



UNITED NATIONS



Latin American IOT and way forward: From Regional to Global IOT

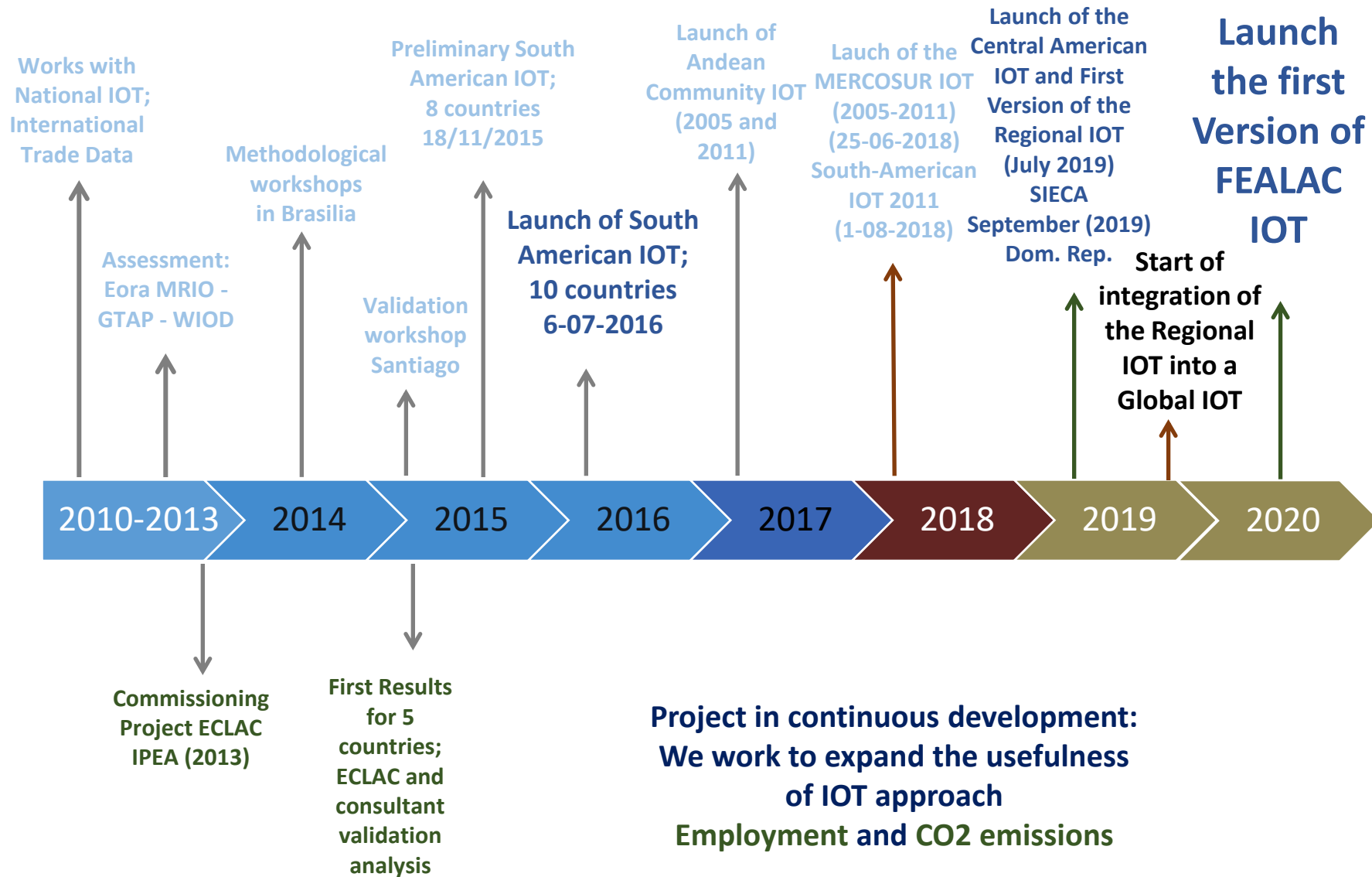
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Paris, October 23, 2020

Origin, history, and development



Major achievements of the ECLAC input-output table project

- **First achievement: Assembling an IOT for South America**
- **(2016; 2019; 2020)**
 - 10 countries: Argentina, Bolivia. P. S., Brazil, Chile, Colombia, Ecuador, Peru, Paraguay, Uruguay and Venezuela. B. R.;
 - A single base year: **2005 (with IPEA). 2011. 2014;**
 - A single valuation: current dollars and basic prices



Assembling the IOT
can be understood as
puzzle regarding the
harmonization of
methodology



Assembled IOT
includes **40 sectors**

Major achievements of the ECLAC input-output table project

- **Second achievement: Assembling a Latin American IOT (2019-2020)**
 - 8 additional countries: Mexico, Costa Rica, El Salvador, Dominican Republic, Honduras, Guatemala, El Salvador and Panama;
 - A single base year: **2011**, **2014**;
 - A single valuation: current dollars and basic prices



Selected sectors for the harmonization of SA IOT – LAC (18)

