

# NEREUS

Núcleo de Economia Regional e Urbana  
da Universidade de São Paulo

The University of São Paulo  
Regional and Urban Economics Lab

## Class 10 - Global Input-Output Models

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Departamento de Economia da Universidade de São Paulo

# Global Input-Output Models

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- WIOD - World Input-Output Database
- ICIO - Inter-Country Input-Output Database, OECD
- EORA - Multi-Region Input-Output (MRIO)
- ECLAC - Input-Output Table for Latin America and the Caribbean
- EXIOBASE - Multi-Regional Environmentally Extended Supply-Use Table (MR-SUT) and Input-Output Table (MR-IOT)
- FIGARO - EU-Inter Country Supply, Use and Input-Output Tables
- GTAP - Global Trade Analysis Project
- IDE-JETRO - International Input-Output Tables

# World Input-Output Database

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## Data base



### **Release 2013:**

- World Input-Output Tables and underlying data, covering **40 countries**, and a model for the rest of the world for the period **1995-2011**. Data for **35 sectors** are classified according to the International Standard Industrial Classification revision 3 (ISIC Rev. 3). The tables adhere to the 1993 version of the SNA

### **Release 2016:**

- World Input-Output Tables and underlying data, covering **43 countries**, and a model for the rest of the world for the period **2000-2014**. Data for **56 sectors** are classified according to the International Standard Industrial Classification revision 4 (ISIC Rev. 4). The tables adhere to the 2008 version of the SNA

Link: <https://www.rug.nl/ggdc/valuechain/wiod/?lang=en>

# World Input-Output Database

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## **Release 2013**

### **Input-Output Tables:**

- World Input-Output Tables (World IO Tables)
- Deflated WIOTs in Previous Years' Prices (World IO Tables PYP)
- Regional aggregations (Regional IO Tables) of the WIOTs
- International Supply and Use Tables (International SUTs)
- National Supply and Use Tables (National SUTs)
- National SUTs (Input for SUTs)

\* WIOT tables are also available in **STATA** format and **MATLAB** format

# World Input-Output Database

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## **Release 2013**



### **Socio Economic Accounts:**

- Data on employment (number of workers and educational attainment), capital stocks, gross output and value added at current and constant prices at the industry level

### **Environmental Accounts:**

- Data on energy use, CO<sub>2</sub> emissions and emissions to air at the industry level
- Land use, materials use and water use

# World Input-Output Database

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## **Release 2016**

### **Input-Output Tables:**

- World Input-Output Tables (World IO Tables)
- Deflated WIOTs in Previous Years' Prices (World IO Tables PYP)
- Regional aggregations (Regional IO Tables) of the WIOTs
- International Supply and Use Tables (International SUTs)
- National Supply and Use Tables (National SUTs)
- National SUTs (Input for SUTs)

\* WIOT tables are also available in **STATA** format and **R** format

# World Input-Output Database

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## **Release 2016**



### **Socio Economic Accounts:**

- Data on employment, capital stocks, gross output and value added at current and constant prices at the industry level



### **Environmental Accounts (by European Commission):**

- Gross energy use, emission relevant energy use and CO2 emissions by 64 sectors and by households, for 12 energy commodities
- WIOD EAS

# World Input-Output Database

Schematic Outline of a World Input-Output Table (WIOT)

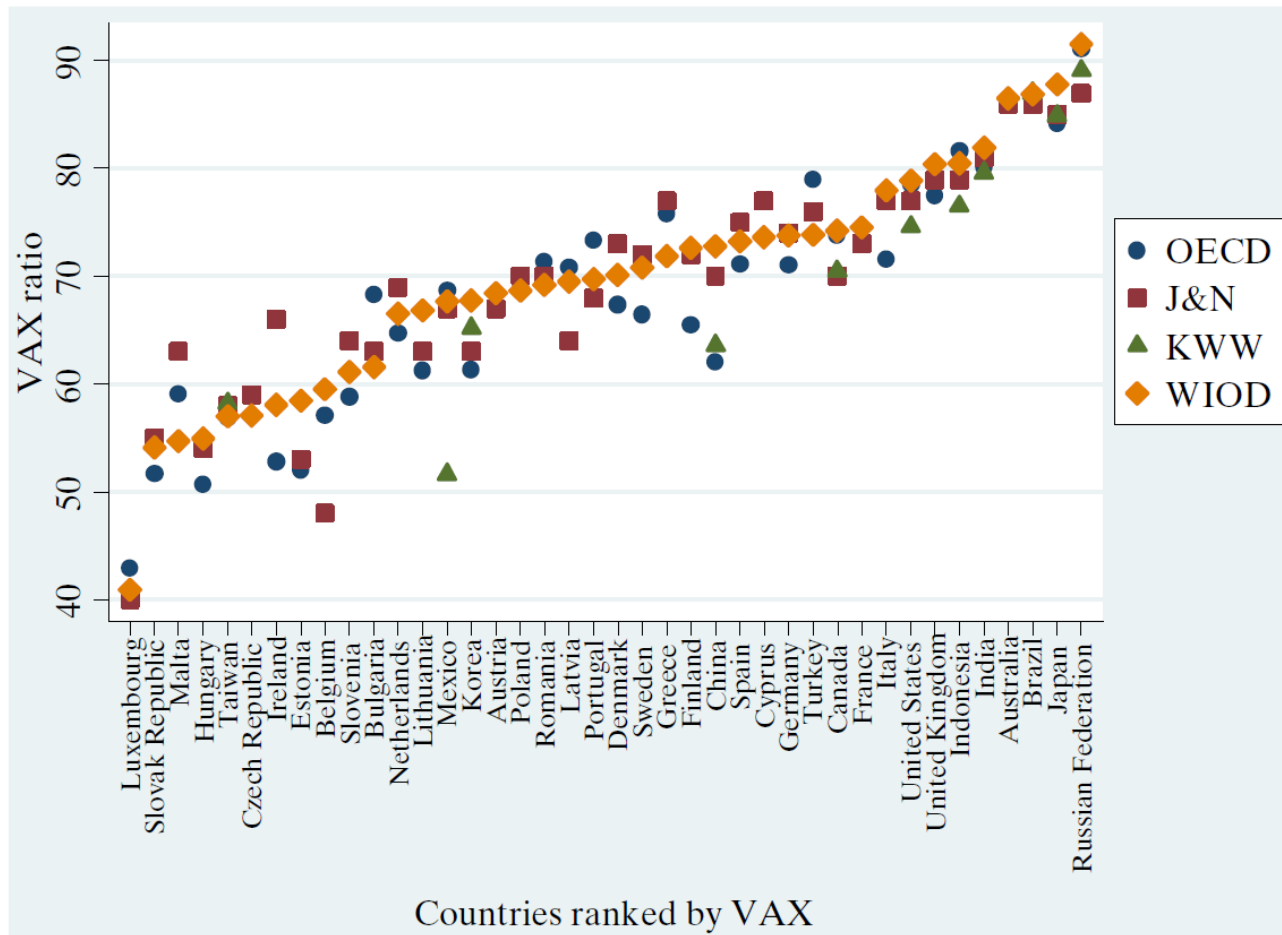
			Use by country-industries							Final use by countries			Total use
			Country 1			...	Country M			Country 1	...	Country M	
			Industry 1	...	Industry N	...	Industry 1	...	Industry N		...		
Supply from country-industries	Country 1	Industry 1											
		...											
		Industry N											
	.....												
	Country M	Industry 1											
		...											
		Industry N											
Value added by labour and capital													
Gross output													

Source: Timmer et al. (2015).



# World Input-Output Database

Domestic Value Added Exports Ratios in 2004 (%)

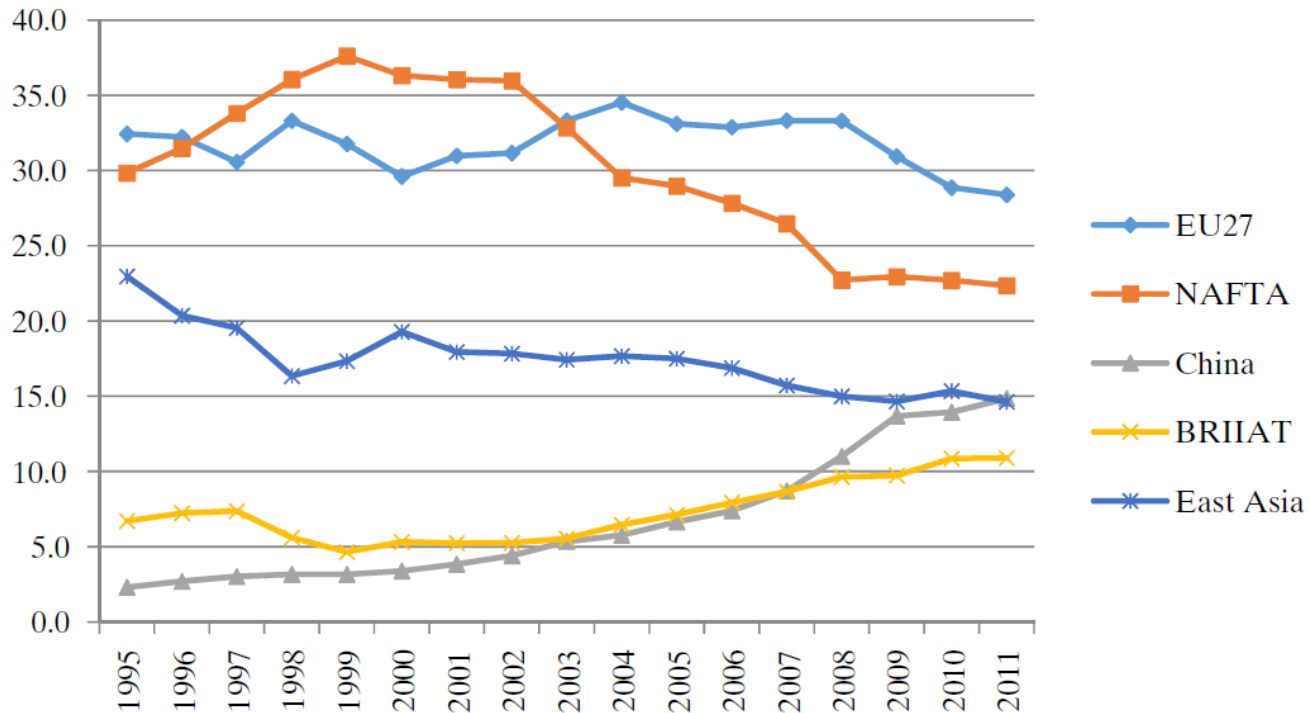


Source: Timmer et al. (2015).

OECD refers to numbers taken from OECD Trade-in-value-added (TiVA) database, July 2013 version. J&N refers to numbers in Johnson and Noguera (2012a) and KWW to Koopman et al. (2014). WIOD are authors' calculations based on the World Input-Output Database, November 2013 version.

# World Input-Output Database

GPC Income from Production of Automotives (as % of world)

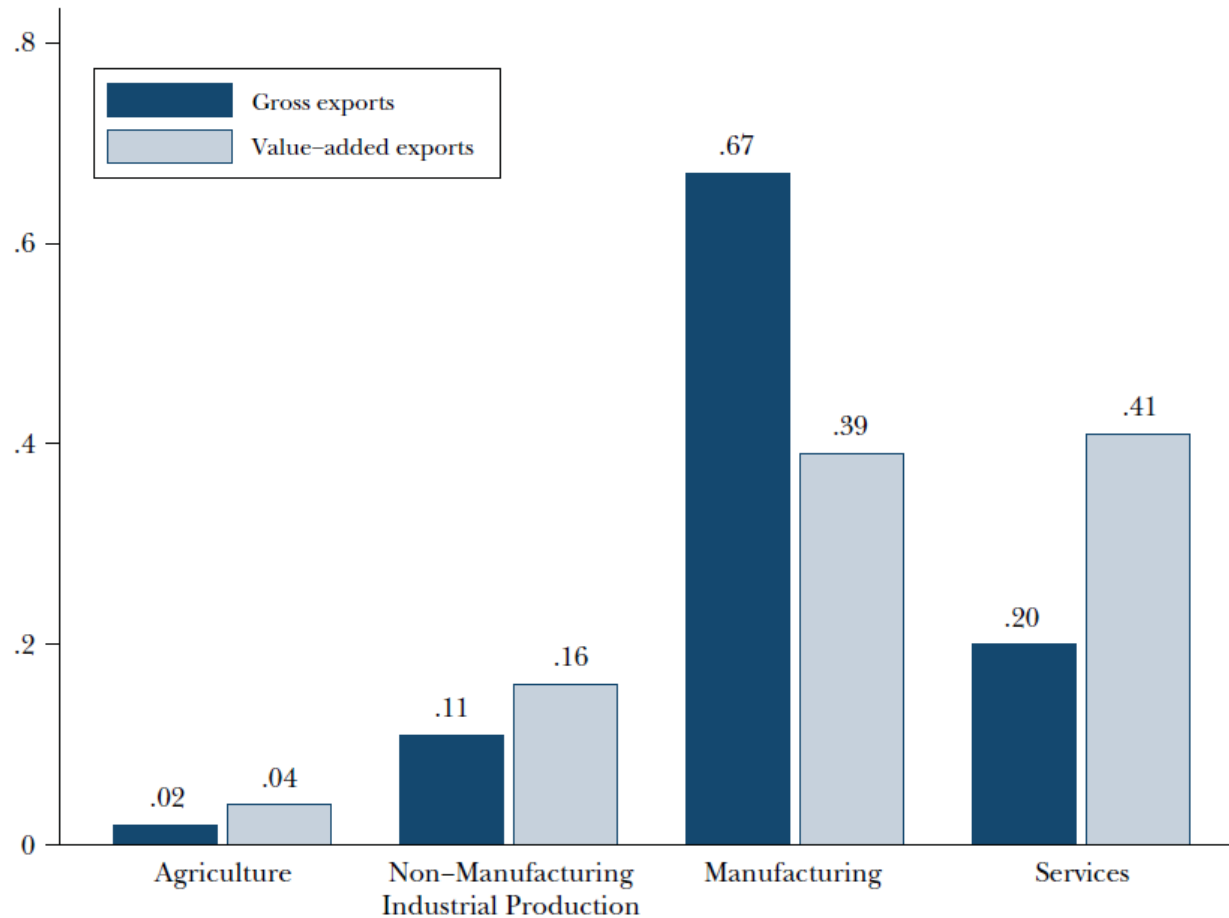


Source: Timmer et al. (2015).

