



DEVELOPING COUNTRIES'
PARTICIPATION IN
GLOBAL VALUE CHAINS—
IMPLICATIONS FOR TRADE AND TRADE
RELATED POLICIES

SELECTED PRELIMINARY RESULTS

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Purpose

- Present first results of OECD empirical work on GVCs in developing countries
- Solicit feedback on: approach, methodology and usefulness for policymaking
- Learn about related work at the ADB and in the region
- Explore potential for collaboration

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What is different with our work?

- Comparative cross-country cross-sector empirical exploration of indicators on value added trade
- Focus on developing countries
- Comparative assessment of : SEA, SAS, MENA, WCA, ESA
 - Evidence on RVCs, GVCs and cross-regional lessons
- Combining ICIO approach with detailed trade data
 - ICIO: connectivity and “use” across countries, regions and broad sectors
 - Detailed trade data on intermediates: dynamics, diversification, survival, process upgrading (intensive margin), product upgrading (extensive margin)

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Overview: objectives of the project

- Understanding patterns of GVC participation
- Understanding the drivers
- Measuring the influence of trade and investment policies
- Proposing meaningful recommendations for developing countries in five regions in Asia and Africa/Middle East

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Data is not always available for developing countries

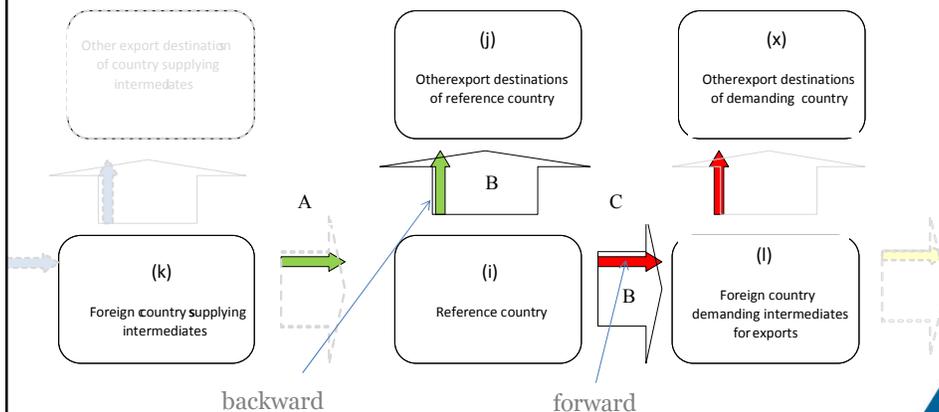
Key sources so far:

- OECD Trade in Value Added database: 57 countries, 18 broad sectors and 5 years (latest in 2009).
- Trade flows of processed intermediates: 5,000 products, more than 200 countries, 1998-2011 (BACI based on the official data by UNSD)

