

Industries without Smokestacks

Industrialization in Africa Reconsidered

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Overview ideas...

In spite of recent income growth in Africa, manufacturing has not been a driver of structural transformation as in other regions, leading some observers to view African growth prospects as dim...

Our argument: Changes in the global economy, together with the different economic structure of Africa, mean that the region will not be to replicate the manufacturing-led growth of East Asia... but these same changes open up new opportunities for the region.

One opportunity is developing “industries without smokestacks” that, while not formally manufacturing, have many of its characteristics in powering productivity growth.

Can high growth continue into coming decades?

“...there is a genuine question about whether Africa’s growth can be sustained....I come down on the pessimistic side, due to what I think are **poor prospects for industrialization...**”

-- Dani Rodrik “Africa Growth Miracle” (2014)

Why is **manufacturing** important...?

- Employ large numbers of unskilled workers
- Relatively high productivity potential because of scale economies
- Innovations in process and products create on-going opportunities for productivity improvements

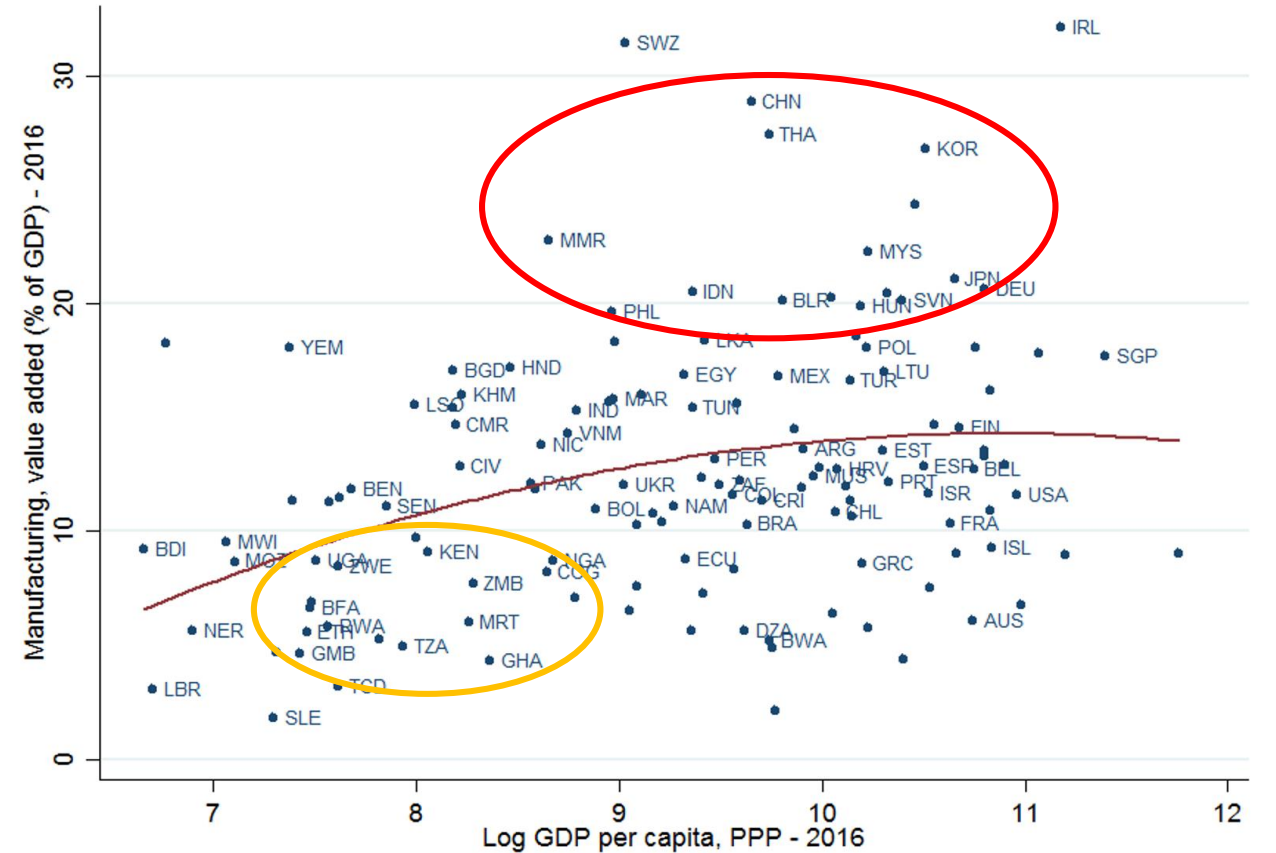
Why is **trade** in manufactures important...?

