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CAPACITY BUILDING WORKSHOP TRADE AND TRADE POLICY ANALYSIS FOR THE POST COVID-19 RECOVERY

TUESDAY, 7 DECEMBER 2021

10:00 - 11:15 AM BKK TIME (UTC+7)

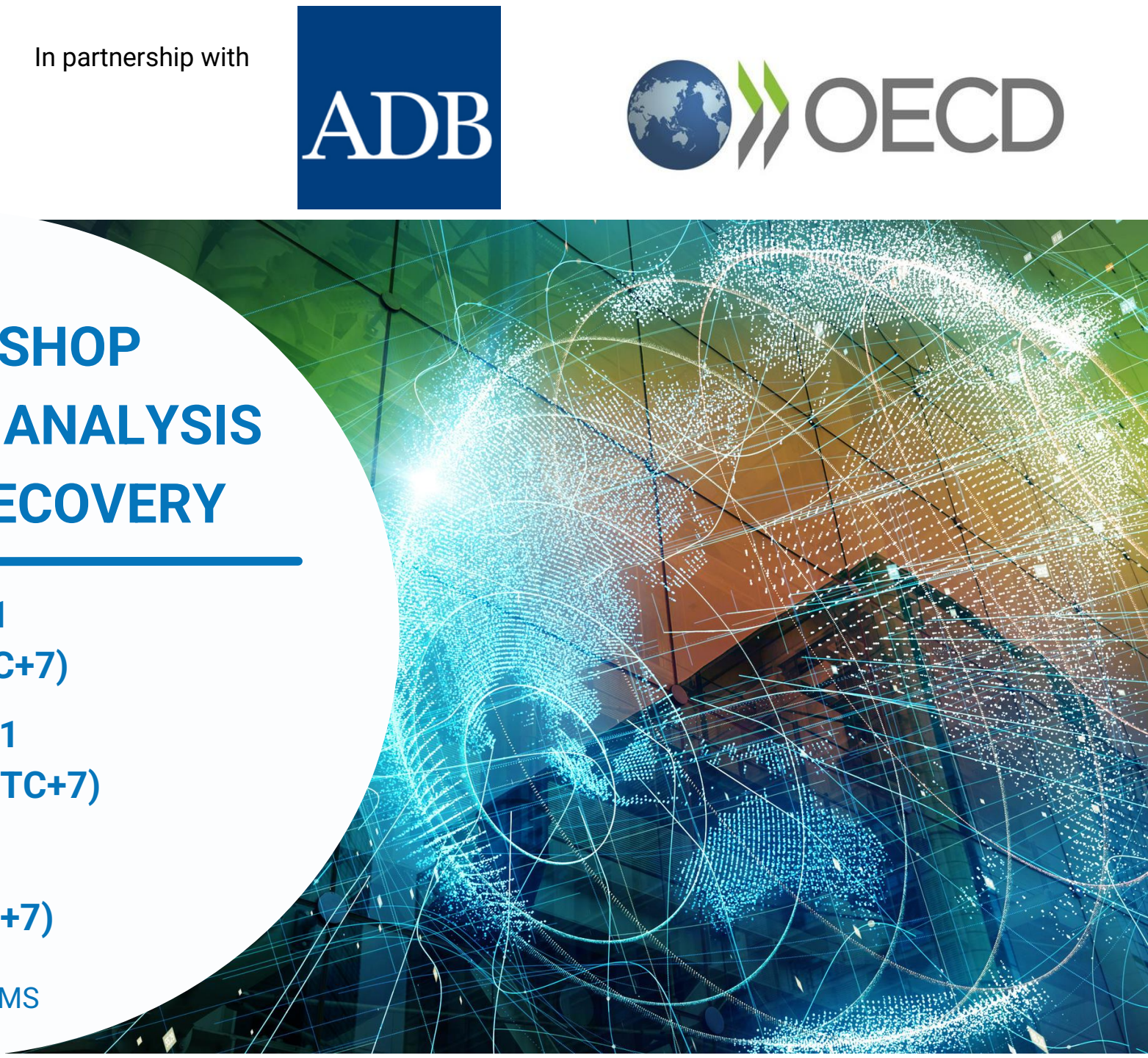
THURSDAY 9 DECEMBER 2021

09:30 AM - 15:45 PM BKK TIME (UTC+7)

FRIDAY 10 DECEMBER 2021

13:30 - 15:15 PM BKK TIME (UTC+7)

VIRTUAL MEETING, MS TEAMS



Exploring Regional Integration and Value Chain Analyser (RIVA) for Policy Analysis

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Learning Objectives

- Overview of the existing available databases to extract information on Trade in value Added
- Highlights of the RIVA Database
- Coverage & Usage of the Database
- Detailed analysis using the different aspects of RIVA database
 1. GVC Relationships
 2. Structure of Value Added
 3. Participation in GVCs
 4. Backward and Forward Linkages
- Answering different policy questions through data



Currently Available Database on Trade in Value Added and Inter Country I-O Tables

UNCTAD EORA Database: based on National Supply-Use and IO tables and IO tables from Eurostat, IDE-JETRO and OECD, having 189 countries and “Rest of the World”, having 26 sectors.

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

OECD- TiVA database: based on national IO tables, having 64 countries and 34 industries

<https://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm>

World Input Output database (WIOD) published by consortium of 11 institutions based on national supply use table covering 43 countries and 56 industries

<https://www.rug.nl/ggdc/valuechain/>

RIVA Value Chain Analyser published by UNESCAP and FEALAC covering 72 economies and 38 sectors, based on Asian Development Bank MRIO database (ADB-MRIO)

<https://riva.negotiatetrade.org/#/> <https://www.ide.go.jp/English/Data/IO.html>

Asian Development Bank, multi-regional input-output tables (ADB-MRIO) <https://mrio.adbx.online/>

IDE JETRO, Asian International Input-Output Tables (AIIOTs) <https://www.ide.go.jp/English/Data/IO.html>

Eora multi-region IO database <https://worldmrio.com/eora26/>

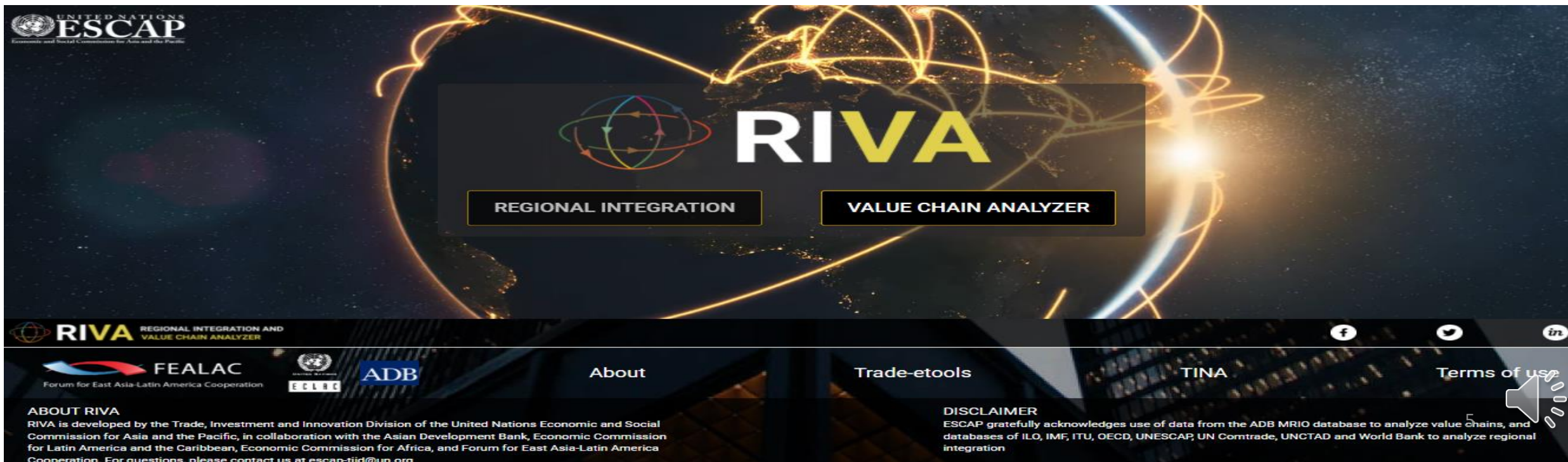
EXIOPOL (focusing on Environment issues, funded by EU) <https://www.exiobase.eu/>

OECD/WTO Inter Country Input Output Database <https://www.oecd.org/sti/ind/inter-country-input-output-tables.htm>



The Background

- RIVA is developed by the Trade, Investment and Innovation Division of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), in collaboration with the Asian Development Bank (ADB), Economic Commission for Latin America and the Caribbean, Economic Commission for Africa, and Forum for East Asia-Latin America Cooperation.
- Value-added indicators in RIVA are based on the Asian Development Bank Multi-Regional Input-Output (ADB MRIO) database.