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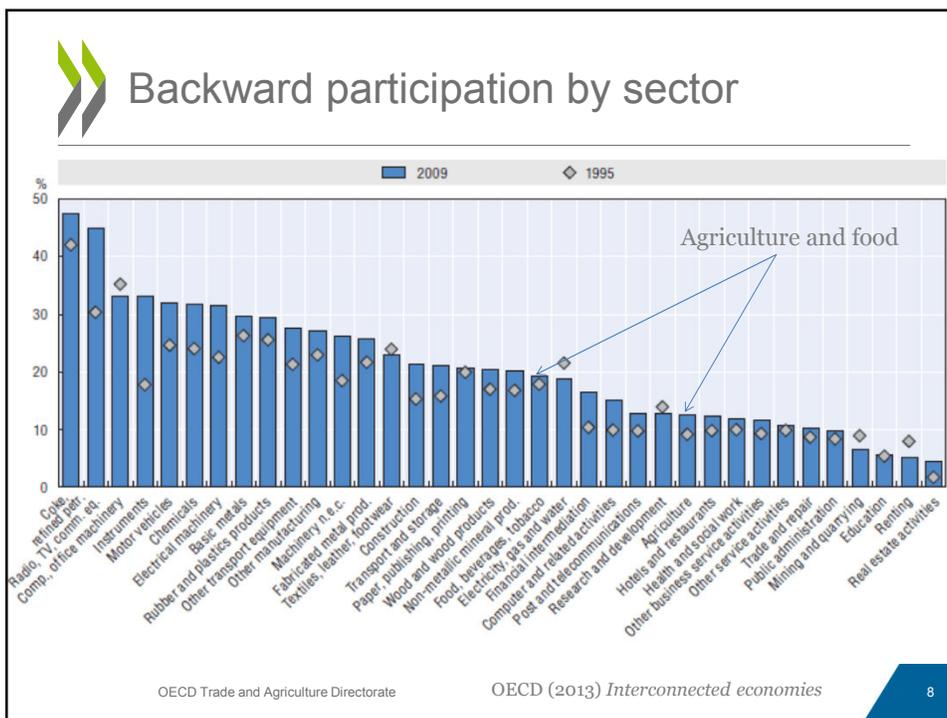
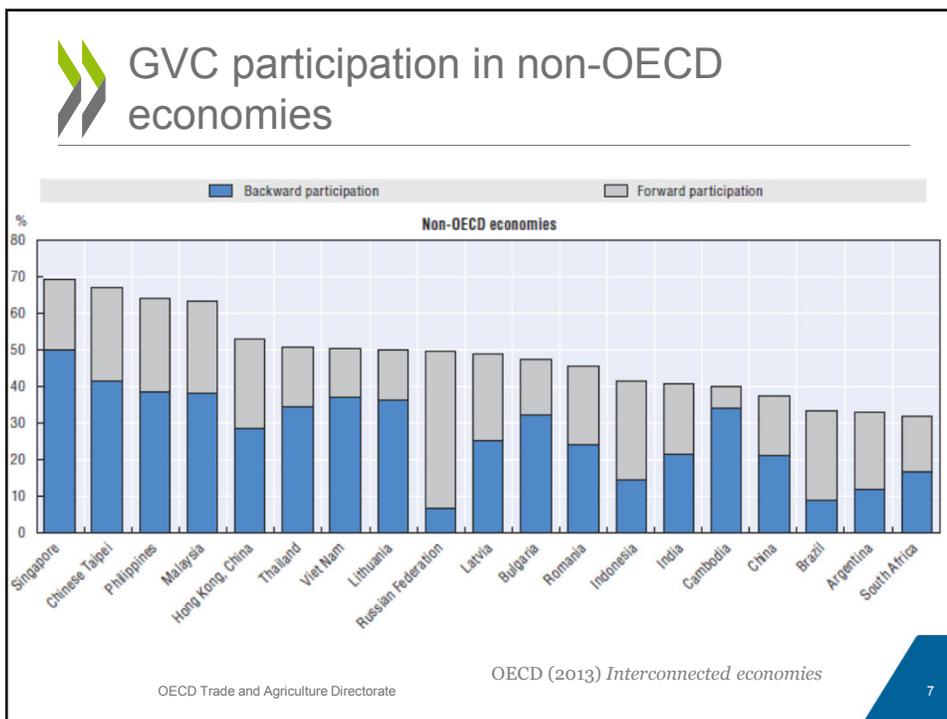
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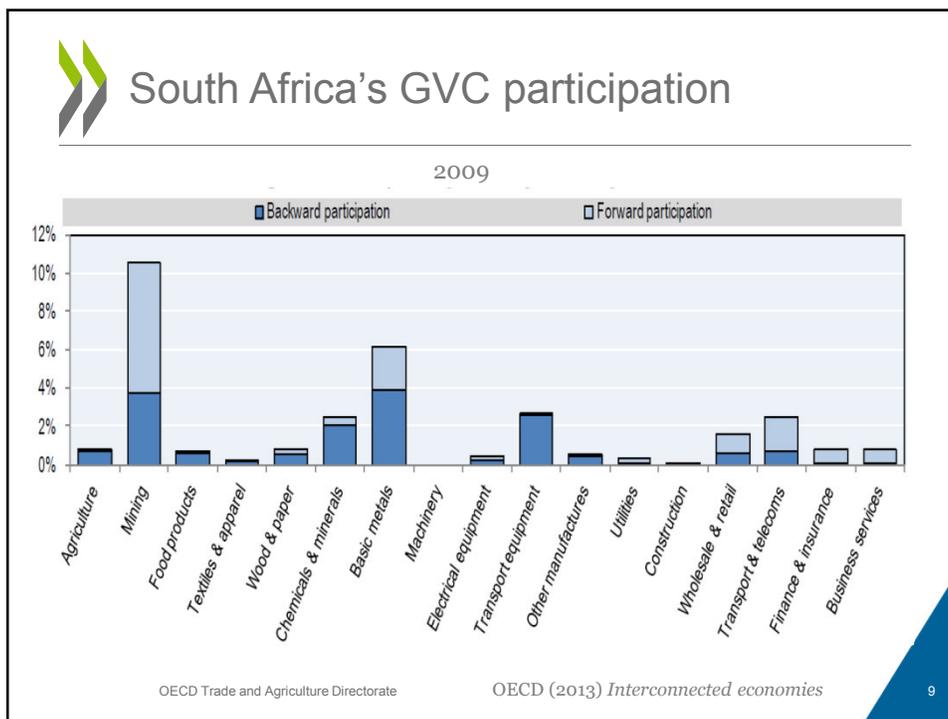
GVC participation: how is it measured?