- Manufactures are a leading growth sector in international trade
- Trade is necessary to achieve economies of scale (exports) and access to higher technology, lower cost inputs (imports)
- Trade allows for *specialization in production* and *diversification in consumption*

The Rodrik pessimism: Industry is not leading growth in Africa

- Historically, industry has led the process of structural change
 - Moving workers from the land to industry to employ unskilled workers with higher productivity
 - It has played an outsized role in East Asia
- Industry has played only a minor role in Africa's growth turn around
 - The region's fast growing economies (ETH, GHA, KEN, RWA, TZA, UGA) are all negative outliers

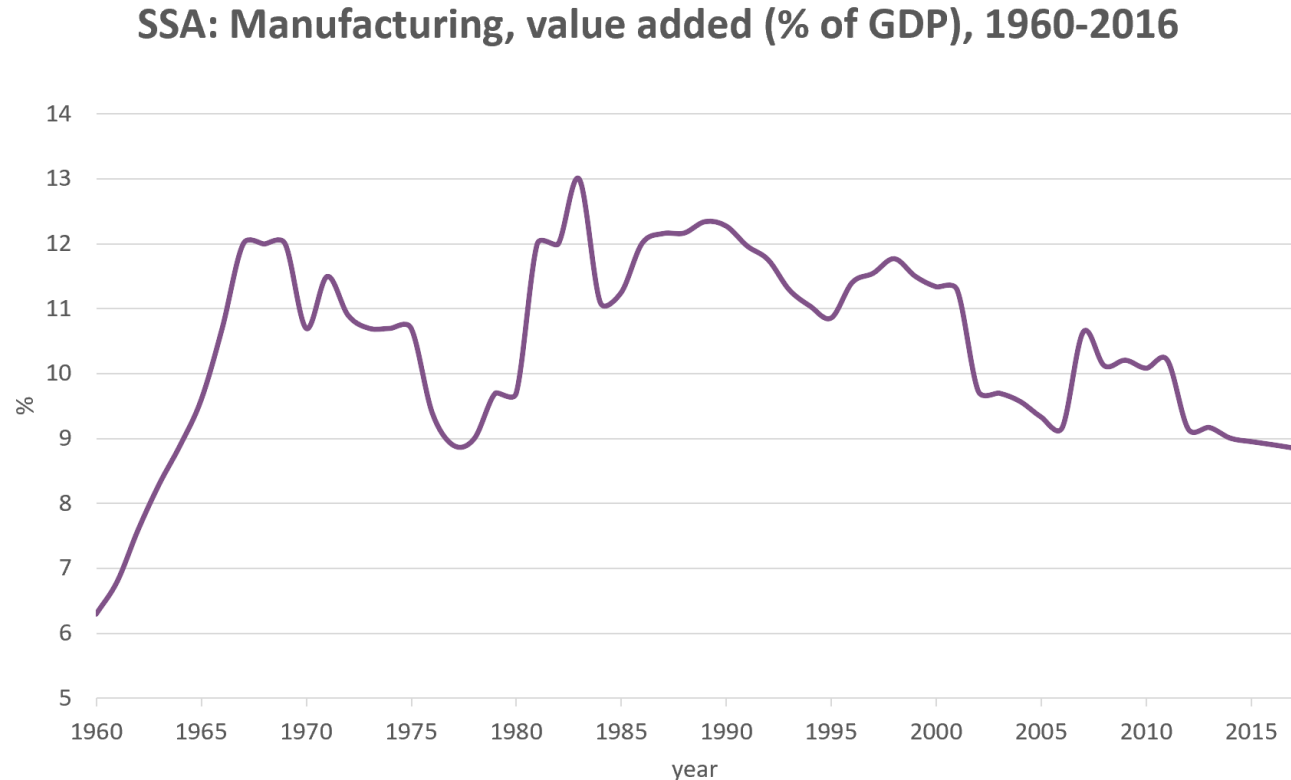
Manufacturing Share of GDP, 2016



Source: World Bank World Development Database and World Bank Africa Development Indicators

Manufacturing in Africa has not grown as a share of GDP

- **Africa's share of manufacturing in GDP is less than half of the average for all developing countries**
- **Per capita manufactured exports are about 10 per cent of the developing country average.**
- **Africa's share of global manufacturing is smaller today than in 1980**