Global Value Chain - a final good as the set of all value-adding activities needed in its production.

# World Input-Output Database

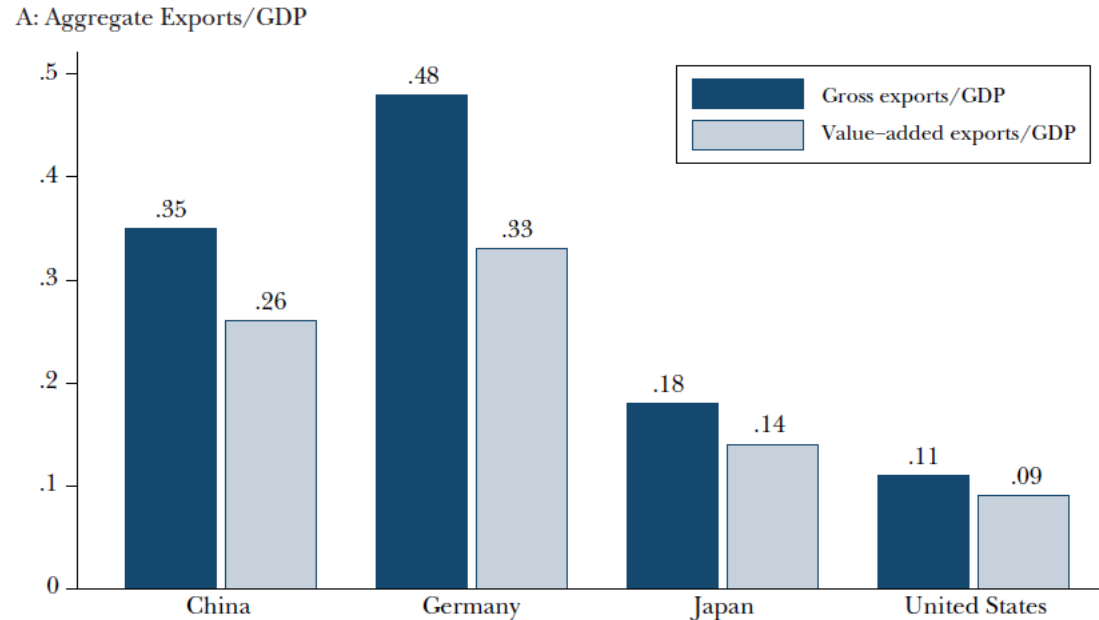
Sector Shares in Total World Value-Added and Gross Exports



Source: Johnson (2014).

# World Input-Output Database

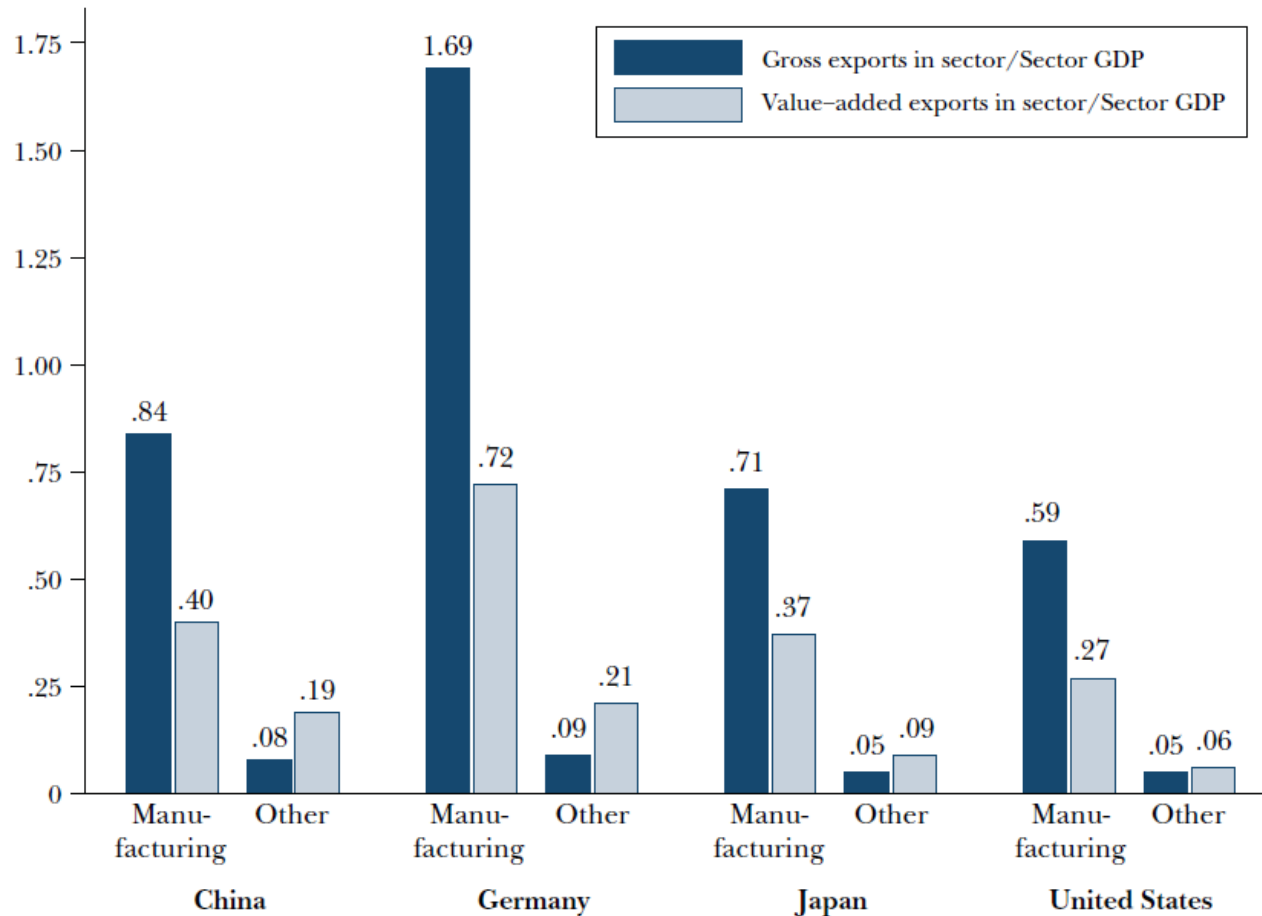
## Aggregate and Sector-Level Openness for Top Four Exporting Countries



Source: **Johnson (2014)**.

# World Input-Output Database

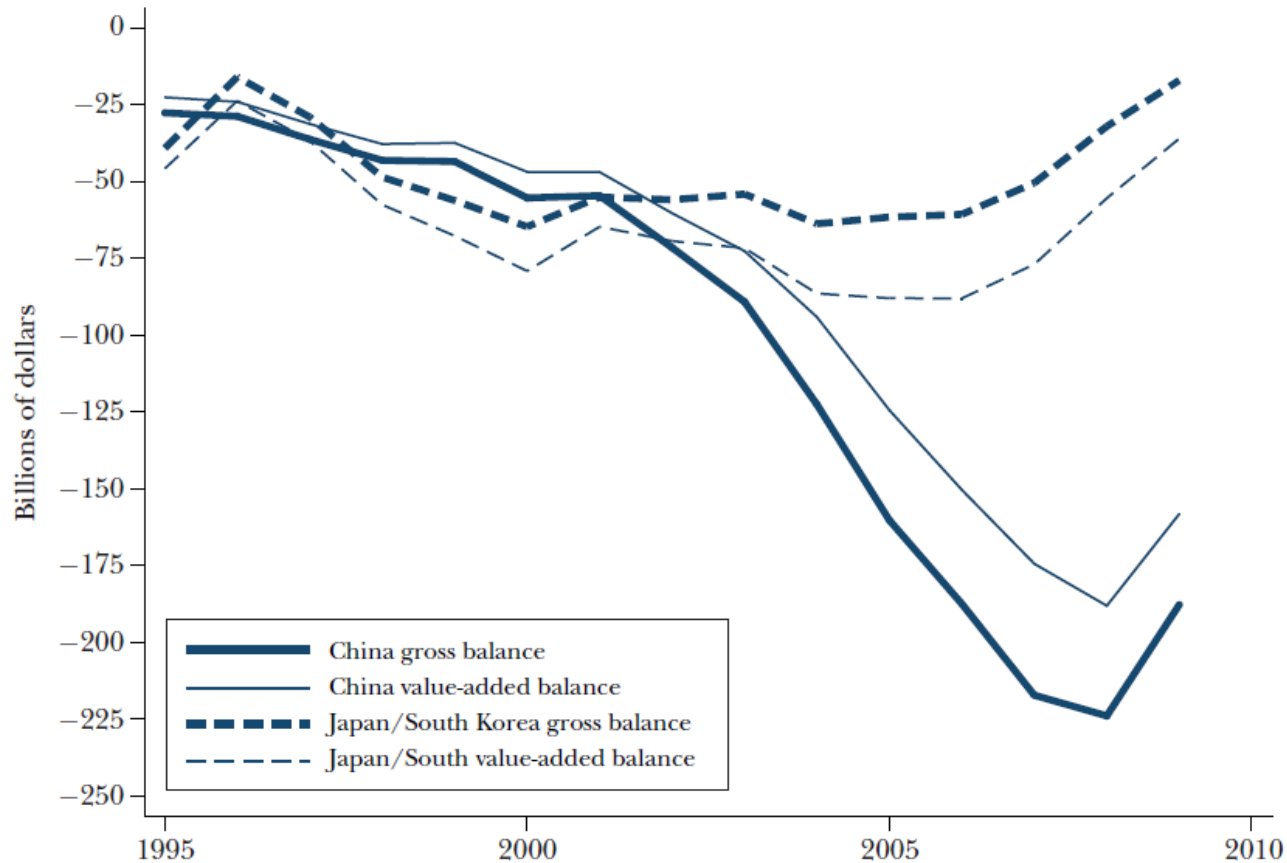
## Aggregate and Sector-Level Openness for Top Four Exporting Countries



Source: Johnson (2014).

