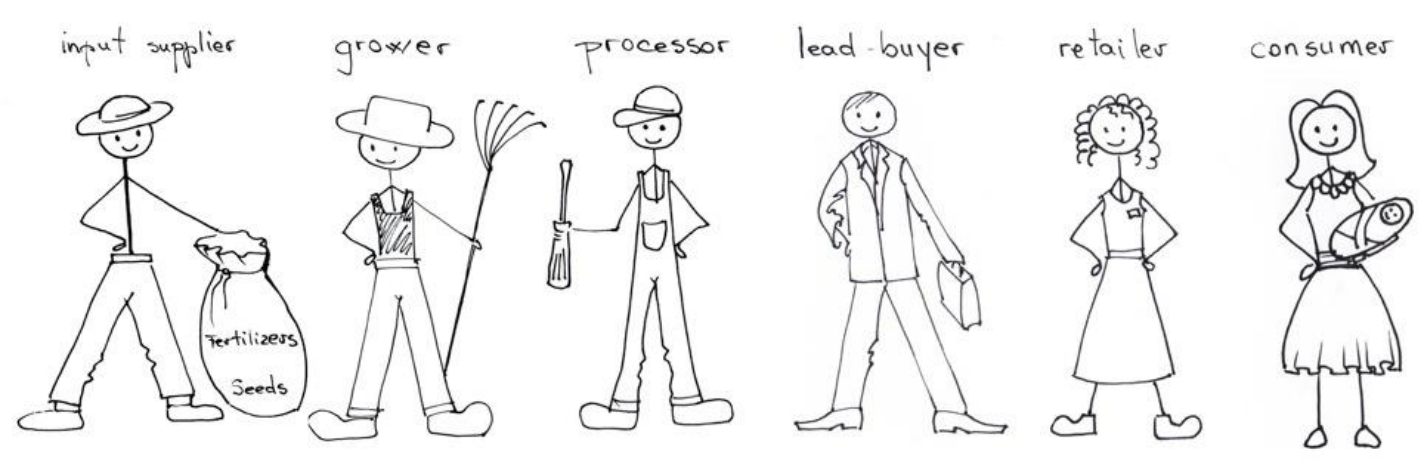
Agro-Industrial value chain development: Where and How to create value!

Frank Hartwich and Bassel AlKhatib

Presentation to COMCEC Agricultural Working Group Meeting 08/10/2015



Initial questions

- How can COMCEC member countries profit from global value chains?
- How can COMCEC countries add value to their products?
- Do we have the right policy tools in place to help COMCEC countries to do that?

Overview

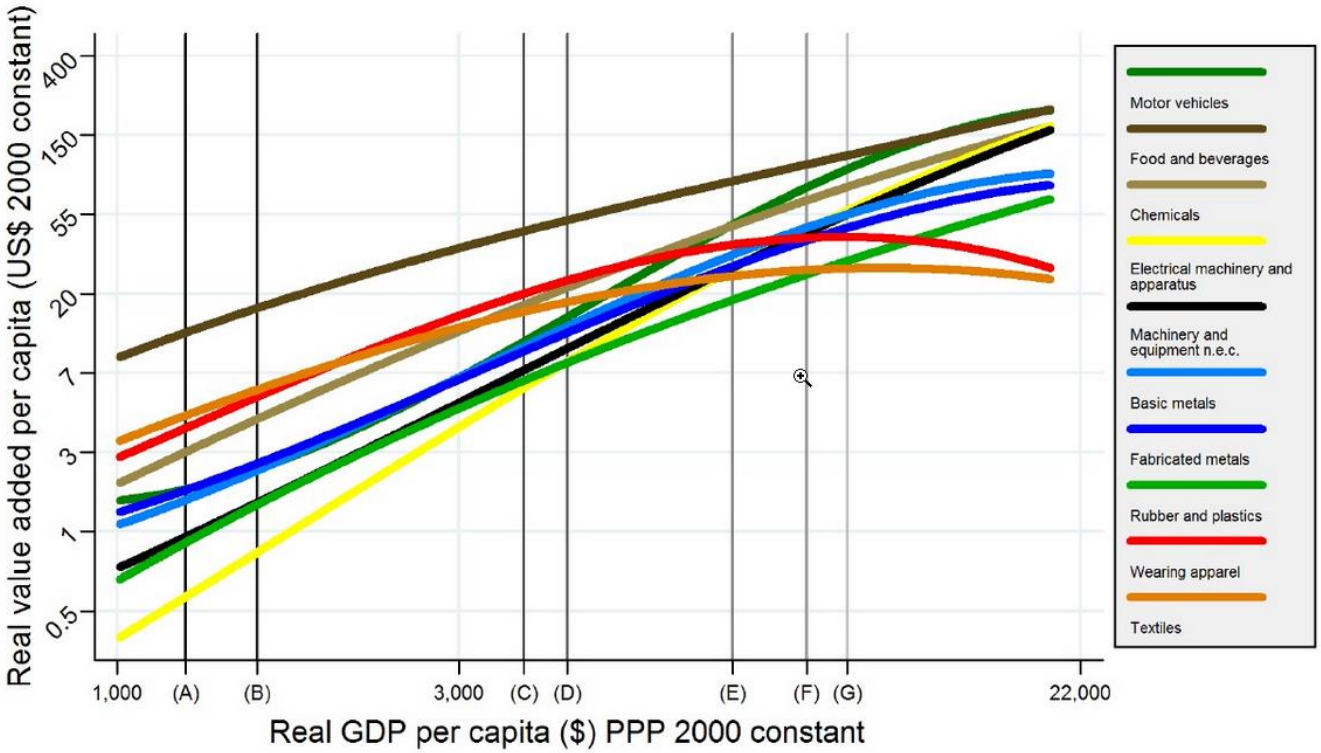
1. Structural change and the role of global value chains
2. The do's and don'ts of value-chain-centred development
3. Good practice in value-chain-centred agricultural development: lessons from UNIDO

1. Structural change and the role of global value chains

Structural change of industries

- Structural Change: Industries have certain size and weight in economy, changing over time and with degree of development
- Industrial policy should seek to promote structural change and identify best strategy for level of development of country
- Example:
  - Early stage of industrialization*: move from agriculture to labor-intensive or resource-based manufacturing*
  - *Later stage: upgrading and diversification in manufacturing*
  - *Advanced stage: technological innovation*

Manufacturing patterns, large countries



(A) - (G) labels represent countries' 2009-2010 GDP per capita ($ PPP 2000)
(A) Bangladesh, $1,200 (B) Cameroon, $1,600 (C) Indonesia, $3,700 (D) Egypt, $4,300
(E) Iran, $7,200 (F) Turkey, $9,100 (G) Malaysia, $10,000
Source: INSTAT 2 Rev. 3; PWT 8.1; Estimation sample: Large countries

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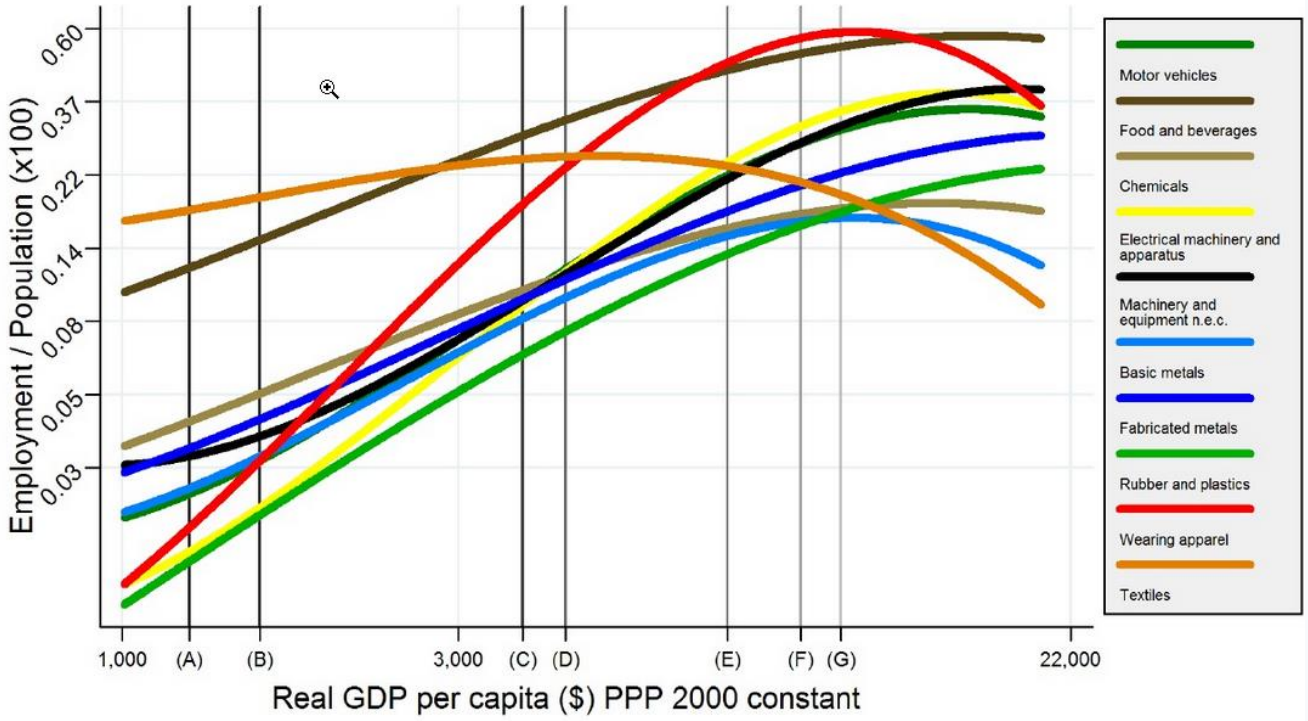