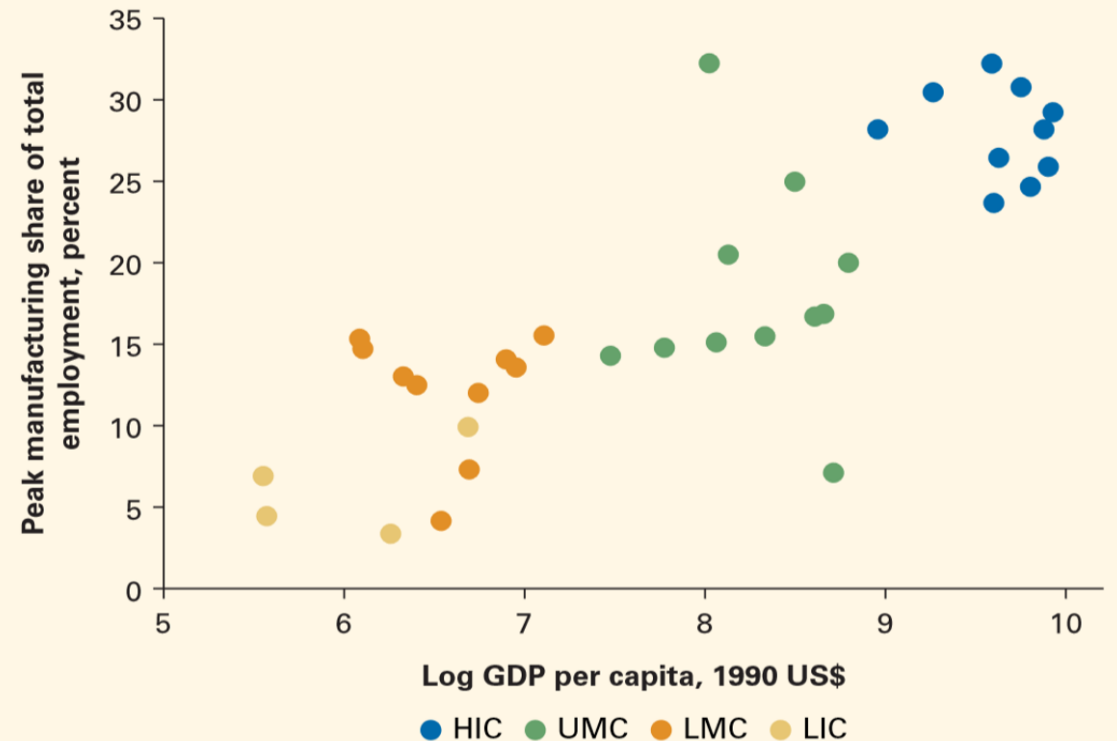


Source: World Bank World Development Database and World Bank Africa Development Indicators. Author's calculations.
Notes: SSA excludes South Africa.

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- **...and Africa's manufacturing/GDP ratio may have peaked prematurely**

Peak manufacturing share of total employment (1950–2012), by country income level

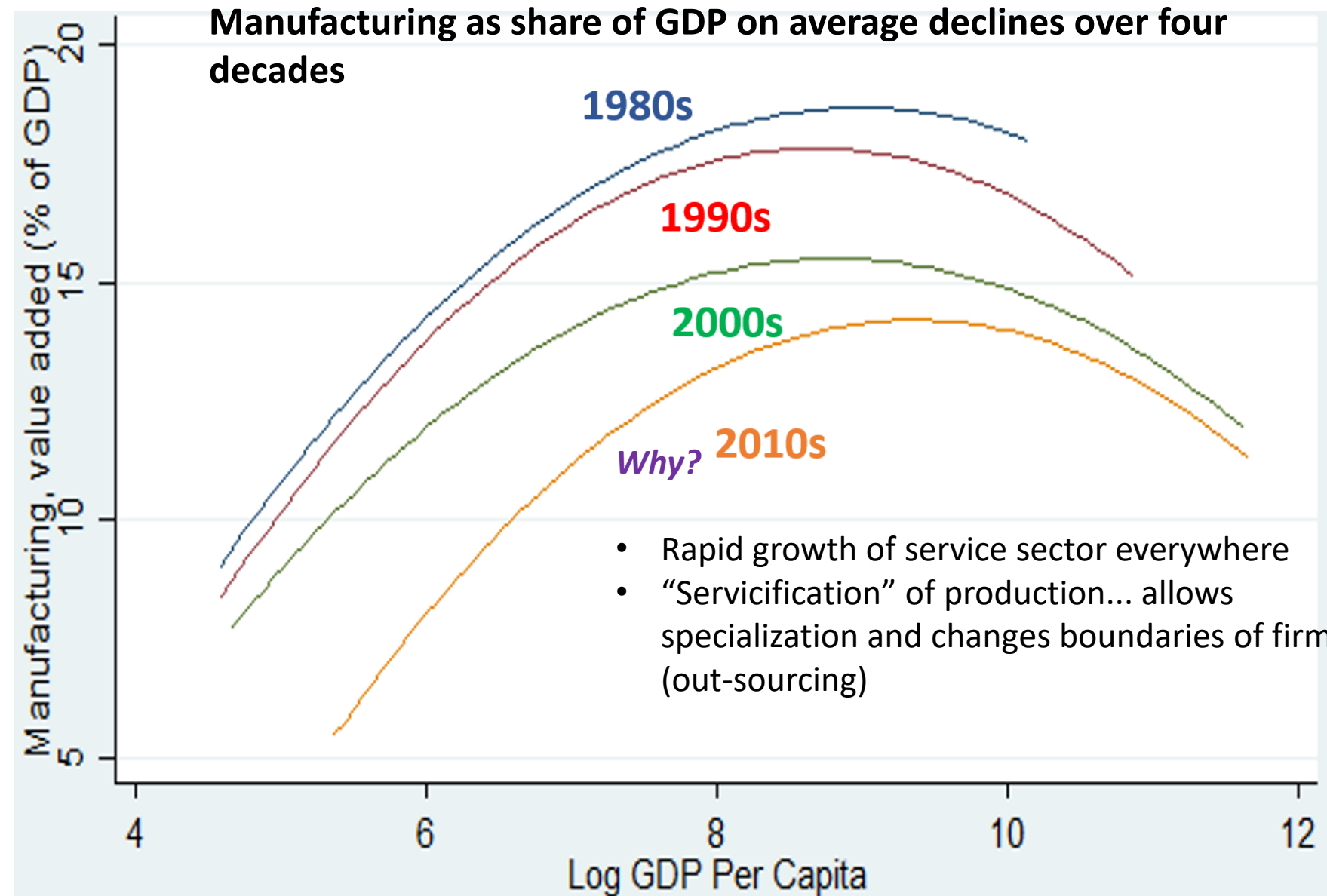


Source: Groningen Growth and Development Centre (GGDC) 10-sector database, University of Groningen, Netherlands.

