFICATION

Educational attainment structure and development of manufacturing

A TYPOLOGY

Share of no schooling, incomplete primary, complete primary, lower secondary, upper secondary, post secondary education



INDUSTRIAL STRUCTURES IN STRONG MIDDLE AND MISSING MIDDLE COUNTRIES



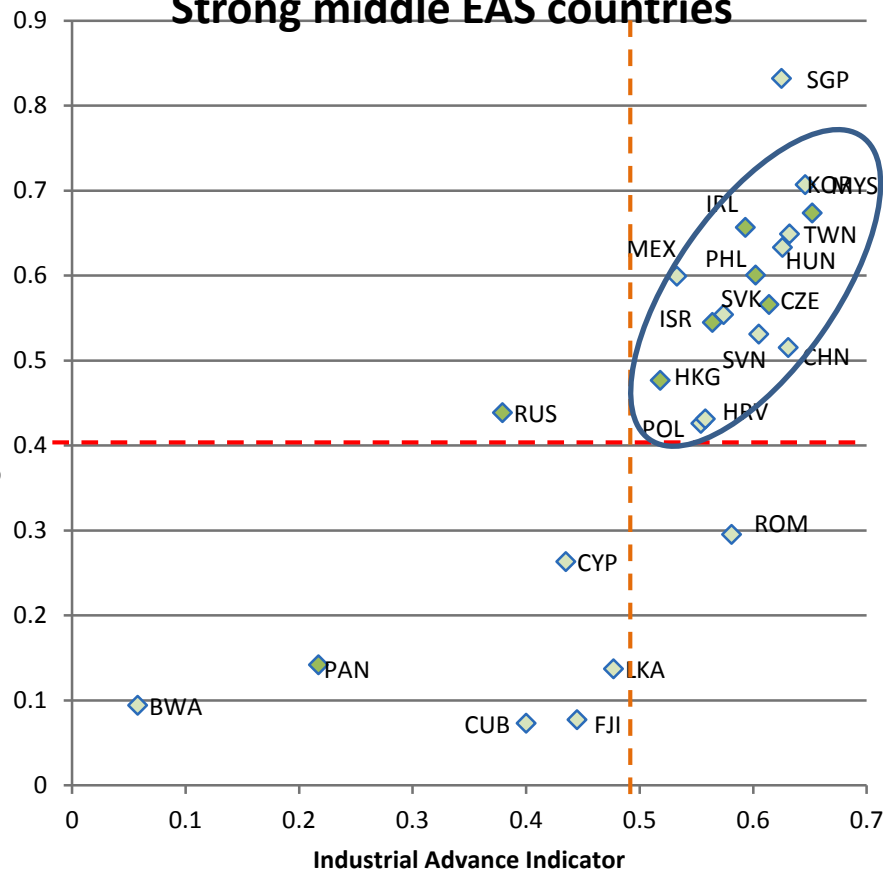
IAI: INDUSTRIAL ADVANCE INDEX

TAI: TECHNOLOGICAL ADVANCE INDEX

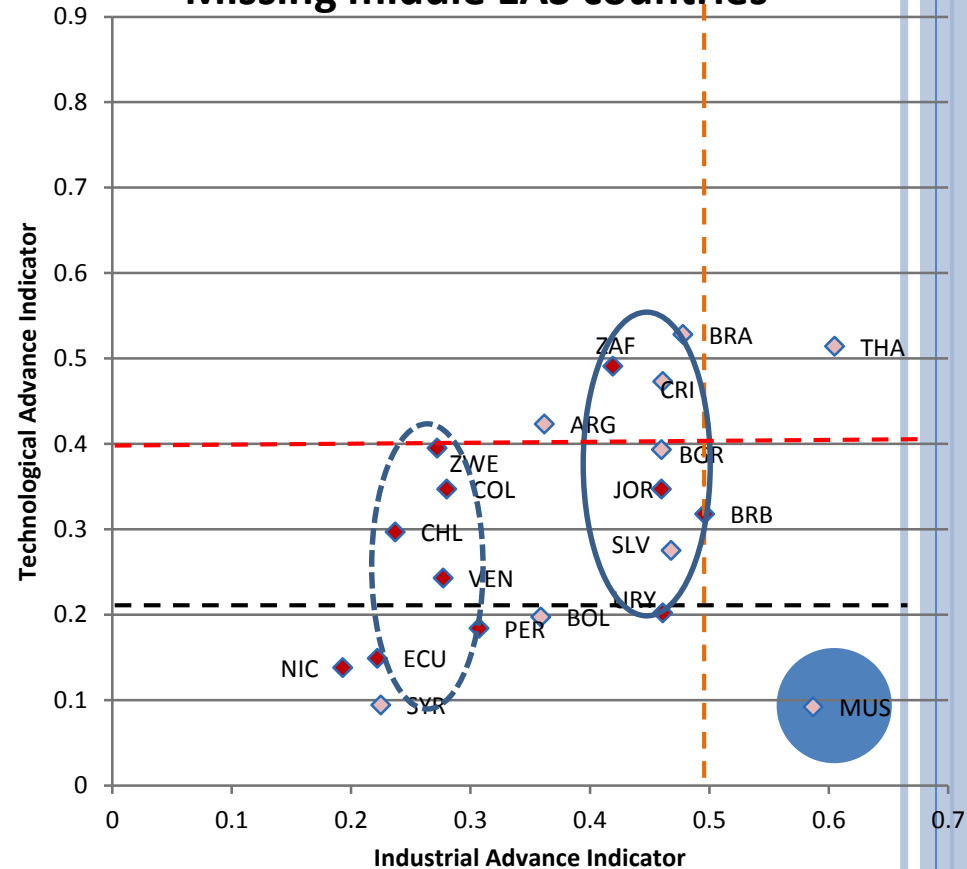
Strong middle: increase both high IAI and TAI (industrial widening and deepening)

Missing middle: low and medium IAI level, increase TAI at given IAI level

Strong middle EAS countries



Missing middle EAS countries



COMPETENCES FOR SUSTAINED AND RAPID TRANSFORMATION PROCESS



- Competences exist at collective levels of
 - Enterprises (in technological, management and organisational routines)
 - Governments (in policy formulation, implementation and evaluation procedures)
 - Societies (in formal and informal institutions)
