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DEVELOPMENT POLICY
RESEARCH UNIT

Quality Growth in Africa: Towards Sustainable, Inclusive and Resilient Development

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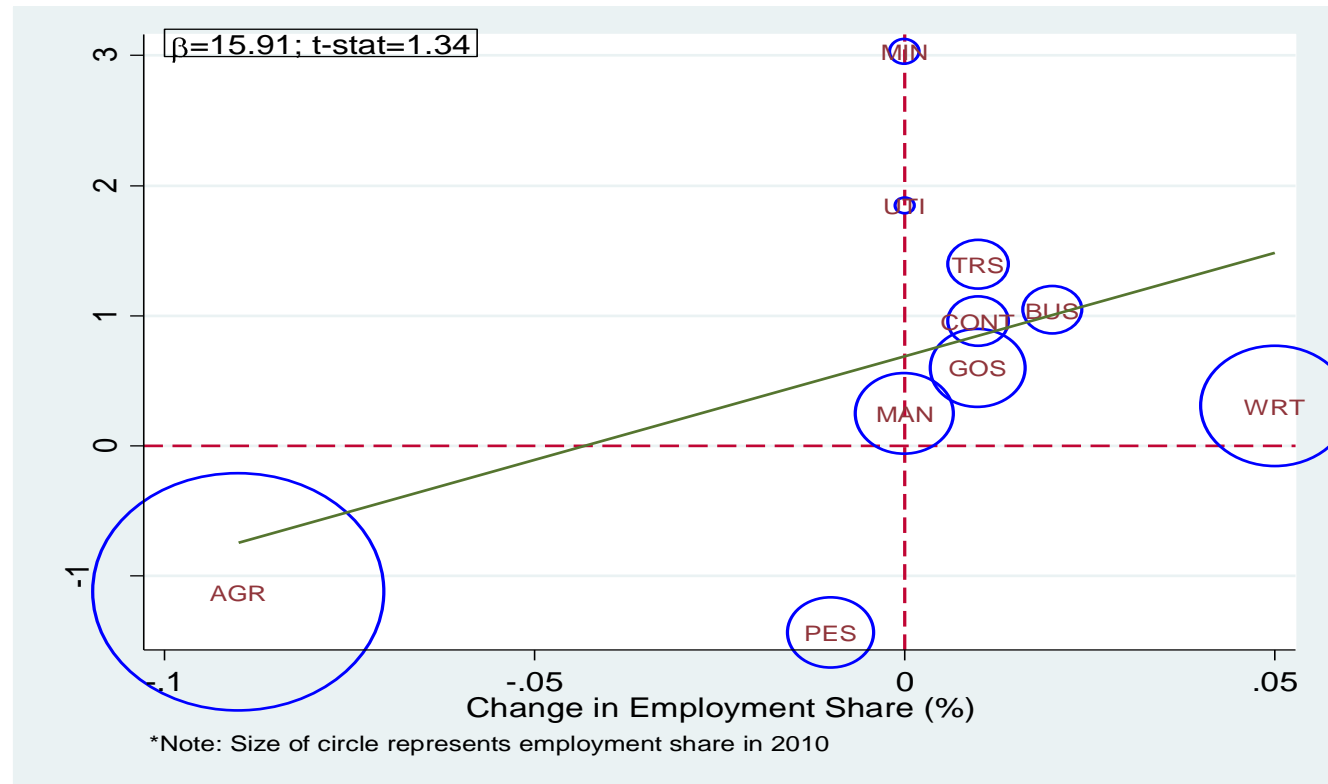
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Outline

- Economic Transformation in Africa: An Assessment
 - Premature DeIndustrialisation in Africa?
 - Resource Dependence as a Growth Challenge
 - Economic Transformation and Jobs: What the Future Holds for Africa
- Economic Complexity as an Instrument for Policy
 - From Product Space Analytics to Frontier Products
 - Capabilities, Complexity and Industrial Policy Solutions
- Conclusion

Premature Deindustrialisation:

Sectoral Productivity and Employment Changes in Africa 1975 - 2010

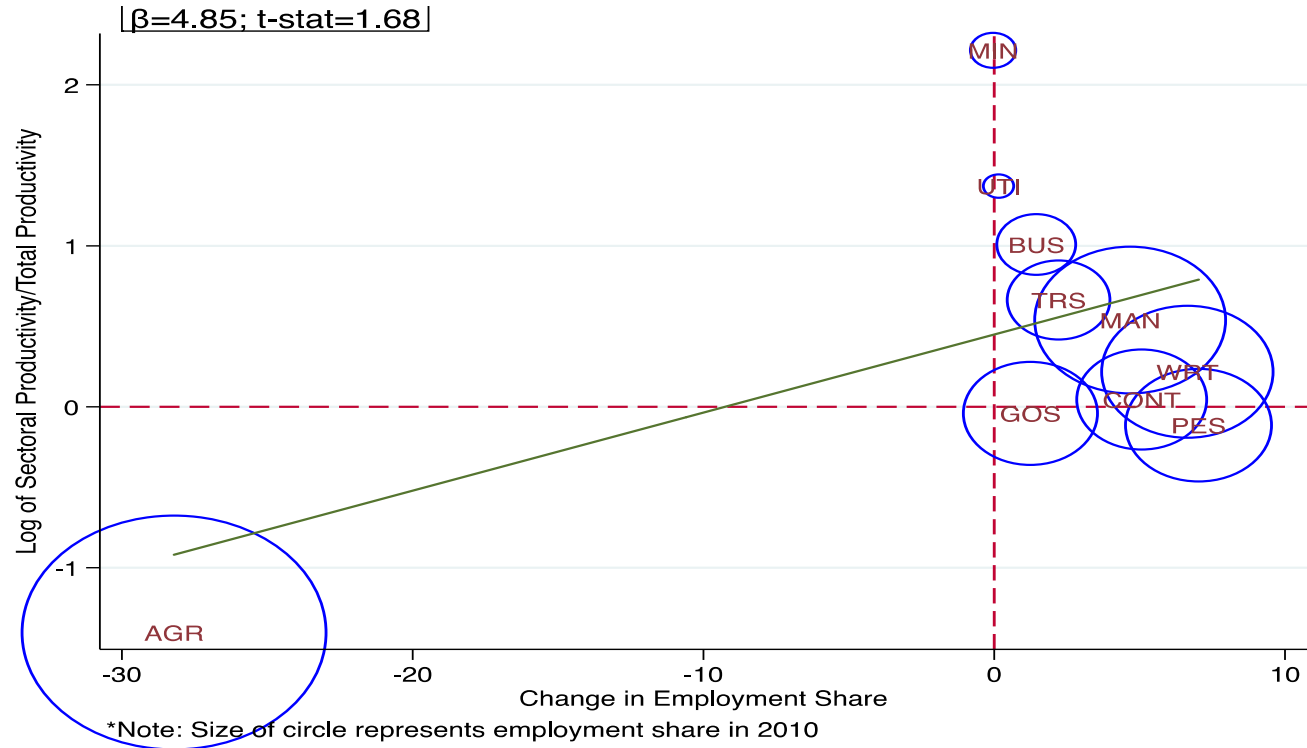


Source: Own calculations using Groningen Growth and Development Centre 10-sector database (see Timmer et al., 2014).

Notes: 1. African countries included: Botswana, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Senegal, South Africa, Tanzania and Zambia. 2. AGR = Agriculture; MIN = Mining; MAN = Manufacturing; UTI = Utilities; CONT = Construction; WRT = Trade Services; TRS = Transport Services; BUS = Business Services; GOS = Government Services; PES = Personal Services.

Premature Deindustrialisation:

Sectoral Productivity and Employment Changes in Asia 1975 - 2010

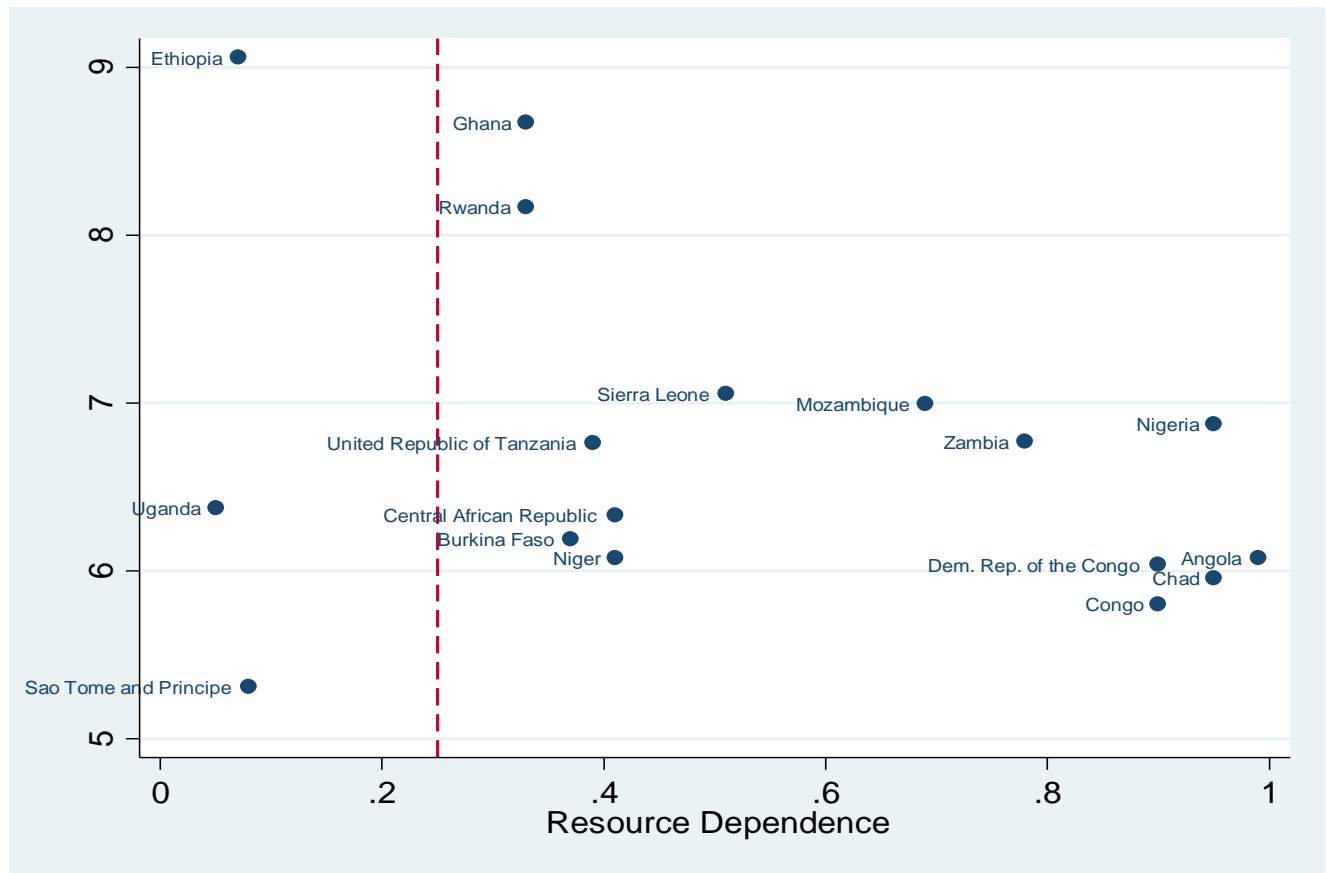


Source: Own calculations using Groningen Growth and Development Centre 10-sector database (see Timmer et al., 2014).