# World Input-Output Database

United States Trade Deficits with China, Japan, and South Korea

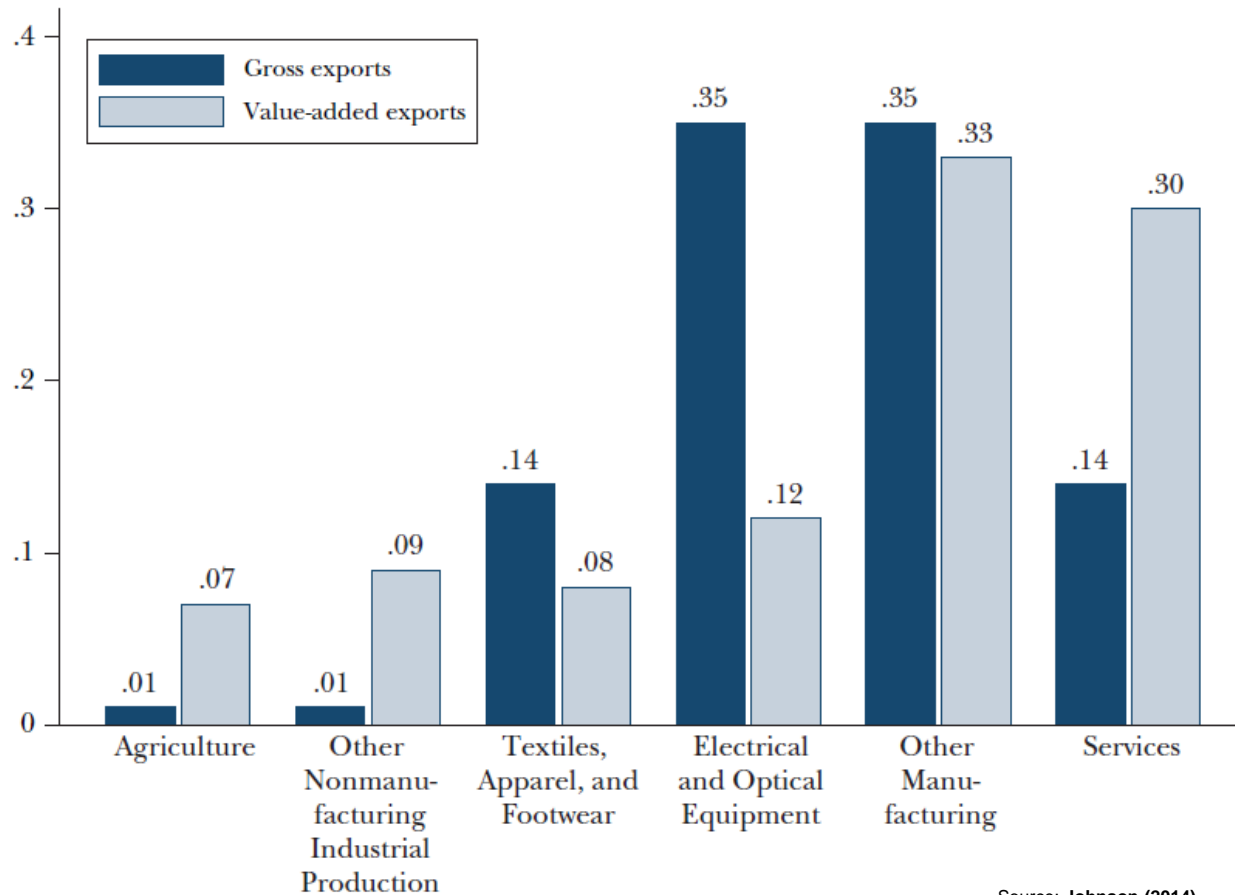


Source: Johnson (2014).

# World Input-Output Database

## Sector-Level Export Shares for China

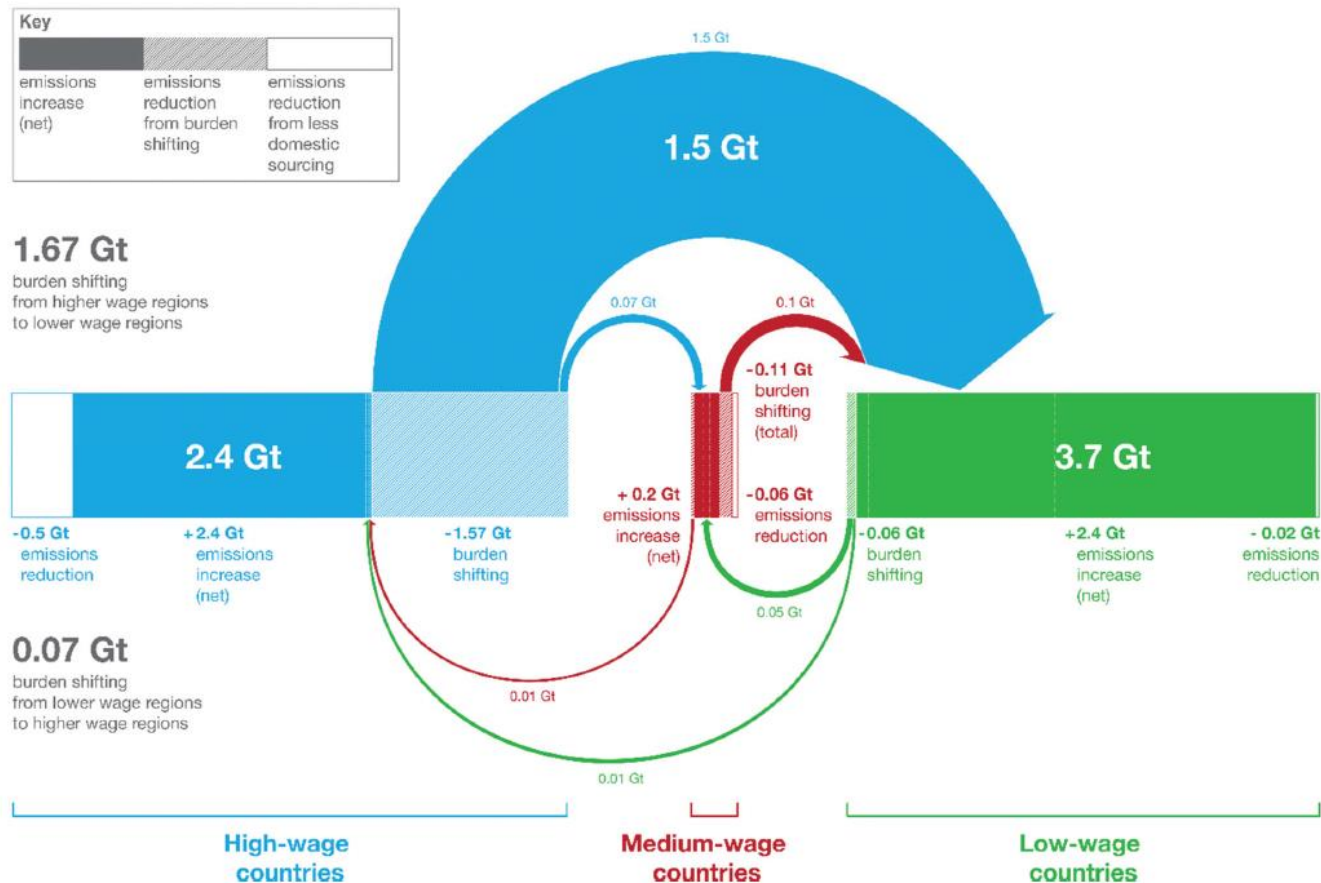
A: Export Shares, All Sectors



Source: Johnson (2014).

# World Input-Output Database

Changes in global CO<sub>2</sub>-emissions due to changes in variables in high-wage, medium-wage and low-wage countries and the sourcing effect, 1995–2007

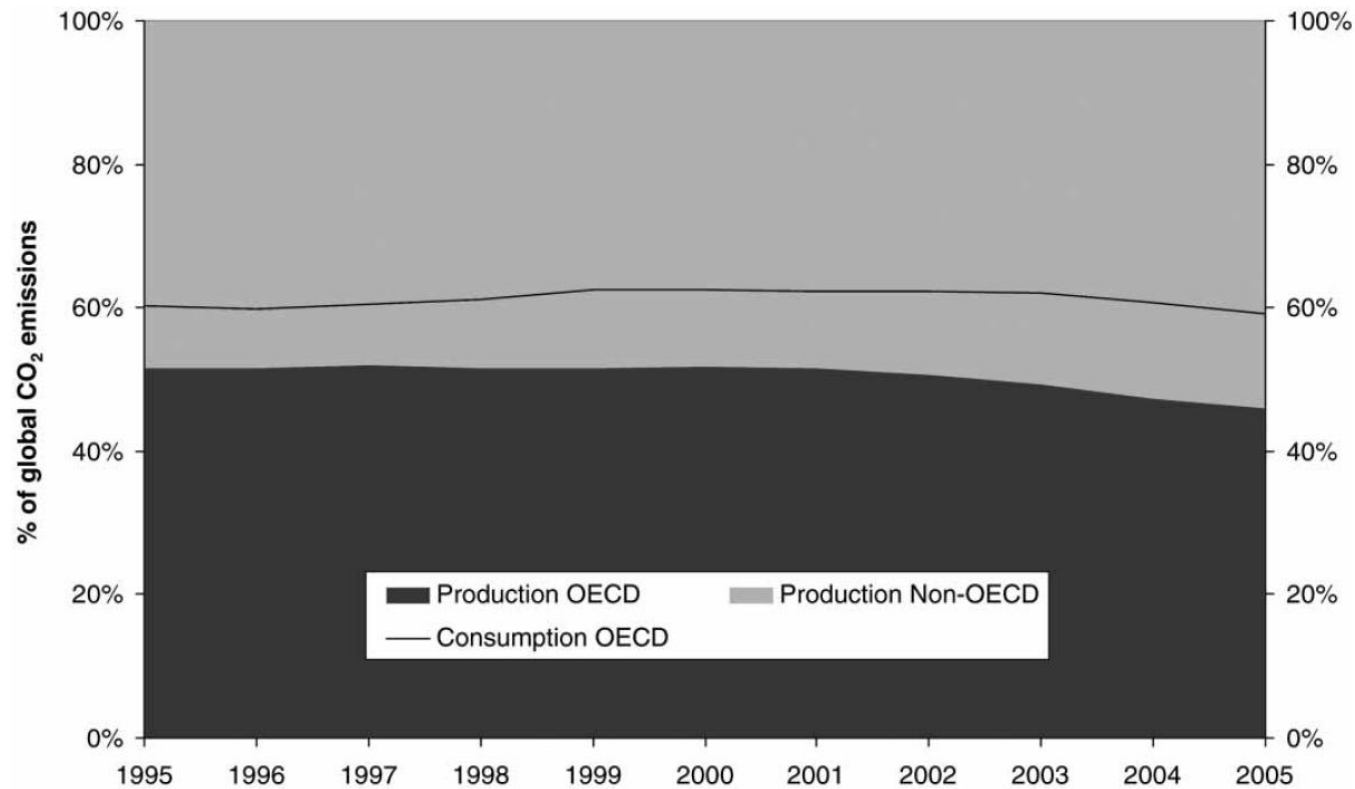


Source: Hoekstra et al. (2016).



# World Input-Output Database

Carbon production and consumption: OECD and Non-OECD



Source: Wiebe et al. (2012).

# OECD Databases

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## ICIO

- Inter-Country Input-Output Tables

## TiVA

- Trade in Value Added

## TECO2

- CO<sub>2</sub> Emissions Embodied in International Trade

## TiM

- Trade in Employment

Link: <https://www.oecd.org/sti/ind/inter-country-input-output-tables.htm>

# Inter-Country Input-Output Tables

## Data base



### **ICIO SNA93, ISIC REV.3:**

- Data are presented for **63 countries** (i.e. 35 OECD countries and 28 non-OECD economies), the Rest of the World and split tables for China and Mexico. Period: **1995-2011**. Industrial sectors: **34**

### **ICIO SNA08, ISIC REV.4:**

- Data are presented for **66 countries** (i.e. 36 OECD countries and 30 non-OECD economies), the Rest of the World and split tables for China and Mexico. Period: **1995-2018**. Industrial sectors: **45**

# Inter-Country Input-Output Tables

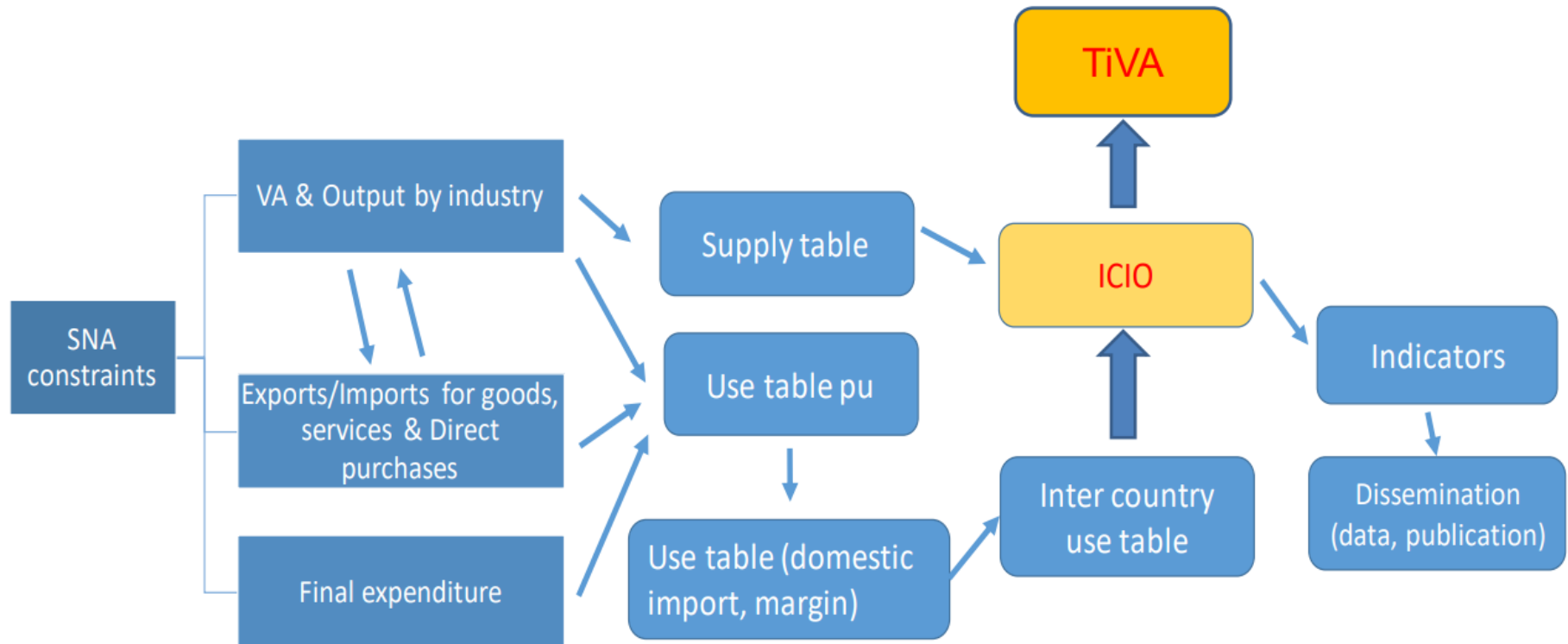


## Development flows of ICIO

1. Collection of data sources
2. Estimation of harmonized constraints
  - ✓ Output and value added by industry
  - ✓ Trade flows by product (partner world)
3. Estimation of harmonized SUTs (filling gaps)
  - ✓ Domestic and import tables
4. Bilateral trade data in goods and services
5. Domestic Input-Output (IO)
6. International use table (product-by-industry)
7. Inter-Country Input-Output (ind-by-ind)
8. Estimation of indicators