RIVA Database Coverage & Usage

- In total **38 sectors** are covered. This includes primary, manufacturing and service sectors, as well as utilities and construction.
- Classification of these 38 sectors into broad categories is based on ADB ERDI (Development Indicators and Policy Research Division) levels of aggregation.
- The coverage of countries is **71 individual economies** and **2 economy clusters**: (1) Rest of the Latin American Countries (RoLAC) — encompassing all Latin American economies not individually accounted for – and (2) Rest of the World (RoW) — including all other economies not elsewhere included.
- The dataset is available for 2007, 2011 and 2017

Uniqueness of RIVA

- User friendly interface
- Better Visualisation
- Deep dive into the analysis of GVC Indicators for products and trading partners
- Emphasises on conceptualization of policy questions while extracting data.
- Convenient Cross-country analysis and benchmarking
- Provides a holistic outlook on the relationships between countries, regions and sectors.



Sectoral Coverage

- This list of sectors covered in the database can be found at the website <https://riva.negotiatetrade.org/note/index.html#sector-coverage-and-details>
- The importance is given in defining the sectors according to their technology-intensity. Besides capturing sectors belonging to diverse category of sectors.

ID	Long sector name	Short sector name	Category
010	Agriculture hunting forestry and fishing	Agriculture	Agriculture
020	Mining and quarrying	Mining	Mining
030	Food beverages and tobacco	Food and beverage	Manufacturing-low tech
040	Textiles and textile products	Textiles	Manufacturing-low tech
050	Leather leather products and footwear	Leather and footwear	Manufacturing-low tech



Economy Coverage

- Countries selected are characterised according to International Organization for Standardization (ISO).
- <https://riva.negotiatetrade.org/note/index.html#economy-coverage-and-details>

ISO3 code	Economy name	Region
ARG	Argentina	Latin America and the Caribbean
AUS	Australia	Pacific
AUT	Austria	Western Europe
BGD	Bangladesh	South and South-West Asia
BEL	Belgium	Western Europe

- RIVA also provides trade in value-added estimates for **economy groups** chosen by ESCAP, based on the individual economies provided in the ADB MRIO database.
- <https://riva.negotiatetrade.org/note/index.html#economy-groups>

Group	Group name	Economies covered
APEC	Asia-Pacific Economic Cooperation	AUS, BRN, CAN, CHL, CHN, HKG, IDN, JPN, KOR, MYS, MEX, PER, PHL, RUS, SGP, TWN, THA, USA, VNM
APTA	Asia-Pacific Trade Agreement	BGD, CHN, IND, LAO, MNG, KOR, LKA
Asia-Pacific	Asia-Pacific	AUS, BGD, BTN, BRN, KHM, CHN, FJI, HKG, IND, IDN, JPN, KAZ, KGZ, LAO, MYS, MDV, MNG, NPL, PAK, PHL, KOR, RUS, SGP, LKA, THA, TWN, USA, VNM



GVC Relationships

Global Value Chains

Gain insight into your economy's participation in global value chains (GVCs).
Uncover the sources of intermediate inputs and destinations of domestic value-added.

User note

Demonstration video

Download data

Country briefs

Technical notes

GVC relationships

Structure of value added

Participation in GVCs

Backward linkages

Forward linkages

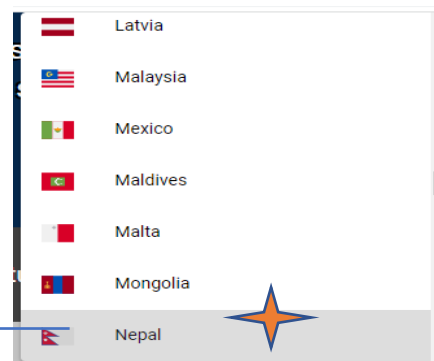
Get an overview of your selected economy's backward and forward GVC linkages – by exporting sector and partner economy.

Exporting economy

Year

2017

Different Countries
can be selected.
Example- **Nepal** is
selected



Different years
can be selected

GVC Relationship Tab helps to understand

- Foreign country's contribution in domestic exports
- Domestic production contributing to importer's exports.
- Sector-wise contribution of foreign country in domestic exports.
- Sector-wise domestic production contributing to importer's exports

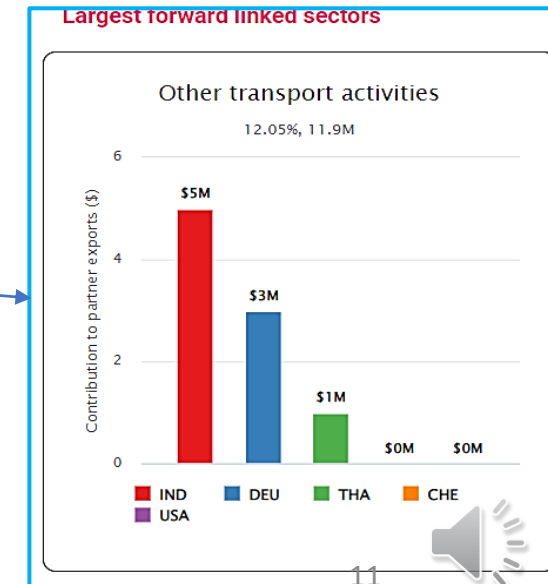
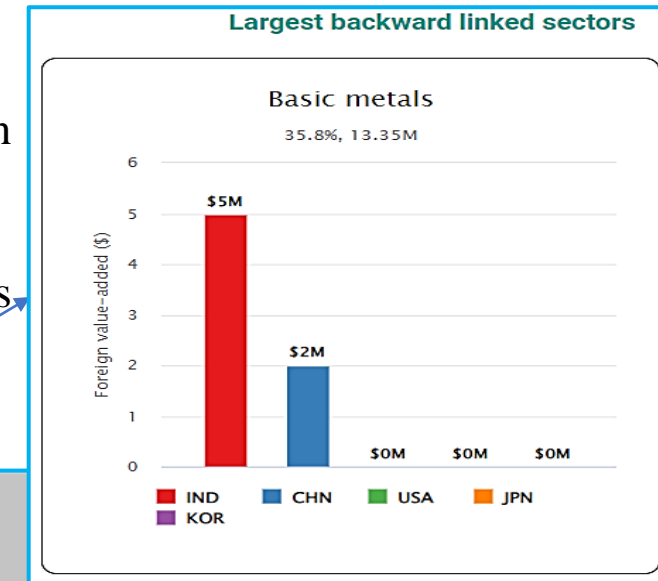
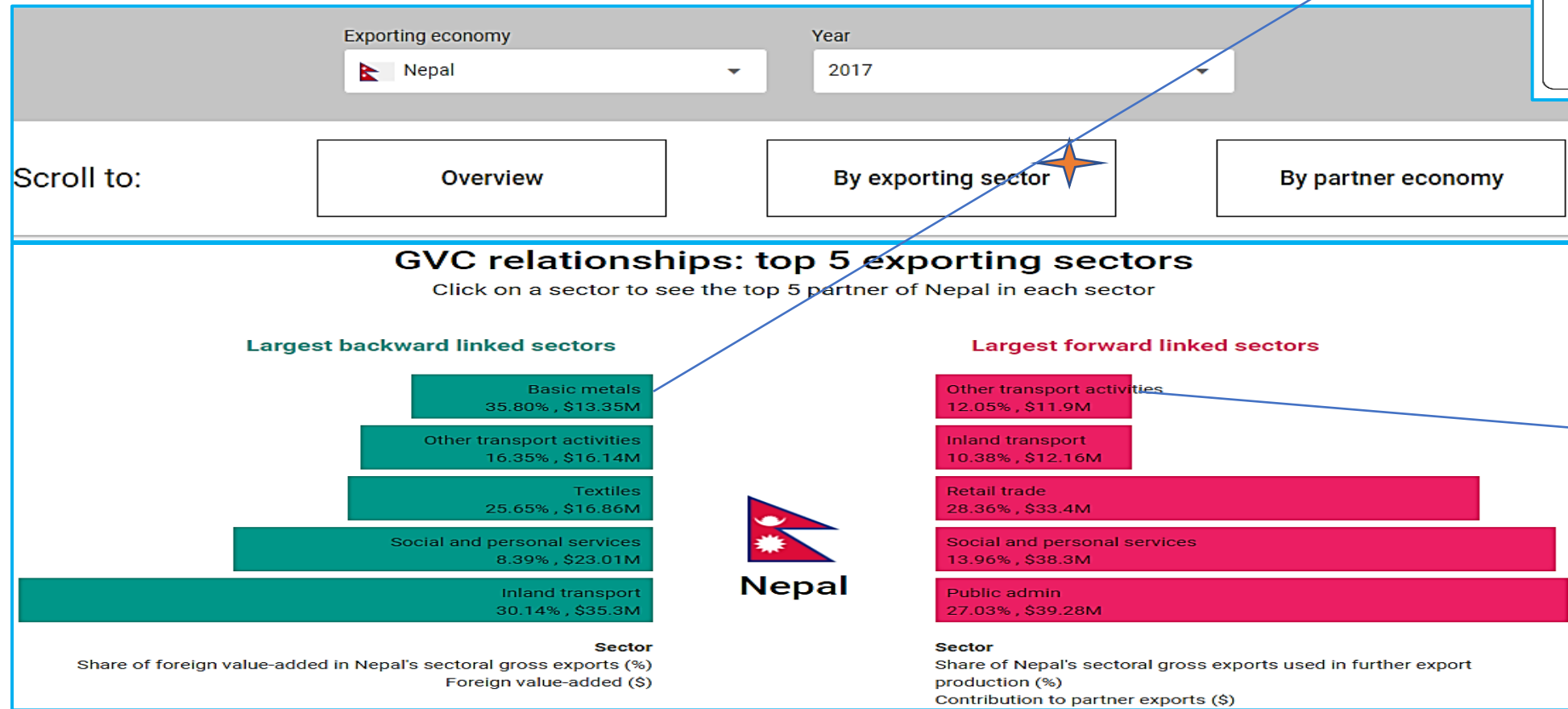
GVC Relationships