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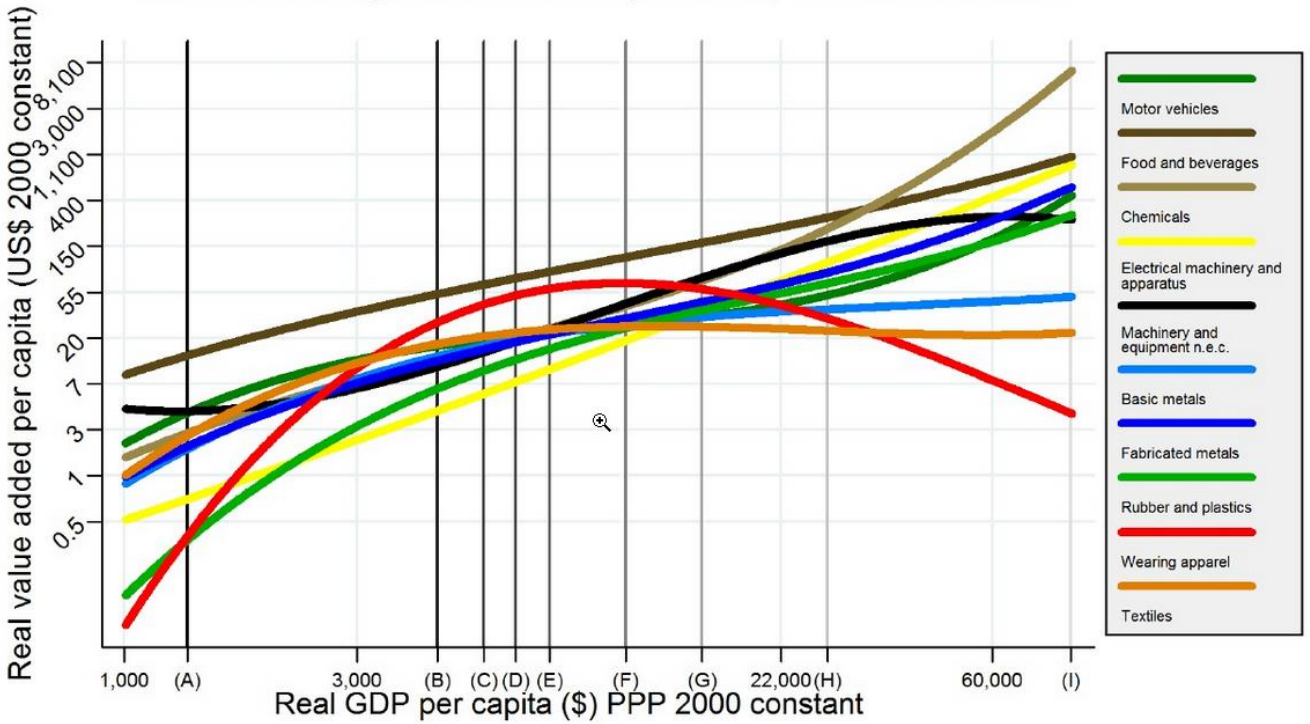
Manufacturing patterns, small countries



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(A) Senegal, $1,340 (B) Jordan, $4,390 (C) Albania, $5,895 (D) Gabon, $7,095
(E) Azerbaijan, $7,460 (F) Kyrgyzstan, $10,634 (G) Oman, $15,328 (H) Kuwait, $27,479
(I) Qatar, $87,066
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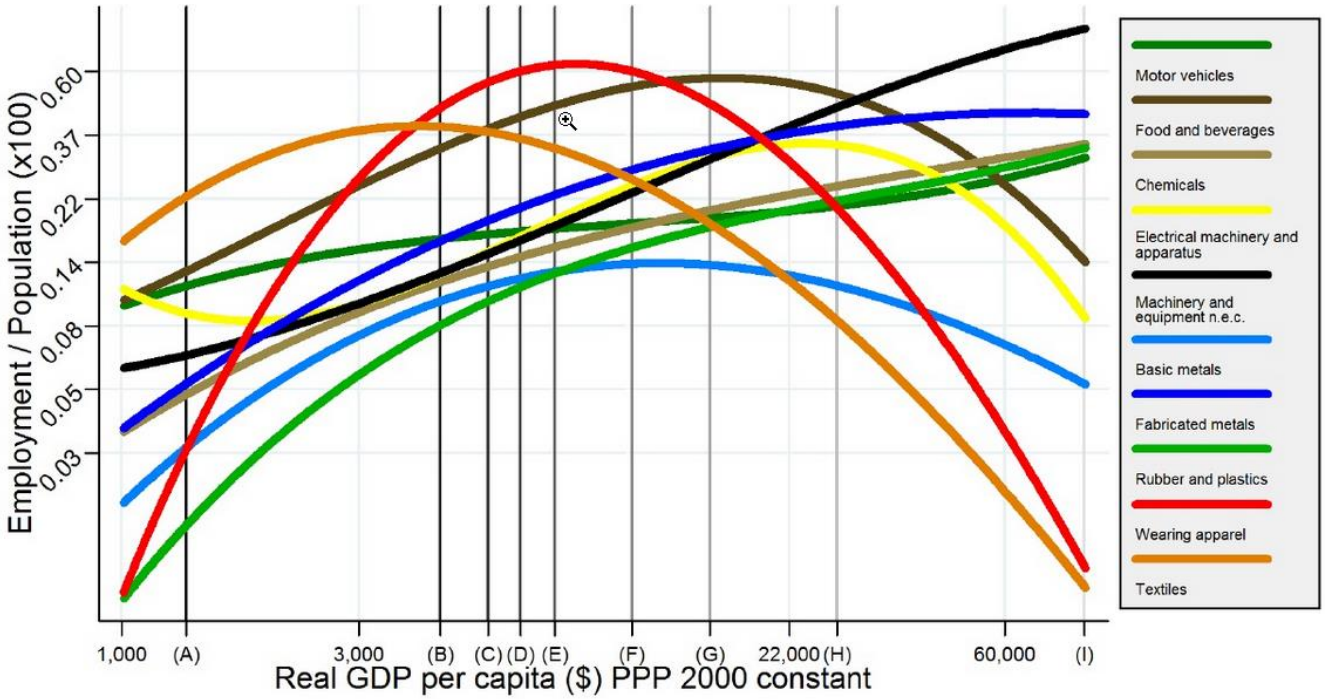

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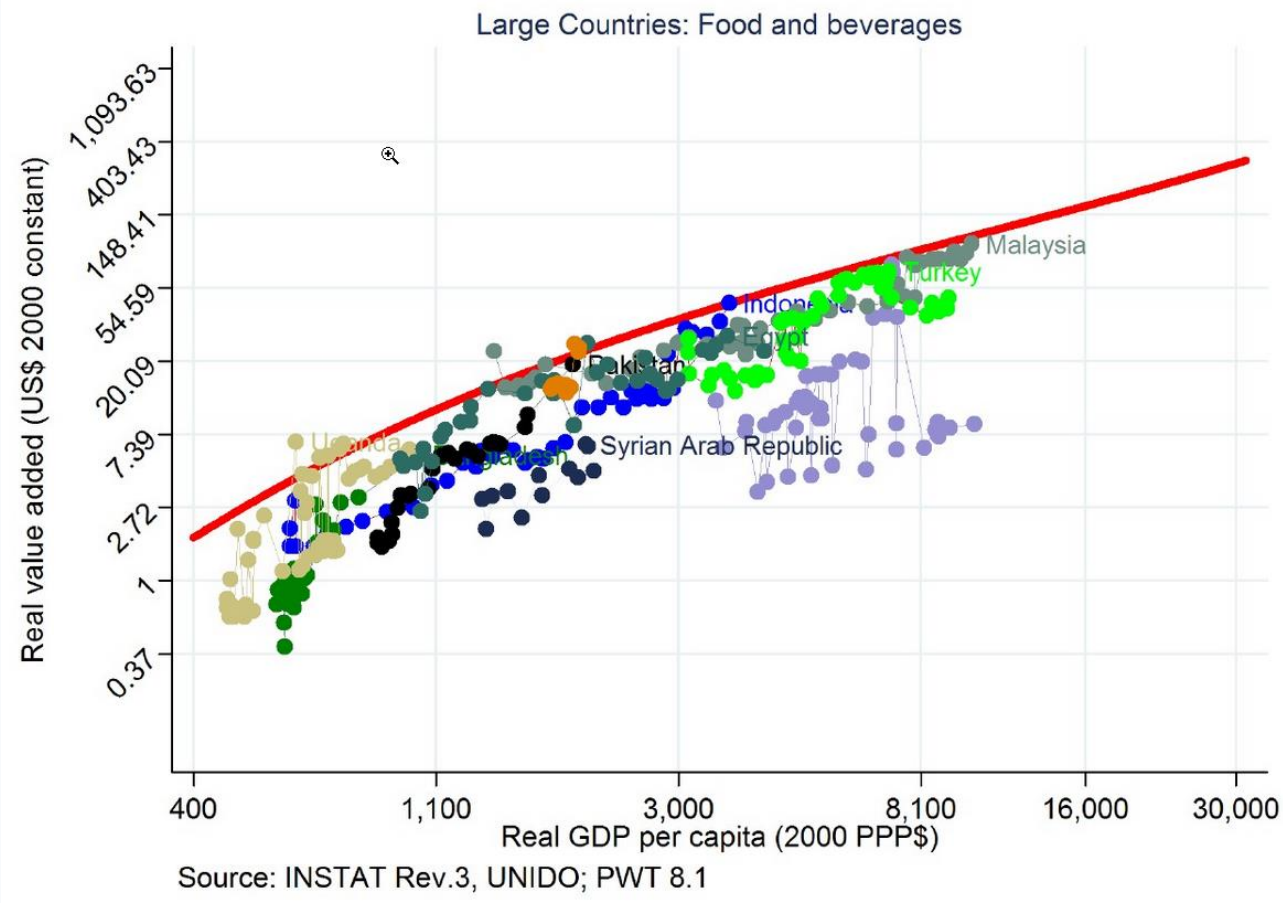
Manufacturing added value, large countries