Notes: 1. Asian countries are comprised of East and South Asian countries, including: China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand. 2. AGR = Agriculture; MIN = Mining; MAN = Manufacturing; UTI = Utilities; CONT = Construction; WRT = Trade Services; TRS = Transport Services; BUS = Business Services; GOS = Government Services; PES = Personal Services. 2. The estimated regression line, measuring the relationship between productivity and changes in employment share by sector, is not statistically significant.

Resource Dependence as a Growth Challenge

- In period 2008-2013: 17 African Economies have grown at over 5%.
- 14 of these 17 'African Lions' are classified as resource-dependent.



Source: WDI, 2014, UNCTAD (2014), Own Calculations.



Economic Transformation and Jobs: What the Future Holds for Africa

Population Projections, World and Sub-Saharan Africa: 2015 - 2100

	Total Population (Billion)			Working Age Population (Billion)		
	2015	2100	% Change	2015	2100	% Change
SSA	1.0	3.9	291.62	0.5	2.5	400.00
World	7.3	11.2	53.42	4.8	6.7	39.58
SSA Proportion (%)	13.7%	34.8%		10.4%	37.3%	

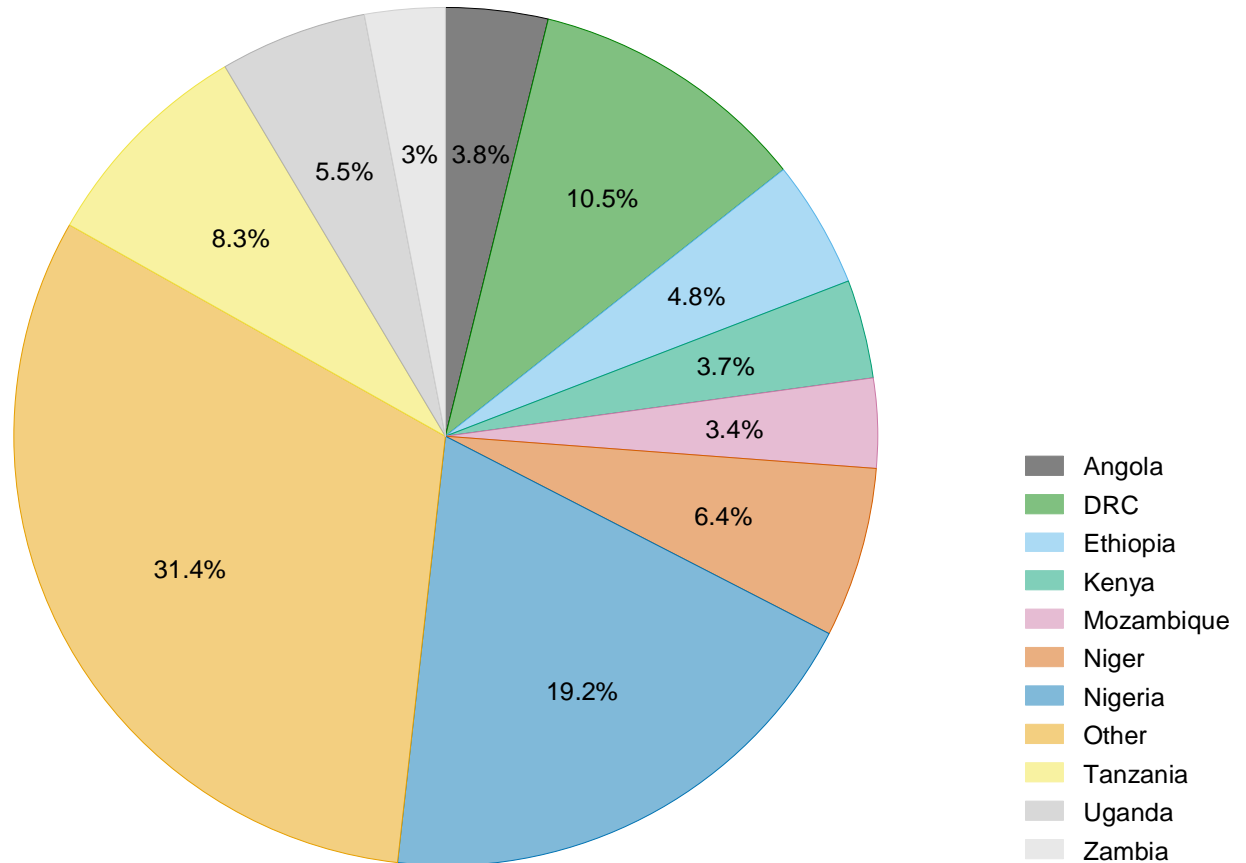
Source: WDI, 2014, UNCTAD (2014), Own Calculations.