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Origin of value added in exports - backward participation

	France	Germany	UK	RoEU	Turkey	South Africa	Russia	India	China	Korea	Japan	RoAsia	Australia	New Zealand	South America	Mexico	USA	Canada	RoW
France		1.9%		1.8%															
Germany	3.8%		2.1%	4.4%	1.8%	1.5%			1.6%	1.5%									3.2%
UK	1.8%			2.0%															
RoEU	7.6%	10.3%	4.6%	7.9%	4.4%	2.3%	1.8%	2.5%	2.6%	2.5%		3.0%		1.9%		1.8%			5.0%
Turkey																			
South Africa				2.1%	3.6%														
Russia																			
India								1.7%											
China									2.9%	4.8%	1.7%	3.9%							3.1%
Korea									4.4%	5.1%		4.3%							1.6%
Japan									6.1%	5.2%	2.3%	5.7%							2.5%
RoAsia									2.2%	1.9%									2.2%
Australia													2.9%	2.3%					
New Zealand														3.0%					
South America																			1.6%
Mexico																			
USA	3.1%	2.7%	2.7%	3.2%	1.6%	1.6%		2.3%	3.6%	4.6%	2.2%	5.2%	1.7%	2.4%	2.2%	13.0%		9.2%	2.2%
Canada																			
RoW	4.0%	3.7%	3.1%	4.7%	4.2%	5.2%		6.8%	4.8%	10.0%	3.4%	5.9%	2.1%	2.2%	2.0%	1.9%	2.5%	3.3%	1.8%
Domestic	75.3%	73.4%	82.7%	68.6%	78.2%	83.5%	93.1%	78.1%	67.4%	59.4%	85.2%	63.3%	87.5%	81.6%	88.4%	69.7%	88.7%	80.5%	81.8%
Imported	24.7%	26.6%	17.3%	31.4%	21.8%	16.5%	6.9%	21.9%	32.6%	40.6%	14.8%	36.7%	12.5%	18.4%	11.6%	30.3%	11.3%	19.5%	18.2%