Forty sectors selected to join a South American input-output matrix																																						
Sector	Description	ISIC Code (Rev. 3)																																				
s1	Agriculture and forestry	0111	0112	0113	0121	0122	0130	0140	0200	Agriculture, forestry, hunting and fishing (2)																				Primary (4)								
s2	Hunting and fishing	0150	0500																																			
s3	Mining (energy)	1010	1020	1030	1110	1120	1200	Oil and mining (2)																														
s4	Mining (non-energy)	1310	1410	1421	1422	1429																																
s5	Meat and meat; dairy milk	1511	1512	1514	1520	Food, beverages and snuff (6)																																
s6	Grinding, baking and pasta	1531	1532	1541	1544																																	
s7	Sugar and confectionery products	1542	1543																																			
s8	Other food products	1513	1549																																			
s9	Drinks	1551	1552	1553	1554																																	
s10	Snuff products	1600																																				
s11	Textiles	1711	1712	1729	1730	Textiles, apparel and footwear (3)																																
s12	Garments	1721	1722	1723	1810																									1820	1911	1912						
s13	Footwear	1920																																				
s14	Wood and products of wood and cork	2010	2021	2022	2023	2029	Wood, pulp and paper (2)																															
s15	Pulp, paper, paper, printing and publishing	2101	2102	2109	2211	2212																								2213	2219	2221	2222	2230				
s16	Coke, refined petroleum and nuclear fuel	2310	2320	2330	Chemicals and Pharmaceuticals (4)																																	
s17	Basic chemicals	2411	2412	2413																																		
s18	Other chemicals (excluding pharmaceuticals)	2421	2422	2424																										2429	2430							
s19	Pharmaceutical	2423																																				
s20	Rubber and plastic	2511	2519	2520	Rubber and plastic (1)																																	
s21	Nonmetallic minerals	2610	2691	2692																										2693	2694	2695	2696	2699				
s22	Iron and Steel	2710	2731	Metals and metal products (3)																																		
s23	Non-ferrous metals	2720	2732																																			
s24	Metal fabricated metal products (excluding machinery and	2811	2812																											2813	2891	2892	2893	2899				
s25	Machinery and equipment (excluding (excluding electrical n	2911	2912	2913	2914	2915	2919	2921	2922	2923	2924	2925	2926	2927	2929	2930	Machinery and equipment (5)																					
s26	Office equipment (including computer equipment)	3000																																				
s27	Machinery and electrical appliances	3110	3120	3130	3140	3150	3190	3210																														
s28	Radio, television and telecommunications equipment team	3220	3230																																			
s29	Optical medical equipment and precision instruments	3311	3312	3313	3320	3330																																
s30	Motor vehicles, trailers and semi-trailers	3410	3420	3430	Vehicles and their parts and components (3)																																	
s31	Aircraft	3530																																				
s32	Other transport equipment transport	3511	3512	3520																										3591	3592	3599						
s33	Other articles: recycling, furniture and other	3610	3691	3692	3693	3694	3699	3710	3720	Other manufacturing (1)																												
s34	Electricity, gas and water water	4010	4020	4030																																		
s35	Construction	4510	4520	4530	4540	4550	Services (7)																															
s36	Transport	6010	6021	6022	6023	6030																								6110	6120	6210	6220	6301	6302	6303	6304	6309
s37	Post and telecommunications	6411	6412	6420																																		
s38	Finance and insurance	6511	6519	6591	6592	6599	6601	6602	6603	6711	6712	6719	6720																									
s39	Services to businesses of all kinds	7010	7020	7111	7112	7113	7121	7122	7123	7129	7130	7210	7220	7230	7240	7250	7290	7310	7320	7412	7413	7414	7421	7422	7430	7491	7492	7493	7495	7499								
s40	Other services	4100	5010	5020	5030	5040	5050	5110	5121	5122	5131	5139	5141	5142	5143	5149	5150	5190	5211	5219	5220	5231	5232	5233	5234	5239	5240	5251	5252	5259								
		5260	5510	5520	7411	7494	7511	7512	7513	7514	7521	7522	7523	7530	8010	8021	8022	8030	8090	8511	8512	8519	8520	8531	8532	9000	9111	9112	9120	9191								
		9192	9199	9211	9212	9213	9214	9219	9220	9231	9232	9233	9241	9249	9301	9302	9303	9309	9500	9900																		

Source: ECLAC on the basis of ICM and / or national SUT, considering on the work of the respective national teams.

Each National IOTs was reclassified to 40 Sectors

18 LAC countries with 55 partners

18 LAC countries with 55 partners		Intermediate Use (18 LAC countries)							Final Use (18 LAC countries)							Exports (Asia Pacific and R of World)														
		Argentina	Brazil	Costa Rica	Dom. Rep.	Mexico	...	Uruguay	Venezuela	Argentina	Brazil	Costa Rica	Dominic Republic	Mexico	...	Uruguay	Venezuela	United States	Canada	EU	India	Australia	Brunei	Cambodia	Japan	China	Thailand	...	R of World	Product Gross Value
LAC Imports	Argentina	40 x 40								40 x 2								40 x 1												40 x 1
	Brazil	40x 40																												
	Costa Rica																													
	Dominican Rep.																													
	Mexico																													
																														
	Uruguay																													
Venezuela																														
Asian and ROW Imports	United States	40 x 40																												
	Canada																													
	European Union (EU)																													
	India																													
	Australia																													
	Brunei																													
	Cambodia																													
	Japan																													
	...																													
	R of World																													
	Tax	1x40																												
	Insurance and freight																													
	Value added																													
	Product	1x40																												

16 FEALAC extra regional partners:

Australia, Brunei, Cambodia, Japan, China, Thailand, Malaysia, Mongolia, New Zealand, Laos, Myanmar, Mongolia, Indonesia, Philippines, Singapore, Vietnam.

Is an asymmetric matrix with core LAC in the Intermediate Use with external partners

16 FEALAC extra regional partners:
 Australia, Brunei, Cambodia, Japan, China, Thailand, Malaysia, Mongolia, New Zealand, Laos, Myanmar, Mongolia, Indonesia, Philippines, Singapore, Vietnam.

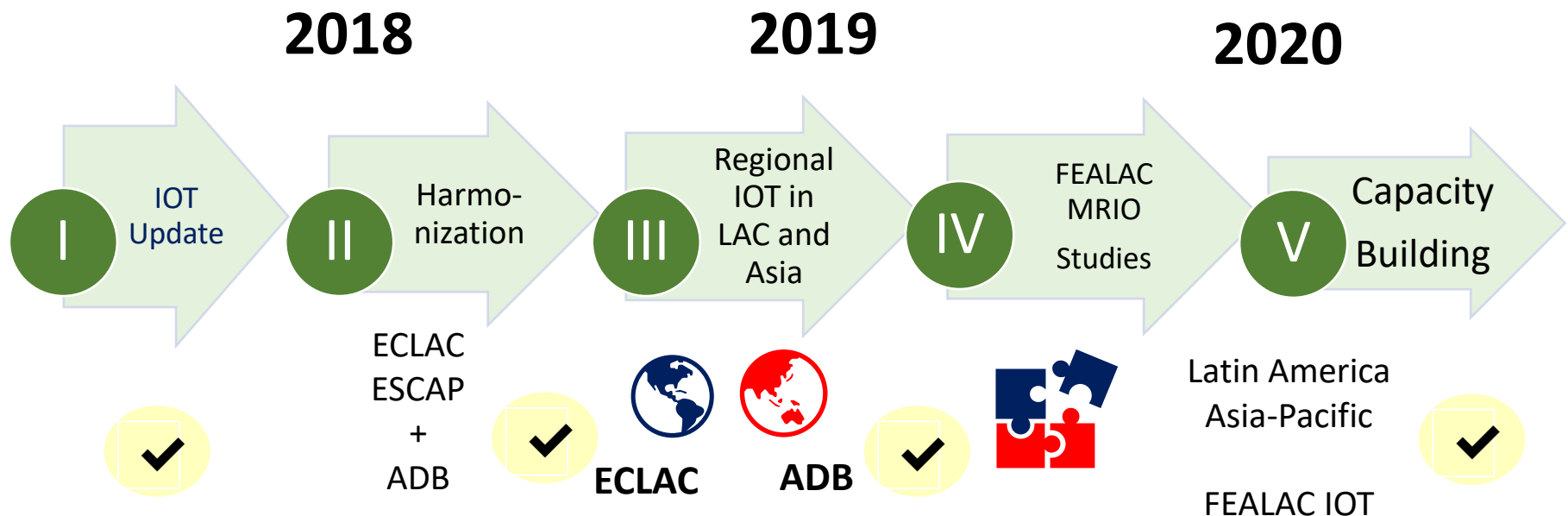
Is an asymmetric matrix with core LAC in the Intermediate Use with external partners

From ECLAC-IOT and ADB-MRIO To FEALAC IOT

[illegible]

The project to achieve a FEALAC IOT

- Development of tool to promote the integration of FEALAC countries into intraregional and bi-regional value chains.
- Strengthen data quality and expertise of national institutions in FEALAC member countries to develop evidence-based industrial and trade policies.
- The project was developed between 2018 and 2020.