Economic Transformation and Jobs: What the Future Holds for Africa

10 SSA countries will account for nearly 70% of population growth in region:

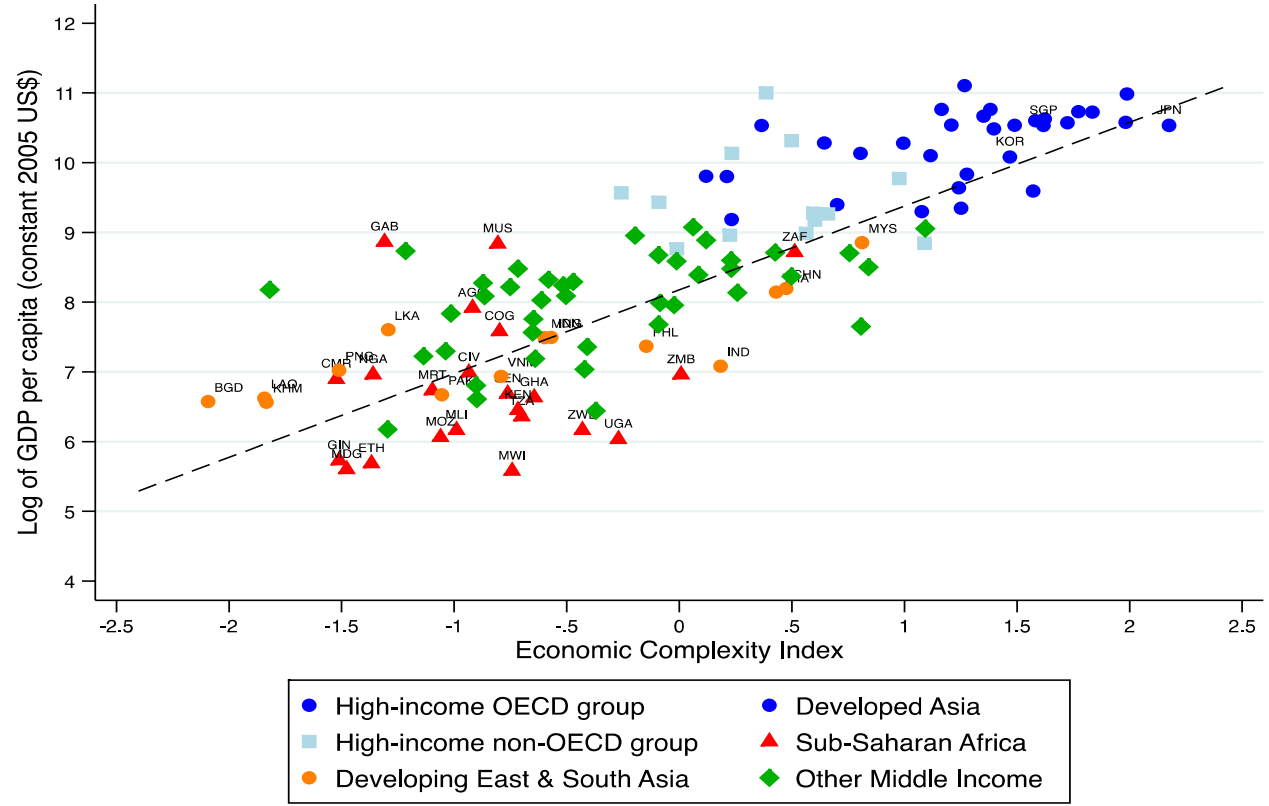
- Nigeria: Increase of 570 million – nearly 20% of all SSA popn. growth.
- DRC: Increase by 311 million -10.5% of SSA growth.
- Tanzania: Six-fold increase in population from 53 to 299 mill.