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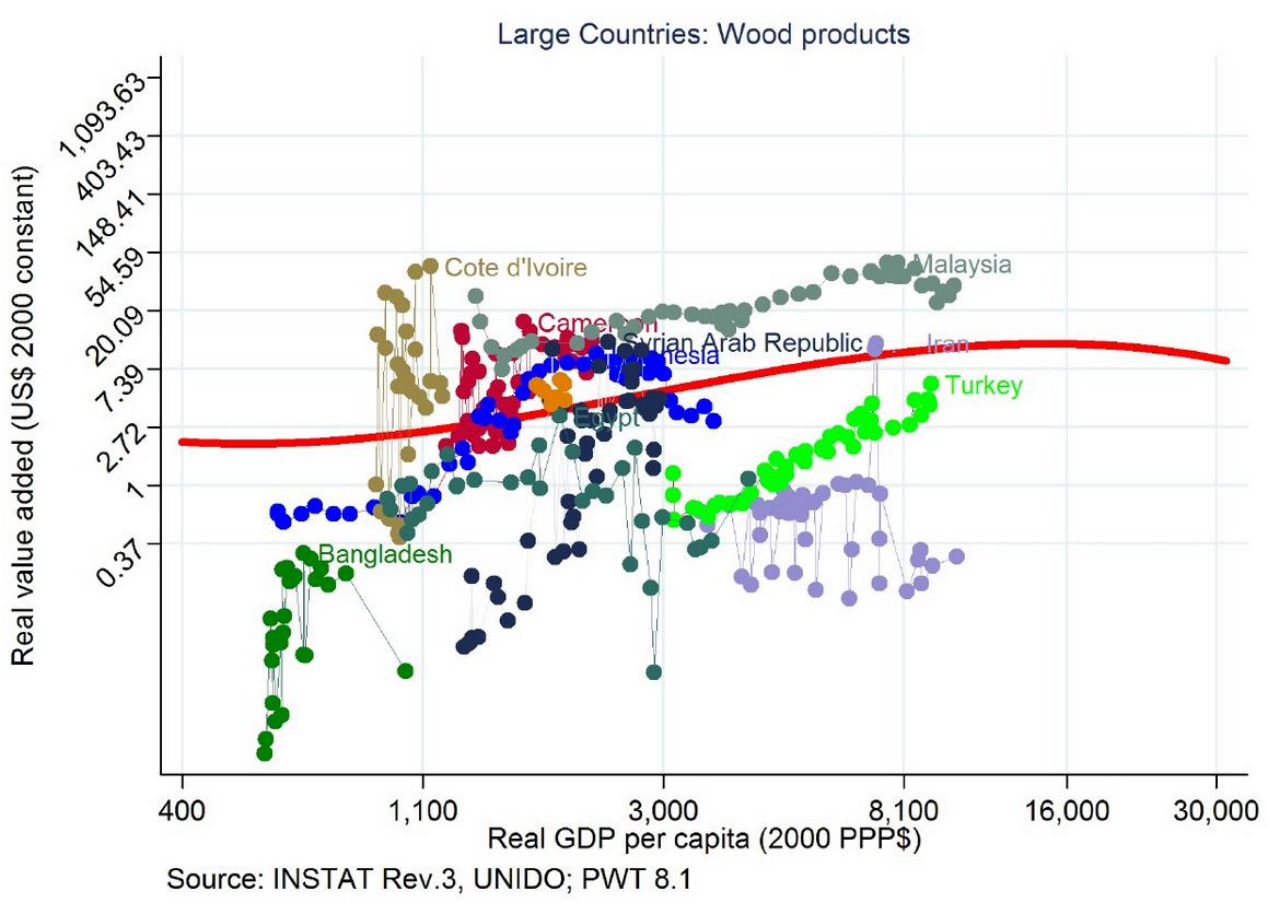

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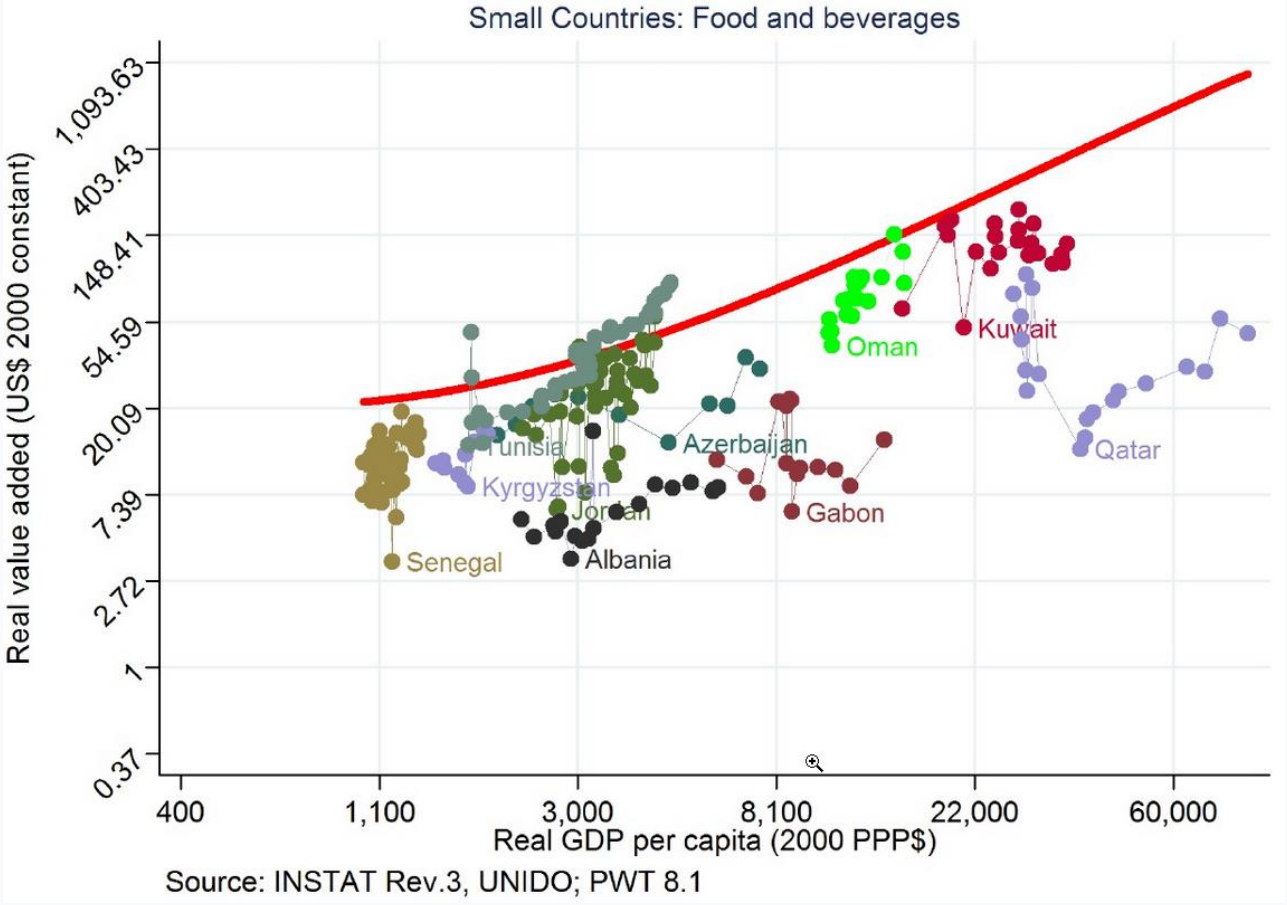