- First, the 'GVC relationship' for Nepal provides an **Overview**.
- Here, both the value addition in terms of backward and forward linkages can be extracted
- This data is for 2017.
- The share of backward linkage is 15% of Nepal's gross exports.
- The share of forward linkage is also 15% of Nepal's gross exports.



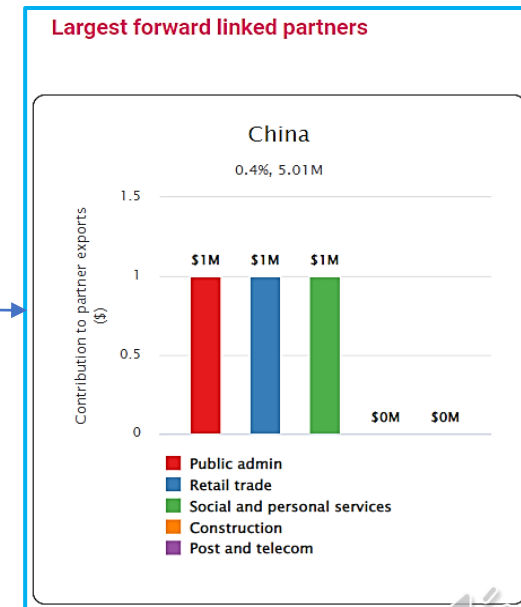
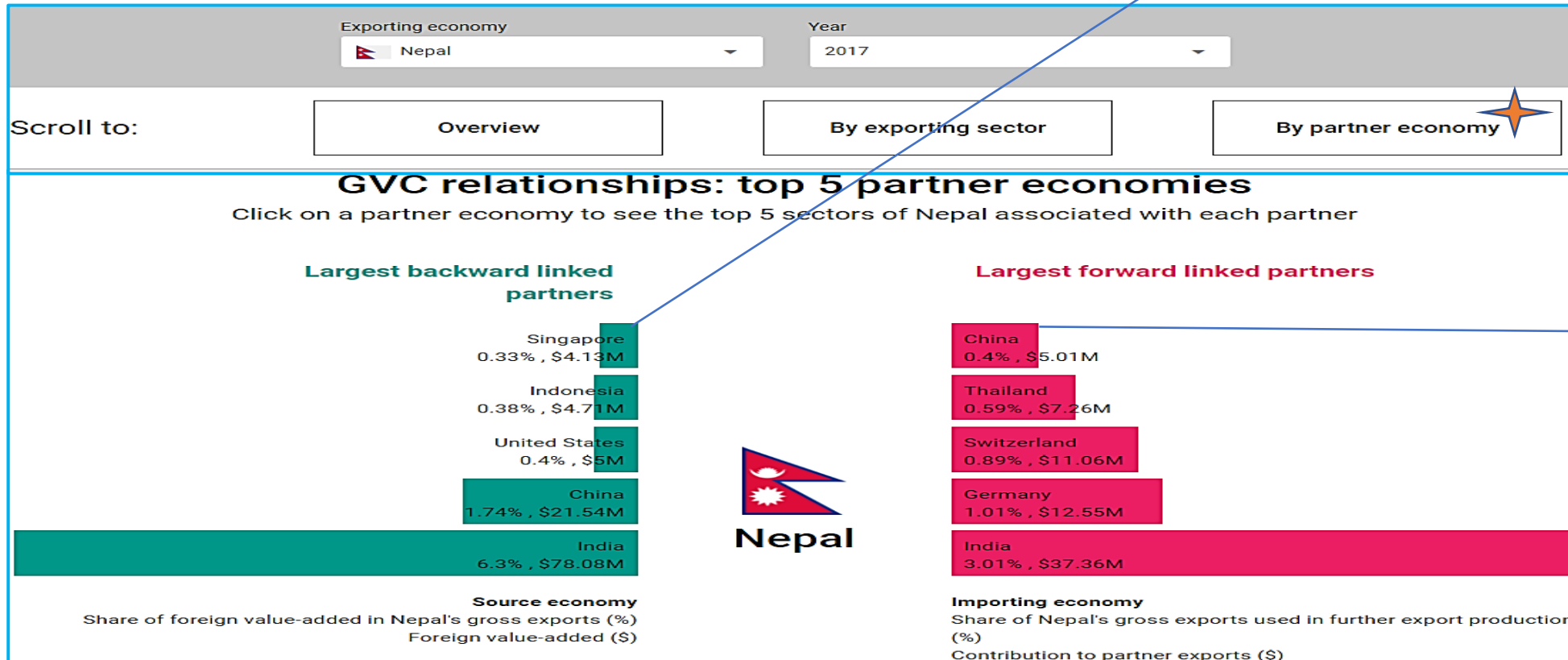
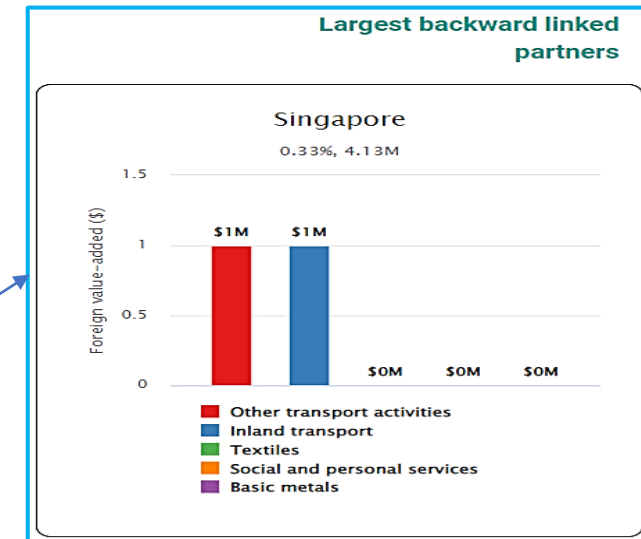
GVC Relationships

- The GVC relationship for Nepal is next provided by exporting sector.
- Here, the backward and forward linkages of **the selected country** are shown sector-wise in ascending order.
- This data is for 2017.
- And if any sector is clicked, for e.g Basic metals or other transport activities—the other countries contribution to Nepal's exports and Nepal's contribution in other countries are presented.
- This will be the same case for other sectors.



GVC Relationships



- The GVC relationship for Nepal next provides **by partner economy**.
- Here, the backward and forward linkages are shown in terms of **partner countries** in ascending order.
- This data is for 2017.
- And if any country is clicked, for e.g Singapore or China—these countries contribution to Nepal's exports and Nepal's contribution to these countries' different sectors are presented.
- This will be the same case for other countries.