Share of Sub-Saharan African Population Growth by Country, 2015-2100



Economic Complexity as an Instrument for Policy

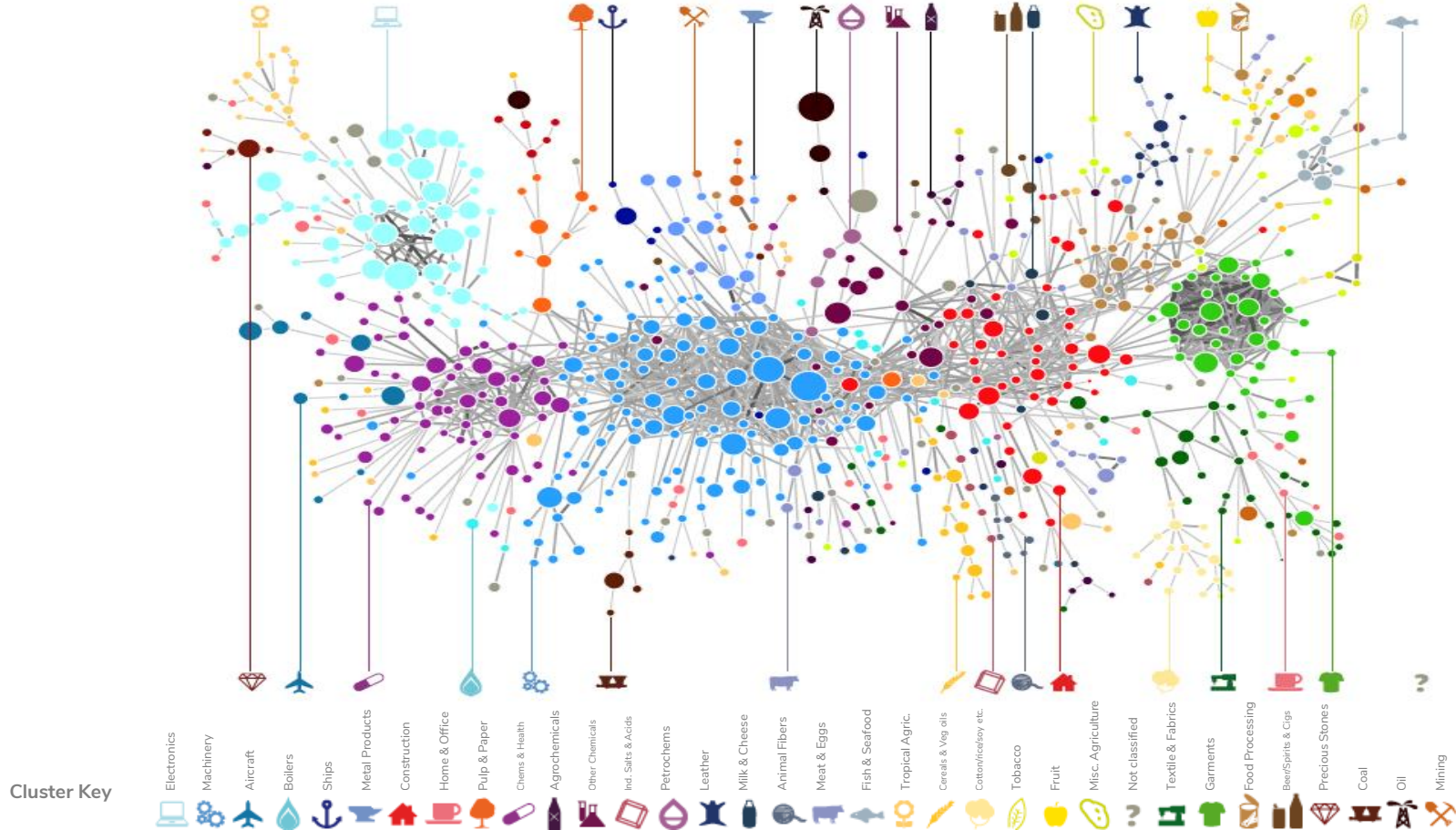
Economic Complexity (ECI) and the Log of GDP per capita by analytical group, 2013



Source: Own calculations using trade data from BACI data (HS 6-digit revision 1992) and GDP per capita data from the World Development Indicators.

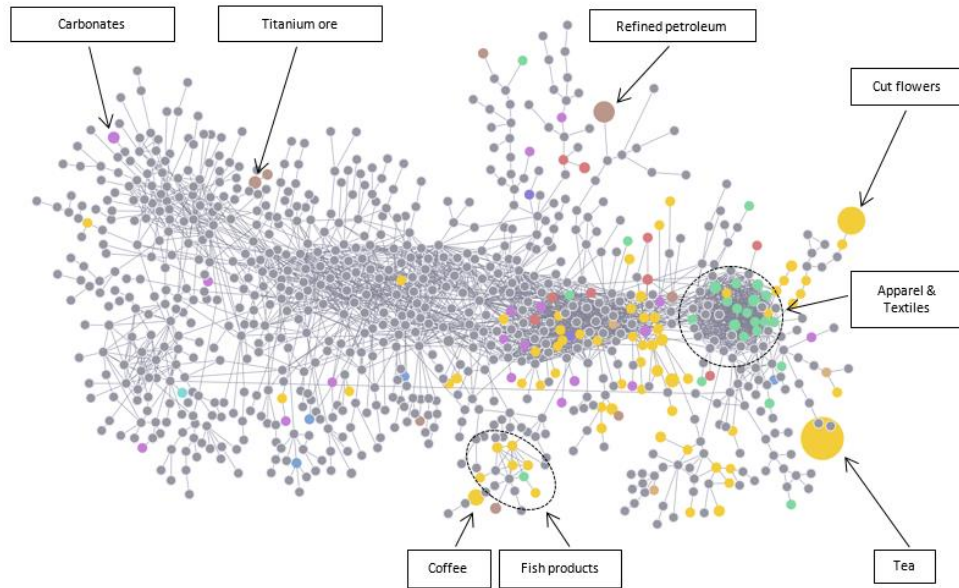
Notes: 1. The sample of countries is reduced to those for which we estimate complexity measures.

Economic Complexity as an Instrument for Policy: Visualising the Product Space

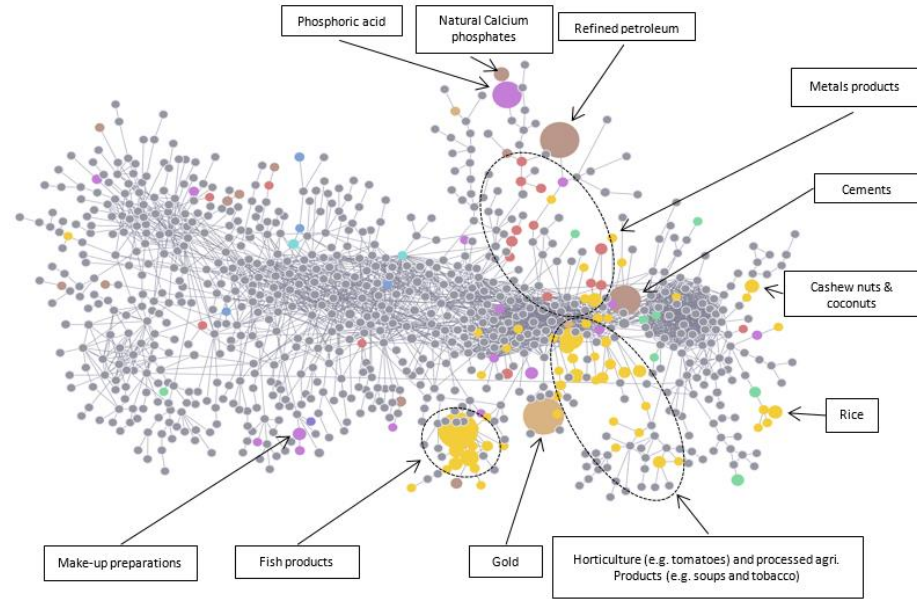


Economic Complexity as an Instrument for Policy: Product Space in 4 Africa Economies