New achievements of the ECLAC-ESCAP FEALAC project:

- **Third achievement: ECLAC- ESCAP-ADB assembled a bi-regional IOT FEALAC IOT**
 - LAC (18 countries) + All MRIO ADB
 - A single base year: **2007, 2011 and 2017**
 - A single valuation: current dollars and basic prices



**2019
FEALAC**
TITM Seminar on Trade and SMEs



ECLAC



ADB

**71 countries + ROLAC + ROW
35 sectors (2007, 2011, 2017)**

**78 countries + ROW
20/25 sectors (2011)**

FEALAC IOT Structure (2011, 78 countries + RoW, 25 sectors)

countries & industries ↓ →	Intermediates use	Final Demand			Output (X)
	ctry 1 x ind 1 [...] ctry 79 x ind 25	Country 1	[...]	Country 79	
		Consumption Gross Fix capital		Consumption Gross Fix capital	
country 1 x ind. 1	(Z) intermediate transactions	(FD)			(X)
[...]					
country 1 x ind. 25					
[...]					
country 79 x ind. 1					
[...]					
country 79 x ind. 25					
Total	Intermediate input total				
Total	Taxes less subsidies on products				
Total	(VA) Value Added at basic prices				
Output (X)	(X) Output at basic prices				

2007, 2011 and 2017
(71 countries + ROLAC + RWLD
20 sectors)

FEALAC IOT Structure (2011, 78 countries, 25 sectors)

WIOD			
	MRIO ADB		
		ECLAC South America	
			ECLAC Central America

MRIO ADB
2007,2011,2017
71 countries
+ ROLAC + RoW



Costa Rica, El Salvador,
Guatemala,
Honduras, Nicaragua, Dominican
Republic and Panama

MRIO ADB – ECLAC - ESCAP
2007,2011,2017
78 countries
+ Rest of the World

List of countries included in the FEALAC IOT: 78 countries and ROW (18 LAC and 26 Asian countries)

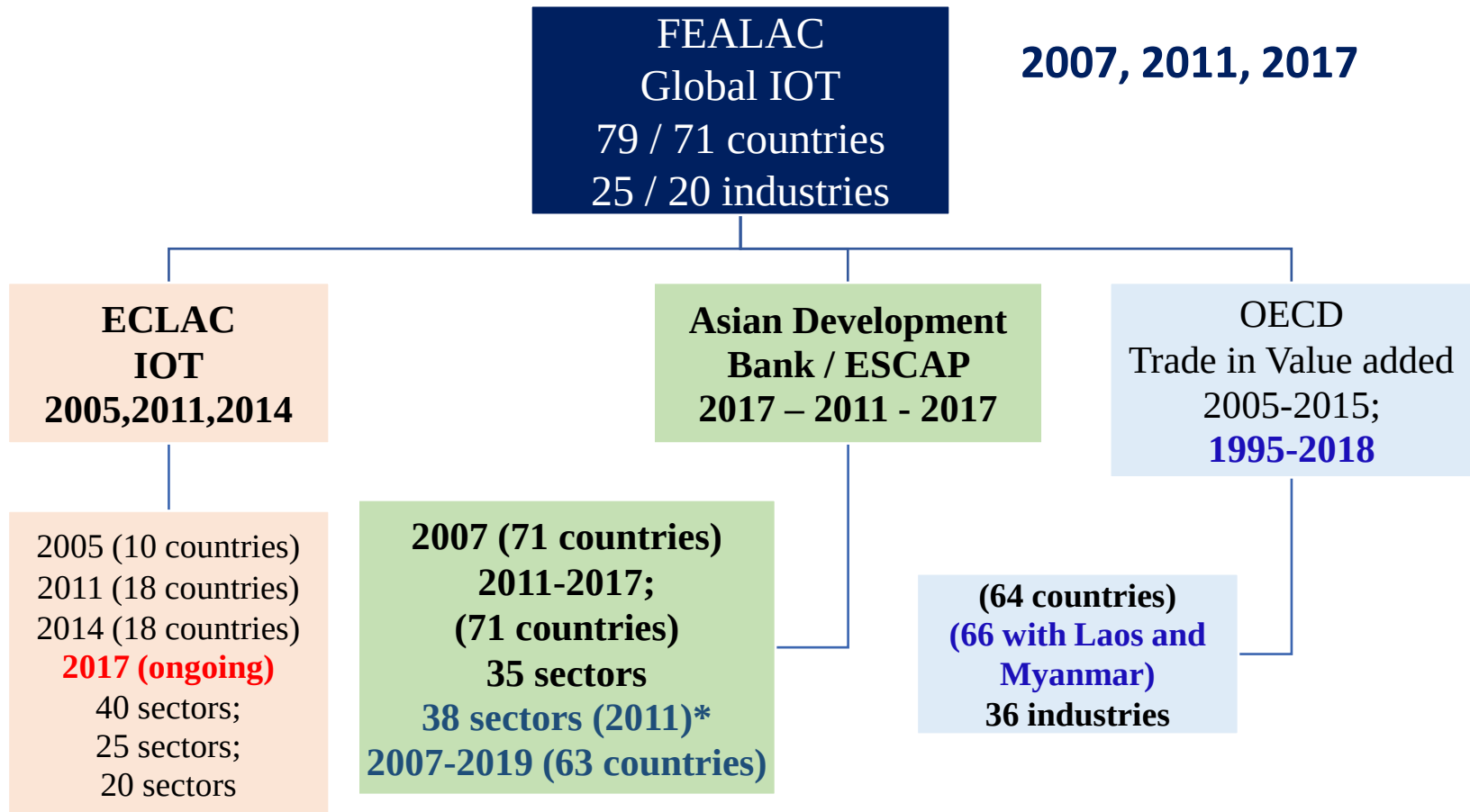
Australia	AUS	Luxembourg	LUX	Brunei Darussalam	BRU
Austria	AUT	Latvia	LVA	Bhutan	BHU
Belgium	BEL	Mexico	MEX	Kyrgyz Republic	KGZ
Bulgaria	BGR	Malta	MLT	Cambodia	CAM
Brazil	BRA	Netherlands	NET	Maldives	MLD
Canada	CAN	Norway	NOR	Nepal	NEP
Switzerland	SWI	Poland	POL	Singapore	SIN
People's Republic of China	PRC	Portugal	POR	Hong Kong. China	HKG
Cyprus	CYP	Romania	ROM	Argentina	ARG
Czech Republic	CZE	Russia	RUS	Bolivia, P.S.	BOL
Germany	GER	Slovak Republic	SVK	Chile	CHL
Denmark	DEN	Slovenia	SVN	Colombia	COL
Spain	SPA	Sweden	SWE	Ecuador	ECU
Estonia	EST	Turkey	TUR	Paraguay	PAR
Finland	FIN	Taipei, China	TAP	Peru	PER
France	FRA	United States	USA	Uruguay	URY
United Kingdom	UKG	Bangladesh	BAN	Venezuela. B.R.	VEN
Greece	GRC	Malaysia	MAL	Costa Rica	CRI
Croatia	HRV	Philippines	PHI	El Salvador	SLV
Hungary	HUN	Thailand	THA	Guatemala	GTM
Indonesia	INO	Viet Nam	VIE	Honduras	HND
India	IND	Kazakhstan	KAZ	Nicaragua	NIC
Ireland	IRE	Mongolia	MON	Panama	PAN
Italy	ITA	Sri Lanka	SRI	Dom. Republic	RDO
Japan	JPN	Pakistan	PAK	Rest of the World	RoW
Republic of Korea	KOR	Fiji	FIJ		
Lithuania	LTU	Lao People's Democratic Republic	LAO		