Note: The sample observations of peak manufacturing share of employment are from 42 economies and periods, 1950–2012. LIC = lower-income country. LMC = lower-middle-income country. UMC = upper-middle-income country. HIC = high-income country.

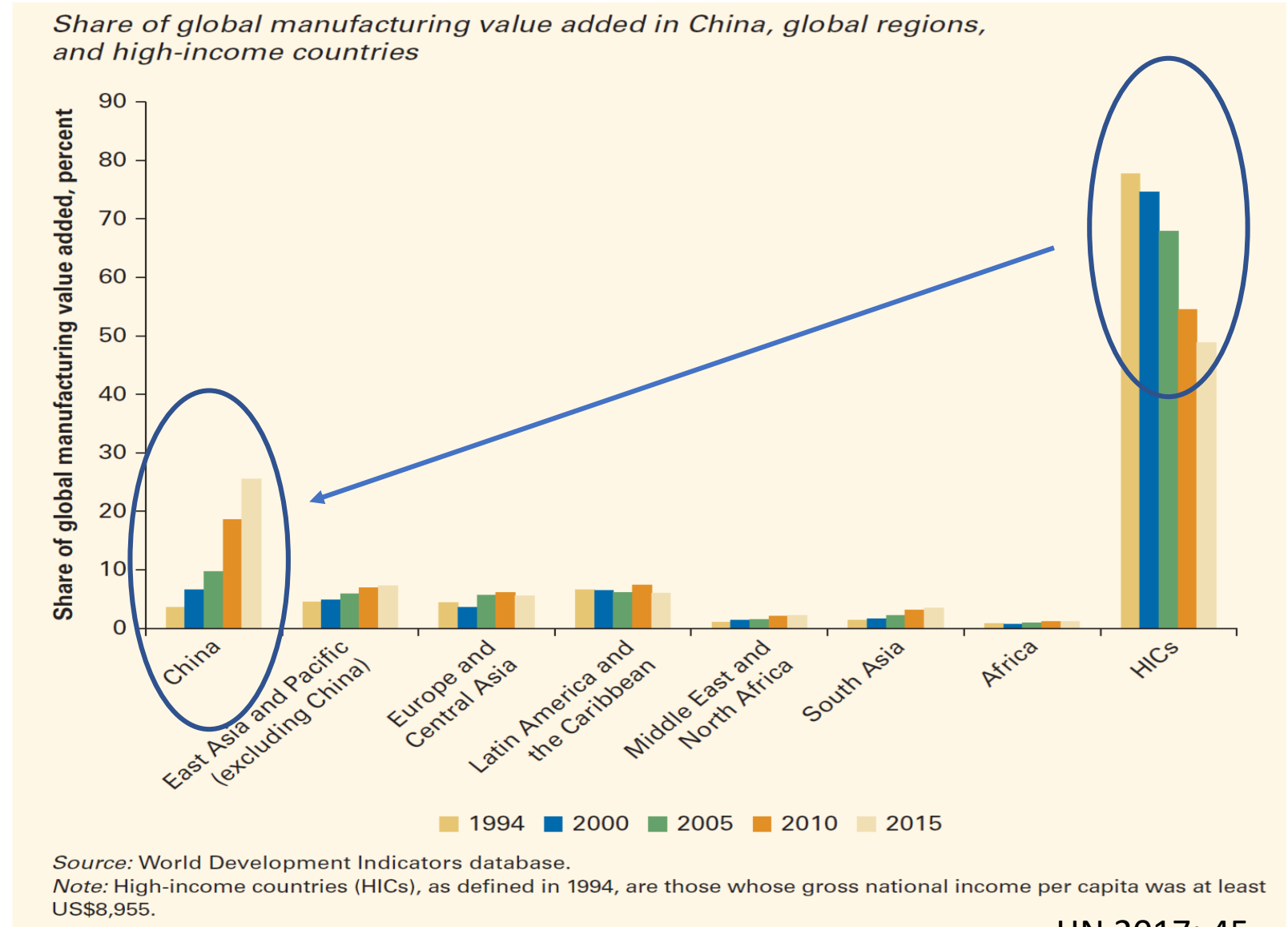
Changes in the global economy make reliance on manufacturing a la East Asia difficult....