Product Space for Kenya, 2015

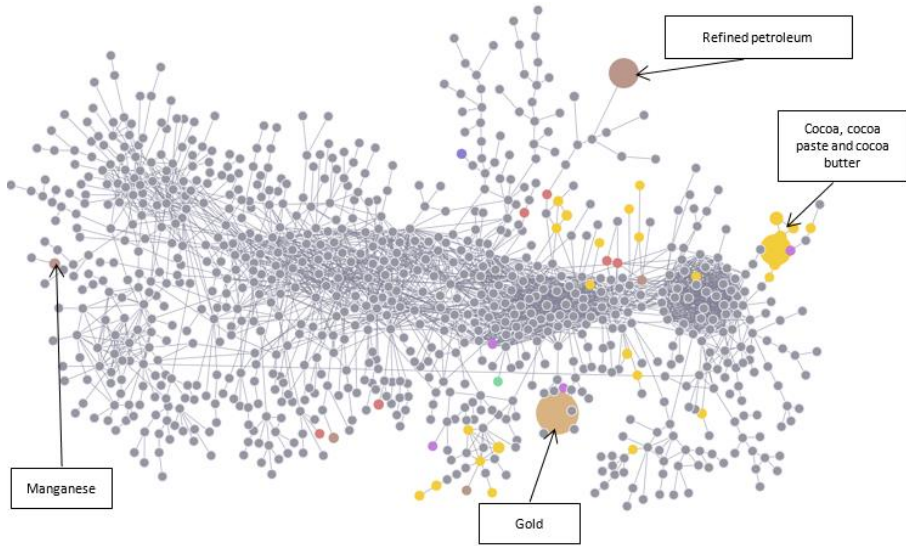


Product Space for Senegal, 2015

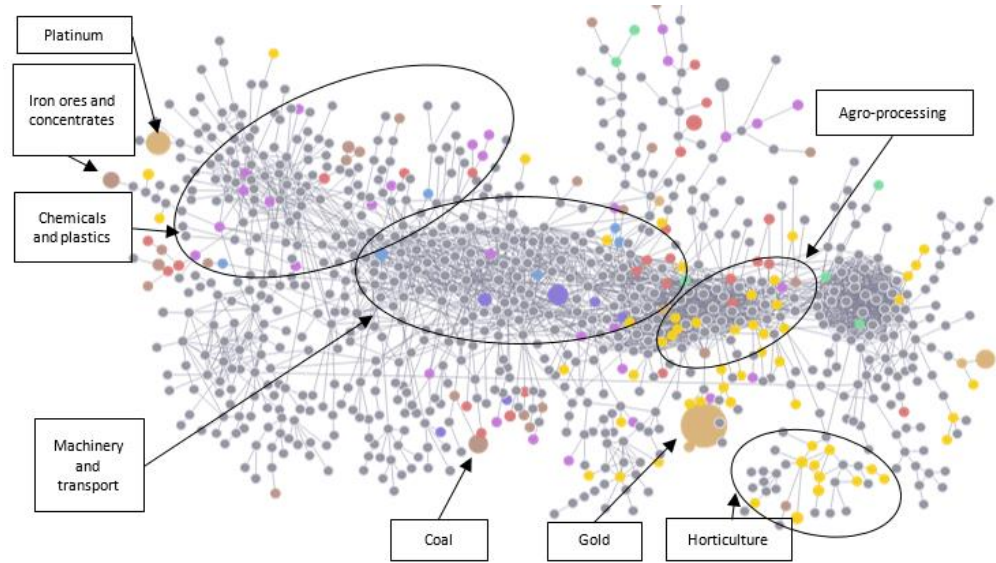


Economic Complexity as an Instrument for Policy: Product Space in 4 Africa Economies