# Inter-Country Input-Output Tables

## Development flows of ICIO



# Inter-Country Input-Output Tables

Table A A.1. Country coverage

N.	Code	Country	N.	Code	Country
1	AUS	Australia	39	ARG	Argentina
2	AUT	Austria	40	BRA	Brazil
3	BEL	Belgium	41	BRN	Brunei Darussalam
4	CAN	Canada	42	BGR	Bulgaria
5	CHL	Chile	43	KHM	Cambodia
6	COL	Colombia	44	CHN	China (People's Republic of)
7	CRI	Costa Rica	45	HRV	Croatia
8	CZE	Czech Republic	46	CYP	Cyprus <sup>2</sup>
9	DNK	Denmark	47	IND	India
10	EST	Estonia	48	IDN	Indonesia
11	FIN	Finland	49	HKG	Hong Kong, China
12	FRA	France	50	KAZ	Kazakhstan
13	DEU	Germany	51	LAO	Lao People's Democratic Rep.
14	GRC	Greece	52	MYS	Malaysia
15	HUN	Hungary	53	MLT	Malta
16	ISL	Iceland	54	MAR	Morocco
17	IRL	Ireland	55	MMR	Myanmar
18	ISR	Israel <sup>1</sup>	56	PER	Peru
19	ITA	Italy	57	PHL	Philippines
20	JPN	Japan	58	ROU	Romania
21	KOR	Korea	59	RUS	Russian Federation
22	LVA	Latvia	60	SAU	Saudi Arabia
23	LTU	Lithuania	61	SGP	Singapore
24	LUX	Luxembourg	62	ZAF	South Africa
25	MEX	Mexico	63	TWN	Chinese Taipei
26	NLD	Netherlands	64	THA	Thailand
27	NZL	New Zealand	65	TUN	Tunisia
28	NOR	Norway	66	VNM	Viet Nam
29	POL	Poland	67	ROW	Rest of the World
30	PRT	Portugal			
31	SVK	Slovak Republic			
32	SVN	Slovenia			
33	ESP	Spain			
34	SWE	Sweden			
35	CHE	Switzerland			
36	TUR	Turkey			
37	GBR	United Kingdom			
38	USA	United States			
OECD countries (as of 25 May 2021)					

# Inter-Country Input-Output Tables



## 2021 Edition

Published ICIO tables include 66 economies + “Rest of the World”

The shares\* of sum of 66 economies in the world economy for 2018 are:

GDP: 93.0%

Exports: 92.0%

Imports: 89.8%

Population: 71.3%

\* National Accounts, current prices

OECD	All 38 <a href="#">OECD countries</a>
Other G20	Argentina, Brazil, China PR, India, Indonesia, Russian Federation, Saudi Arabia, South Africa
Other European Union	Other EU members (5)
Other South Eastern Asia	Other ASEAN members (9)
Other Eastern Asia	Chinese Taipei, Hong Kong China
Other	Kazakhstan, Morocco, Peru, Tunisia, Rest of the World
Region groups	OECD, Non-OECD, APEC, ASEAN, Eastern Asia, EU27, Euro Area, North America, etc.

# Inter-Country Input-Output Tables

Table A A.3. Industry coverage

Code	Industry	ISIC Rev.4 Divisions	ISIC Rev.4 Sections
1 D01T02	Agriculture, hunting, forestry	01, 02	A
2 D03	Fishing and aquaculture	03	
3 D05T06	Mining and quarrying, energy producing products	05, 06	B
4 D07T08	Mining and quarrying, non-energy producing products	07, 08	
5 D09	Mining support service activities	09	C
6 D10T12	Food products, beverages and tobacco	10, 11, 12	
7 D13T15	Textiles, textile products, leather and footwear	13, 14, 15	
8 D16	Wood and products of wood and cork	16	
9 D17T18	Paper products and printing	17, 18	
10 D19	Coke and refined petroleum products	19	
11 D20	Chemical and chemical products	20	
12 D21	Pharmaceuticals, medicinal chemical and botanical products	21	
13 D22	Rubber and plastics products	22	
14 D23	Other non-metallic mineral products	23	
15 D24	Basic metals	24	
16 D25	Fabricated metal products	25	
17 D26	Computer, electronic and optical equipment	26	
18 D27	Electrical equipment	27	
19 D28	Machinery and equipment, nec	28	
20 D29	Motor vehicles, trailers and semi-trailers	29	D
21 D30	Other transport equipment	30	
22 D31T33	Manufacturing nec; repair and installation of machinery and equipment	31, 32, 33	E
23 D35	Electricity, gas, steam and air conditioning supply	35	
24 D36T39	Water supply; sewerage, waste management and remediation activities	36, 37, 38, 39	F
25 D41T43	Construction	41, 42, 43	
26 D45T47	Wholesale and retail trade; repair of motor vehicles	45, 46, 47	G
27 D49	Land transport and transport via pipelines	49	
28 D50	Water transport	50	H
29 D51	Air transport	51	
30 D52	Warehousing and support activities for transportation	52	I
31 D53	Postal and courier activities	53	
32 D55T56	Accommodation and food service activities	55, 56	J
33 D58T60	Publishing, audiovisual and broadcasting activities	58, 59, 60	
34 D61	Telecommunications	61	K
35 D62T63	IT and other information services	62, 63	
36 D64T66	Financial and insurance activities	64, 65, 66	L
37 D68	Real estate activities	68	
38 D69T75	Professional, scientific and technical activities	69 to 75	M
39 D77T82	Administrative and support services	77 to 82	
40 D84	Public administration and defence; compulsory social security	84	N
41 D85	Education	85	
42 D86T88	Human health and social work activities	86, 87, 88	O
43 D90T93	Arts, entertainment and recreation	90, 91, 92, 93	
44 D94T96	Other service activities	94, 95, 96	P
45 D97T98	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	97, 98	

Agriculture

Mining and quarrying

Manufacturing

Business sector services

Public admin, education, health and other personal services





# Inter-Country Input-Output Tables

OECD, Inter-Country Input-Output (ICIO) Tables, 2021 edition

current million USD

		Intermediate use at basic prices	Final Demand						Output at basic prices
		ctry 1 x indy 1 [...] ctry 71 x indy 45	Country 1		[...]	Country 67			
			HFCE	NPISH	GGFC	GFCF	INVNT	DPABR	
Country 1	Industry 1	(Z)	(FD)	[...]	(FD)				(X)
	...								
	Industry 45								
	Country 2								
	...								
	Industry 45								
...									
Country 71									
...									
Industry 1									
...									
Industry 45									
Taxes less subsidies on intermediate and final products	paid by country 1	(TLS)	[TLS]	[...]	[TLS]				
	paid by country 2								
	[...]								
	paid by country 67								
Value added at basic prices		(VA)							
Output at basic prices		(X)							

71 economies x 45 industries = 3195 sectors

## One year per CSV file

Z  
TLS  
VA  
X  
FD

## Description

Intermediate use at basic prices  
Taxes less subsidies on intermediate and final products  
Value added at basic prices  
Output at basic prices  
Total final demand

## Dimension

(3195 origin sectors x 3195 destination sectors)  
(67 economies x 3195 industries)  
(1 row x 3195 industries)  
(1 row x 3195 industries)  
(3195 origin sectors x (67 economies x 6 demand items) )

# Inter-Country Input-Output Tables



## How to access

- ✓ ICIO website. <http://oe.cd/icio>
- ✓ National I-O website. <http://oe.cd/i-o>
- ✓ OECD.STAT Data portal. <https://stats.oecd.org>
- ✓ xlsx and RData format with sample codes available by request:  
CIOTiVA.Contact@oecd.org

# Inter-Country Input-Output Tables



## 2021 ICIO TABLES IN CSV FORMAT

- [Read Me](#)

*Note: In case of issue when downloading, right-click and select "save as".*

[from 1995 to 1999](#)

[from 2000 to 2004](#)

[from 2005 to 2009](#)

[from 2010 to 2014](#)

[from 2015 to 2018](#)

## 2021 ICIO TABLES IN RDATA FORMAT

- [Read Me](#)

*Note: In case of issue when downloading, right-click and select "save as".*

The R objects include the following:

- Intermediate use
- Final demand
- Households final consumption expenditure
- Non-profit institutions serving households
- General government final consumption
- Gross fixed capital formation
- Change in inventories and valuables
- Direct purchases by non-residents
- Value added
- Output

[ICIO-RData](#)

[ICIO-econA](#)


[ICIO-econB](#)

[ICIO-econVB](#)

[ICIO-econZ](#)

<https://www.oecd.org/sti/ind/inter-country-input-output-tables.htm>

# Inter-Country Input-Output Tables

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT  **OECD.Stat**

**Data by theme** Popular queries

Find in Themes

Industry and Services

- Enterprise Statistics
- Industry and Service Statistics (MEI)
- Structural Analysis (STAN) Databases
  - STAN Database for Structural Analysis (SDCA SHARE)
  - STAN Indicators for structural analysis
  - STAN: Bilateral Trade by Industry and Enterprise
  - Input-Output Database
    - IOTS 2021: Input-Output Tables**
    - IOTS 2015: Trade in employment
    - IOTS 2015: Trade in value
  - STAN Archives
- Services Trade Restrictions
- Steel
- Tourism

**Input-Output Tables (IOTS) 2021 ed.**

Customise Export My Queries

Excel  
Text file (CSV)  
PC-axis  
SDMX (XML)  
Related files

Variable  
Country  
Time  
Unit

To industry / sector

From industry / sector

001T02 Agriculture, hunting, forestry  
003 Fishing and aquaculture  
005T06 Mining and quarrying, energy producing products  
007T06 Mining and quarrying, non-energy producing products  
009 Mining support and service activities

9 832 700 1 107 500 54 500 130 400 4 500 21 023 100 781 900 1 229 400 9 100 11 300 83 800 120 300 248 400 15 400 7 000 11 700 1 900 1 600 3 700 2 700 5 500 10 700 15 400

530 600 136 200 14 700 14 000 1 800 2 202 700 52 200 0 600 1 700 1 800 3 400 5 300 12 300 2 100 1 100 2 200 0 500 0 500 1 000 0 800 1 900 6 700 2 400

191 700 13 300 2 739 500 1 896 300 33 000 856 900 18 600 140 800 394 700 6 842 200 2 730 800 105 100 301 200 647 800 3 851 200 335 600 11 200 10 900 32 700 17 100 64 900 32 800 6 732 000

102 900 12 000 341 300 7 443 500 51 700 195 200 7 800 23 600 30 600 21 200 264 000 154 900 25 500 1 742 700 25 673 100 76 400 10 200 9 000 20 000 10 700 21 600 62 200 229 200

Data extracted on 20 Sep 2022 10:11 UTC (GMT) from OECD.Stat
















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**Ready-made files**

Download Files: Input-Output Tables (IOTS) 2021 ed.