Structure of Value Added

Nepal's Exports to Bangladesh

★

GVC relationships	Structure of value added	Participation in GVCs	Backward linkages	Forward linkages
Exporting economy  Nepal		Year 2017		
Importing economy  Bangladesh		Exporting sector All sectors		

Nepal's gross exports to Bangladesh can be divided into 6 parts, depending on where they come from and how they are used:

(1.) Gross Exports

Domestic value-added in exports, directly consumed by the importer:

(1.1) Coming from exporter's intermediate domestic production

(1.2) Coming from exporter's final domestic production

Domestic value-added in exports, used for the production of further exports:

(1.3) Consumed by the initial exporter

(1.4) Consumed by economies other than the initial exporter

(1.5) Foreign production used in exports, consumed by the importer

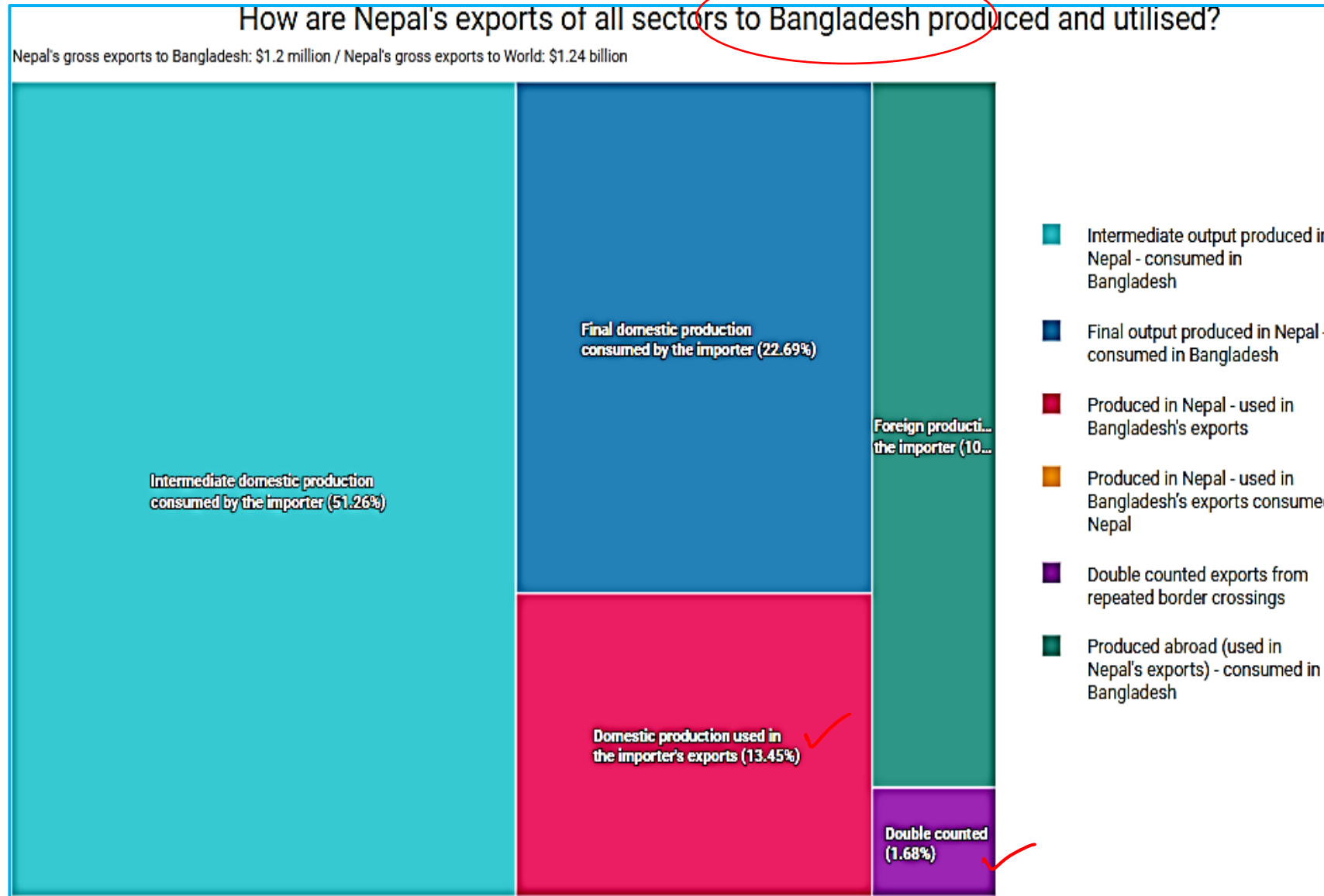
(1.6) Double counted exports from repeated border crossing

Domestic value-added: $(1.1) + (1.2) + (1.3) + (1.4)$

GVC related exports: $(1.3) + (1.4) + (1.5) + (1.6)$



Structure of Value Added



Out of the total exports by Nepal to Bangladesh (in 2017)-

1. Share of intermediate output produced in Nepal and consumed in Bangladesh= **51.26%**

2. Share of final output produced in Nepal and consumed in Bangladesh= **22.69%**

3. Share of production in Nepal consumed by Bangladesh in exporting= **13.45%** ✓

4. Share of produced abroad and used in Nepal's exports to Bangladesh= **10.92%**

5. Share of double counted exports through repeated border crossings= **1.68%**

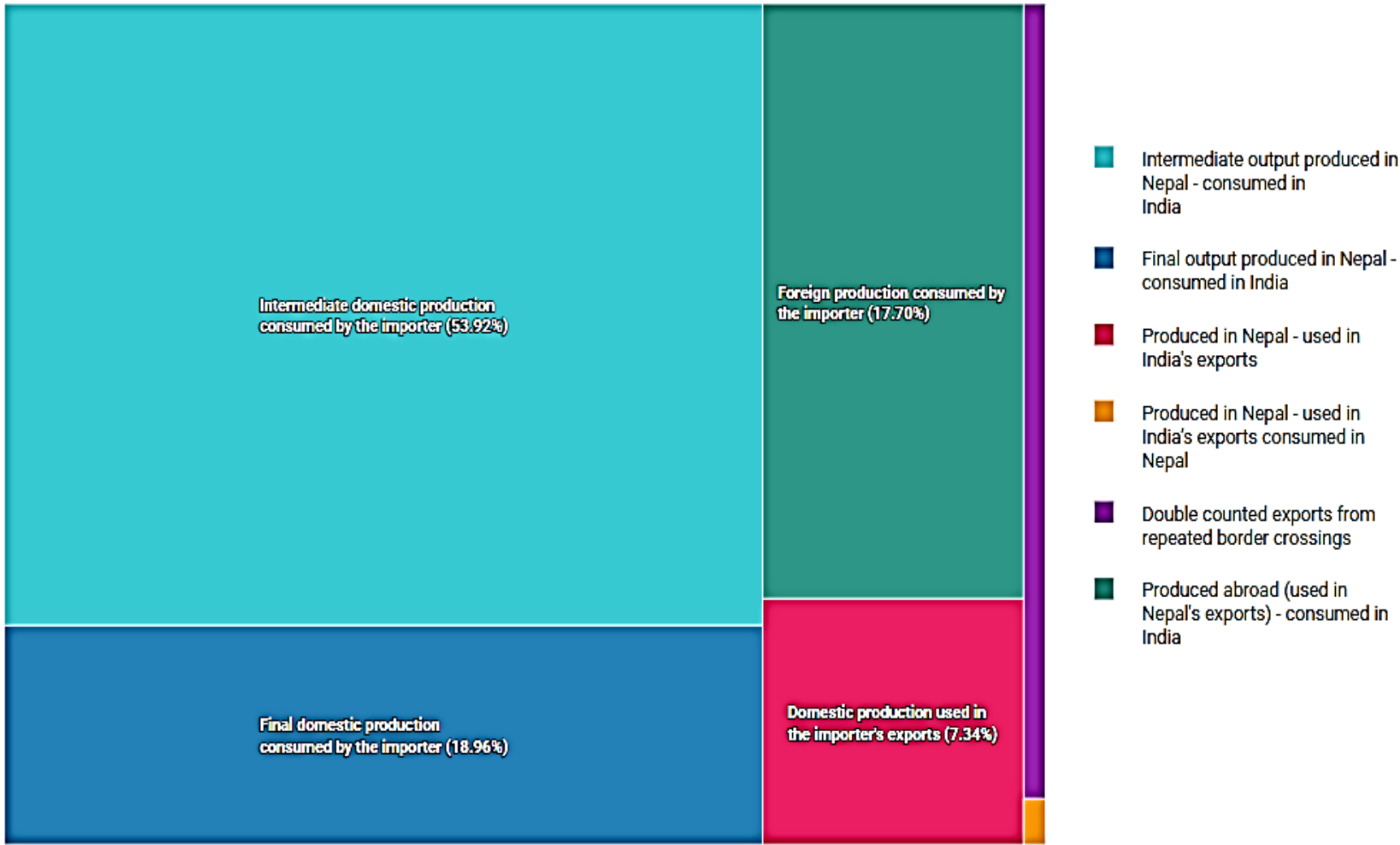


Structure of Value Added

Nepal's Exports to India

How are Nepal's exports of all sectors to India produced and utilised?