Product Space for Ghana, 2015



Product Space for South Africa, 2015

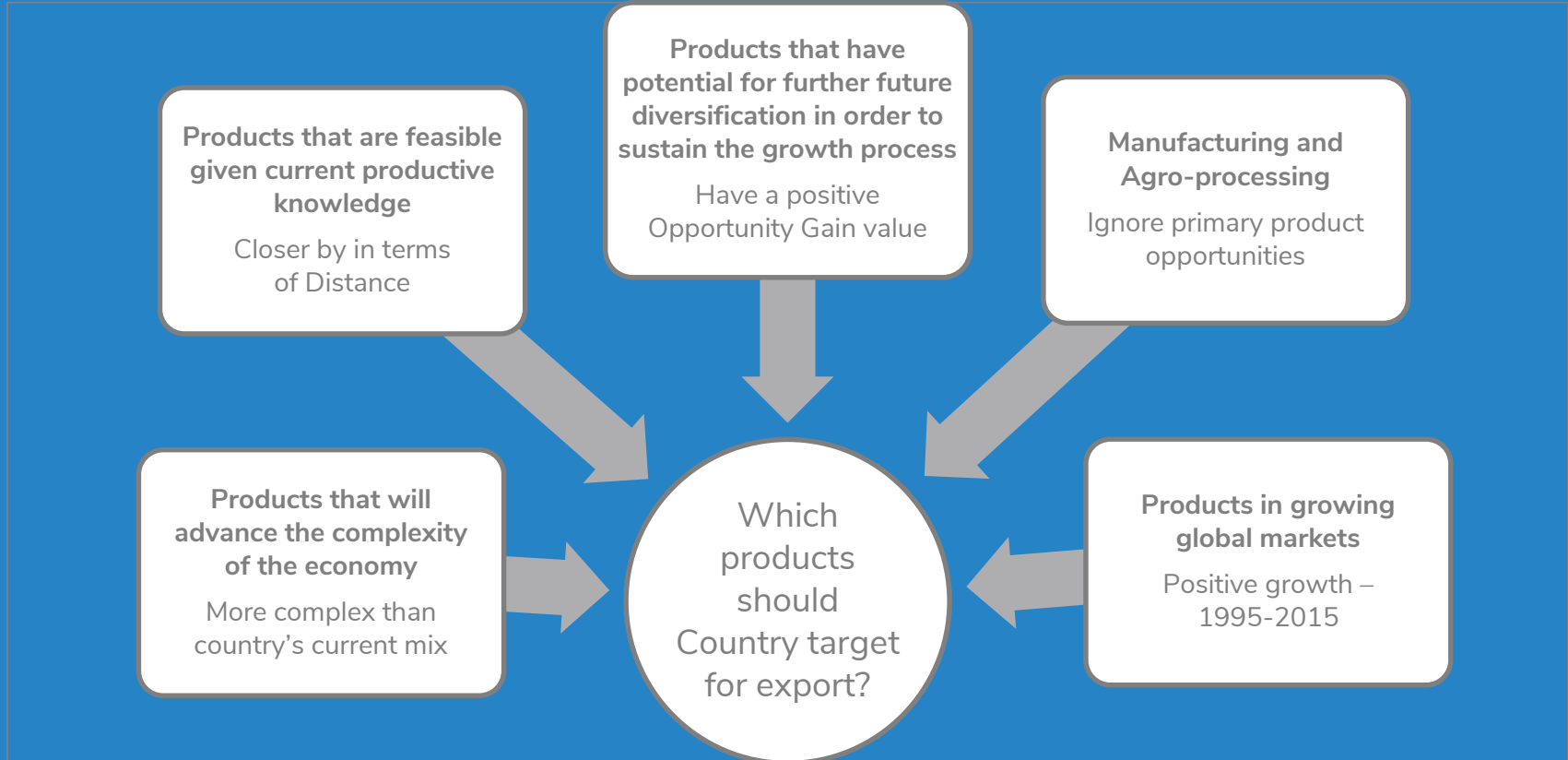


Economic Complexity as an Instrument for Policy:

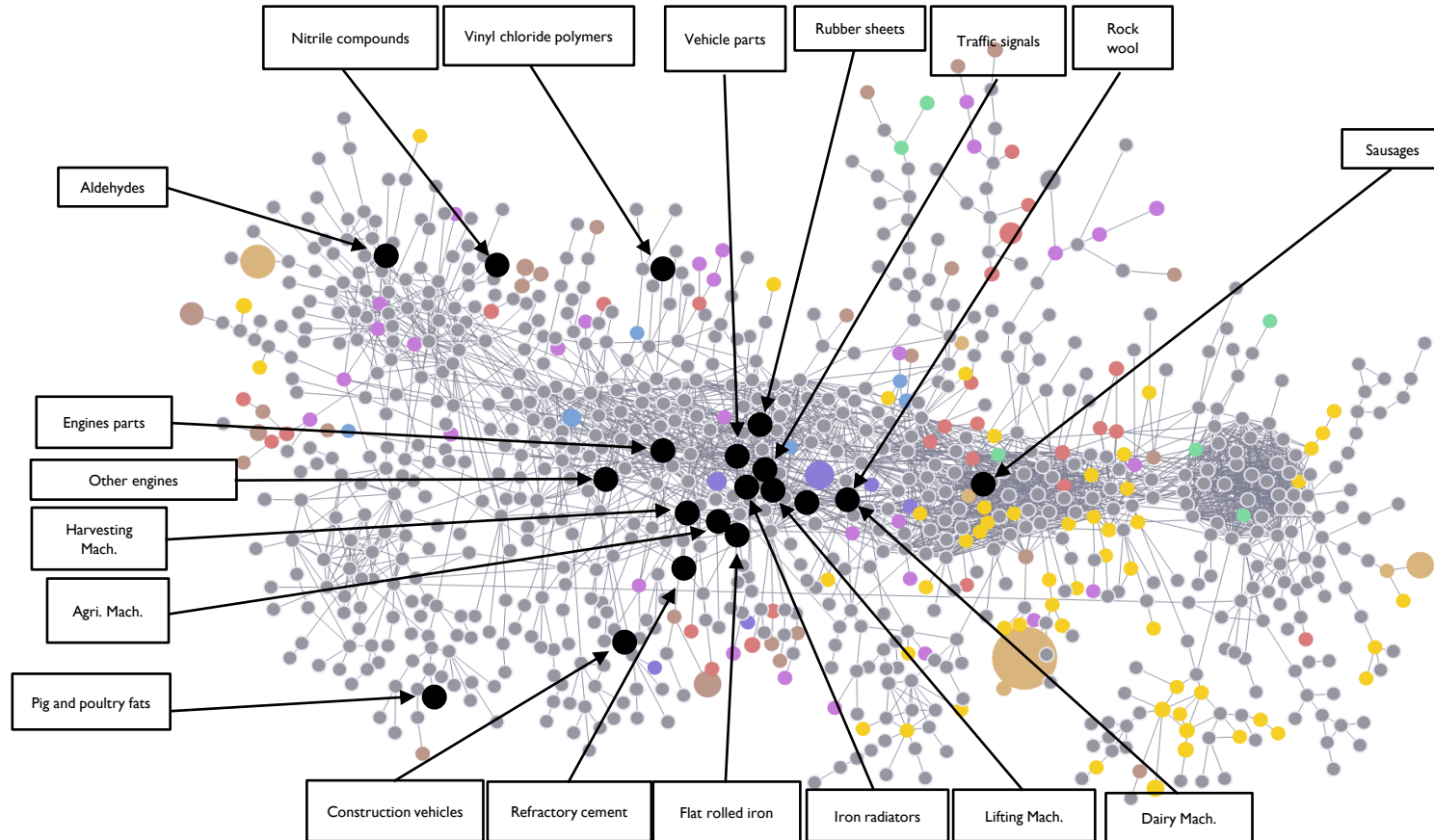
Possible Sequencing of Industrial Policy