Source: authors' calculations based on OECD TiVA database
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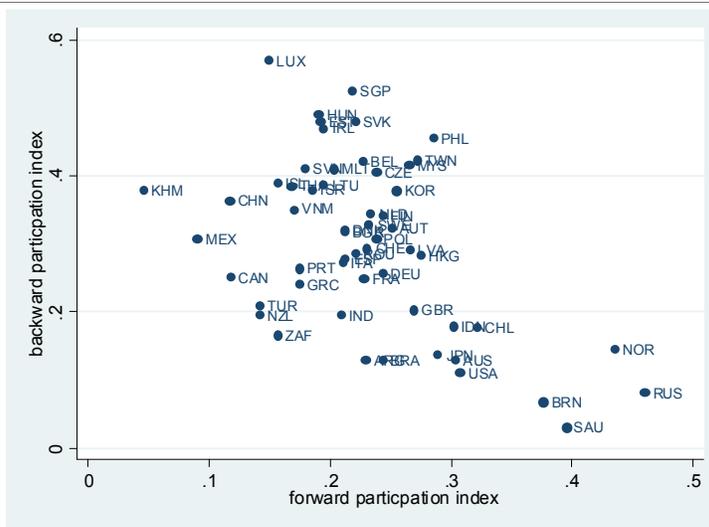
Destination of value added in exports – forward participation

	France	Germany	UK	RoEU	Turkey	South Africa	Russia	India	China	Korea	Japan	RoAsia	Australia	New Zealand	South America	Mexico	USA	Canada	RoW	Total	
France		3.8%		9.1%																	21.1%
Germany				11.3%																	22.8%
UK				10.7%																	25.1%
RoEU				7.9%																	20.8%
Turkey				5.0%																	15.9%
South Africa				3.3%																	17.3%
Russia				19.0%																	34.9%
India				4.7%																	20.3%
China				2.5%																	13.4%
Korea				2.9%																	24.4%
Japan				3.8%																	33.0%
RoAsia				3.3%																	24.7%
Australia				2.7%																	31.3%
New Zealand				2.1%																	15.7%
South America				4.9%																	27.5%
Mexico																					11.5%
USA				6.6%																	28.5%
Canada				2.2%																	15.2%
RoW				20.8%																	32.0%

Source: authors' calculations based on OECD TiVA database
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Patterns of participation can be quite different



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Explaining the differences in countries' GVC participation

- A simple econometric approach:

$$BACKWARD_{it} = f(NPOL_{it}^1, \dots, NPOL_{it}^N, POL_{it}^1, \dots, POL_{it}^M, \varepsilon_{it})$$

$$FORWARD_{it} = f(NPOL_{it}^1, \dots, NPOL_{it}^N, POL_{it}^1, \dots, POL_{it}^M, \varepsilon_{it})$$

where: $(NPOL_{it}^1, \dots, NPOL_{it}^N)$ and $(NPOL_{jt}^1, \dots, NPOL_{jt}^N)$ are country-specific indicators of non-policy characteristics of country i in year t and $(POL_{it}^1, \dots, POL_{it}^M)$ and $(POL_{jt}^1, \dots, POL_{jt}^M)$; are the country-specific indicators of policy determinants of GVC trade; and (ε_{it}^k) is the error term.

- Clustering standard errors to correct for country and year-specific omitted factors
- Reiterating the exercise for four broad types of activities
- Quintile regressions



Structural and policy characteristics explain significant variation in GVC participation

