

# Value Chain Indicator

OR:

HOW TO DETERMINE **NEW EXPORT PRODUCTS FOR  
NATIONAL/REGIONAL VALUE CHAIN DEVELOPMENT**

ITC, 23 January 2018



# ITC's work on export potential

- Trade advisors and policymakers in developing countries want to learn about **promising products, suppliers and markets** for their export development activities
- ITC has developed an export potential and diversification methodology to spot
  - Products with export growth potential (**Export Potential Indicator – EPI**)
  - Products for (horizontal) export diversification (**Product Diversification Indicator – PDI**)

based on an assessment of a country's **supply** performance, a target market's **demand and market access** conditions, and the bilateral **trade link** between the two.

- Results for 226 countries and 4,000+ products are disseminated through free web tool, the ITC **Export Potential Map** (<http://exportpotential.intracen.org>).

→ **Value Chain Indicator** for vertical product diversification and regional value chain development

# Input-output analysis

1<sup>st</sup> element of Value Chain Indicator

- Wassily Leontief (a Nobel prize decorated economist) has developed the input-output analysis
  - The sectors of an economy are in an input-output relationship
  - **Technical coefficients** describe the strength of this relationship
- The US input-output matrix is the most detailed one available distinguishing 389 sectors, 225 goods and 164 services sectors

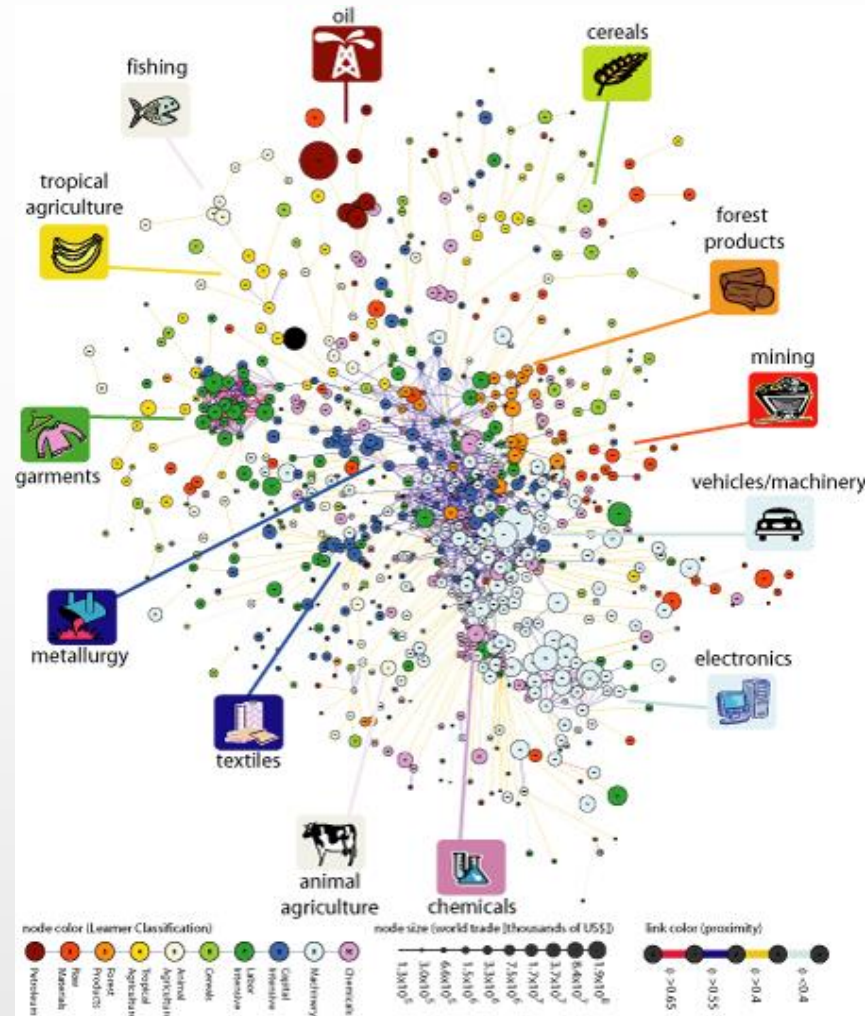
	Sector 1	Sector 2	...	Sector 389
Sector 1	$TC_{1,1}$	$TC_{2,1}$	...	$TC_{389,1}$
Sector 2	$TC_{1,2}$	$TC_{2,2}$	...	$TC_{389,2}$
...	...	...	...	...
Sector 389	$TC_{1,389}$	$TC_{2,389}$	...	$TC_{389,389}$