- Map Product Space of Country
- Map Product Space for Sector or Product Cluster [e.g. *horticulture, fibrous plants, copper, cocoa*]
- Determine Criteria for Identifying Frontier Products
- Generate List of Frontier Products
- Examine capability constraints for growth in frontier products' output.

Criteria for Identifying Frontier Products: An Example



Generate a List of Frontier Products: Example of Top 20 Products - South Africa



- Shift to the more complex and connected products in the core of the PS.
- Building on capabilities developed in primary sector activities (e.g. Agri. Machinery)
- Relatedness between frontier products (e.g. pig fat and sausages)

Generate a List of Frontier Products:

Example of Top 20 Products - South Africa

ALL	Com.	Description
Rock Wool	STON	Slag, rock wool, mineral fibre and similar mineral wools
Vehicle Parts	TRAN	Part and accessories (e.g. bumpers, safety seat belts, gear boxes, drive-axles, exhaust pipes, radiators, suspension system)
Pig and Poultry Fat	VEGP	Pig fat (including lard) and poultry fat
Lifting Machinery	MACH	Lifting, handling, loading or unloading machinery (e.g. lifts, escalators, conveyors, hoists, elevators)
Traffic Signals	MACH	Signalling, safety or traffic control equipment; for railways, tramways, roads, inland waterways, parking facilities, port installations, airfields
Aldehydes	CHEM	Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde
Other Engines	MACH	Engines and motors (e.g. reaction engines, hydraulic power engines, pneumatic power engines)
Rubber Sheets	PLAS	Plates, sheets, strip, rods and profile shapes, of vulcanised rubber other than hard rubber
Engine Parts	MACH	Parts for engines (spark-ignition reciprocating or rotary internal combustion piston engines, diesel or semi-diesel engines)
Vinyl Chloride Polymers	CHEM	Polymers of vinyl chloride or of other halogenated olefins, in primary forms
Large Flat-Rolled Iron	MET	Iron or non-alloy steel; flat-rolled products, width less than 600mm, not clad, plated or coated
Nitrile Compounds	CHEM	Nitrile-function compounds
Refractory Cements	CHEM	Refractory cements, mortars, concretes and similar compositions
Fire Extinguishers Preparations	CHEM	Preparations and charges for fire extinguishers; charged fire-extinguishing
Other Agricultural Machinery	MACH	Agricultural, horticultural, forestry, poultry-keeping, bee-keeping machinery; poultry incubators and brooders
Dairy Machinery	MACH	Milking machines and dairy machinery
Iron Radiators	MET	Radiators for central heating, not electrically heated and parts thereof, of iron or steel; air heaters
Harvesting Machinery	MACH	Harvesting and threshing machinery, straw and fodder balers, grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce
Large Construction Vehicles	MACH	Bulldozers, graders, levellers, scrapers, angledozers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers, self-propelled
Prints	MISC	Engraving, prints and lithographs

Source: Own calculations using data from The Economic Complexity Observatory (Simoes & Hidalgo, 2011).

Notes: Com. Refers to product communities. The shortened words denote: CHEM = Chemicals & Plastics; MACH = Machinery; MET = Metals; STON = Stone & Glass; TRAN = Transport Vehicles; VEGP = Vegetables, Foodstuffs & Wood; MISC = miscellaneous

Conclusion

- Major challenge in SSA: Young and growing labour force, requiring sustainable employment.
 - Asia: Expansion in manufacturing a source of growth, employment and economic development.
 - SSA: Productive structure disconnected and characterised by products with low levels of economic complexity.
- Evidence of Deindustrialisation in Africa: Can this be altered?
 - Deindustrialisation given way in Africa to low productivity services employment.
 - Can Low-Wage Manufacturing Growth Still Deliver Economic Growth and Employment?
- SSA: Productive structure disconnected and characterised by products with low levels of economic complexity.
- Productive capabilities in SSA distant from those needed in order to produce increasingly complex manufacture products.
- Using Economic Complexity, Product Space analytics and Capabilities Framework to Build a Deliberate set of policies for economic growth.