Nepal's gross exports to India: \$501.56 million / Nepal's gross exports to World: \$1.24 billion



Out of the total exports by Nepal to India (in 2017)-

1. Share of intermediate output produced in Nepal and consumed in India= **52.92%**
2. Share of final output produced in Nepal and consumed in India= **18.96%**
3. Share of production in Nepal consumed by India in exporting= **7.34%**
4. Share of produced abroad and used in Nepal's exports to India= **17.70%**
5. Share of double counted exports through repeated border crossings= **1.97%**



Structure of Value Added

Nepal's Exports to Select Asian Countries

Out of the total exports by Nepal to China (in 2017)-

1. Share of intermediate output produced in Nepal and consumed in China= **34.04%** ✓
2. Share of final output produced in Nepal and consumed in China= **30.16%** ✓
3. Share of production in Nepal and consumed by China in exporting=**16.04%**
4. Share of produced abroad and used in Nepal's exports to China= **17.36%** ✓
5. Share of double counted exports through repeated border crossings=**2.41%**

Out of the total exports by Nepal to Republic of Korea (RoK)(in 2017)-

1. Share of intermediate output produced in Nepal and consumed in RoK= **30.16%** ✓
2. Share of final output produced in Nepal and consumed in RoK= **32.30%** ✓
3. Share of production in Nepal consumed by RoK in exporting=**20.98%**
4. Share of produced abroad and used in Nepal's exports to RoK= **12.95%**
5. Share of double counted exports through repeated border crossings=**3.61%**

Out of the total exports by Nepal to Japan (in 2017)-

1. Share of intermediate output produced in Nepal and consumed in Japan = **50.79%**
2. Share of final output produced in Nepal and consumed in Japan= **18.41%**
3. Share of production in Nepal and consumed by Japan in exporting=**13.75%**
4. Share of produced abroad and used in Nepal's exports to Japan= **14.65%**
5. Share of double counted exports through repeated border crossings=**2.40%**

Out of the total exports by Nepal to Thailand (in 2017)-

1. Share of intermediate output produced in Nepal and consumed in Thailand= **45.81%**
2. Share of final output produced in Nepal and consumed in Thailand and= **3.67%**
3. Share of production in Nepal and consumed by Thailand in exporting=**35.98%** ✓
4. Share of produced abroad and used in Nepal's exports to Thailand= **8.59%**
5. Share of double counted exports through repeated border crossings=**5.91%**



Structure of Value Added

How are Nepal's exports of textiles and textile products to India produced and utilised?

Nepal's gross exports to India: \$6 million / Nepal's gross exports to World: \$65.75 million



Product Specific Exercise

Out of the total textile and textile products exports by Nepal to India (in 2017)-

1. Share of intermediate output produced in Nepal and consumed in India= **41.60%**
2. Share of final output produced in Nepal and consumed in India= **21.30%**
3. Share of production in Nepal consumed by India in exporting=**9.32%** ✓
4. Share of produced abroad and used in Nepal's exports to India=**23.96%** ✓
5. Share of double counted exports through repeated border crossings=**3.66%**

Structure of Value Added

Out of the total exports by Japan to South-East Asia (in 2017)-

1. Share of intermediate output produced in Japan and consumed in South-East Asia= **25.04%**
2. Share of final output produced in Japan and consumed in South-East Asia= **18.41%**
3. Share of production in Japan consumed by South-East Asia in exporting=**29.82%** ✓
4. Share of produced abroad and used in Japan's exports to South-East Asia= **12.79%** ✓
5. Share of double counted exports through repeated border crossings=**12%** ✓

Out of the total exports by Republic of Korea (RoK) to South-East Asia (in 2017)-

1. Share of intermediate output produced in RoK and consumed in South-East Asia= **16.96%**
2. Share of final output produced in RoK and consumed in South-East Asia= **15.78%**
3. Share of production in RoK consumed by South-East Asia in exporting=**27.24%** ✓
4. Share of produced abroad and used in RoKs exports to South-East Asia= **20.33%** ✓
5. Share of double counted exports through repeated border crossings=**18.79%** ✓

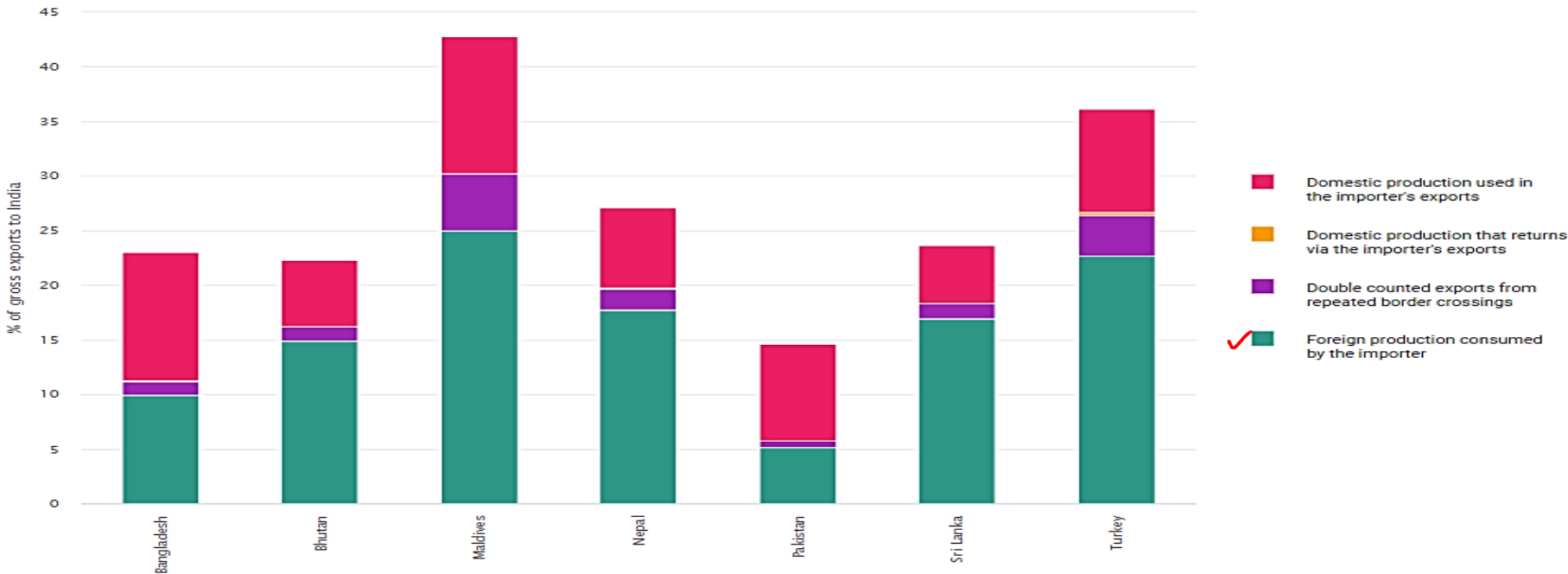
Japan & Rep of Korea have more integrated GVC relation with South East Asia



Participation in GVCs



How much of Nepal's exports of all sectors to India are GVC related compared across South and South-West Asia economies?