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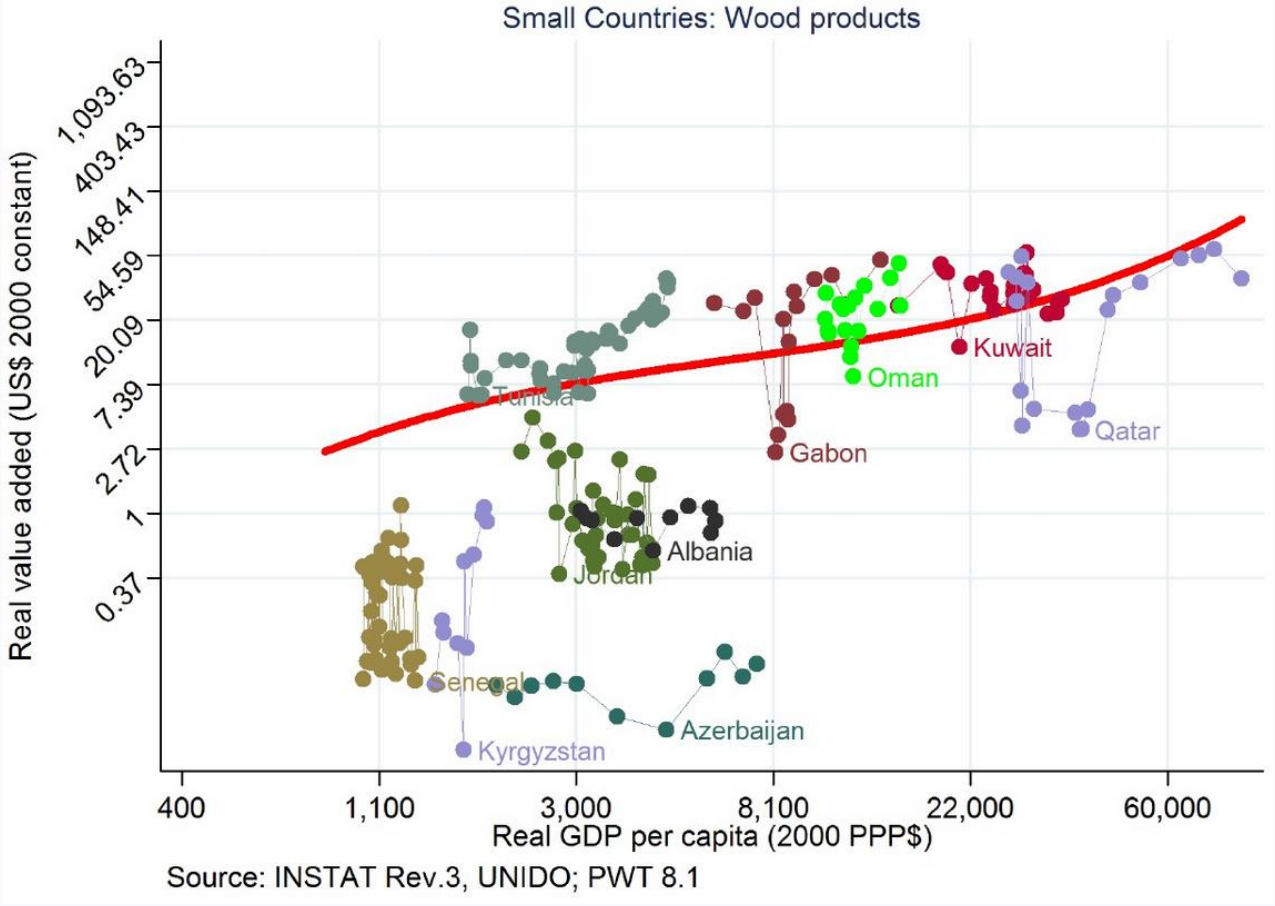
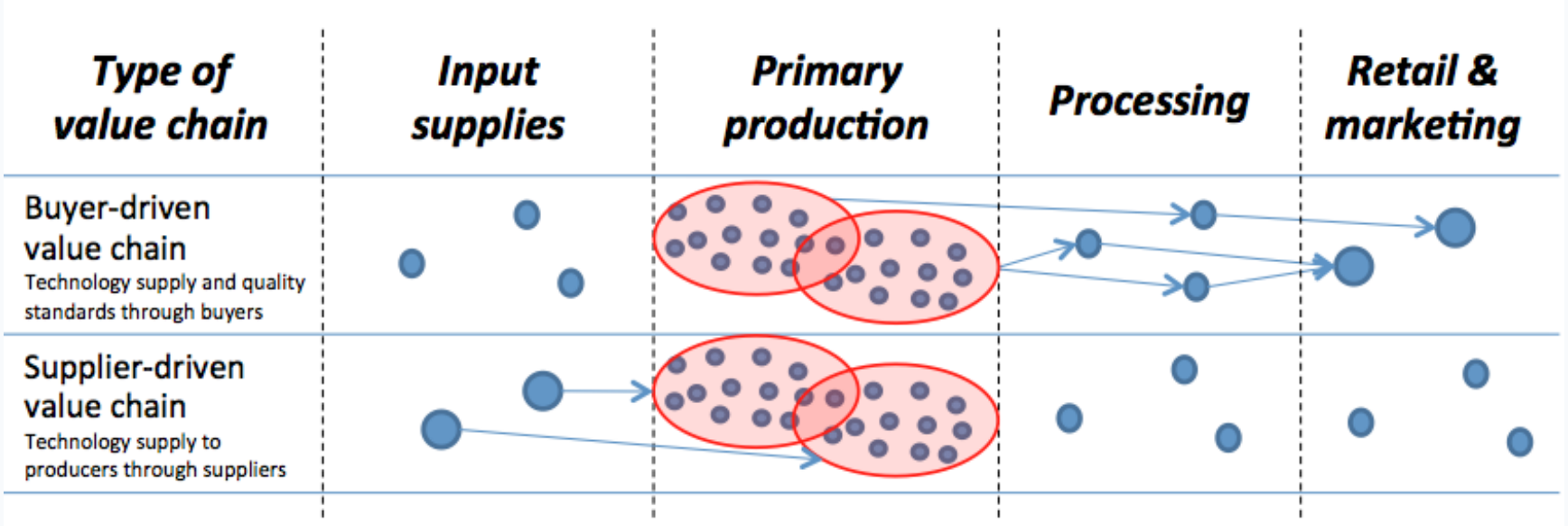


Beyond infant industries

- Protectionism versus free-trade debate dominated dev. policy discourse
- Infant industry argument often used to make the case for protectionist policies in developing countries
  - Underdeveloped industries not able to compete under free market conditions in presence of first developers
- This is only partly relevant in presence of global value chain dynamics
    - Increasing specialization
    - Increasing concentration of production and trade
    - Increasing volume of commodity trade
    - Increasing engagement of consumers
    - New information and communication technologies

Global value chain dynamics and and the role of clusters



Source: UNIDO, 2015

Who drives innovations in value chains?

Type of innovation	Innovators in the value chain		
	Primay Producers	Processors	Marketers/retailers
Supplier-driven innovations	Example: Seed company supports farmers to adopt a new seed variety	Example: Oil palm plantation engages in setting up palm oil processing plant	Example: Sugar processing company engages in the branding and marketing of new sugar products
Self-reliant innovations	Example: Farmer's improve their traditional form of cultivation, e.g. switch from rain-fed agricutlure to irrigation	Example: Vegetable canneries develop new recipes for pickles.	Example: Corn flakes producer develops new packaging and branding strategy.
Buyer-driven innovations	Example: Rice mills support farmers to apply new high yielding varieties together with fertilizer and agronomy package	Example: Chocolate companies support cocoa processors to use more efficient cocoa processing methodology	Example: Coffee consumers articulate their demand for gourmet roast coffee

2. The do's and don'ts of value-chain-centred development

Many Value Chain Schools

Schools of thought

- Supply chain approach: Organizing the logistics of supplies
- Global value chain approach: Dominance of international players
- The filiere approach: Sectoral development with (some) public management
- Cluster and innovation system approach

Development practice

- The farmer approach: Let's help to produce and then to sell
- The market approach: Let's find market first & work it back to production
- The development process approach: Let's engage stakeholders
- The UNIDO approach: Entry point = value addition

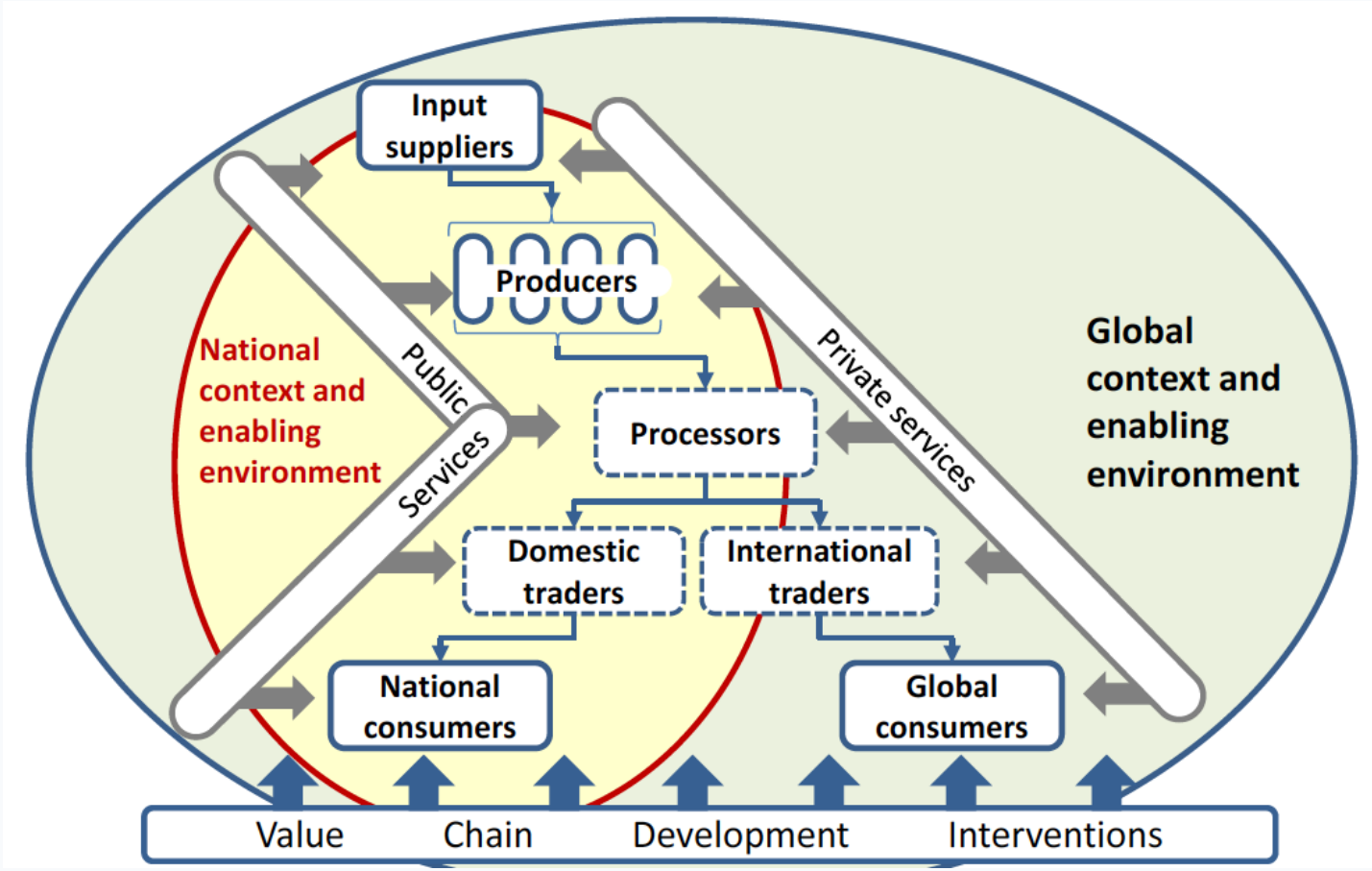
What happens without VC development interventions