- 1- Manufacturing as % of GDP is falling *at all levels of p.c. income*



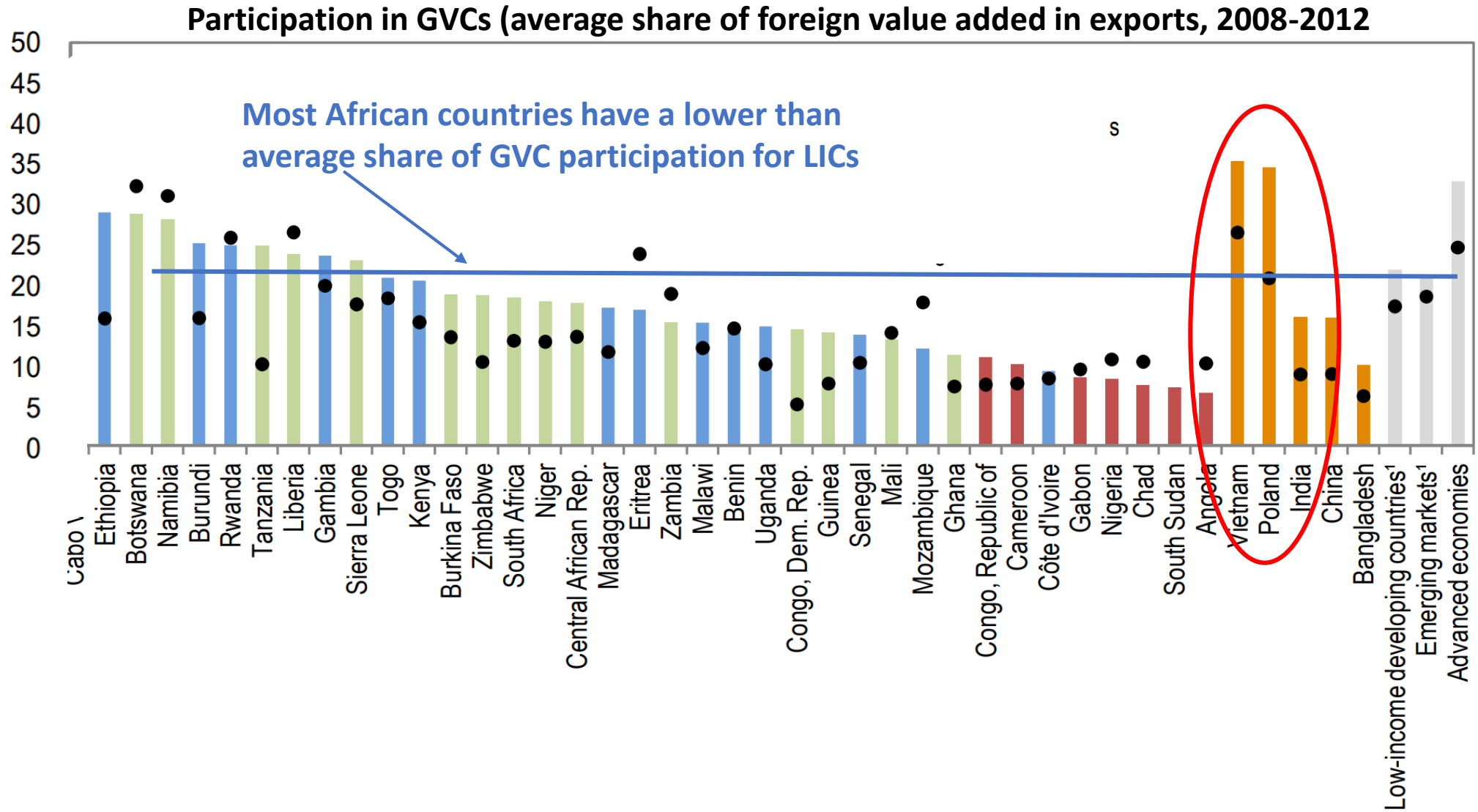
Changes in the global economy make reliance on manufacturing a la East Asia difficult....

- **1- Manufacturing as % of GDP is falling *at all levels of p.c. income***
- **2 - The dominance of China and East Asia as manufacturing centers...**



Changes in the global economy make reliance on manufacturing a la East Asia difficult....

- 3- Emerging role of global value chains...and emergence of trade in tasks



These same forces create new opportunities for Africa to exploit

- Trade in task segmentation of GVCs make production for export accessible
- Services export markets are more dynamic
- Scale barriers services markets are negligible or absent, so Africa can enter in at an early stage
- As wage rise in China, they look for new locations for their manufacturing plants
- These factors, together with sharply falling transportation and communication cost, create opportunities for “industries without smokestacks”

Opportunities: “Industries Without Smokestacks”

- Technology and falling transport costs have created many new activities that share characteristics of traditional manufacturing...
- For example...
 - Horticulture
 - Agro-processing
 - Tourism
 - Tradable services, such as Information and communication activities

Like manufacturing these tend to:

- Employ large numbers of unskilled workers
- Relatively high productivity potential in which innovation can lead to on-going opportunities for productivity improvements
- These sectors growing segment of international trade

“Industries Without Smokestacks” Have Become More Important

- Share of **horticulture** exports doubled from 10 to 22% in SSA ag exports in 1990-2014; horticulture exports up in **Ethiopia, Senegal, Ghana and South Africa**, typically out performing other exports
- **Agro- processing** has grown to 35% of **SSA** ag exports, still low relative to potential
- **Tourism** now amounts to 3% of SSA GDP in **South Africa**, amounting to 680,000 jobs, and 36% of jobs in the entire food and beverage industry. In **Tanzania**, tourism accounts directly and indirectly for 14% of GDP, and accounts for 3% of employment. In **Rwanda**, tourism has increased 22% annually for last decade and is largest forex earning.
- **Business services** emerging as important because of advances in telecommunication, smart phones, computing, and transport... so:
 - **Kenya** has pioneered mobile money payments that is revolutionizing cross-border financial flows. Call-centers and BPO are now a major forex earning exports.
 - Mobile money subscriptions in **Rwanda** rose 10 fold between 2011-2014 to reach 6.5 million subscribers
 - In **Senegal**, entered into call centers didn't perform well because of monopoly in backbone services, but they appear to have done well in software services exports
- **Transport services** are also expanding as costs fall with new investments in ports, roads, and air facilities

But case studies highlight risks...