Source: Working Group ECLAC-ESCAP-ADB



IOT- FEALAC 25	Description GIOT FEALAC	IOT-FEALAC (20)	Sectors in ADB MRIOT (35)	ECLAC IOT (40)
01	Agriculture, hunting, forestry and fishing	S1	1	s1,s2
02	Mining and quarrying	S2	2	s3,s4
03	Food products, beverages and tobacco	S3	3	s5,s6,s7,s8,s9,s10
04	Textiles, textile products, leather and footwear	S4	4,5	s11,s12,s13
05	Wood and products of wood and cork	S5	6	s14
06	Pulp, paper, paper products, printing and publishing	S5	7	s15
07	Coke, refined petroleum products and nuclear fuel	S6	8	s16
08	Chemicals and chemical products	S6	9	s17,s18,s19
09	Rubber and plastics products	S7	10	s20
10	Other non-metallic mineral products	S8	11	s21
11	Basic metals	S9	12*	s22,s23
12	Fabricated metal products	S9	12*	s24
13	Machinery and equipment	S10	13	s25
14	Computer, Electronic and optical equipment	S11	14*	s28,s29
15	Electrical machinery and apparatus, nec	S11	14*	s27
16	Motor vehicles, trailers and semi-trailers	S12	15*	s30,s31
17	Other transport equipment	S12	15*	s32
18	Manufacturing nec; recycling	S13	16	s33
19	Electricity, gas and water supply	S14	17	s34
20	Construction	S15	18	s35
21	Transport and storage	S16	23,24,25,26	s36
22	Post and telecommunications	S17	27	s37
23	Financial intermediation	S18	28	s38
24	Business services of all type	S19	30	s39
25	Other services	S20	29,30,31,32,33,34,35	s40

FEALAC Multiregional IOT and OECD

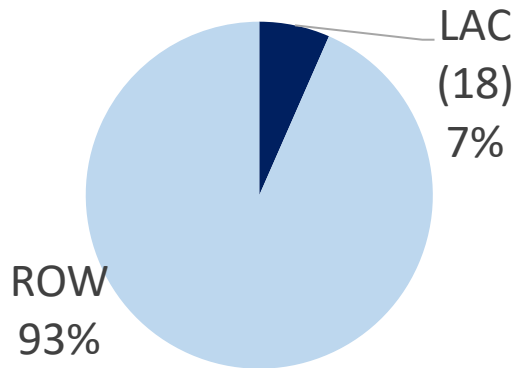


Source: Working Group ECLAC-ESCAP-ADB

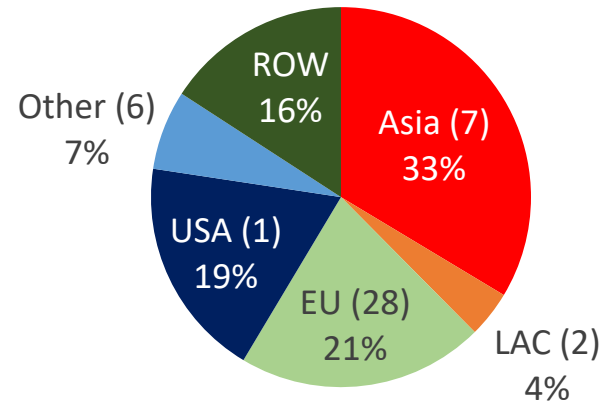
* recently opened sectors (2011)

Coverage of each initiative?

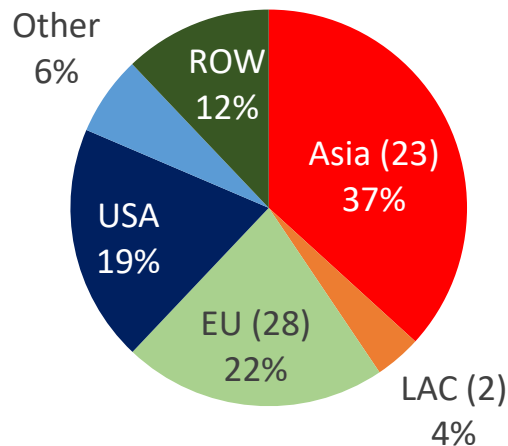
ECLAC RIOT, 2014
(18 countries)



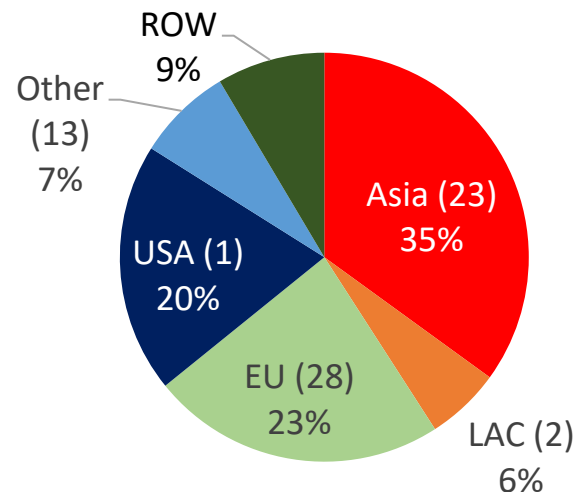
WIOD, 2014
(43 countries + ROW)