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Name	File type	File name	File size (KB)	Date updated (dd-mm-yyyy)
IOTS: Geographical coverage		IOT_Country.pdf	275	12/11/2021
TES: Couverture géographique		TES_Pays.pdf	343	12/11/2021
IOTS: Industries & Sectors		IOT_Industry_Sector.pdf	108	12/11/2021
TES: Branches d'activité & Secteurs		TES_Branches_activité_Secteur.pdf	24	12/11/2021
IOTS 1.XLS / TES 1.XLS		IOTs_xls_1.ICESHARE.zip	389	24/03/2022
IOTS 2.XLS / TES 2.XLS		IOTs_xls_2.natDOMIMP.zip	36516	24/03/2022
IOTS 3.XLS / TES 3.XLS		IOTs_xls_3.natTTL.zip	20550	24/03/2022
IOTS 4.XLS / TES 4.XLS		IOTs_xls_4.natLEONTFD.zip	12033	24/03/2022
IOTS 5.XLS / TES 5.XLS		IOTs_xls_5.natLEONTFT.zip	12508	24/03/2022
IOTS 1.CSV / TES 1.CSV		IOTs_csv_1.ICESHARE.zip	663	24/03/2022
IOTS 2.CSV / TES 2.CSV		IOTs_csv_2.natDOMIMP.zip	13062	24/03/2022
IOTS 3.CSV / TES 3.CSV		IOTs_csv_3.natTTL.zip	8409	24/03/2022
IOTS 4.CSV / TES 4.CSV		IOTs_csv_4.natLEONTFD.zip	5855	24/03/2022
IOTS 5.CSV / TES 5.CSV		IOTs_csv_5.natLEONTFT.zip	6471	24/03/2022
IOTS 1.XLS / TES 1.XLS		IOTs_P_Altdata.zip	22049	24/03/2022

# Trade in Value Added (TiVA)

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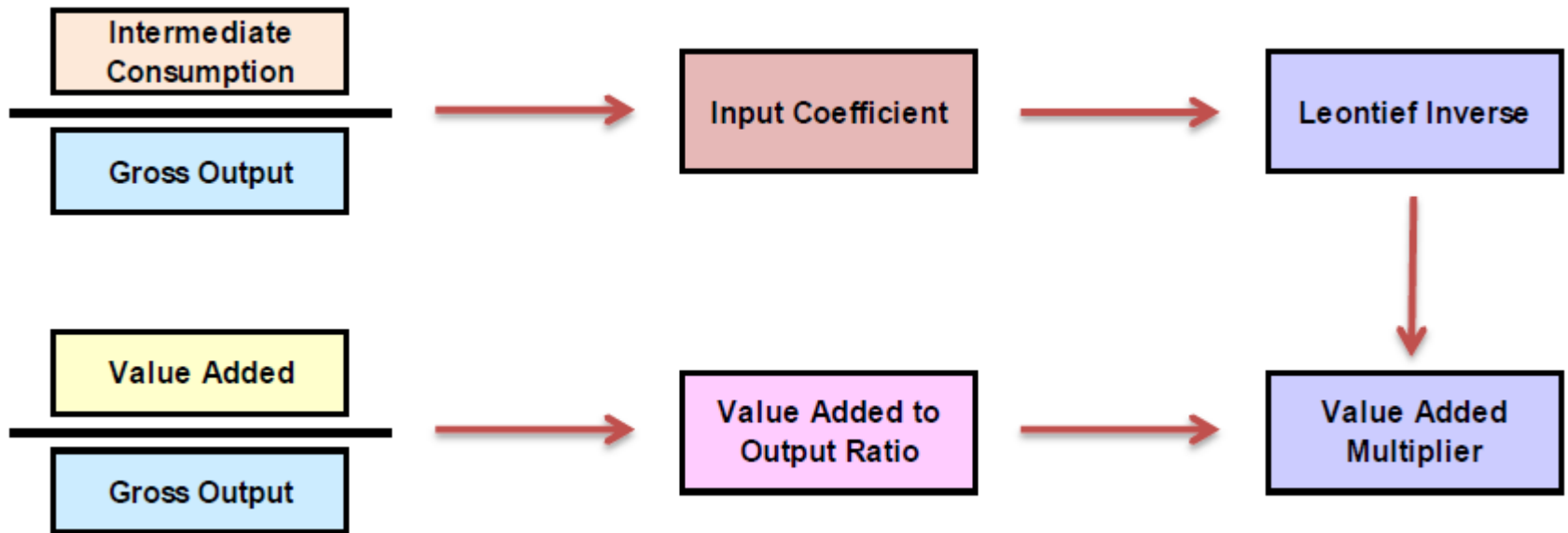
TiVA indicators are designed to better inform policy makers by providing new insights into the commercial relations between nations

The indicators are expressed in USD millions at current prices, in case of values, or in percent, in case of shares

Total of 50+ indicators:

- Structural indicators
- Indicators linking VA and gross exports
- Indicators linking VA and final demand
- Detailed indicators for gross exports, gross imports and final demand

# Trade in Value Added (TiVA)



# Trade in Value Added (TiVA)

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Data presented in the TiVA database provide insights into:

- Domestic and foreign value added content of gross exports by exporting industry
- Services content of gross exports by exporting industry, by type of service and value added origin
- Participation in global value chains (GVCs) via intermediate imports embodied in exports (backward linkages) and domestic value added in partners' exports and final demand (forward linkages)
- Global orientation' of industrial activity, i.e. share of industry valued added that meets foreign final demand
- Country and industry origins of value added in final demand, including the origin of value added in final consumption (by households and government) and in GFCF (investment by businesses)
- Bilateral trade relationships based on flows of value added embodied in domestic final demand
- Inter-regional and intra-regional relationships
- Domestic value added content of imports

# Trade in eEmployment

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## **Employment and Global Value Chains (GVCs)**

The **Trade in eEmployment** (TiM) Database presents indicators of employment by industry, consistent with output and value added in the TiVA database, for all OECD, European Union and G20 countries

In addition, indicators based on compensation of employees are provided for all TiVA target countries

All 36 TiVA industries are covered for the time-period 2005-2015



# Carbon dioxide emissions embodied in international trade

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The **Trade in Embodied CO<sub>2</sub>** (TECO<sub>2</sub>) database presents a set of indicators to reveal patterns of CO<sub>2</sub> demand compared to CO<sub>2</sub> production (via resident industry or household emissions).

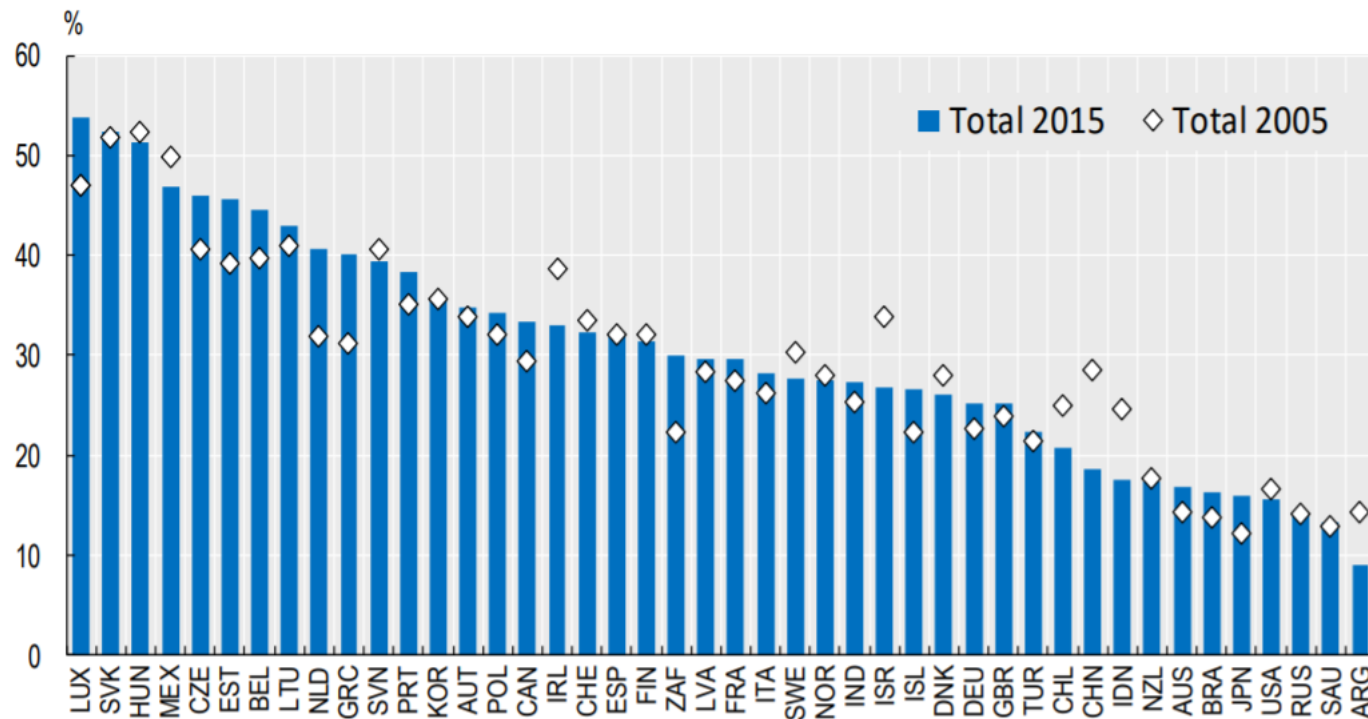
The aim is to provide policy makers with new insights into the environmental impacts of global production systems.

Indicators presented in TECO<sub>2</sub> database include:

- CO<sub>2</sub> emissions based on production (i.e. emitted by countries)
- CO<sub>2</sub> emissions embodied in domestic final demand (i.e. consumed by countries)
- Net exports of CO<sub>2</sub> emissions
- Per capita emissions; production and demand-based
- Country origin of emissions in final demand

# Inter-Country Input-Output Tables

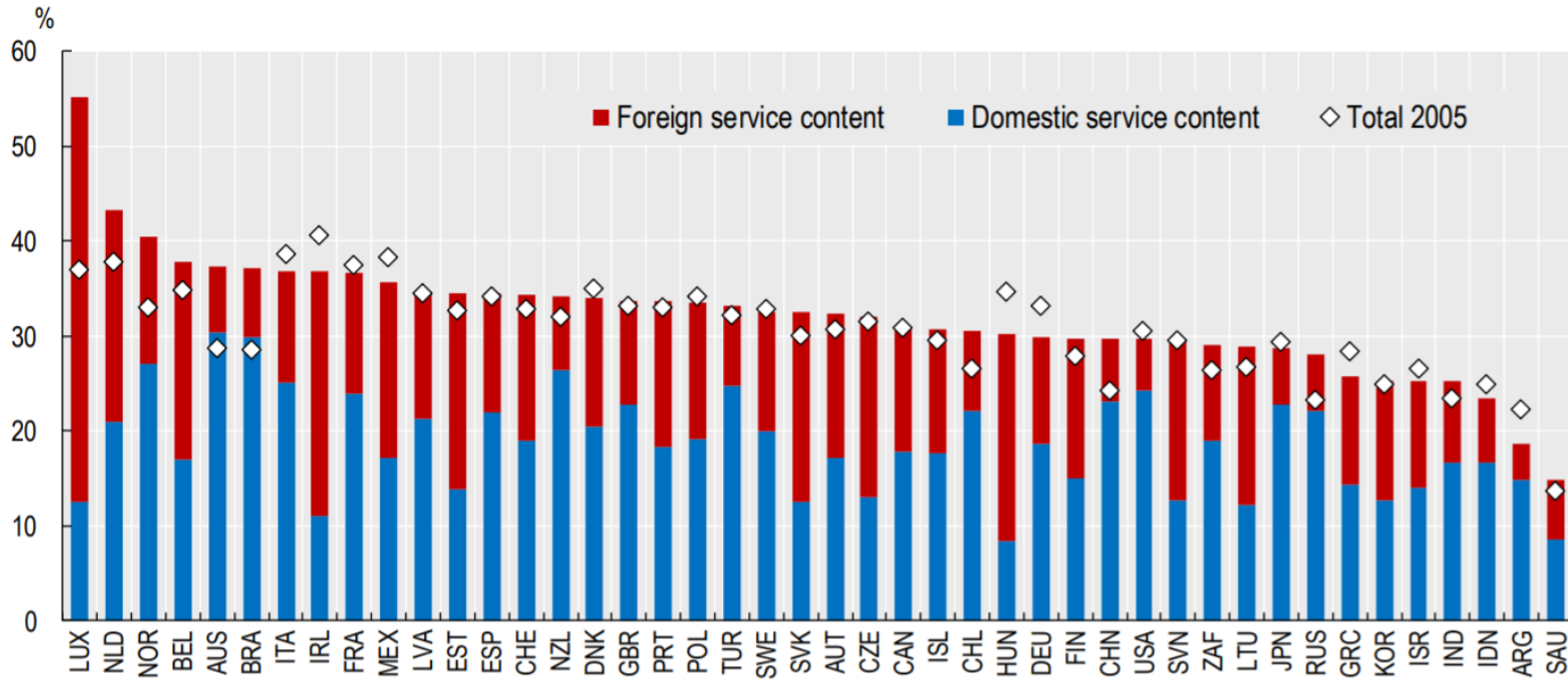
Foreign value-added share of manufactured exports



Source: OECD (2018).