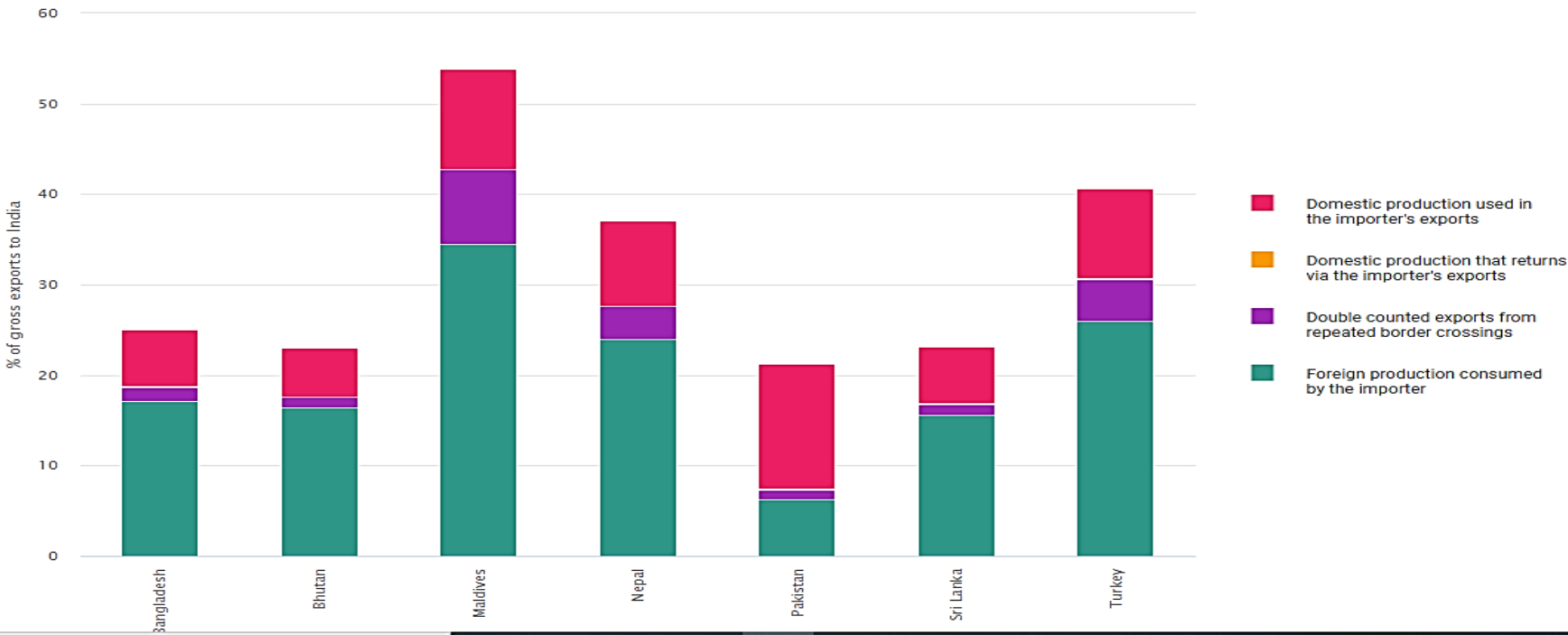
- Besides Nepal's GVC relationship with India—the breakdown of Nepal's exports of all sectors to other South and South-West Asia is analysed here.
- The foreign production used by Nepal in exporting to South & South-West Asian economies is the maximum.



Participation in GVCs



How much of Nepal's exports of textiles and textile products to India are GVC related compared across South and South-West Asia economies?



- Besides Nepal's GVC relationship with India—the breakdown of Nepal's exports of textile & textile products to other South and South-West Asia is also analysed.



Participation in GVCs

Another Example—
Considering trade between trade groups

The screenshot shows the ESCAP Global Value Chains (GVCs) dashboard. At the top left is the ESCAP logo with the text "UNITED NATIONS ESCAP Economic and Social Commission for Asia and the Pacific" and a home icon. At the top right are "SHARE" and "TINA Link" buttons. The main heading is "Global Value Chains" in large white text. Below it is a subtitle: "Gain insight into your economy's participation in global value chains (GVCs). Uncover the sources of intermediate inputs and destinations of domestic value-added." To the left of the subtitle are two buttons: "User note" and "Demonstration video". To the right are three buttons: "Download data" (with a red checkmark), "Country briefs", and "Technical notes". Below the subtitle is a navigation bar with five tabs: "GVC relationships", "Structure of value added", "Participation in GVCs" (highlighted in yellow), "Backward linkages", and "Forward linkages". Under the "Participation in GVCs" tab, there are four dropdown menus: "Exporting economy" (set to "Asia-Pacific"), "Year" (set to "2017"), "Importing economy" (set to "South-East Asia"), and "Exporting sector" (set to "All sectors").

UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

SHARE TINA Link

Global Value Chains

Gain insight into your economy's participation in global value chains (GVCs).
Uncover the sources of intermediate inputs and destinations of domestic value-added.

User note
Demonstration video

Download data
Country briefs
Technical notes

GVC relationships Structure of value added **Participation in GVCs** Backward linkages Forward linkages

Exporting economy
Asia-Pacific

Year
2017

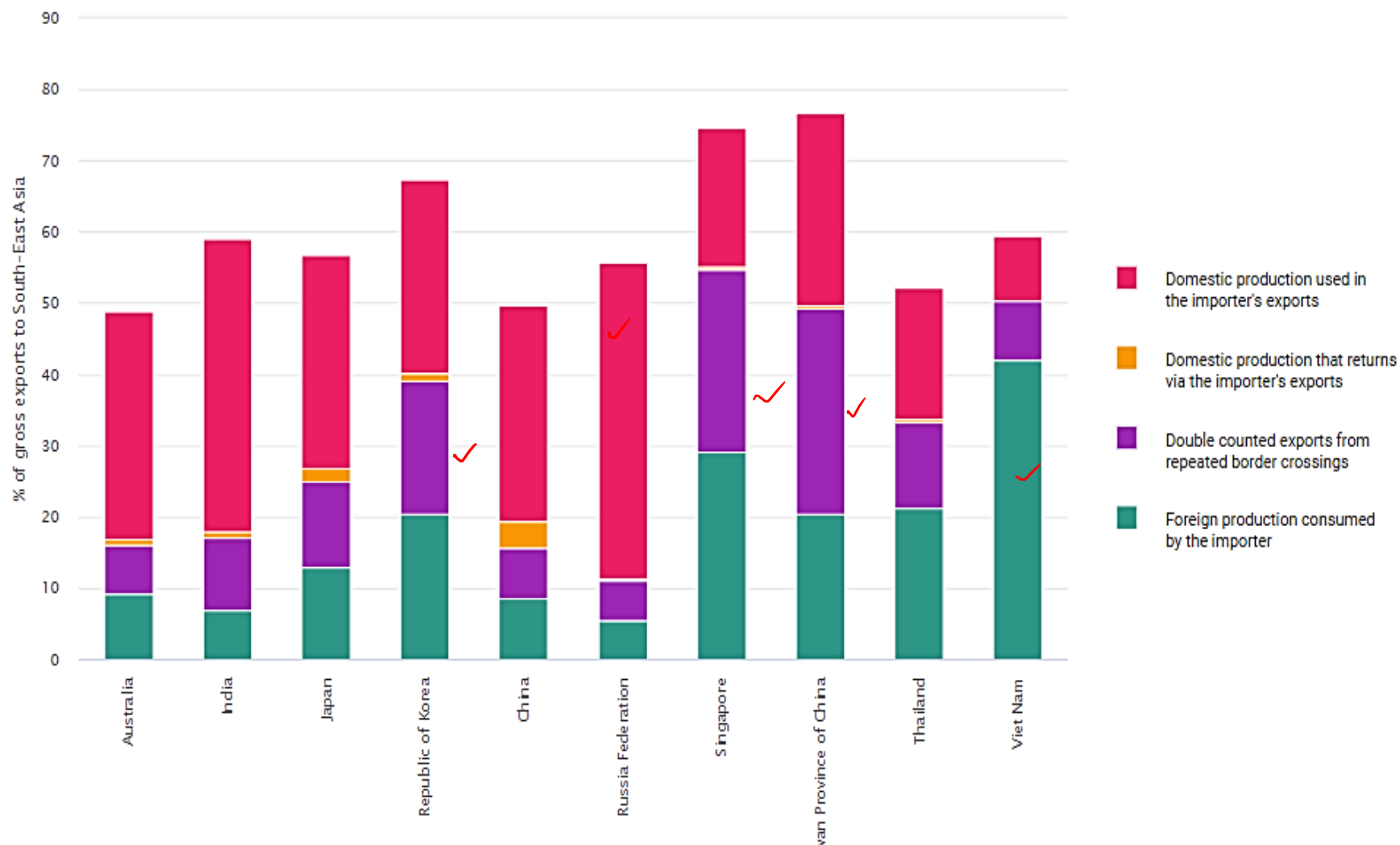
Importing economy
South-East Asia

Exporting sector
All sectors



Participation in GVCs

How much of Asia-Pacific's exports of all sectors to South-East Asia are GVC related compared across economies?