- Acquired in a process of learning by doing and practice
- Learning is supported by policies and institutions that provide learning opportunities (carrots) and pressure to learn (sticks)



CONCLUSION

- Industrial development requires process of building productive capacities (investment) and domestic capabilities (learning)
- Capabilities cannot be imported
- Governments are challenged with formulating a comprehensive learning strategy at different places and at different levels
- The development of capabilities is a fundamental element of industrial and economic development strategies.



Transforming Economies:

**Making industrial policy work for growth,
jobs and development**



EDITORS:

José Manuel Salazar-Xirinachs

Irmgard Nübler

Richard Kozul-Wright

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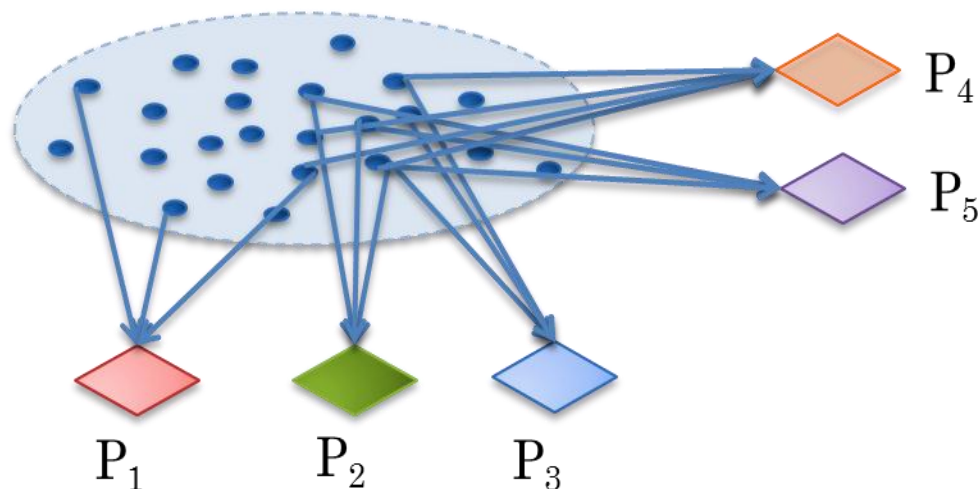
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KNOWLEDGE STRUCTURE OF THE LABOUR FORCE AND RECOMBINATION FOR NEW PRODUCTS