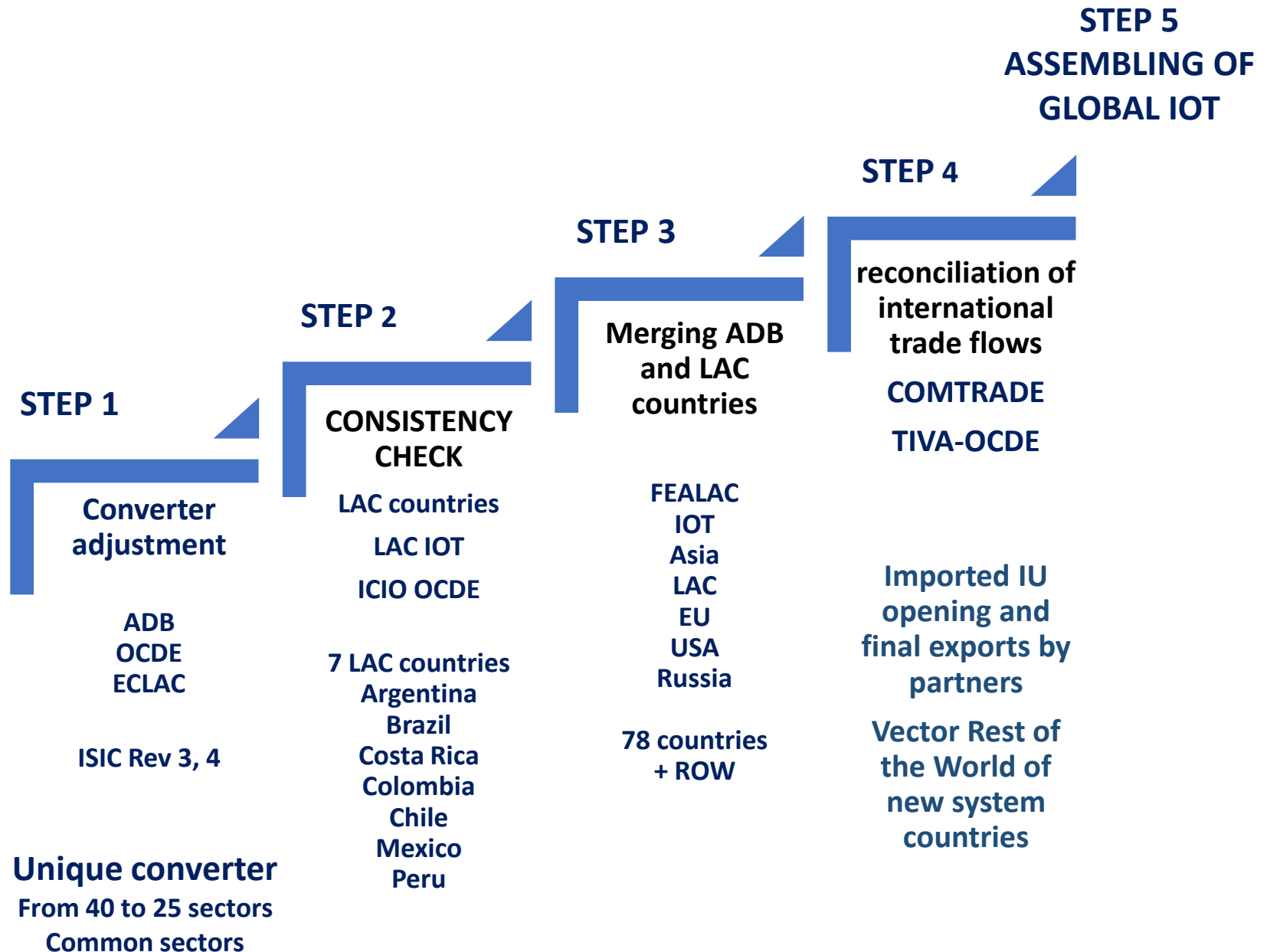
ADB, 2014
(61 countries + ROW)



OECD, 2014
(64 countries + ROW)