- Inclusion in value chains not necessarily means more profit for developing country suppliers
- Race to the bottom with other countries
- World market shocks are pushed down to developing country suppliers
- Value continues to be captured by global players, due to missing links, technology and skills
- Certain sectors/countries simply not able to enter global value chains

Common practice

- Most countries now have policies that focus on value chain development
- Trade is not the focus of VC policy measures
- Many focus on organizational issues, clusters and upgrading
- Lack of understanding of value chain dynamics and options for insertion into global value
- Wrong assumptions on competitiveness and impact, example industrial parks

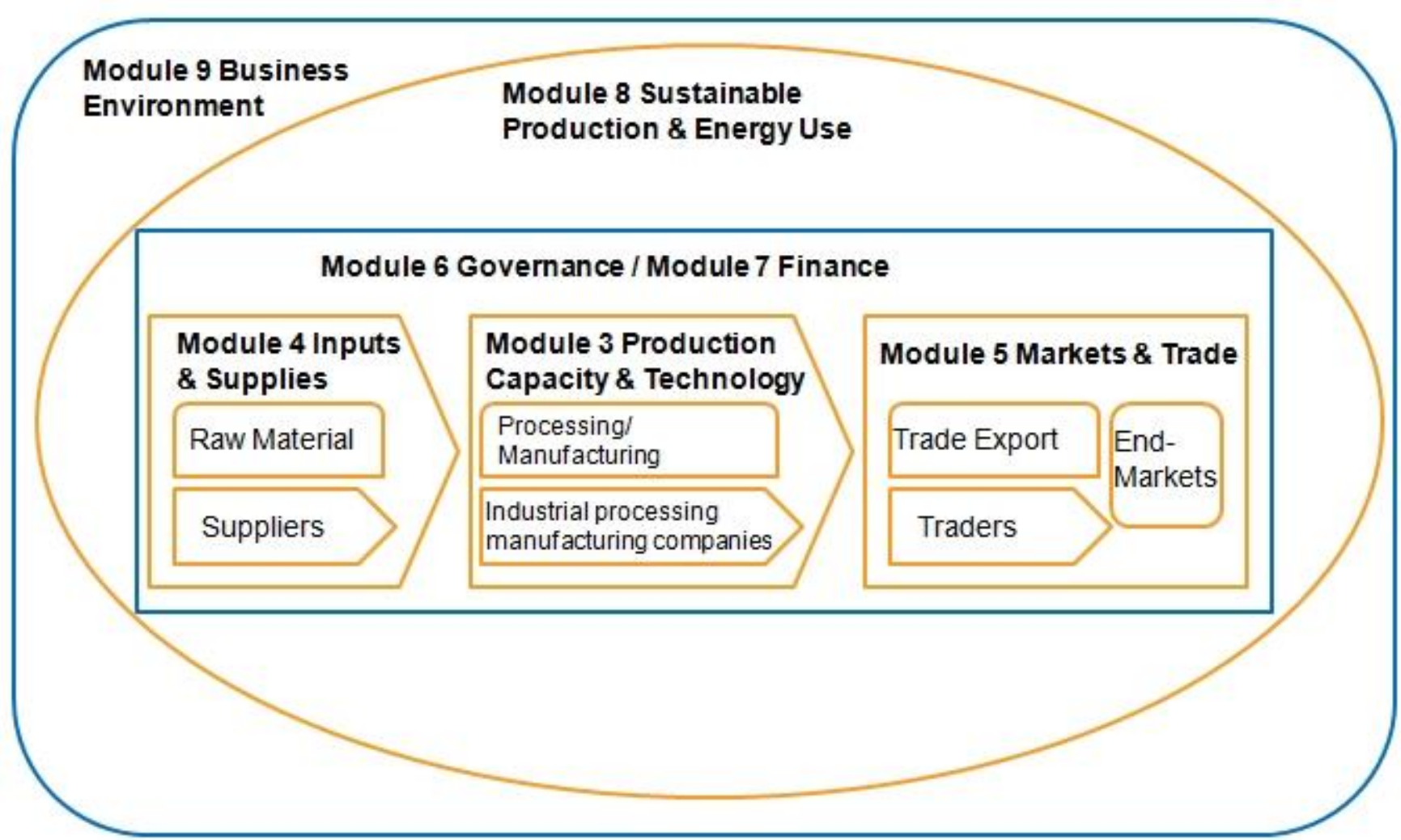
Value chain mapping



Diagnostics of 7 dimensions

- Dimension 1: Sourcing of Inputs and Supplies
- Dimension 2: Production capacity and technology
- Dimension 3: End-markets and trade
- Dimension 4: Governance of value chains
- Dimension 5: Sustainable production and energy use
- Dimension 6: Value chain finance
- Dimension 7: Business environment and socio-political context