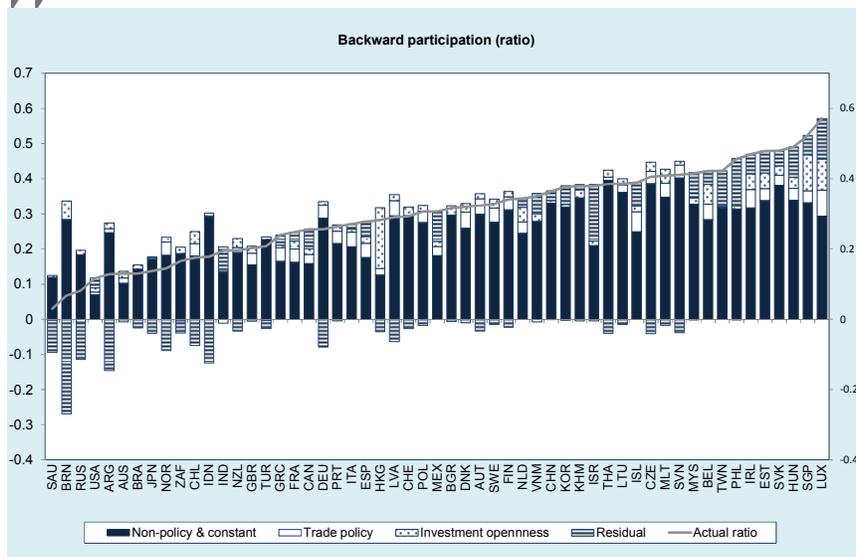
- **The “buying” part of GVCs is explained better than the “selling” part**
- **Structure and geography accounts for a significant part**
 - Market size [backward (-) / forward (+)]
 - Level of development [forward (+)]
 - Degree of industrialisation [backward (+)/forward (-)]
 - Distance to main manufacturing hubs in Europe, North America and Asia [backward (-)]

Trade and FDI policies also play a role:

- Import tariffs, tariffs faced in export markets, engagement in RTAs [backward (+)/forward (+)]
- Openness to inward FDI [backward (+)/forward (-)]



The policy margin is relatively important in some countries



Drivers of GVC participation vary significantly by sector

- **Market size** plays less of a role in backward and forward integration in agriculture and mining
- **Level of development** is a differentiating factor of integration across sectors:
 - E.g. the higher the GDP per capita the lower the backward engagement in agriculture and the higher the forward engagement in manufacturing
- **FDI openness** has a more pronounced impact in mining and services as compared to manufacturing or agriculture
- **Tariffs and RTAs** seem to impede GVC integration more in manufacturing than in agriculture or mining and extractive industries



“Out of sample” implications for developing countries in Africa and Asia

Characteristics

- **South-East Asian** countries exhibit **large domestic markets**, but also **high degree of industrialisation** and **proximity to manufacturing hubs** (China, Japan)
- **MENA** countries characterised by **non-manufacturing activities**, **proximity to Europe**, and **relatively high GDP per capita**

Policies

- **South-East Asian** countries tend to **charge the lowest tariffs**, display **highest shares of imports covered by an RTA**, but are relatively closed to inward FDI. **Western Central Africa** and **MENA** display higher degrees of FDI openness.