# Inter-Country Input-Output Tables

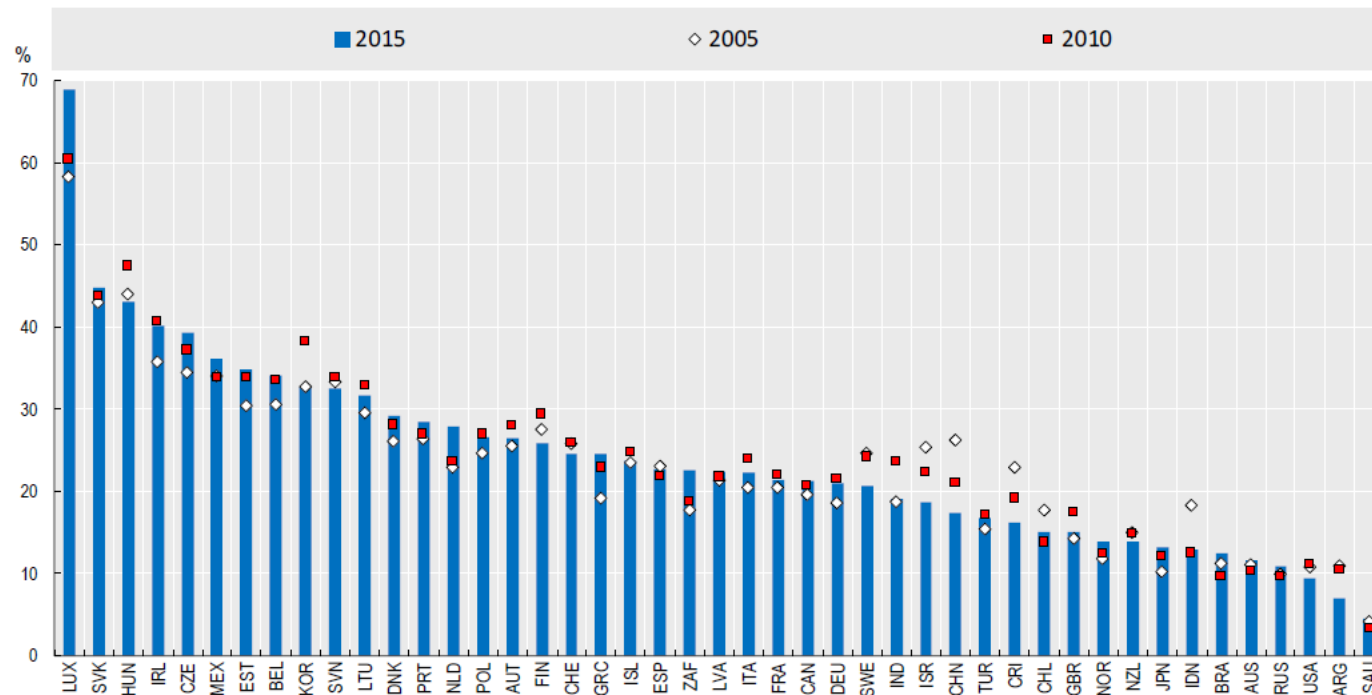
Services value-added embodied in manufacturing exports, 2015



Source: OECD (2018).

# Inter-Country Input-Output Tables

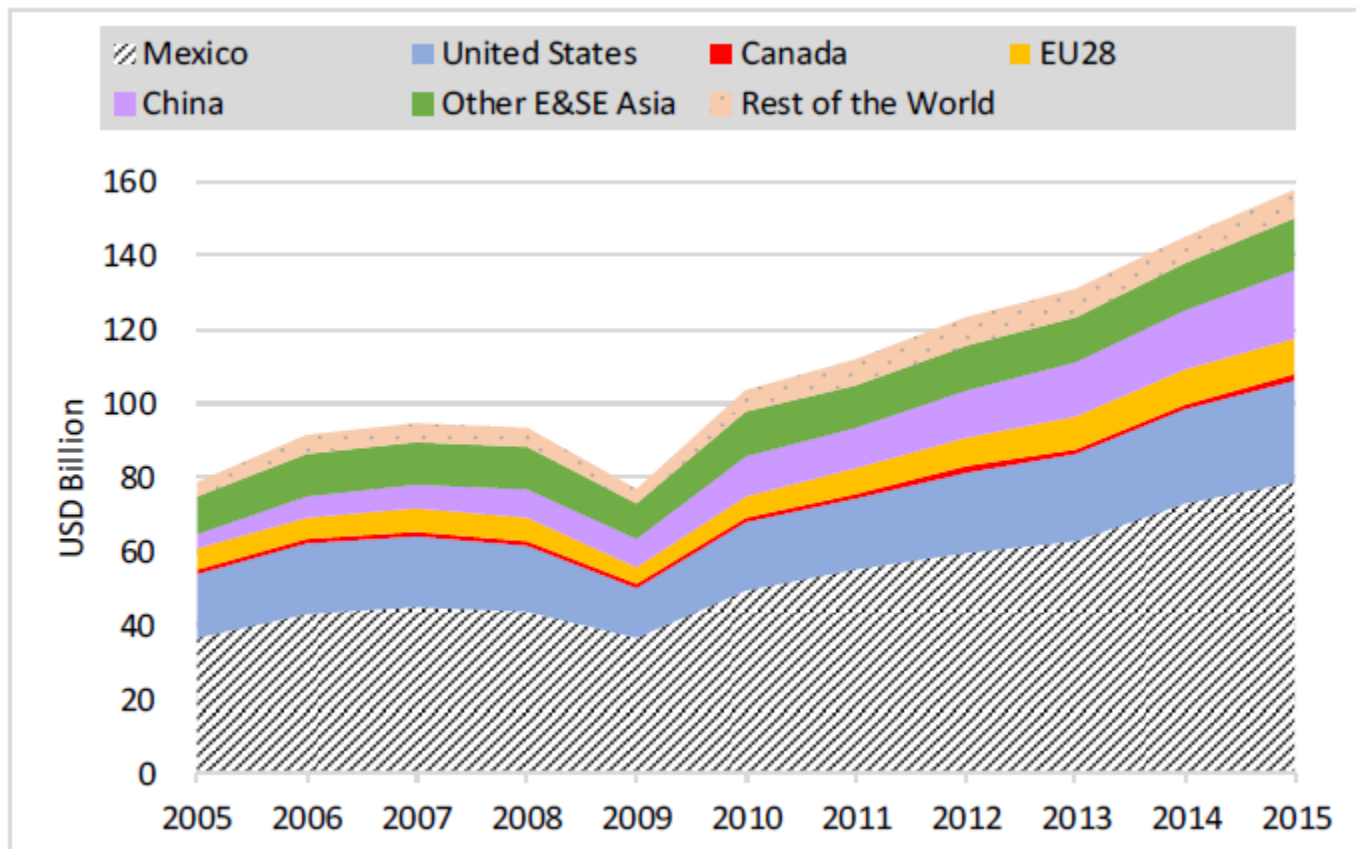
Foreign value added share of total gross exports, as a percentage of total gross



Source: Guilhoto et al. (2019).

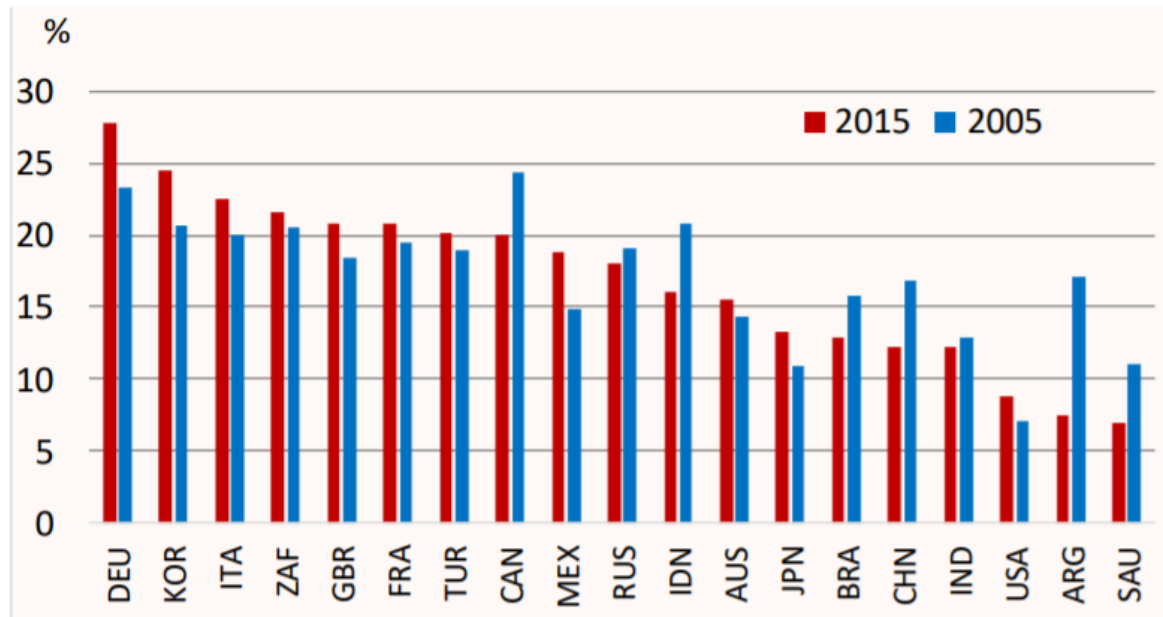
# Inter-Country Input-Output Tables

Trade in Value Added (TiVA):  
US imports of “electronics, machinery and transport equipment” from Mexico, 2005 to 2015  
(by country or region of value added origin)



# Inter-Country Input-Output Tables

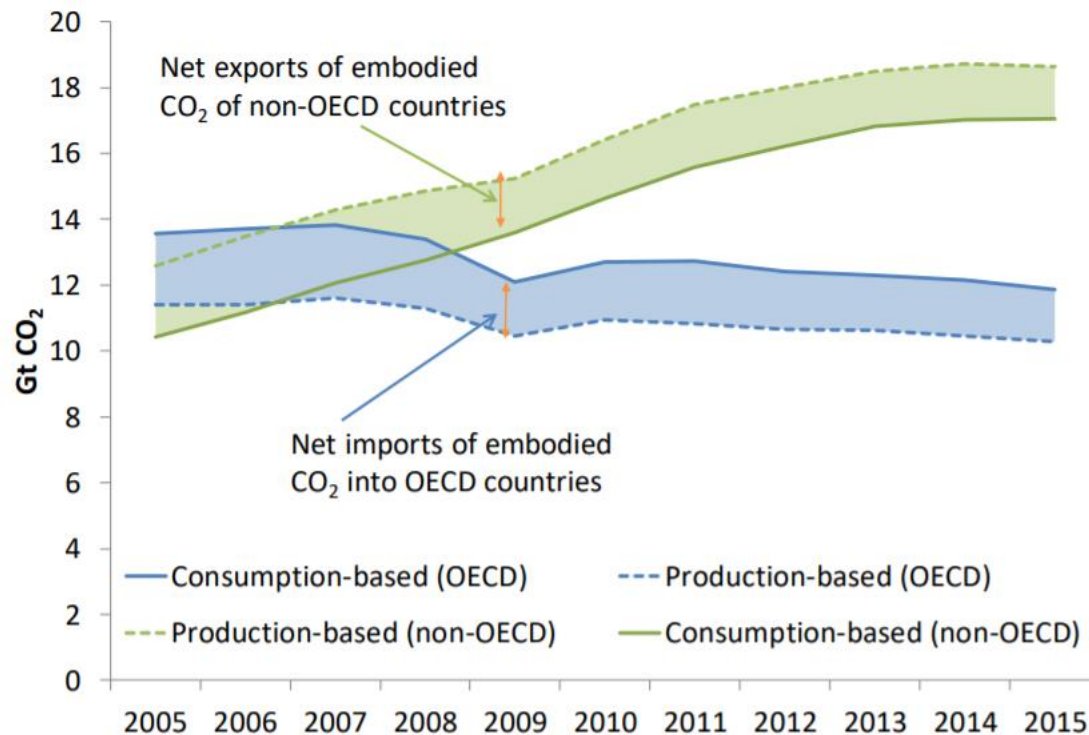
Employment sustained by foreign final demand  
As a percentage of total employment



Source: OECD (2018).