# The Product Space

2<sup>nd</sup> element of Value Chain Indicator

- Network of products based on how often they are exported jointly by countries
- ‘Close’ products require similar capabilities:
  - Climate conditions, soil, natural resources
  - Infrastructure
  - Specialists, existing firms
  - Legislation framework, institutions, associations & chambers
  - Traditions, know-how
  - ...

→ **Conditional probabilities** describe the likelihood of moving from one product to another



# Value Chain Indicator

Find new products based on locally available inputs and linked to current export basket

Matrix of **technical coefficients**  
(NAICS, industry level)

	Sector 1	...	Sector 225
Sector	$TC_{1,1}$	...	$TC_{225,1}$
...	...	...	...
Sector 225	$TC_{1,225}$	...	$TC_{225,225}$

Matrix of **conditional probabilities**  
(~ 6-digit level of Harmonized System)

	Product 1	...	Product 4238
Product 1	$CP_{1,1}$	...	$CP_{4238,1}$
...	...	...	...
Product 4238	$CP_{1,4238}$	...	$CP_{4238,4238}$



Needs to be expanded to match level of product detail



Products rank high in the **Value Chain Indicator** if

- ✓ many and strongly related inputs are available locally (high technical coefficient)
- ✓ many countries jointly export the new products and the required inputs (high conditional probability)