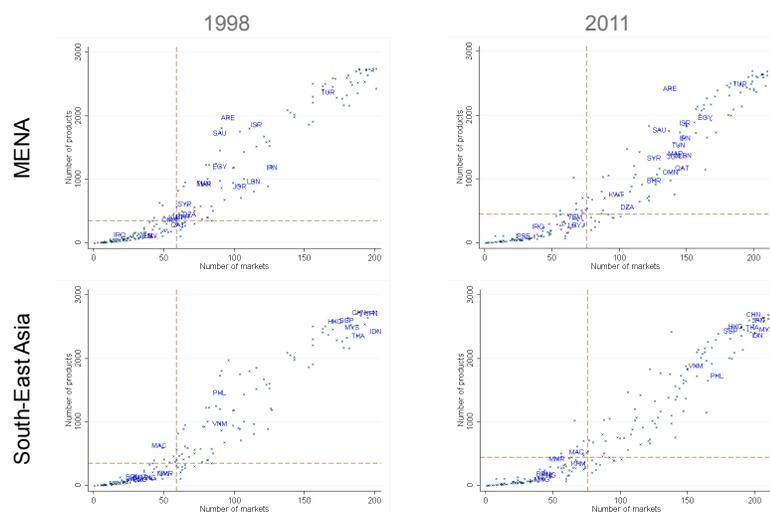


Evidence from detailed data on trade in processed intermediates

- **African regions’** trade mostly **extra-regional** while that of **Asian regions**, and particularly SEA, **intra-regional**
 - no sign of the “factory Africa” emerging along the lines of “factory Asia”
 - what is the role of RTAs in promoting value chain integration?
- Exports of processed intermediate products by **African countries are much less diversified**
 - **good progress** towards diversification is being observed in some countries (e.g. **Vietnam and the Philippines in Asia and Egypt and Tunisia in Africa**).
 - but, there are **growing intra-regional divisions**: some heavily natural resource-dependent and smaller countries are becoming less diversified (two track integration)



Diversification of intermediates trade in MENA and SEA

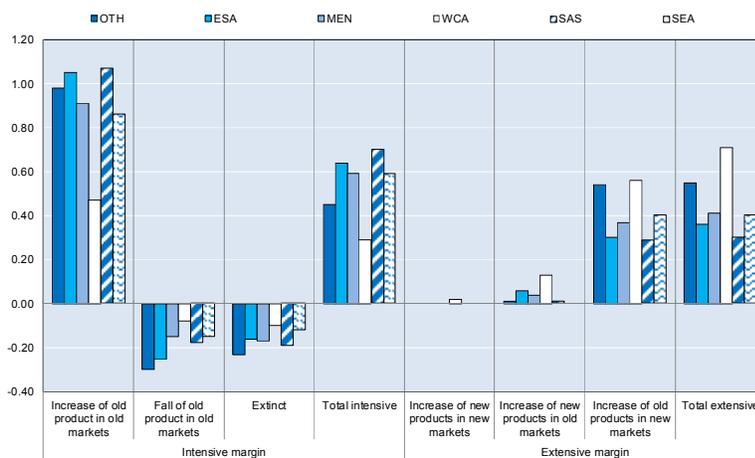


Evidence from data on trade in processed intermediates (2)

- Some **positive signs of diversification** or, possibly even upgrading, are visible in certain countries in Africa where the **extensive margin of trade (new products) can account for as much as 60% of growth of intermediate exports**
 - Yet, again mostly trade with countries outside of the region
- **Survival rates of intermediates trade in Asian regions can be as much as double those in African regions**
 - For example, while in SEA on average 25-30% of exports of processed intermediates remain active after 3 years, in WCA the survival rate is only 10%



New intermediate products and new markets

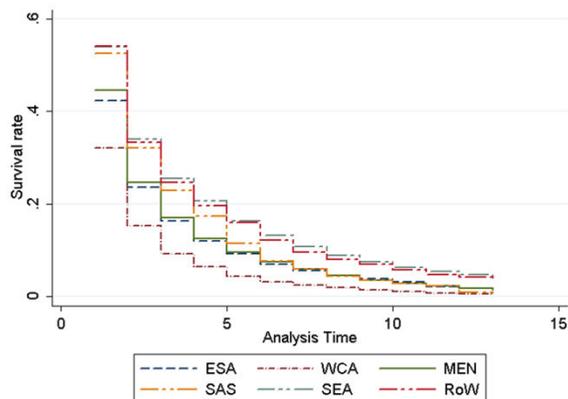


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Survival of intermediate trade flows





Next steps

- **other developing countries** and LDCs using **supplementary sources of inter-country input-output data**
- **“upgrading”**
- **other policy factors** (infrastructure, NTBs, business environment, logistics e and border-related procedures)
- **which products are responsible** for some of the positive and negative trends (**‘key’ value chains** for further analysis)
- **Country and region “profiles”**
- merging insights from **trade data** with the **inter-country input-output analysis**
- **potential to participate and constraining factors**



Thank you!

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