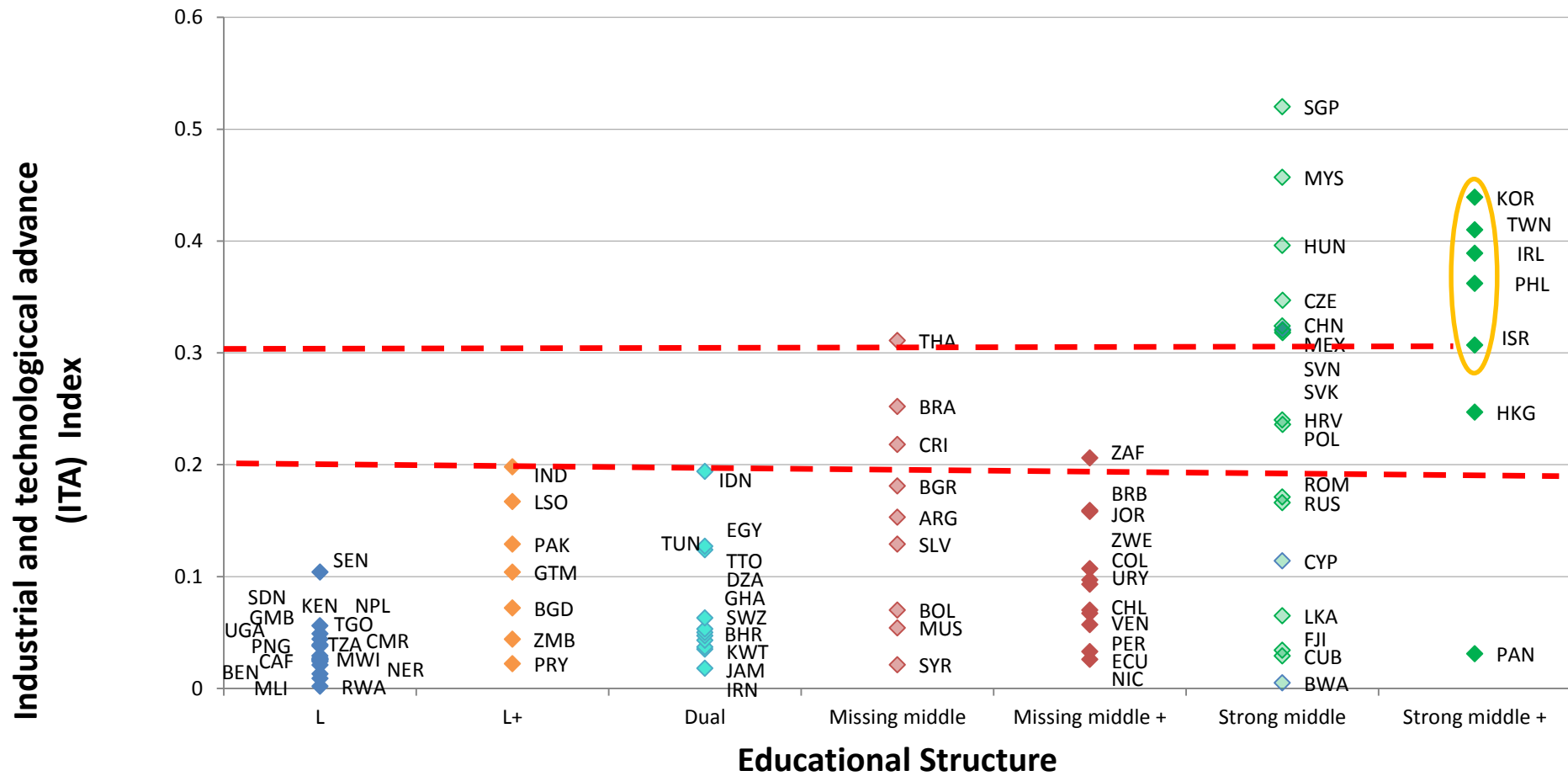
- Different knowledge elements in the labour force (dots in blue space)
- A product P is the combination of different, complementary knowledge elements.
- P₁ –P₅ are the products that can be produced with the knowledge elements embedded in the labour force



EDUCATIONAL ATTAINMENT STRUCTURES (EAS) AND OPTIONS

- **Strong Middle (SM)** – broad supply of complementary knowledge elements and occupations required in manufacturing (technicians, clerks, machine operators, managers, engineers etc)
- **Missing Middle (MM)** – extremely low supply of occupations based on upper secondary education required in manufacturing, limits the expansion of manufacturing base, but allows to develop small high tech sector, and advanced service sector,
- **L-shape:** very limited supply of secondary and post-secondary education based occupations, seriously limits development of manufacturing even at low tech level.