- **excessive or mis-guided public investments (e.g., air transport, tourism)**
- **granting excessive tax incentives or monopoly positions to encourage entry**
- **Trade-reducing beggar thy neighbor industrial policies**

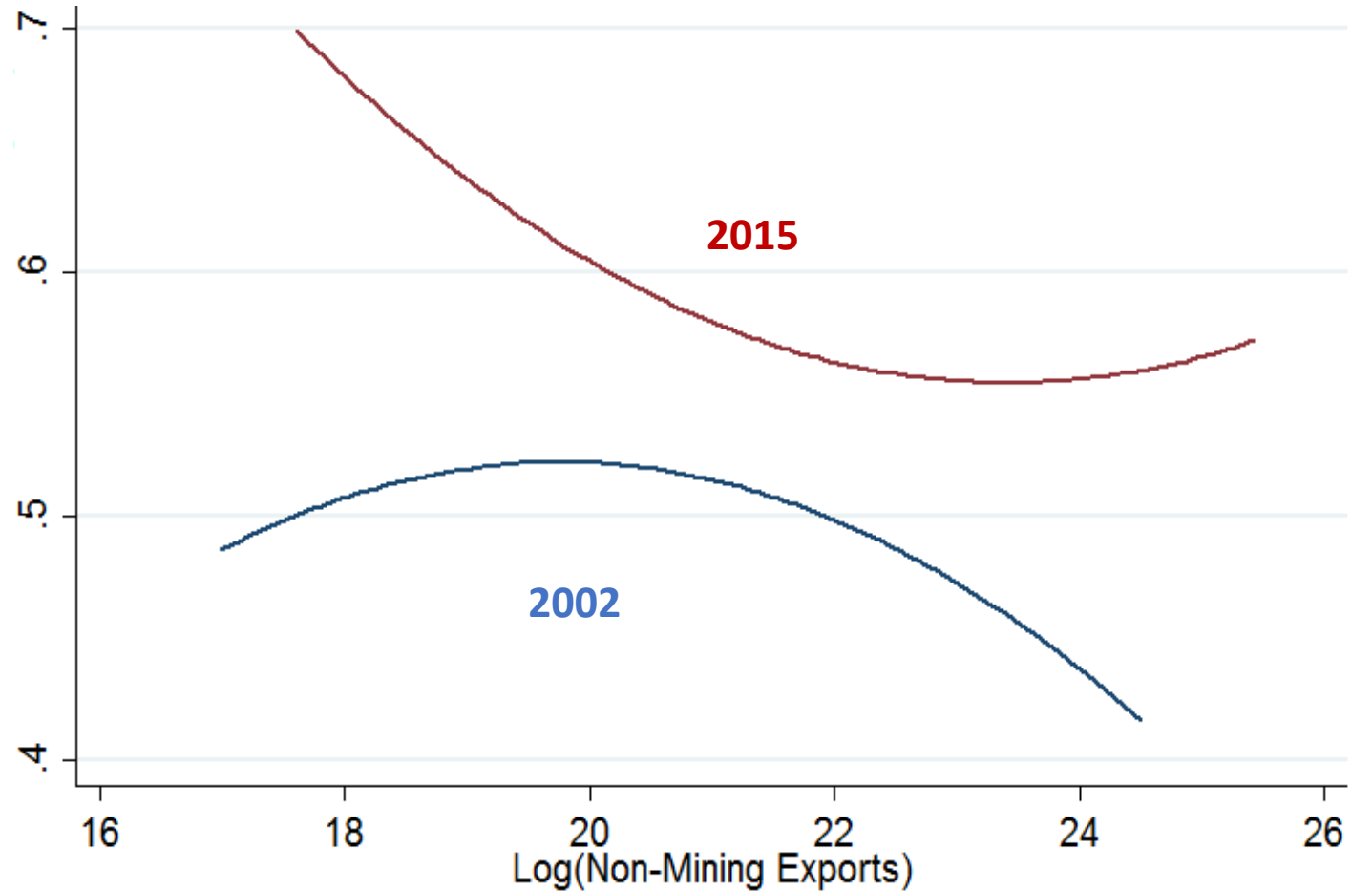
“Industries Without Smokestacks” Have Become More Important

Comparing unweighted averages for 33 countries, IWSS grew more rapidly and became more important in export portfolios

IWSS sectors grew more rapidly or at least as fast as traditional sectors in two thirds of the countries – and faster in half of the countries.