# Product Diversification Indicator

*high 'density' around pears, low 'density' around juice*

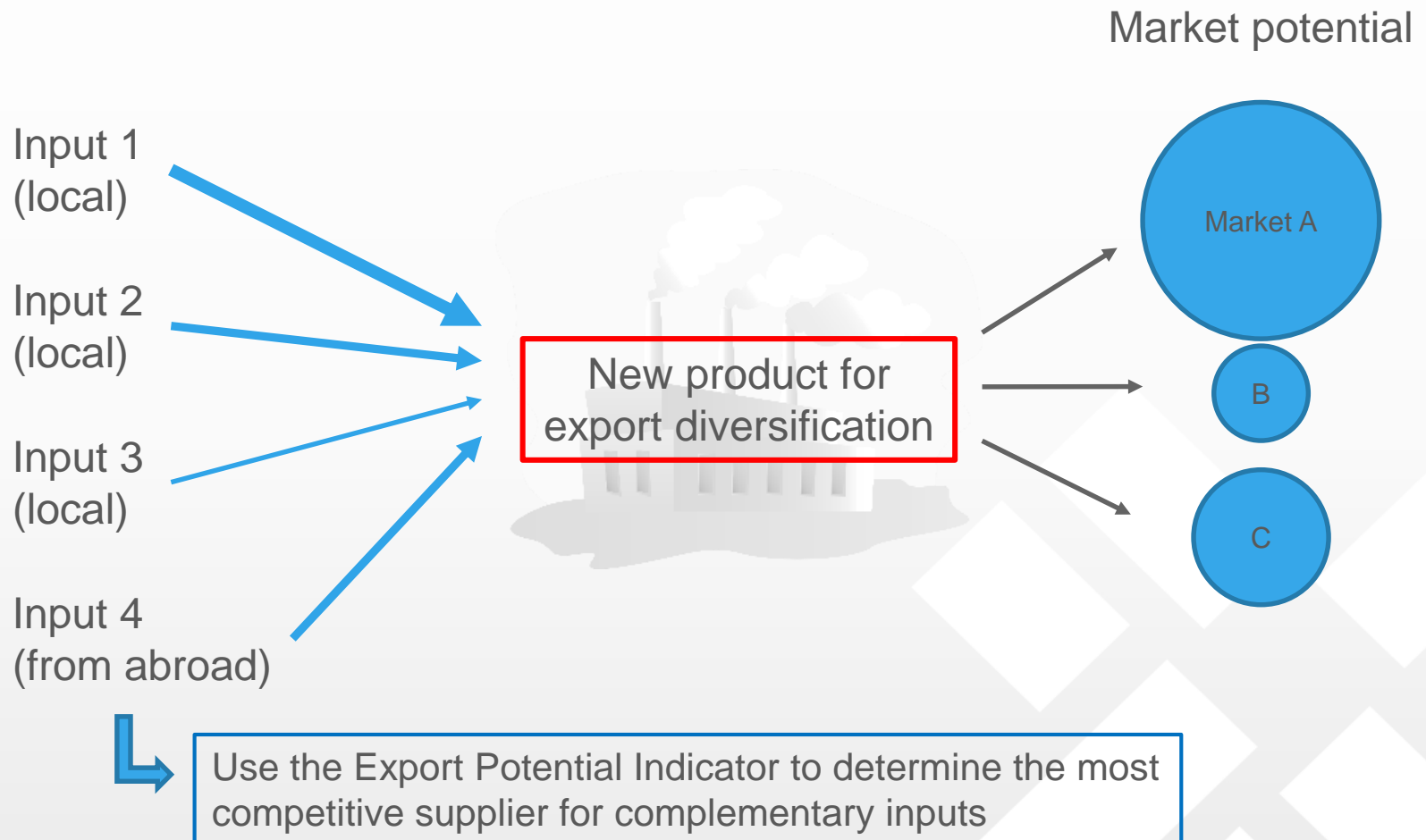


# Value Chain Indicator

high 'weighted density' around juice, bakery and other transformed products



# National / regional value chain development





# Opportunities for value chain development

Examples from the SADC region



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# Two examples in the SADC region

where:

- competitive supply capacity of one SADC country in a raw or semi-processed product