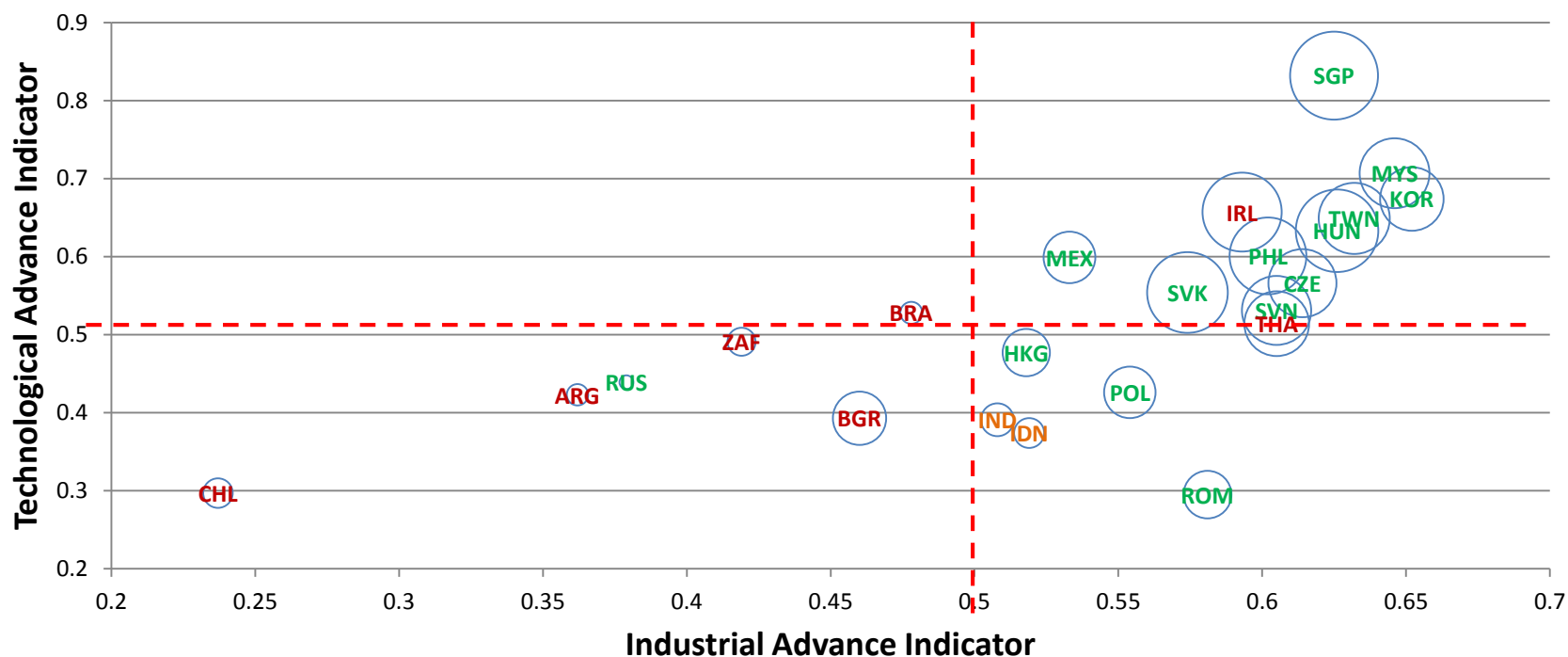
Educational attainment structures and industrial development levels – empirical findings