# Inter-Country Input-Output Tables

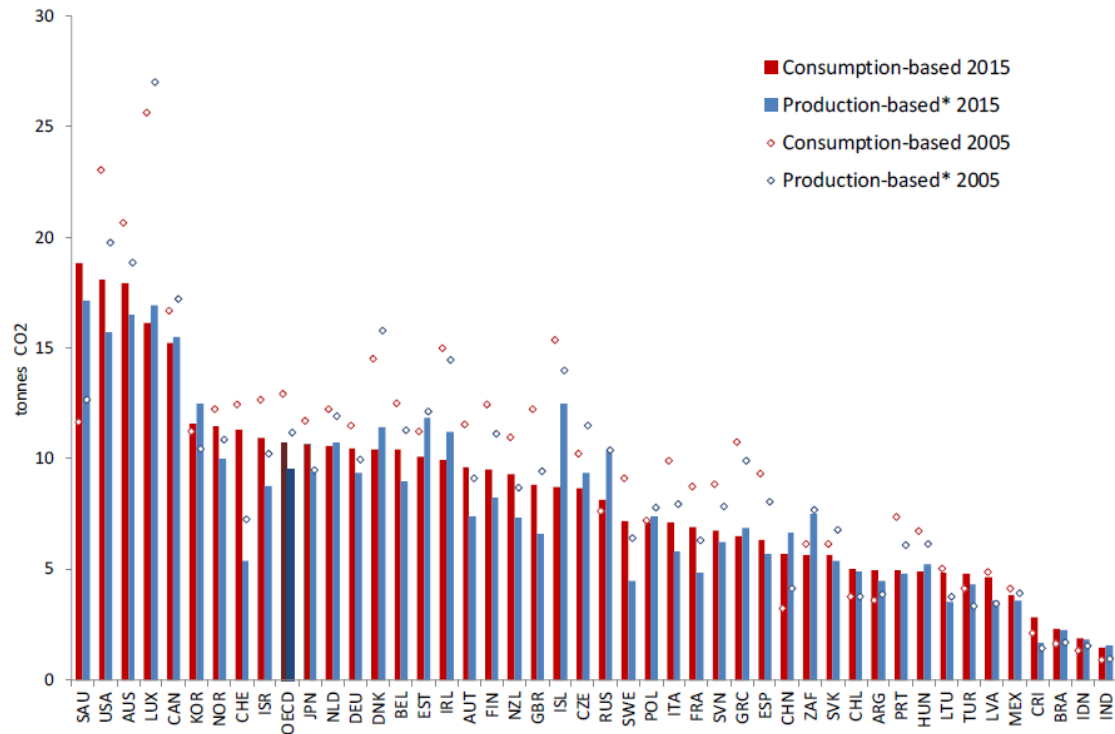
CO<sub>2</sub> emissions from fuel combustion (OECD and non-OECD countries), demand-based and production-based



Source: OECD (2018).

# Inter-Country Input-Output Tables

Per capita CO2 emissions from fuel combustion, consumption-based and production based (tonnes CO2)

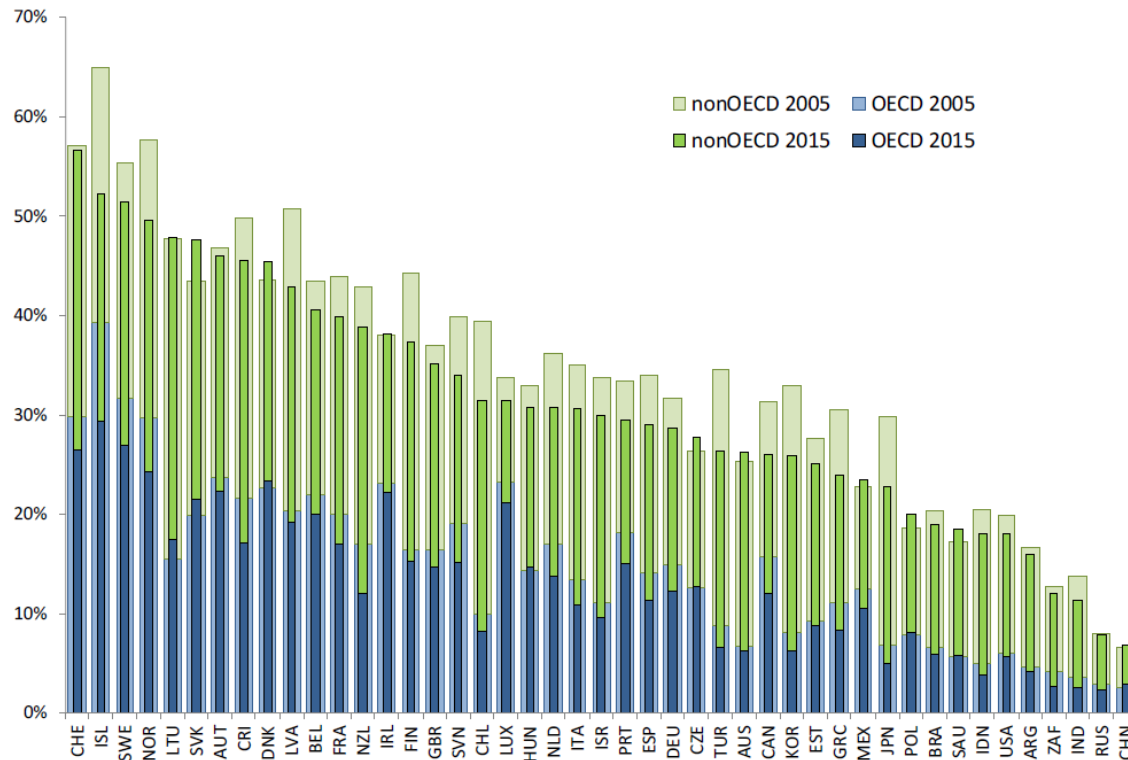


Source: Guilhoto et al. (2019).



# Inter-Country Input-Output Tables

Share of CO2 emitted abroad in total CO2 embodied in domestic final demand



Source: Guilhoto et al. (2019).

# EORA – Multi-Region Input-Output (MRIO)

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## The Eora Global Supply Chain Database (EORA)

The Eora global supply chain database consists of a **multi-region input-output table** (MRIO) model that provides a time series of high-resolution IO tables with matching **environmental** and **social satellite accounts** for **190 countries**

Link: <https://worldmrio.com/>

# EORA – Multi-Region Input-Output (MRIO)

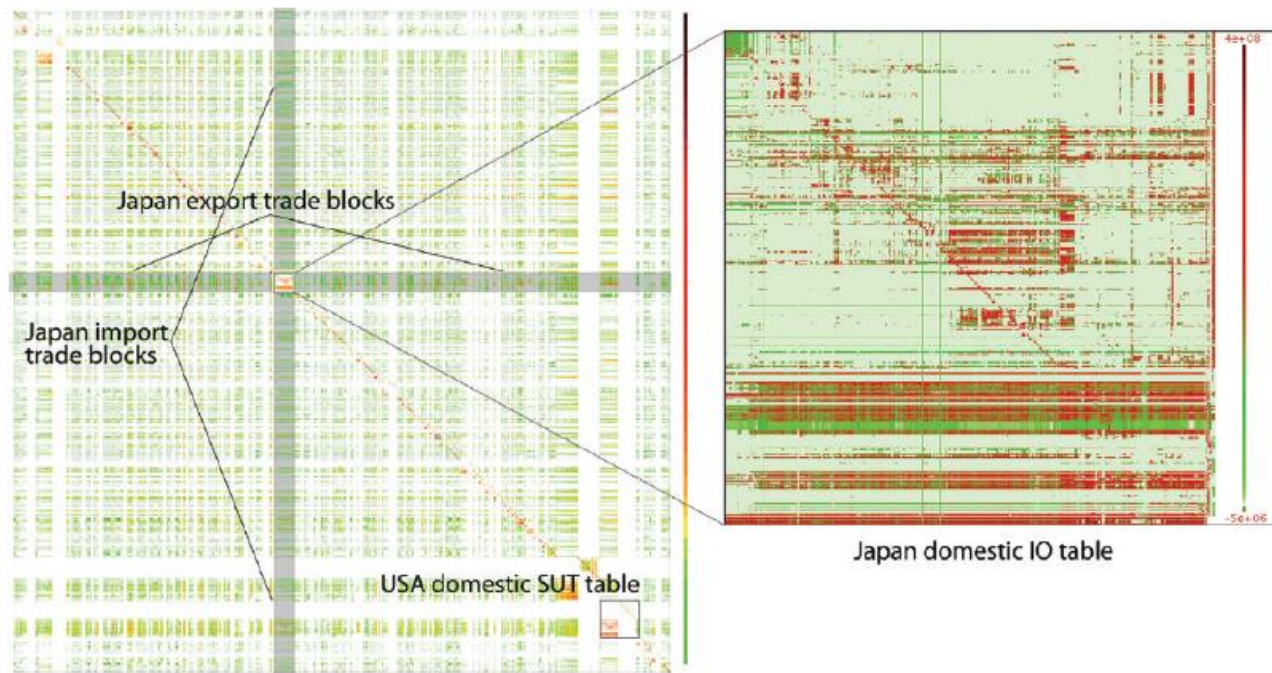


The Eora MRIO features:

- A balanced global MRIO table documenting the inter-sectoral transfers amongst 15,909 sectors across **190 countries**
- A complete timeseries for **1990-2021**
- 2720 line item environmental indicators covering GHG emissions, labour inputs, air pollution, energy use, water requirements, land occupation, N and P emissions, primary inputs to agriculture (including 172 crops) from FAOSTAT, and Human Appropriation of Net Primary Productivity
- A high-resolution version (full Eora) preserving national IO table detail, and a simplified version (Eora26) with **26-sector** harmonized classification
- Raw data drawn from a wide range of national and international data sources
- Reliability statistics for all results

# EORA – Multi-Region Input-Output (MRIO)

Eora MRIO



Source: Lenzen et al. (2012).

# EORA – Multi-Region Input-Output (MRIO)

		Country 1			country_dest			country_dest		
		Ind	Com	FD	Ind (entity_id=3)	Com (2)	FD (4)	Ind	Com	FD
Country 1	Ind		Supply							
	Com	Use								
	VA									
country_origin	Ind				IOT					
	Com									
	VA									
country_origin	Ind									
	Com									
	VA									
INDICATORS	Ind									
	Com									
	VA									
Gross Input (X) (xin)										
Gross Output (Y) (xout)										
CIOT										

# EORA – Multi-Region Input-Output (MRIO)

## **Entities:**

**Ind** Industries

**Com** Commodities

**FD** Final demand

**VA** Value added (also called primary inputs)

**Indicators** Satellite indicator accounts, documenting nonmonetary inputs to production

In Eora countries use a mix of different types of IO tables. They are:

- Industry-by-Industry IO tables (IIOT)
- Commodity-by-Commodity IO table (CIOT)
- Supply-Use Table (SUT), with an Commodity->Industry Use table and an Industry->Commodity Supply (also called "Make") table

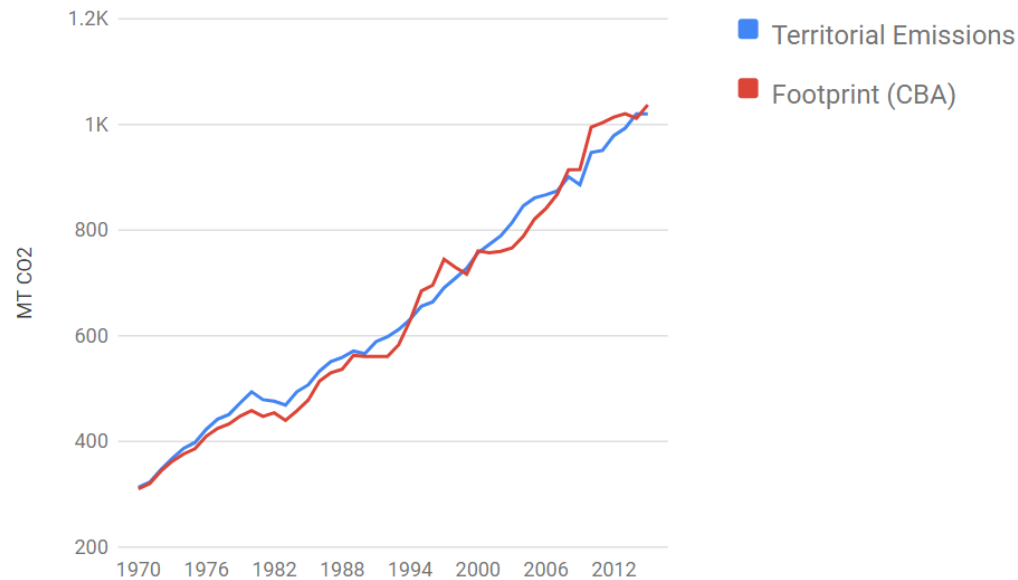
The figure to the left shows how these IO tables are combined in the Eora MRIO layout.

Colored and shaded blocks contain values/transactions; white blocks are empty.

# EORA – Multi-Region Input-Output (MRIO)

## Eora Carbon Footprint of Nations

Carbon Footprint for Brazil (1970-2015)



Consumption-based accounting (CBA) of emissions (also called carbon footprints) accounts for emissions associated with imported and exported goods. CBA reports the total emissions associated with final demand in each country.