combined with

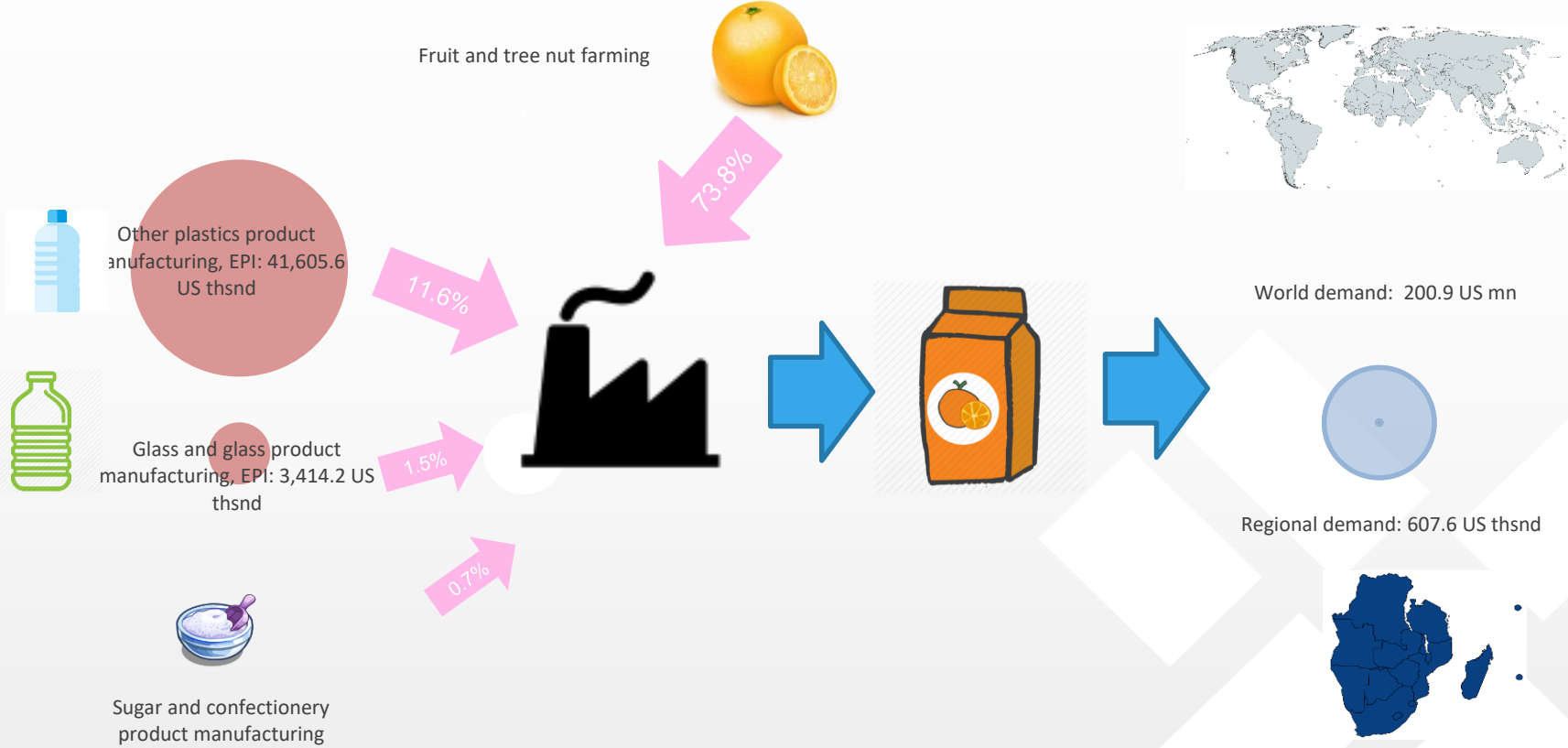
- inputs supplied by other SADC countries

are used to produce

- a final or processed product that could be exported within or out of the region

Opportunities for VC development can (should) be validated with local stakeholders, for instance through interviews with the private sector

# Frozen orange juice from Swaziland



# Groundnut oil from Malawi



Oilseed farming



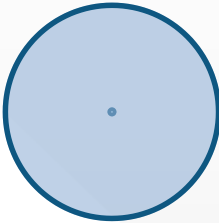
Paper bag and coated and treated paper manufacturing, EPI: 499.2 US thsnd



Other plastics manufacturing,...



World demand: 351.3 US mn



Regional demand: 14.4 US thsnd



# Stakeholders' validation in Malawi

- Confirmation of the availability of local inputs
- Assessment of domestic capabilities
  - Climate conditions, soil, natural resources
  - Infrastructure
  - Specialists, existing firms
- Understanding of constraints
  - Land availability
  - Access to finance
  - Quality and production capacities
  - .....
- Contextualization of regional opportunities

→ Upcoming report: *“Spotting export potential for Malawi – An ITC assessment of opportunities for export growth and diversification”*



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# Want to know more?

## Export Potential Map

Studies team

Website:

<http://exportpotential.intracen.org>

Contact us:

[marketanalysis@intracen.org](mailto:marketanalysis@intracen.org)

Follow us on Twitter, Facebook,  
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## Publications

ITC (2018) Spotting Export Potential for Malawi (with an application of the Value Chain Indicator)

ITC (2016) Export Potential Assessments – A methodology to identify export opportunities for trade development

Export potential assessments are featured in the ITC SME Competitiveness Outlook:

<http://www.intracen.org/SMEOutlook/>