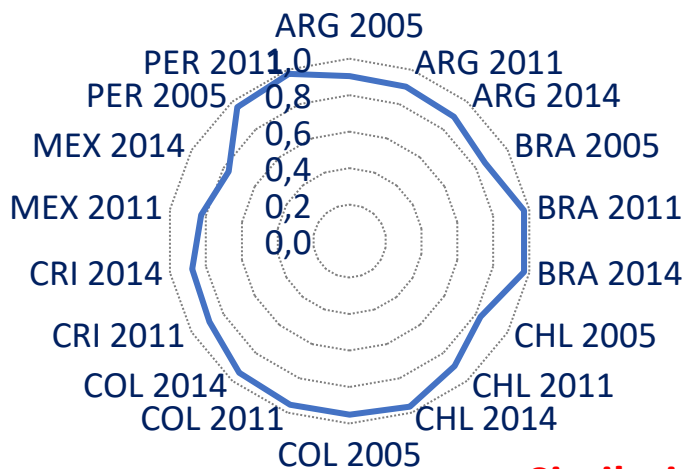


Critical path to achieve a Global IOT

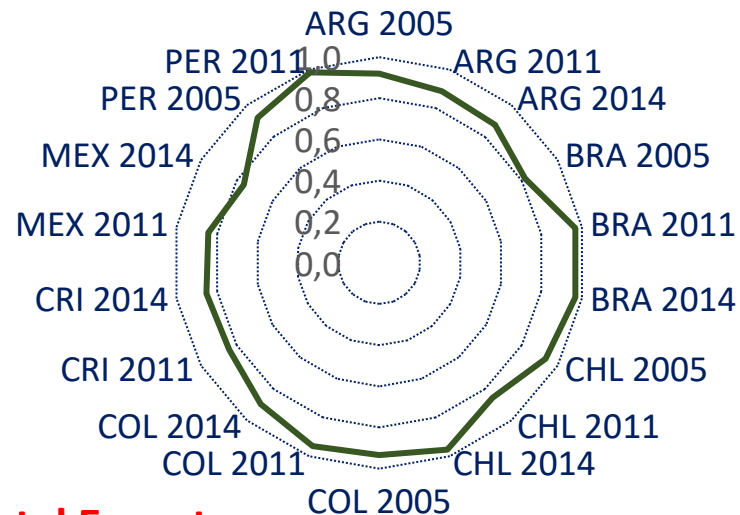


Consistency Check – Similarity ECLAC - OECD

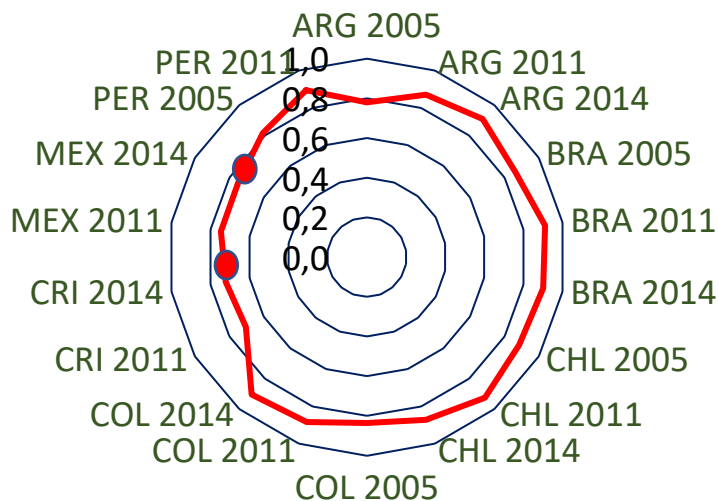
Similarity Index Output



Similarity index: GVA

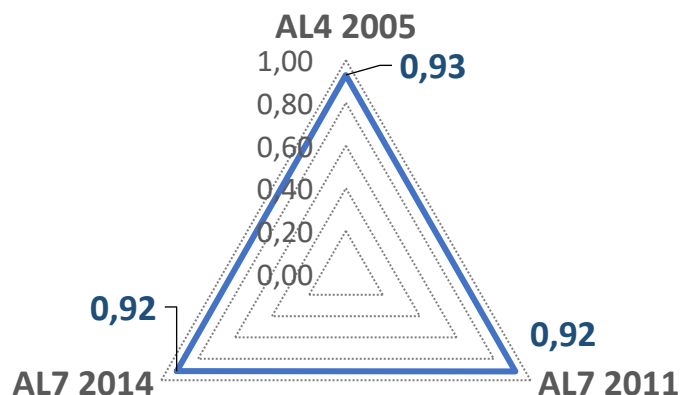


Similarity Index- Total Exports

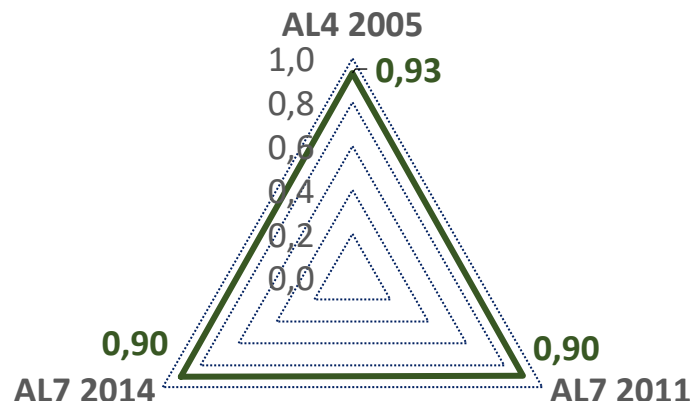