- By mentioning Asia-Pacific economies as the exporting economy—the contribution of all individual countries in the exports to the South-East Asia gets displayed.
- Russia's contribution of domestic production in South & South East Asia is the highest whereas for the Viet Nam, it is the lowest.
- Even the value of double counting is quite high. Signalling the extent of fragmentation of production process.
- The data captured is for year 2017.



Backward Linkages



Exporting economy	Year
 Nepal	2017
Importing economy	Exporting sector
 India	040 Textiles and textile products
Select by exporting sector	Select by source economy



Where does imported content come from?

Some part of Nepal's gross exports consist of imported inputs that originate in other source economies.

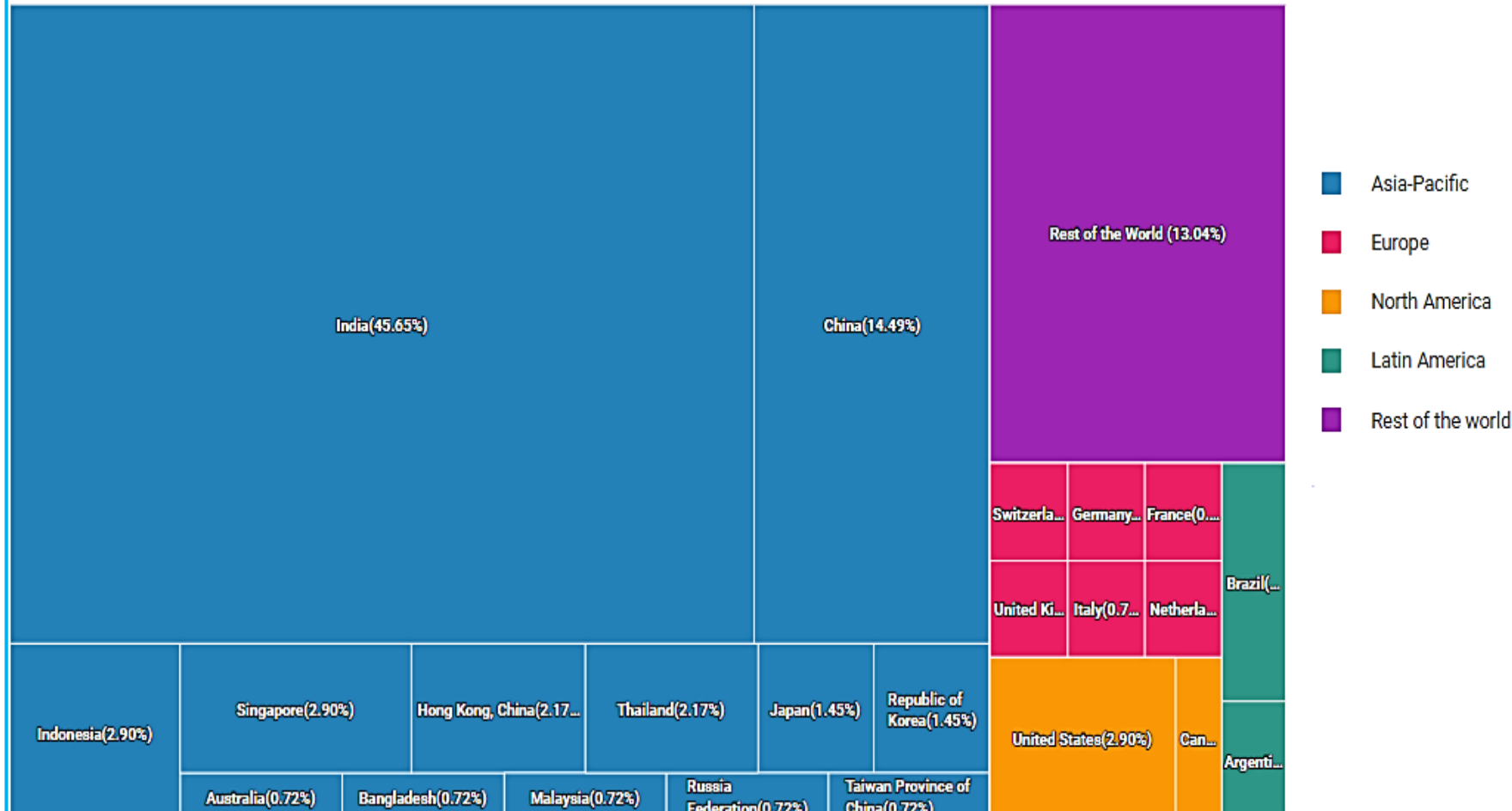


Backward Linkages

Where does Nepal's imported content in exports of textiles and textile products to India come from?

Gross exports of Nepal in textiles and textile products to India amount to \$6 million in 2017. Of these exports, \$1.44 million is imported content that comes from other economies, mainly India(45.65%), China(14.49%), Rest of the World (13.04%), Indonesia(2.90%) and Singapore(2.90%).

Nepal's imported content in exports to India: \$1.44 M / Nepal's gross exports to India: \$6 M



- In backward linkages of export of textile and textile products from Nepal to India—

1. The share of India and China is the maximum (45.65% & 14.49%).

2. The majority of the backward linkages is from Asia-Pacific economies (around 75%).

- The regional dependence can be witnessed here.



Forward Linkages

GVC relationships**Structure of value added****Participation in GVCs****Backward linkages****Forward linkages**

Exporting economy
Nepal

Year
2017

Exporting sector
040 Textiles and textile products

Select by exporting sector**Select by importing economy**



Where does Nepal contribute towards export production?

Some part of Nepal's gross exports consist of intermediate inputs that are used by the direct importer to produce exports for third economies

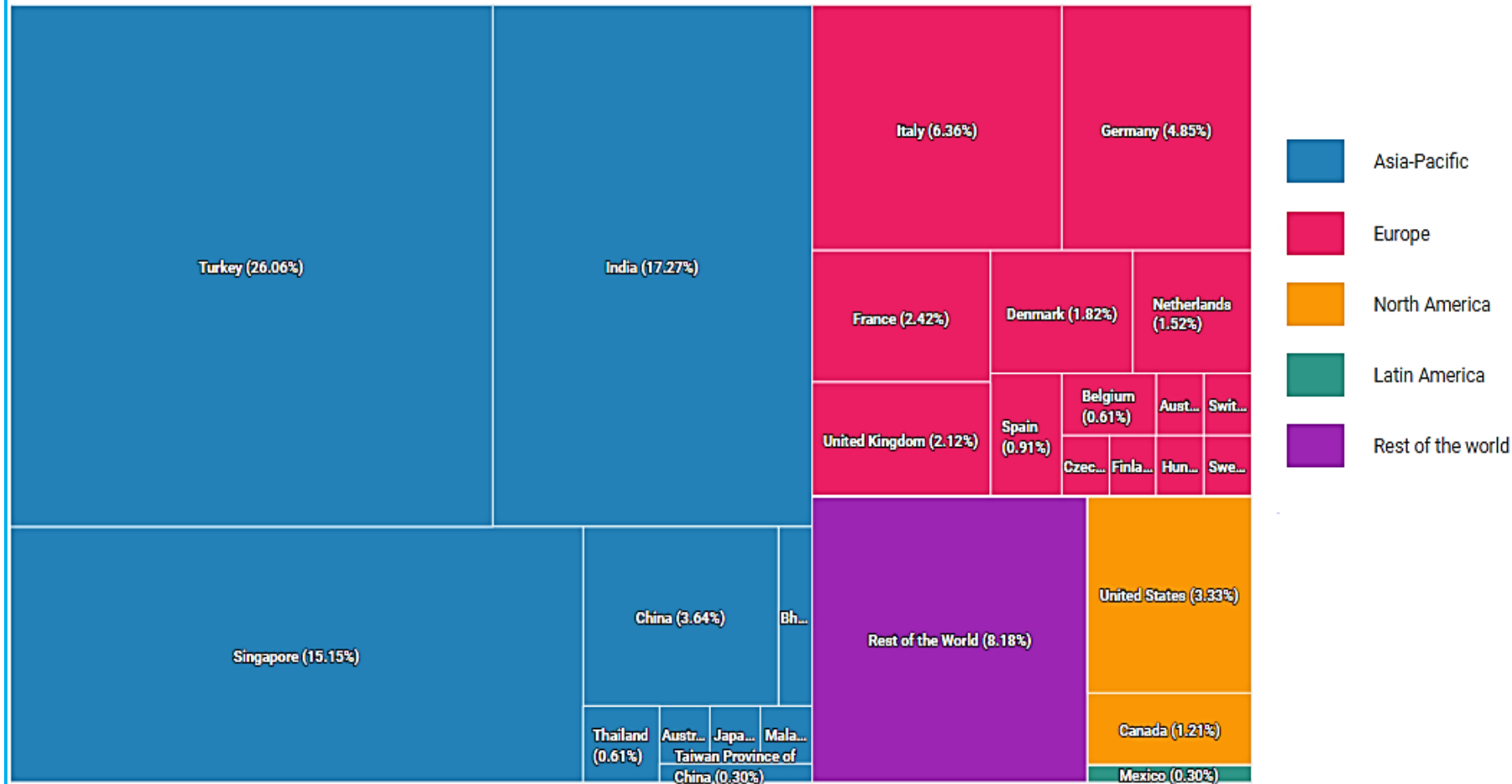


Forward Linkages

Where does Nepal contribute the most towards export production (textiles and textile products)?