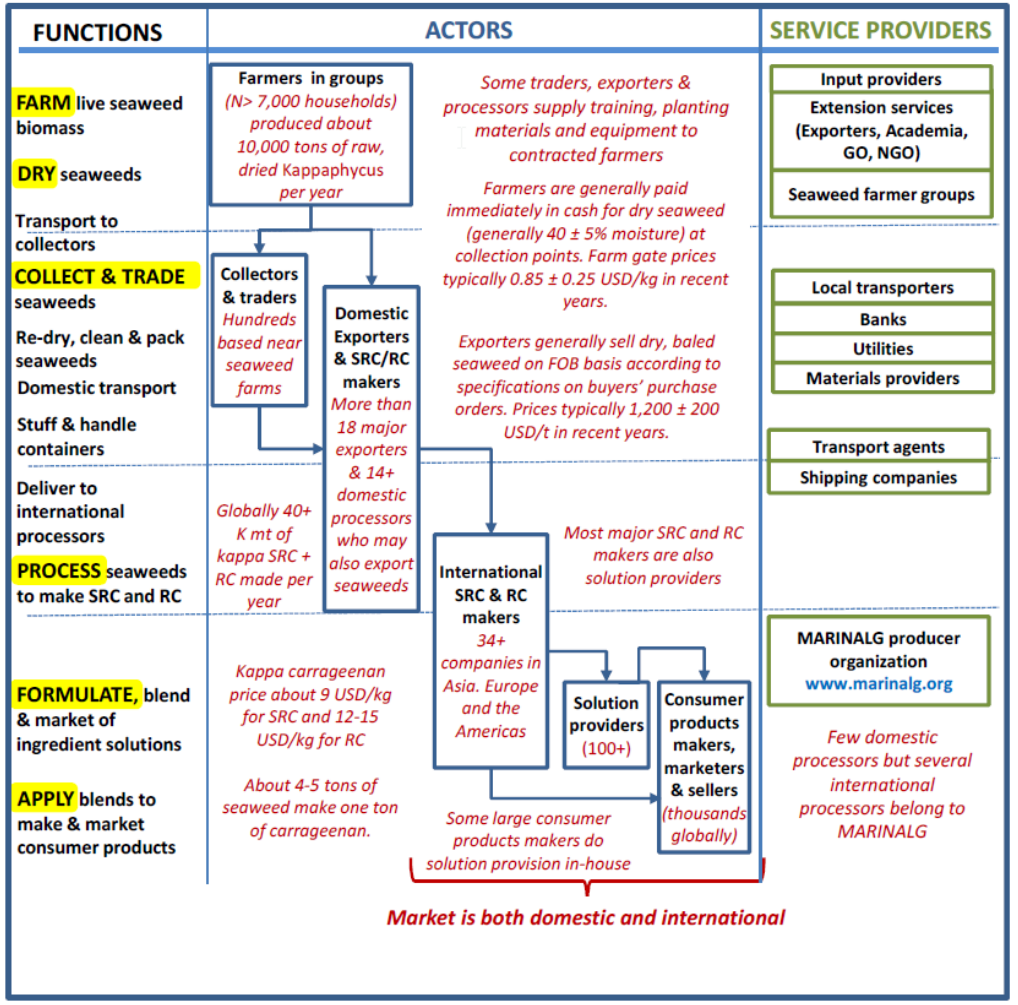
Solid diagnostics as a starting point



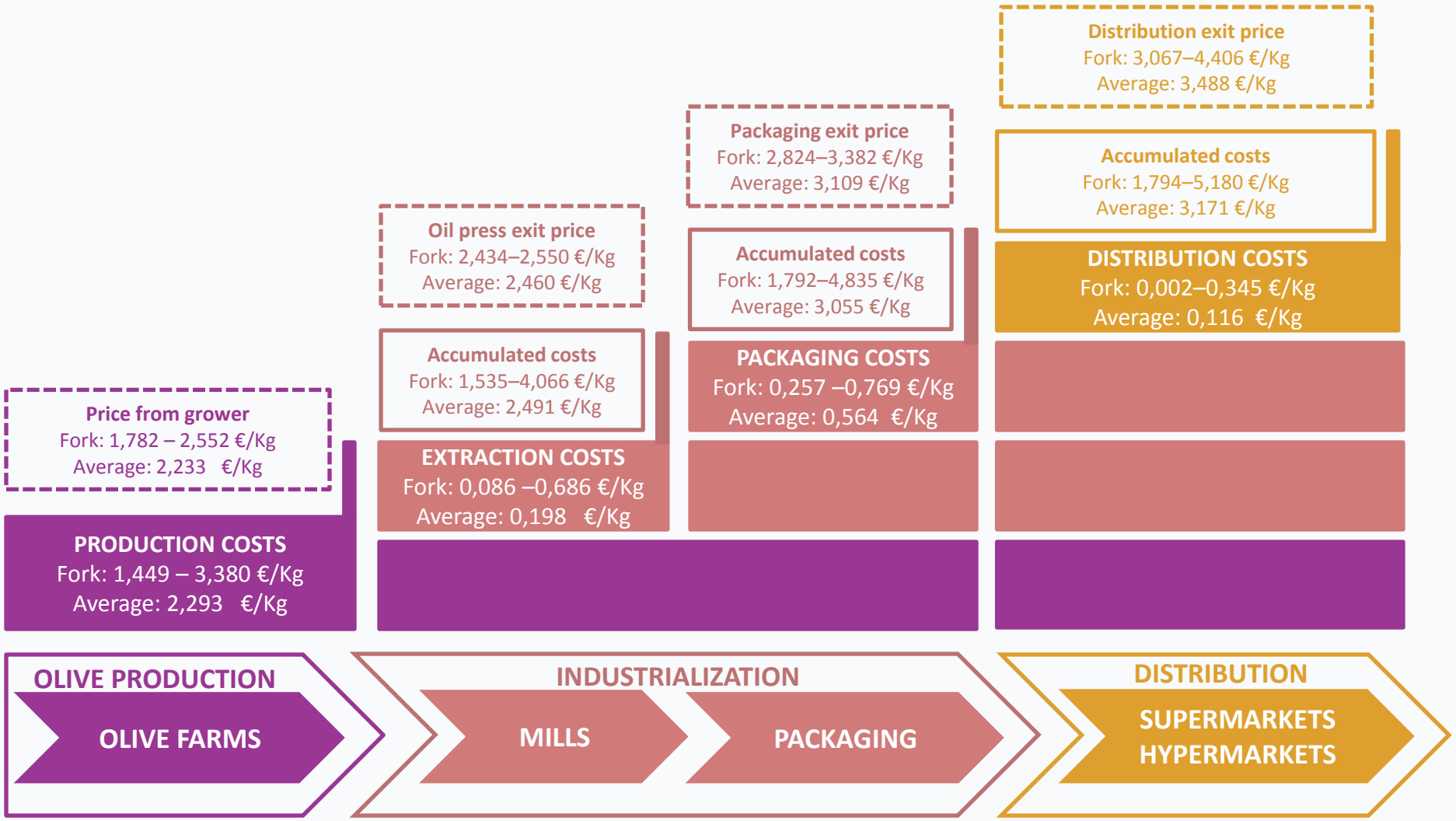
Example: Indonesian Seaweed Sector

- Little value in processing (SRC)
- Chinese subsidize processing
- Indonesia has already overcapacity in SRC processing
- Entering market is not easy – gatekeepers, buyer power
- Export ban for raw-seaweed may not work

- Atlernative strategy: New products, new technology, new markets



Participation in and distribution of added value



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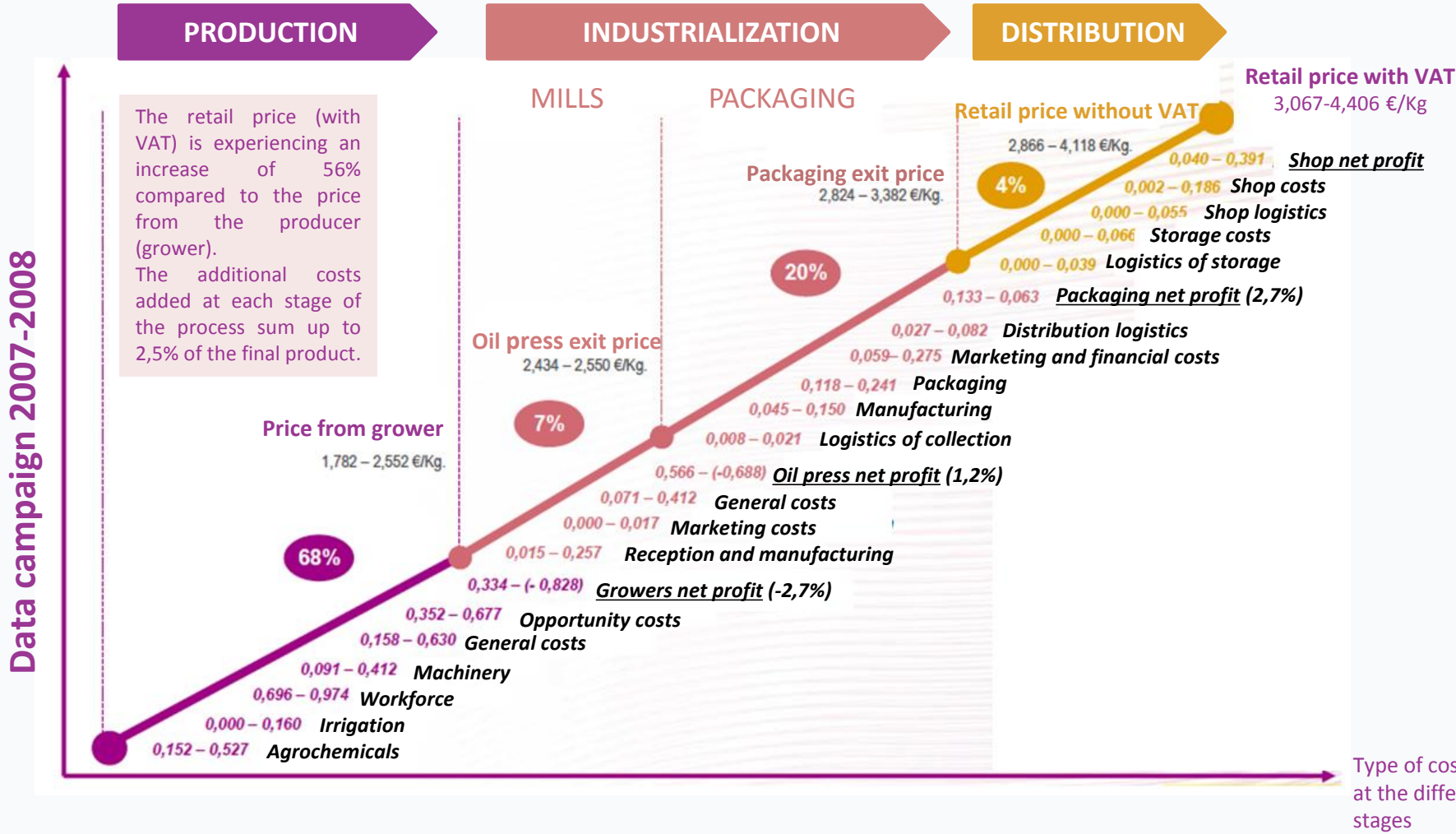
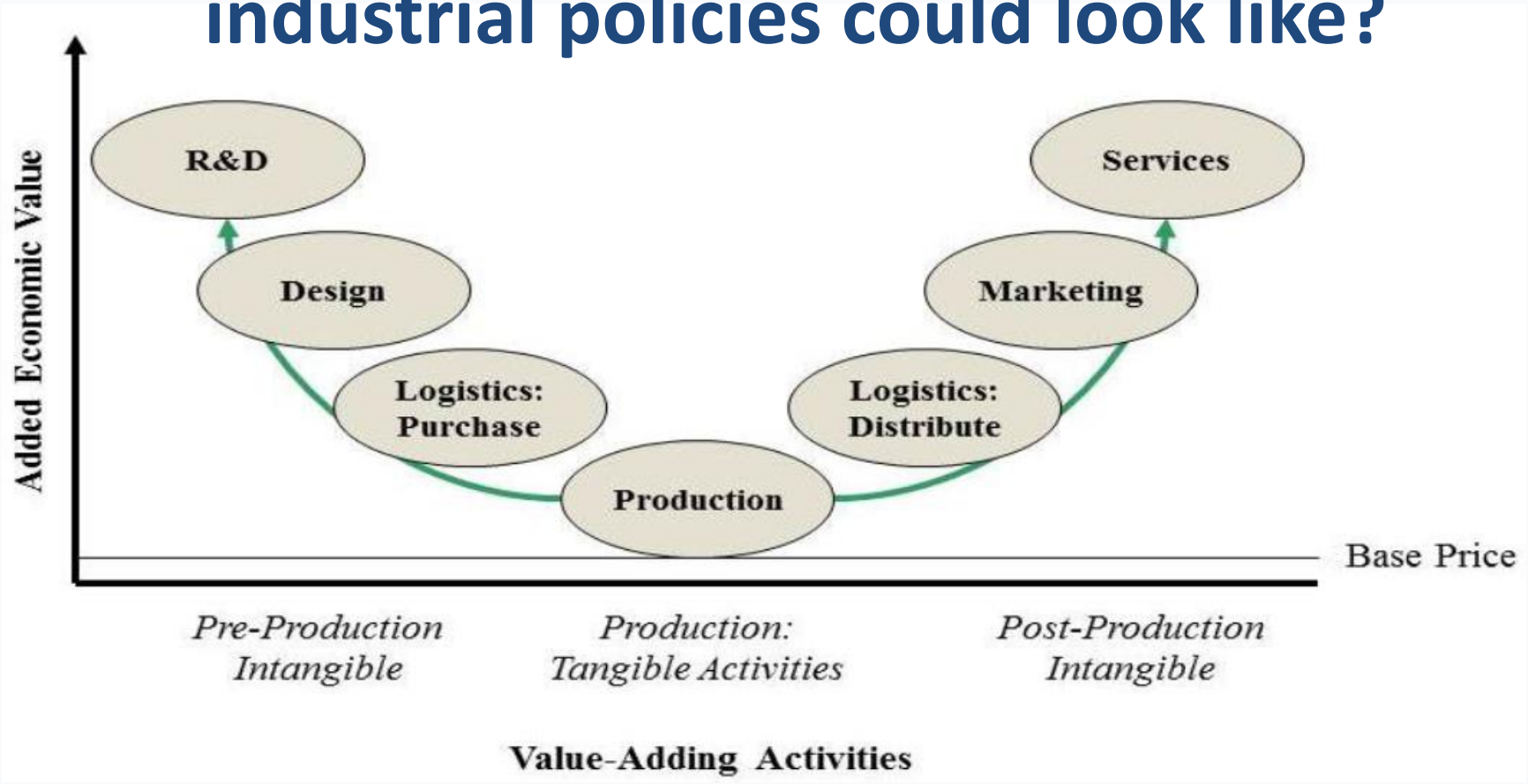
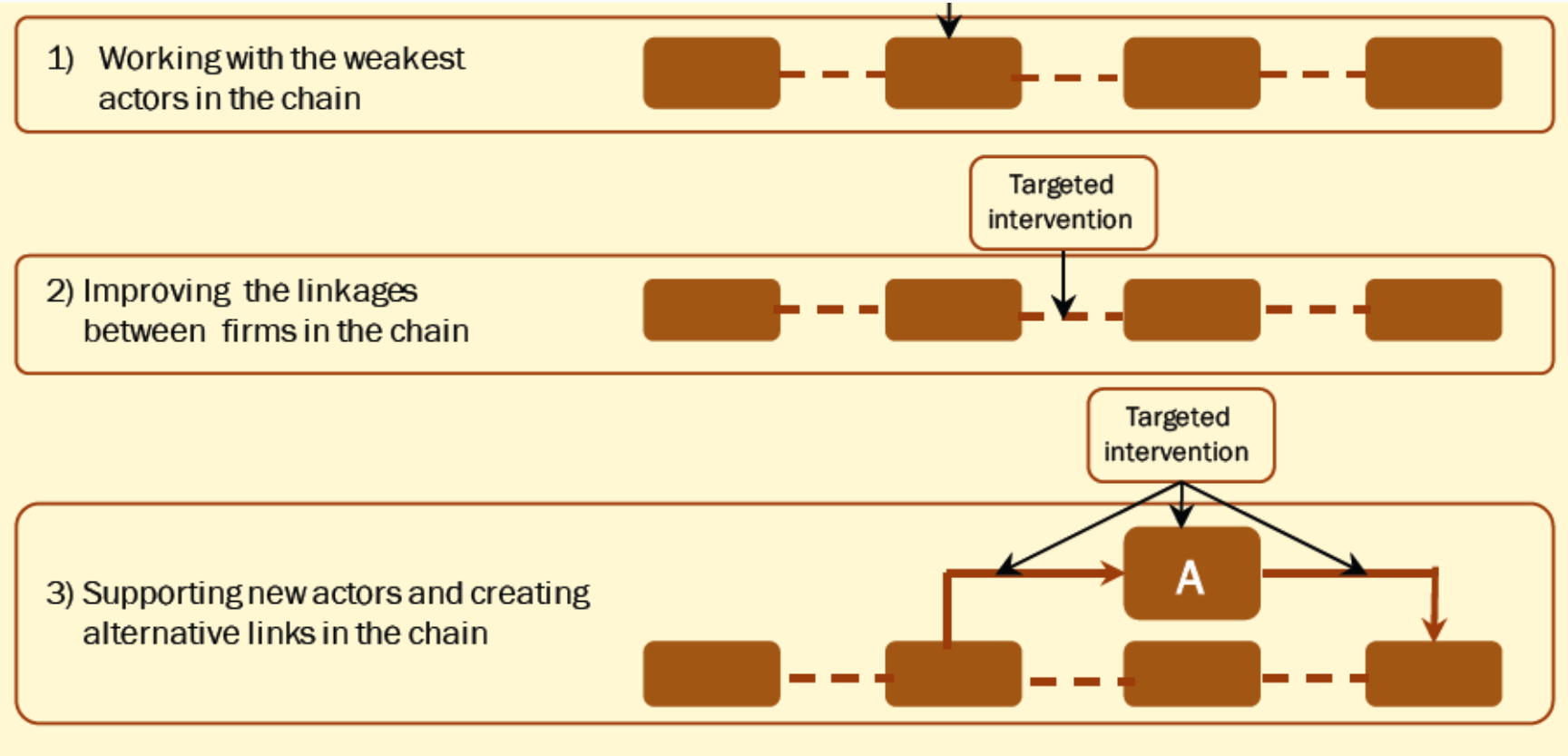