Consistency Check – Similarity ECLAC - OECD

Similarity Index Output



Similarity index: GVA

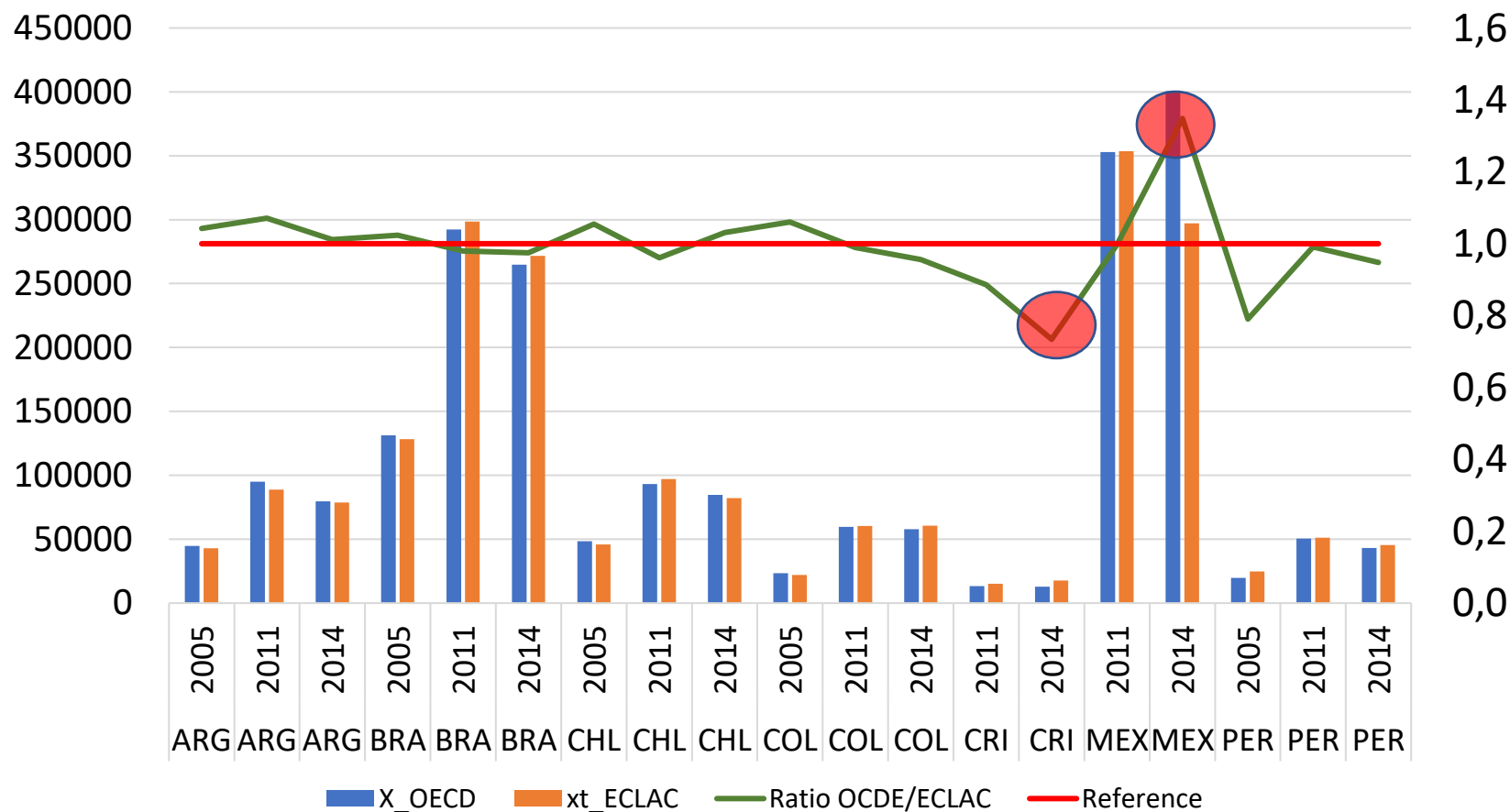


Similarity Index- Total Exports



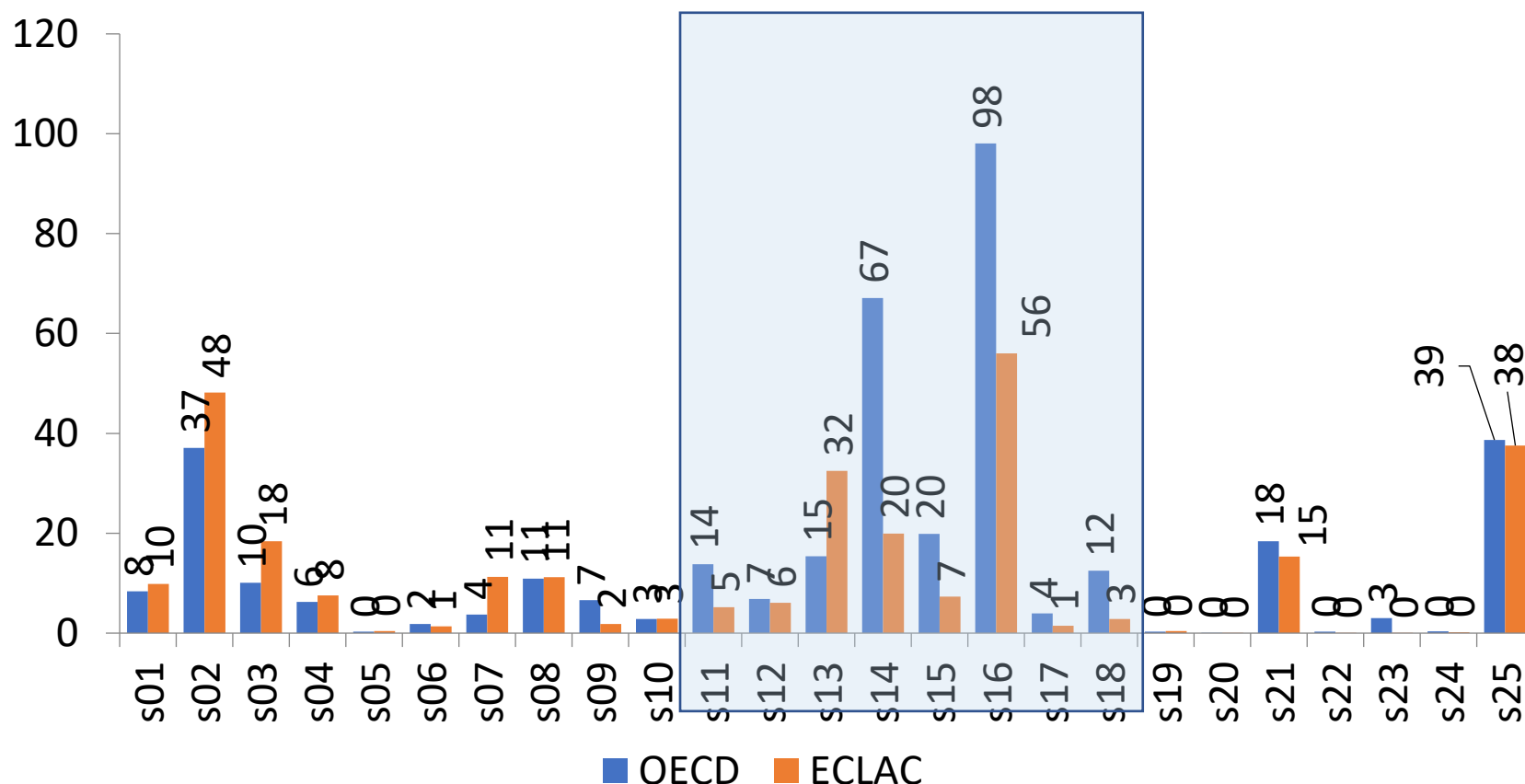
In 2014, there are differences in total exports of Mexico and Costa Rica

Mexico: Total export in ICIO TIVA OECD versus ECLAC IOT, 2005, 2011 and 2014
(Millions of dollars)