Gross exports of Nepal in textiles and textile products to World amount to \$65.75 million in 2017. Of these exports, \$ 3.31 million is Nepal's contribution to export production in other economies, mainly Turkey (26.06%) , India (17.27%) , Singapore (15.15%) , Rest of the World (8.18%) and Italy (6.36%) .

Nepal's contribution to export production: \$ 3.31 million / Nepal's gross exports to World: \$65.75 million



- In forward linkages of export of textile and textile products from Nepal to World—

1. The contribution of Nepal to export production in other economies is the maximum for Turkey & India (26% & 17%)

2. The majority of the forward linkages is to Asia-Pacific economies (around 65%).

- The regional dependence can be witnessed here.

Download Data

Global Value Chains

Gain insight into your economy's participation in global value chains (GVCs).
Uncover the sources of intermediate inputs and destinations of domestic value-added.




User note


Demonstration video


 **Download data**


Country briefs

Technical notes

   **Create your own economy group**

 indicator (select one)
Structure of value added

 Exporting economy

 Importing economy

 Exporting sector

 Year



Clear All

Generate



Download Data

Customised economy group can also be created



Create your own economy group

indicator (select one)

Backward linkages (by exporting sector)

Exporting economy

Nepal

Importing economy

India

Exporting sector

040 Textiles and textile products

Year

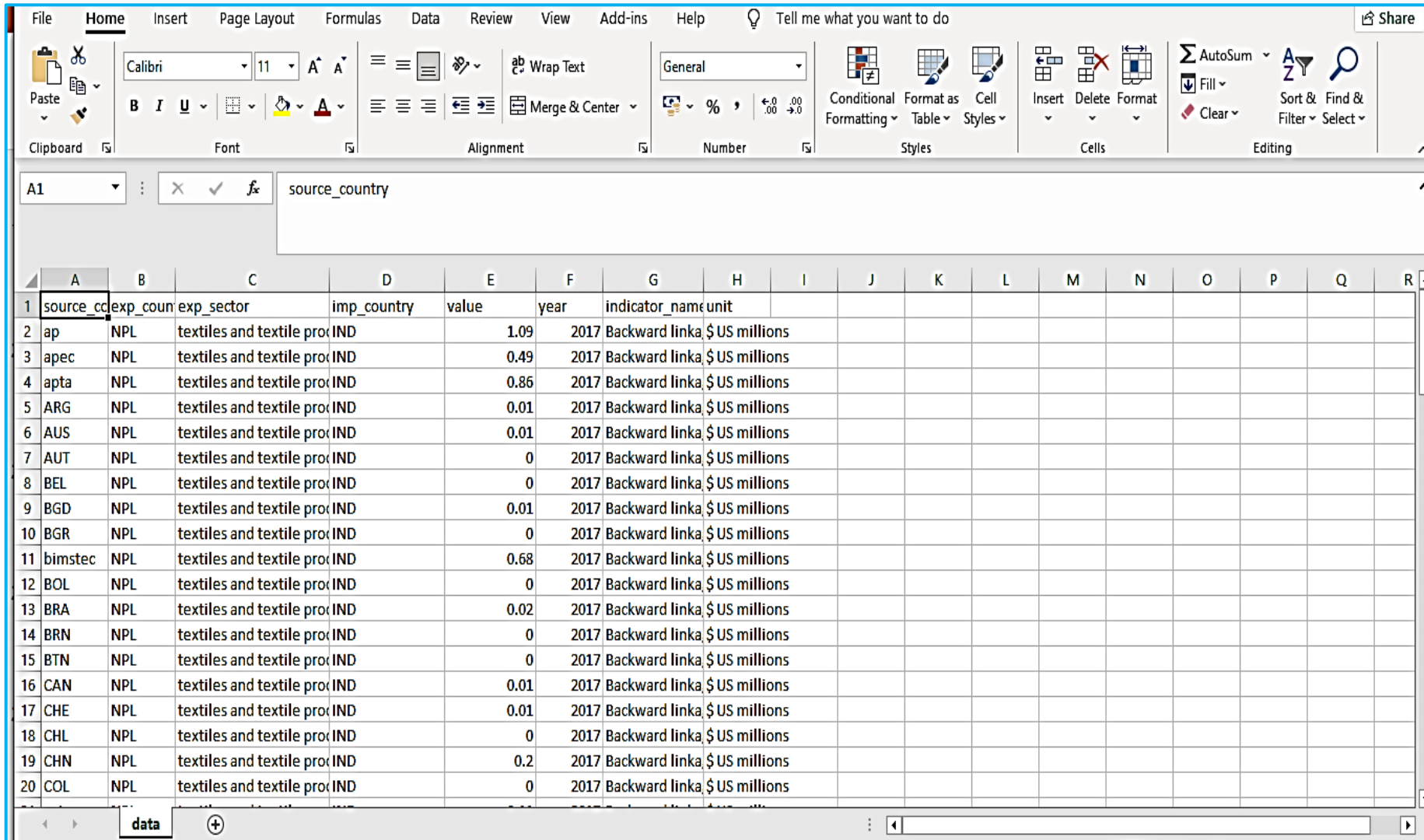
2017

Clear All

Generate



Download Data



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	source_country	exp_country	exp_sector	imp_country	value	year	indicator_name	unit										
2	ap	NPL	textiles and textile products	IND	1.09	2017	Backward linkages	\$ US millions										
3	apec	NPL	textiles and textile products	IND	0.49	2017	Backward linkages	\$ US millions										
4	apta	NPL	textiles and textile products	IND	0.86	2017	Backward linkages	\$ US millions										
5	ARG	NPL	textiles and textile products	IND	0.01	2017	Backward linkages	\$ US millions										
6	AUS	NPL	textiles and textile products	IND	0.01	2017	Backward linkages	\$ US millions										
7	AUT	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
8	BEL	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
9	BGD	NPL	textiles and textile products	IND	0.01	2017	Backward linkages	\$ US millions										
10	BGR	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
11	bimstec	NPL	textiles and textile products	IND	0.68	2017	Backward linkages	\$ US millions										
12	BOL	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
13	BRA	NPL	textiles and textile products	IND	0.02	2017	Backward linkages	\$ US millions										
14	BRN	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
15	BTN	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
16	CAN	NPL	textiles and textile products	IND	0.01	2017	Backward linkages	\$ US millions										
17	CHE	NPL	textiles and textile products	IND	0.01	2017	Backward linkages	\$ US millions										
18	CHL	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										
19	CHN	NPL	textiles and textile products	IND	0.2	2017	Backward linkages	\$ US millions										
20	COL	NPL	textiles and textile products	IND	0	2017	Backward linkages	\$ US millions										

- The data has been taken when
- Exporting Country- Nepal,
- Importing Country- India,
- Sector- Textile & textile products
- Structure of Value added- Backward Linkages,
- Year-2017
- The data can be similarly extracted for other sectors, countries and structure of value added.

Conclusion

By focusing on the coverage and usage of RIVA database-

1. We can gauge the state of GVC integration of a country with other countries both at the aggregate and sector level
2. Countries can to identify need for enabling trade policy tools, technology transfer, skill requirements, etc for specific sectors
3. Even countries can highlight the importance of domestic policies such as infrastructure development, promotion of SMEs etc for sectors which are in GVCs or part of an emerging GVCs
4. In depth information such as the sources of intermediate inputs and destinations of domestic value-added by comprehensive data extraction are extremely useful to understand the involvement of trade in the development of particular sector.
5. A clear and simplified visualisation of GVC through RIVA can help policy makers to have a better introspection



Thank You