IMPORT CONTENT OF EXPORTS: EMERGING ECONOMIES

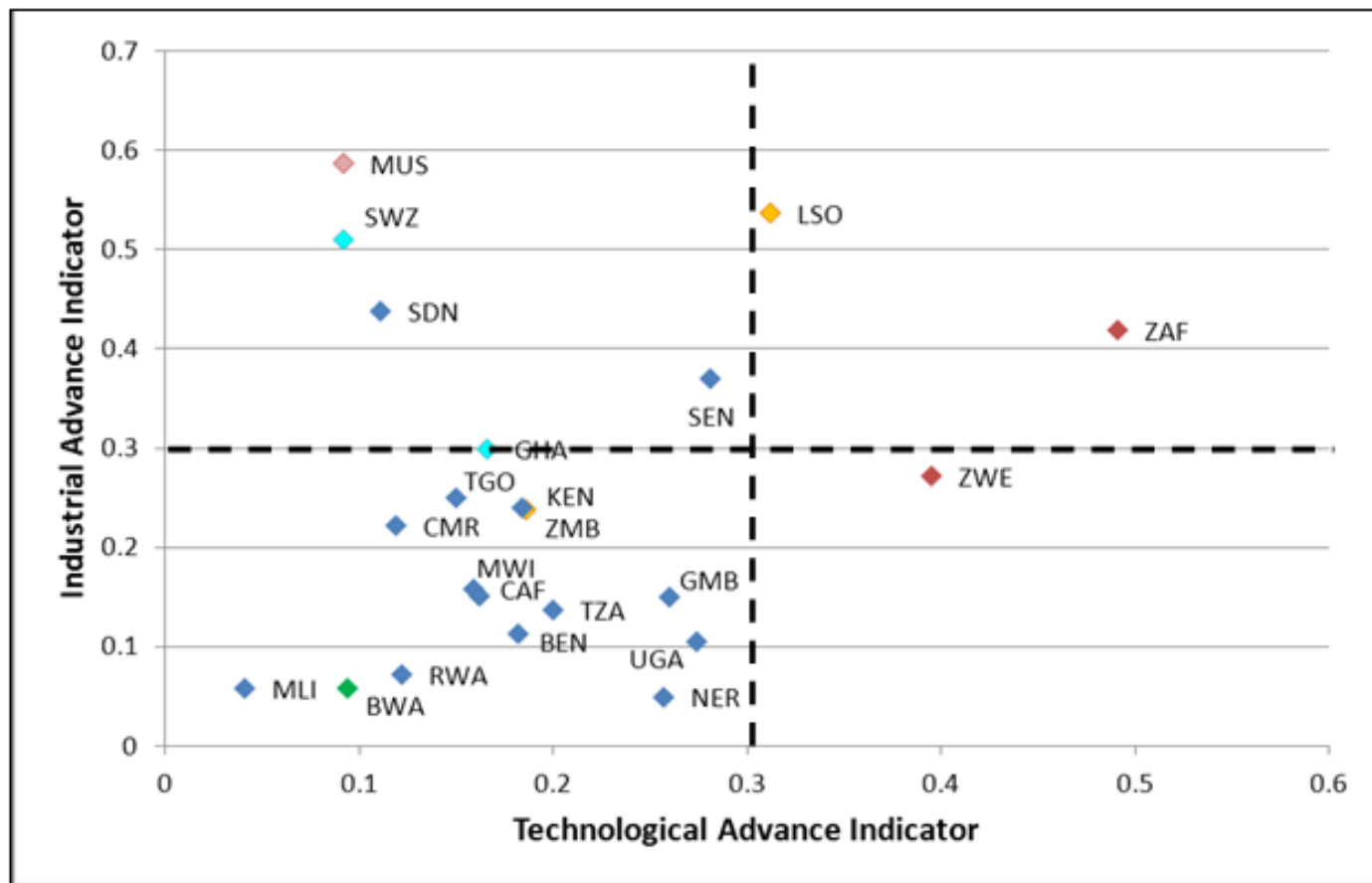
in foreign value added share of gross export (**bubble size**)

- Indicates vertical specialisation of countries and integration in value chains
- Countries with SM EAS (green) increased both IAI and TAI
- Through vertical specialisation (show largest bubbles)
- Generating productive transformation



Missing middle EAS **Strong middle EAS** **L+ or Dual EAS**

INDUSTRIAL AND EDUCATIONAL ATTAINMENT STRUCTURES IN SUB-SAHARAN AFRICA



Source: Author's elaboration based on Barro & Lee, 2000 and UNIDO, 2005