# EORA – Multi-Region Input-Output (MRIO)

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## UNCTAD-Eora Global Value Chain Database

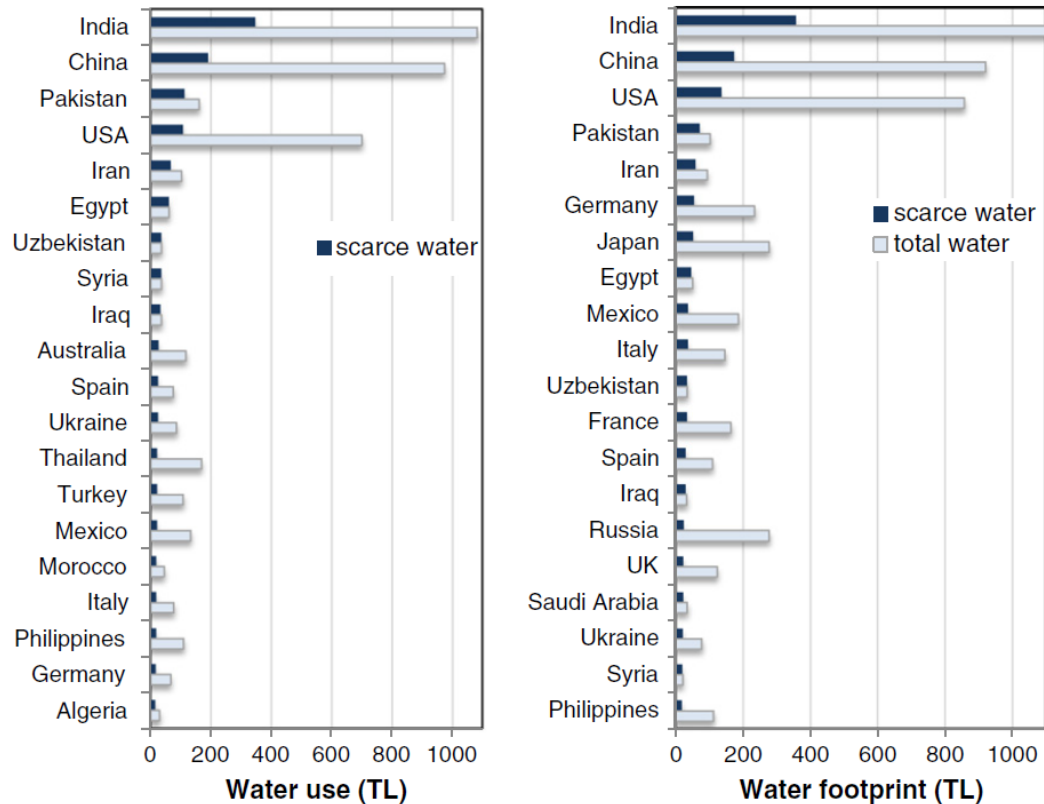
The UNCTAD-Eora Global Value Chain (GVC) database offers **global coverage** (189 countries and a “Rest of World” region) and a **timeseries from 1990 to 2019** of the **key GVC indicators**:

- Foreign value added (FVA)
- Domestic value added (DVA)
- Indirect value added (DVX)

Results from 1990 to 2017 are generated from EORA Multi-Region Input-Output tables (MRIOs). Results for 2016-2017 are provisional "beta" results and will be revised in early 2019. Results for 2018-2019 are nowcasted based on the IMF World Economic Outlook

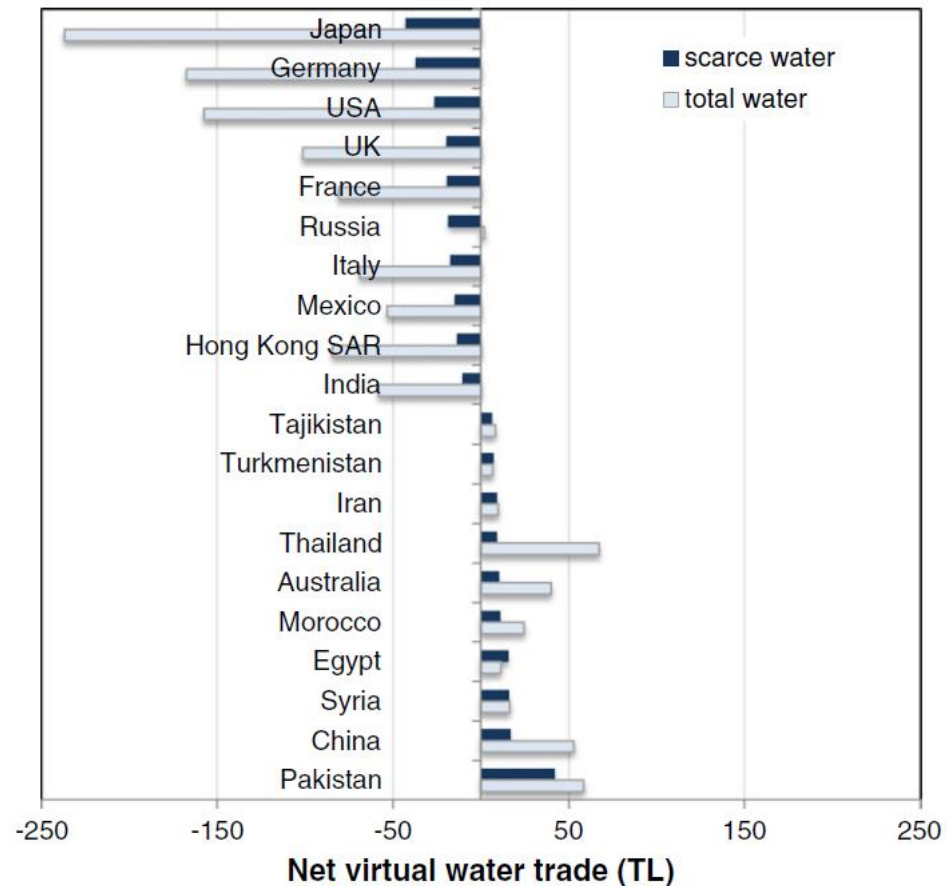


# EORA – Multi-Region Input-Output (MRIO)



Source: Lenzen et al. (2013).

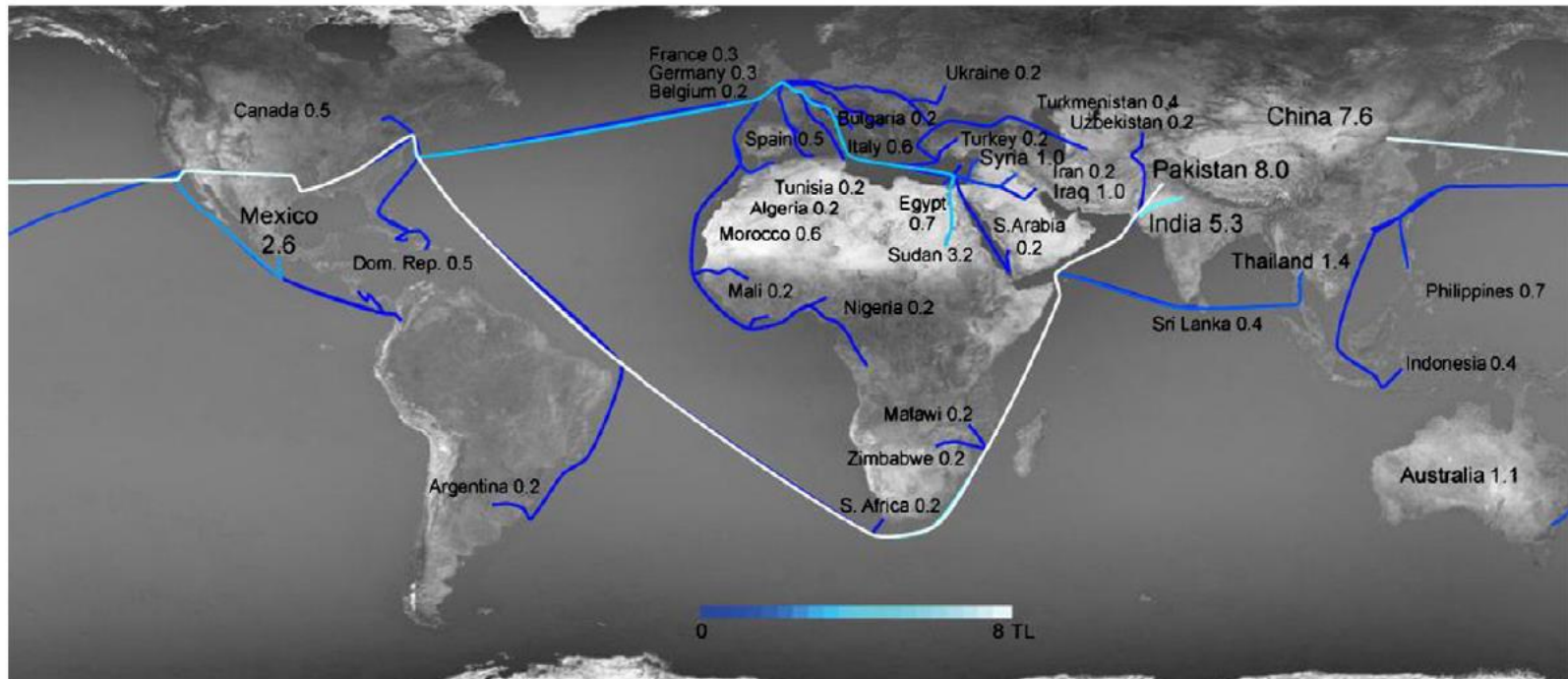
# EORA – Multi-Region Input-Output (MRIO)



Source: Lenzen et al. (2013).

# EORA – Multi-Region Input-Output (MRIO)

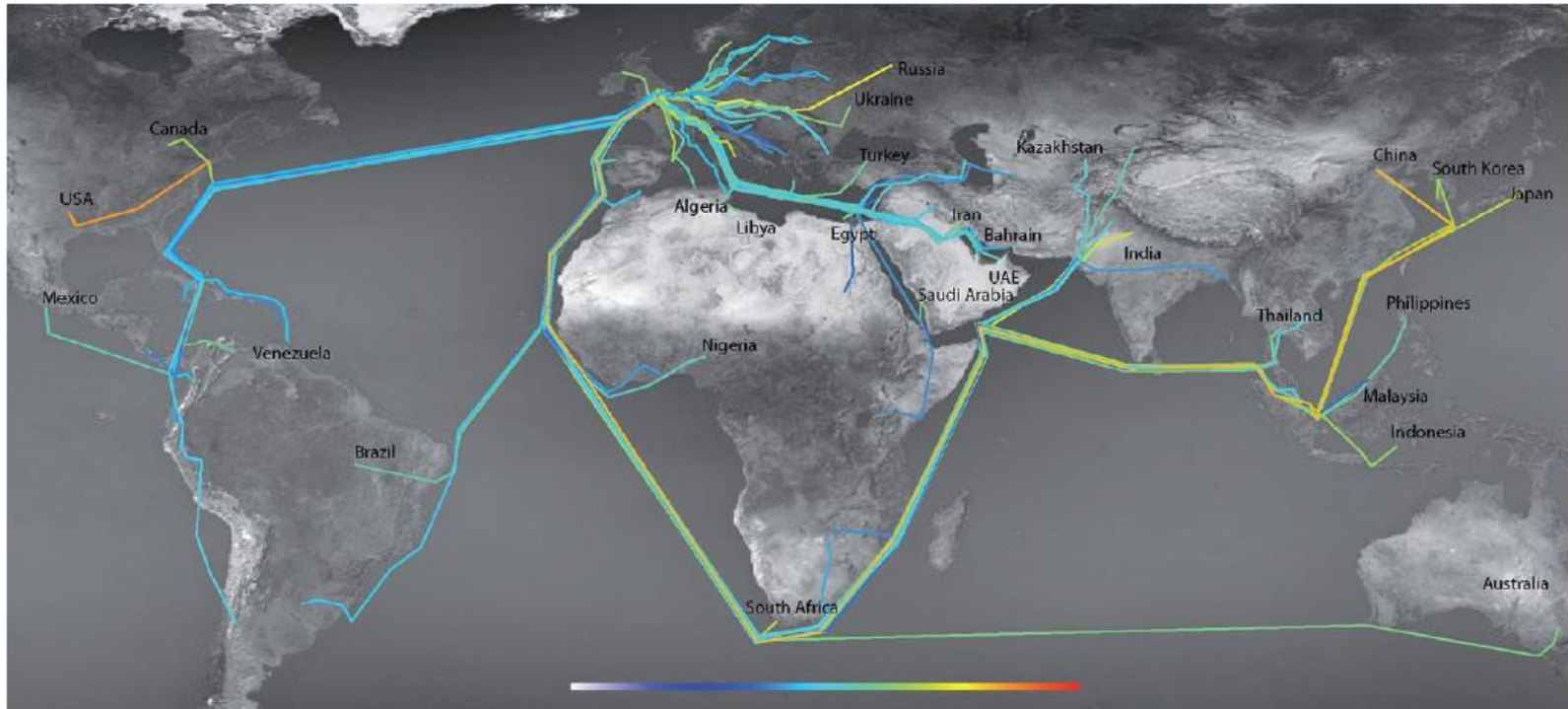
Top sources of virtual water imports into the USA



Source: Lenzen et al. (2013).

# EORA – Multi-Region Input-Output (MRIO)

Global flow map of embodied energy consumed in the UK



Source: Lenzen et al. (2012).

# Agradecimentos

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Parte dos slides foi estruturada a partir da apresentação feita pelo Professor Joaquim Guilhoto, em 2020, nos Seminários do NEREUS.

# Evaluating the Differences in Global Input-Output Databases

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