How VC development-relevant industrial policies could look like?



Source: Gereffi, 2010, cited in Warwick 2013.

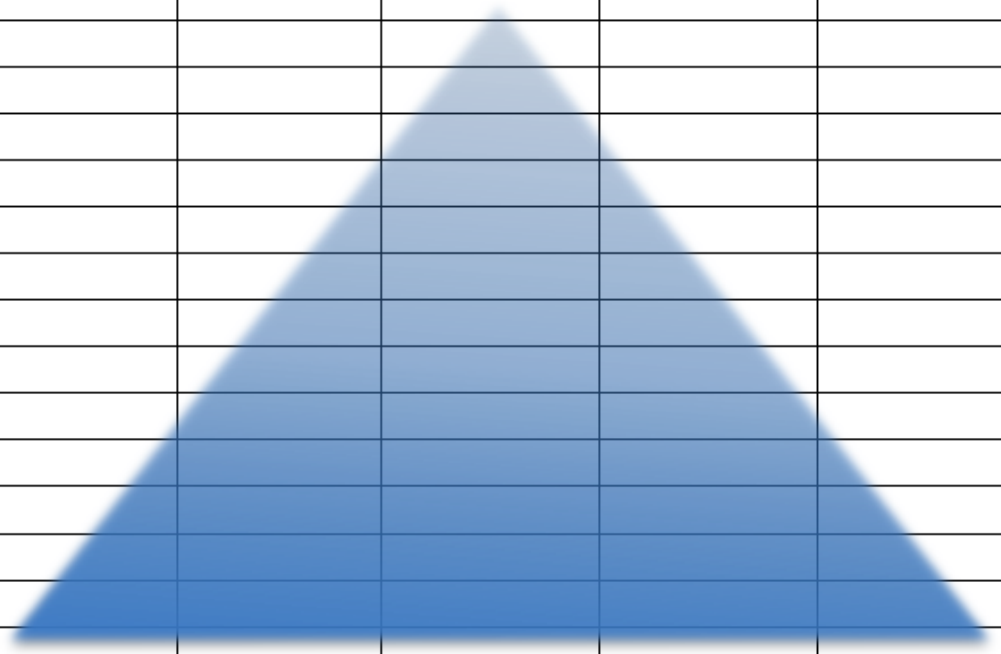
Different strategies



Policy domains to address value chain issues

Figure: Policy instruments for value chain development

	Level of Intervention	R&D Product Design	Inputs & supplies	Production	Processing	Marketing
Regulation	Macro-level					
	Industry/cluster level					
	Firm level					
Tariffs and taxation	Macro-level					
	Industry/cluster level					
	Firm level					
Economic incentives	Macro-level					
	Industry/cluster level					
	Firm level					
Leaning and information	Macro-level					
	Industry/cluster level					
	Firm level					
Organizational support	Macro-level					
	Industry/cluster level					
	Firm level					