Both large and small on average saw gains in these sectors

IWSS sectors as a share of non-mineral exports



Methodology: Using Comtrade data and WTO services data for 33 countries for 2002, 2007, 2012 and 2015 at the 2-digit level. Each HS-level and each service sector was classified as an “IWSS sector” according to whether they (a) were tradable; (b) had a relatively high value added per worker; (c) benefit from technological change and productivity growth; and (d) had some promise of scale and/or agglomeration economies. IWSS sectors included HS03-08;11-24 (food processing and horticulture); and services sectors S205-245 (travel, transportation and communication); S253-268 (financial services computer informational services, and business services). Omitted were agriculture, manufacturing, textiles, footwear, metal fabrication, and machinery as well as construction services, recreational services and government services.

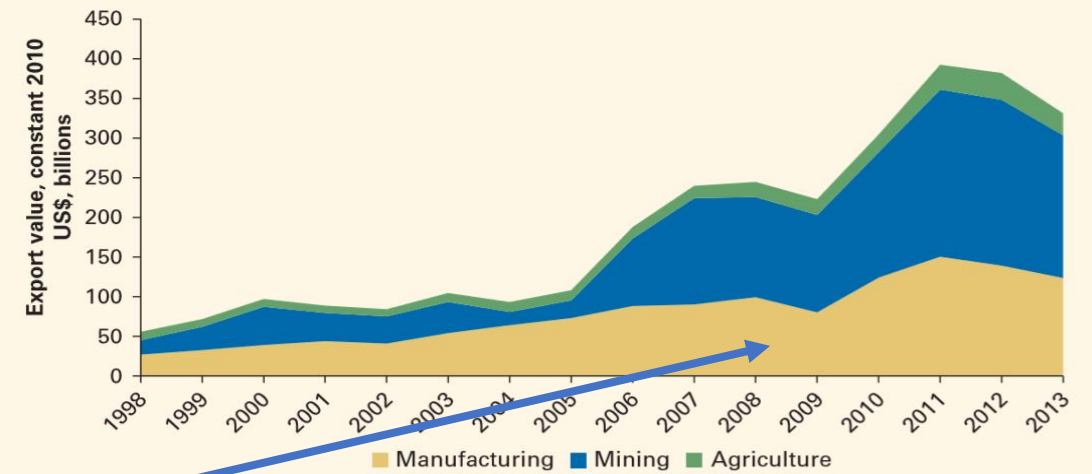
Opportunities: Regional trade may act as a springboards into manufactures and IWSS...

Share of manufactures in exports is much higher in regional markets

New opportunities in IWSS:

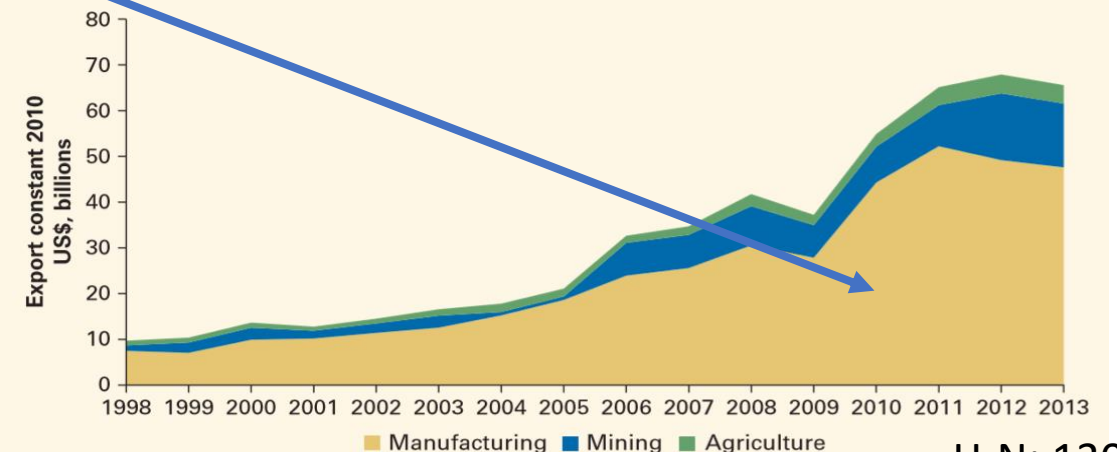
- Trade in services – e.g., cross-border finance
- Intra-industry competition in differentiated product to drive economies of scale (e.g., Kenyan manufactures)
- Processed agriculture products in regional value chains (e.g., Corn, corn flower, chips)

Figure 4.7 Value of Total Exports in Sub-Saharan African Countries, by Sector, 1998–2013



Source: Nayyar and Nee 2016.

Figure 4.8 Value of Intra-Africa Exports among Sub-Saharan African Countries, by Sector, 1998–2013



Source: Nayyar and Nee 2016.

Policies to unleash Africa's full potential

- Global policies...
 - Trade agreements (WTO, TISA, AGOA)
 - Development finance
- Country level
 - Investment climate (infrastructure, skills, competition)
 - Tilting toward exports
 - Spatial policies
 - Industrial policies
- Regional policies
 - Deep integration – services
 - Price incentives
 - Trade facilitation & services regulation
 - Interconnecting infrastructure

Conclusions...