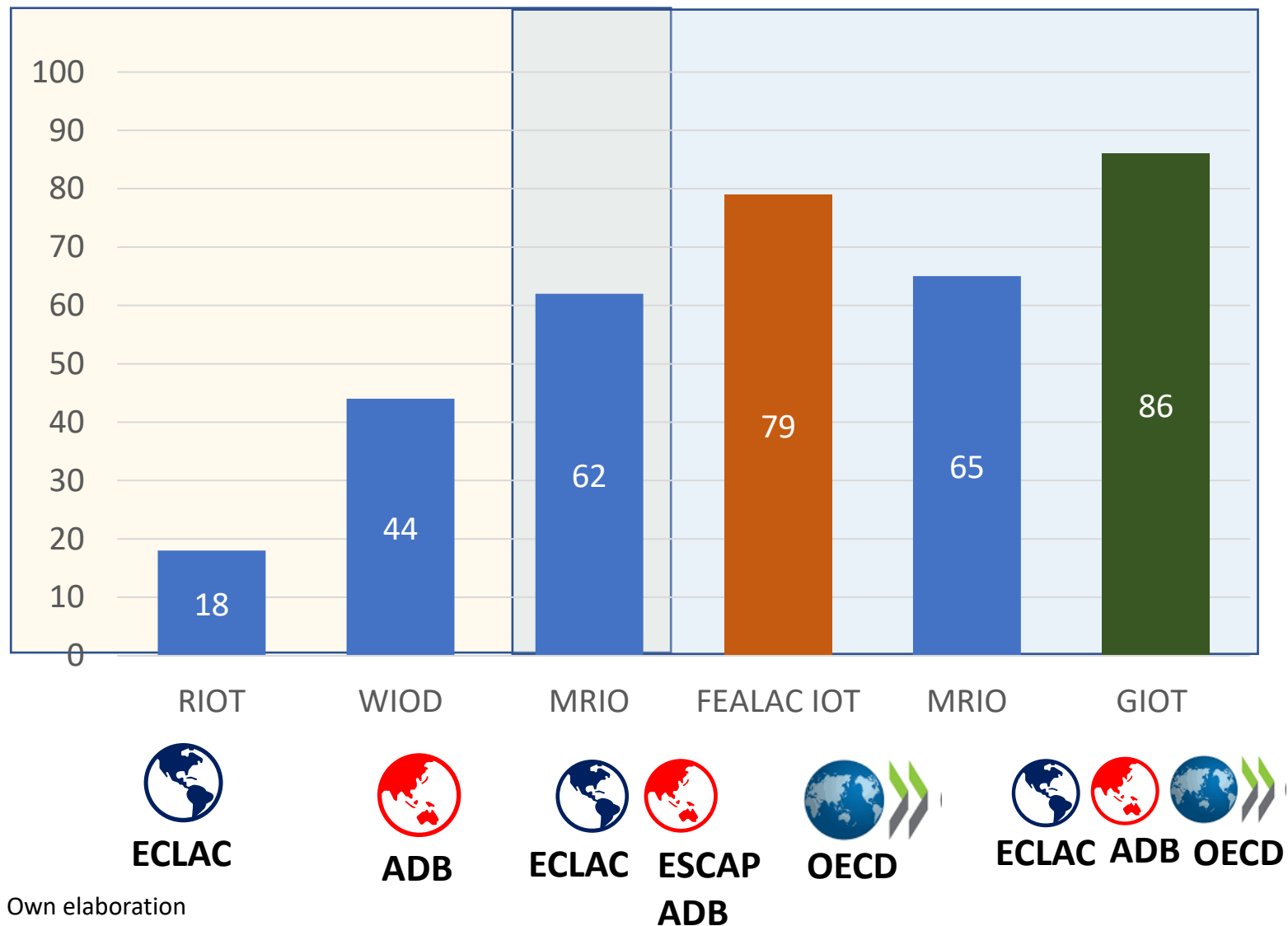


Mexican official figures show lower exports than OECD mainly in vehicles (s16) and electronics and optical equipment (s14)

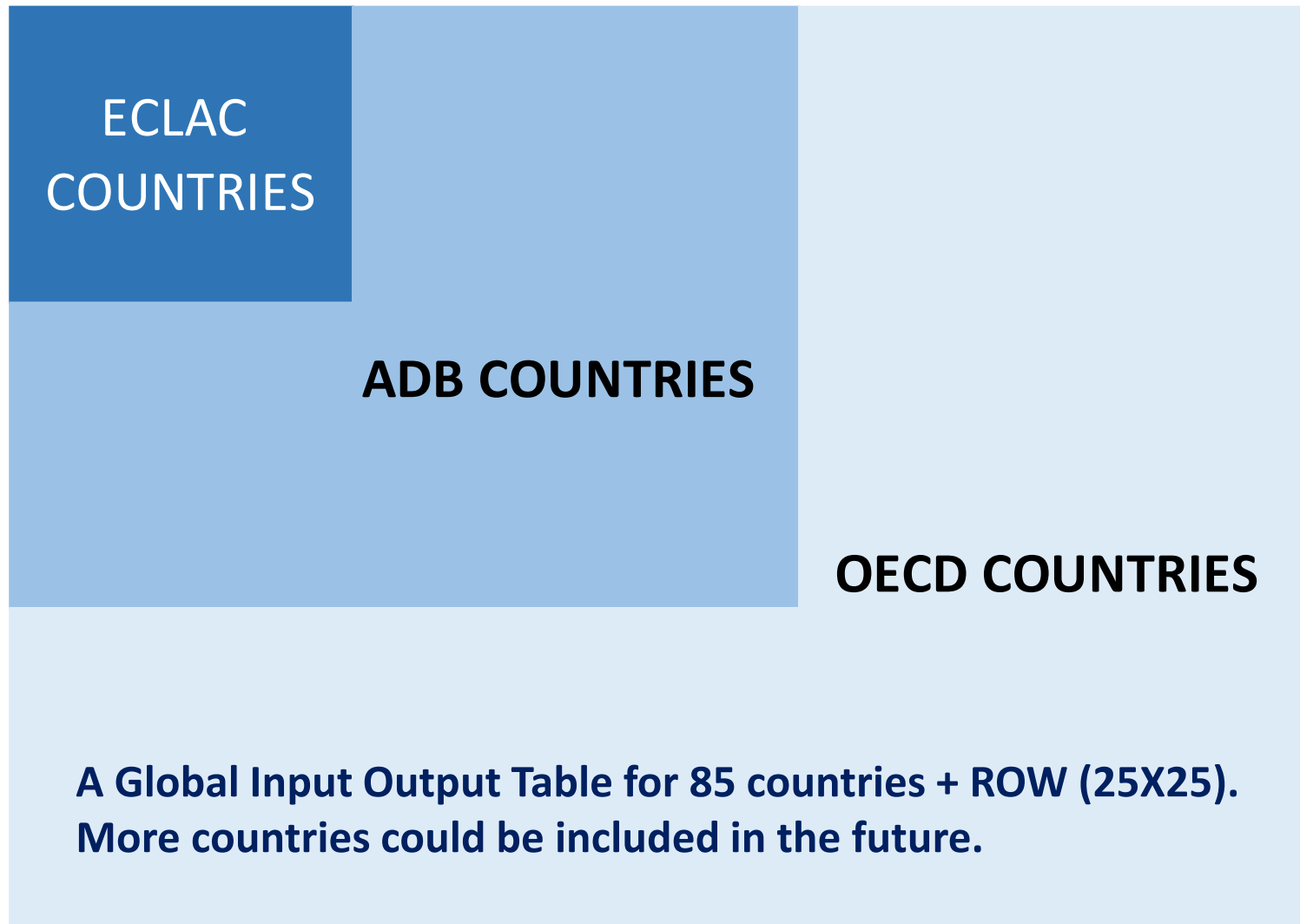
Mexico: Total export by industry, ICIO TIVA OECD versus ECLAC IOT, 2014
(Millions of dollars)



The different possible paths (From 18 to 86 ECLAC); (From 65 to 86 OECD); (From 62 to 86 ADB)



How we see the process from ECLAC?



The way forward

- Integration with other initiatives is expected. It would be the next logical step.
- **Why?:**
 1. ADB MRIO has more countries than OECD TIVA in the case of Asia,
 2. ECLAC has more countries than OECD TIVA for Latin America,
 3. The OECD TIVA initiative has complementary countries that ECLAC and ADB do not have,
 4. To fulfill the objective, all TIVA initiatives must converge at sector level to integrate into a Global Matrix,
 5. Final product: A big, Global IOT with 85 countries + ROW (25 sectors).
- **What will be the benefits?**
- Possibility of conducting regional and sub-regional analyzes from a country/industry perspective (LAC, Asia, and Africa and the Middle East in the future).

Challenges and Future Steps

Lastly and not less important

- Compatibility of sectoral disaggregation between all TIVA initiatives.
- Shared converters (For production and trade);
- Shared databases and a common methodology;
- Organizing workshops with national institutions to share best practices to help to improve base data.
- Put evidence on the table of policy makers

We have a fertile field of cooperation between ADB, OECD, and ECLAC.



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