Source: The authors

3. Good practice in value-chain-centred agricultural development: lessons from UNIDO

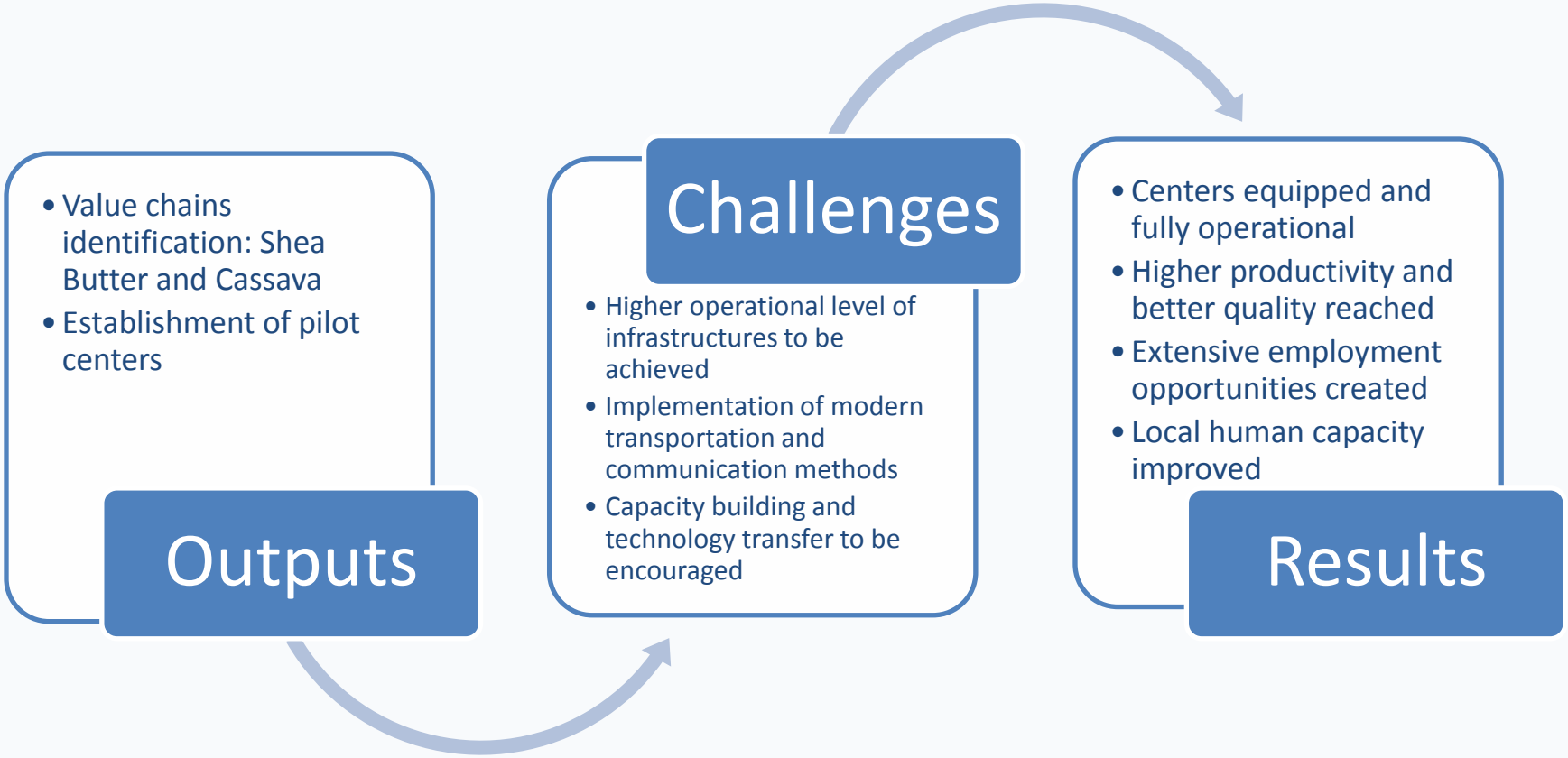
Designing a value chain support program

- Alignment with national priorities
- Technical and financial feasibility on different levels of the value chain (production, processing, etc.)
- Integrated approach with interventions on different levels of the value chain simultaneously
- Collaboration with other programs

Examples for UNIDO interventions

- Holistic VC analysis and development
- Cluster development
- Supplier development
- Building export consortia
- Networking for local capacity development
- Standards compliance infrastructure development
- Foster business agglomeration within industrial parks
- Integrated value chain development on regional/supranational level (South-South value chains

Cassava and Shea Butter value chain development: Guinea/on-going project



Improving the Income Generating Potential of the Oil Palm: Cameroon & Nigeria

Outputs

- Promotion of development of the sustainable production and use of oil palm, reduce poverty and create rural and urban employment

Challenges

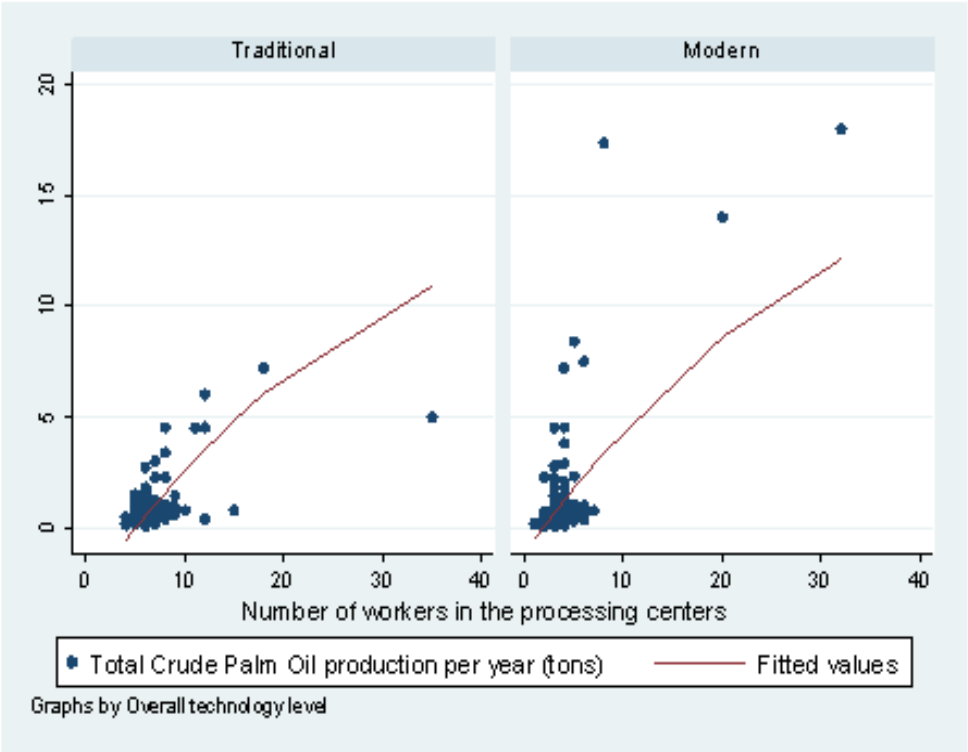
- Inefficient processing technology
- Poor quality management
- Failure to take advantage of links in the value chain
- Fragmentation of production and processing stages within the value chain (poor bargaining power and high production costs)

Results

- 6 processing centers established
- Higher productivity and better quality reached
- 1.789 official jobs created
- Reduced rural migration
- Set of policy recommendations to promote investments

Palm oil impact study – labour productivity

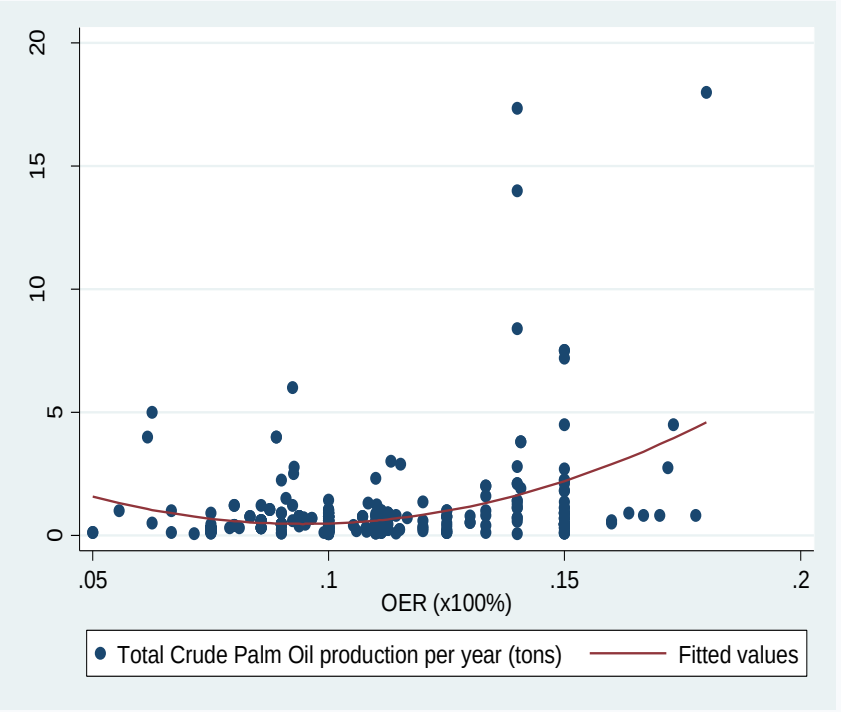
- Comparison of 120 traditional to 120 modernized oil mills in Cameroon
- Modern mills produce a total of 0.22 tons of palm oil per worker and year, (traditional mills produce only 0.10 tons)
- Evaluation of impact needs to consider also:
  - Absolute number of employees that are going to be employed in competitive sector
  - Employment / income in primary production



Relationship between CPO produced and number of workers

Palm oil impact study – raw material conversion

- Oil Extraction Rate (OER) is on average terms 2.3% higher in modern than in traditional centers (OER 22% higher than traditional centers)
- Statistical proof exists that the difference in average is significant



Relationship between OER and CPO produced

Palm oil impact study – income generation

- An increase of 1 ton per hour in pulp press capacity provides a positive effect on income of 84,371 FCFA per year (US$ 177). Increase of 22.7%.
- An increase of 1 additional ton in FFB processing capacity increases the income of operators by 38,220 FCFA per year (US$ 80). Increase of 10.2%.
- An increase of 1 additional ton in Oil clarification capacity increases the income of operators by 117,047 FCFA (US$ 245) a year.

	(1) inc	(2) inc	(3) inc
pulppress	195362.6* (79022.4)	154036.3* (75470.4)	84371.5* (38045.3)
ffbste		198760.2 (125794.7)	6076.2 (63436.2)
oilclar		114865.0 (158627.4)	117047.1 (67875.6)
ffbrec		7702.1 (4533.5)	1773.4 (1887.1)
ffbpro			38220.8*** (8669.3)
_cons	230742.5*** (41272.1)	-15695.8 (89555.2)	-52341.7 (47721.5)
N	428	428	428
R-sq	0.066	0.323	0.726
adj. R-sq	0.064	0.316	0.723
rmse	620299.6	530087.7	337351.0

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Different models of income on processing stages

Areas value-chain programs should aim at

- More substantial profit generation for local firms
  - Cost reduction, productivity increase and expansion of production
- Avoid locking development country suppliers in technology trajectories
  - Technological process upgrading beyond lead buyer technology - South-South options.
- Don’t stay in low-value production and processing
  - Help firms engage in new and different segments of the value chain, functional upgrading.
- Cluster-development beyond industry parks
  - Knowledge exchange, join learning, cluster organization, export consortia,
- Support to quality control and standards compliance infrastructure
  - But only if it feeds into concrete value chain development strategies
- Make global value chain compliance less random and lead-player-dependent:
  - Develop competences in clusters and industries systemically across a number of activities and services.
- Going local and regional: strategies for non-compliers in international competition
  - Develop local and regional markets, set up value chain linkages across regions

Conclusions

- International production and trade system subject to globalization / GVC organization.
  - Imperative to redefine/strengthen industrial policies in dev. countries .
- Current efforts to make industrial policies GVC-compliant are insufficient.
- More nuanced policy instruments require focusing on learning and information as well as organizational support.
- Trade-related measures less relevant.
- Focus on inclusive and sustainable industrial development
  - Global players may not introduce it
  - Global consumers increasingly demand it
  - Requirement for economic growth in dev. countries.