- **Africa can create a new growth miracle, but its form will be much different than East Asia, relying more on productivity improvements in agriculture, natural resources... and industries without smokestacks**
- **Policies should not focus obsessively on manufacturing...nor ignore manufacturing. Key to growth will be policies that promote higher-productivity activities and exports... in both services and manufacturing**
- **Regional integration will assume an ever greater importance as a source of demand for exports, so policy co-ordination to lower costs of trading, foster region-wide competition, and encourage open-regionalism.**

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Industries Without Smokestacks and Structural Transformation in Africa

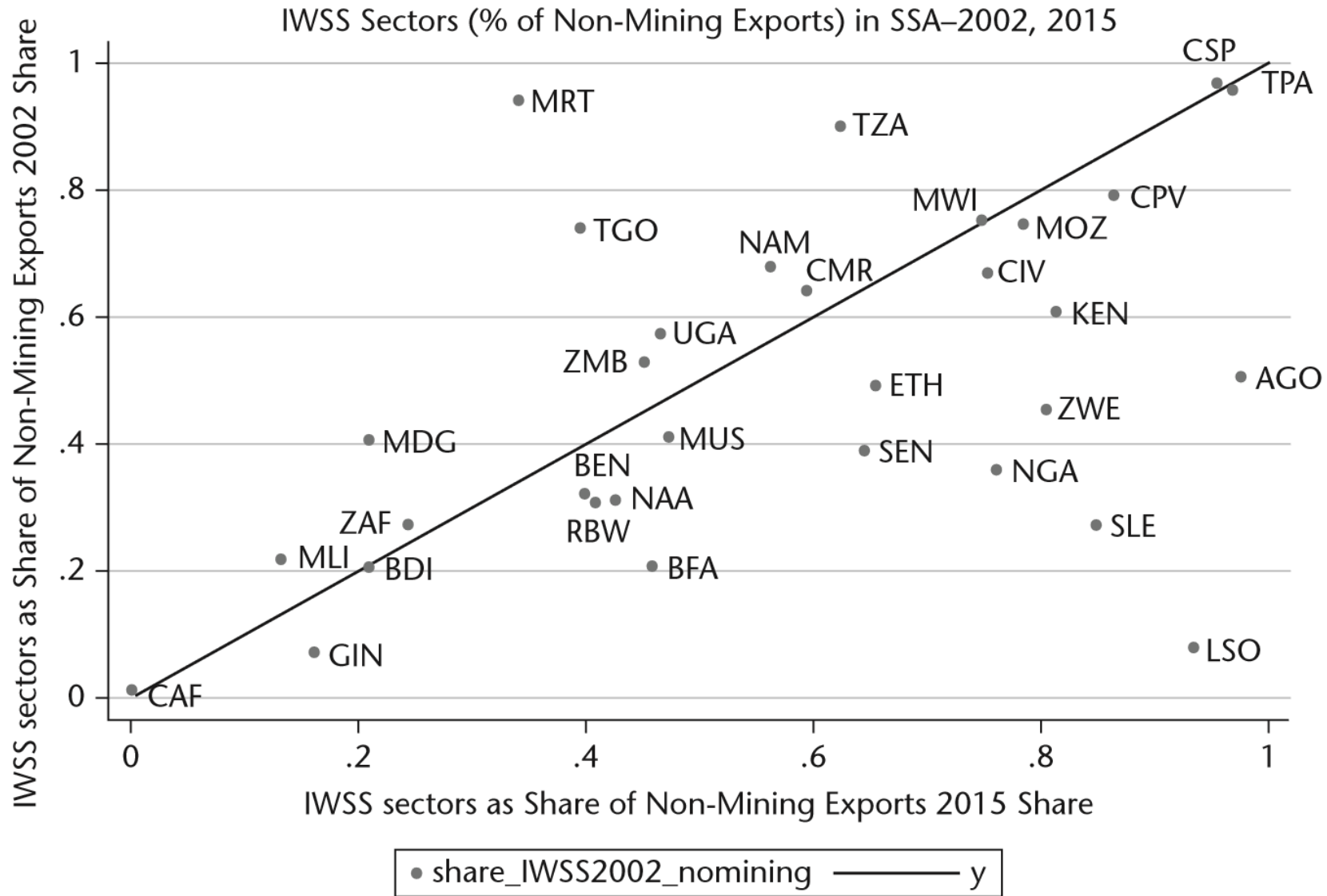


Figure 1.5. The IWSS exports outstripped other non-mineral exports in most of SSA

Table 1.1. Industries without Smokestacks Are a Growing Segment of Exports

	2002	2015
Average Share of Non-Mineral Exports		
Average Export Share IWSS	51%	58%
Share IWSS Agro-Processing	22%	24%
Share IWSS Horticulture	3%	3%
Share IWSS Services	26%	30%
Average Export Share NonIWSS	49%	42%
Share Other Agriculture	10%	7%
Share Other Manufacturing	33%	33%
Share Other Services	6%	3%

Source: Steenbergen (2018) a/Average unweighted share of 33 countries, excluding oil and minerals