UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Development Account Project – T15:

Measuring and curbing illicit financial flows

Methods to measure tax and commercial IFFs

International Webinar on Measuring Illicit Financial Flows (IFFs)

Online meeting, organized by ECLAC

18-20 November 2025

Overview

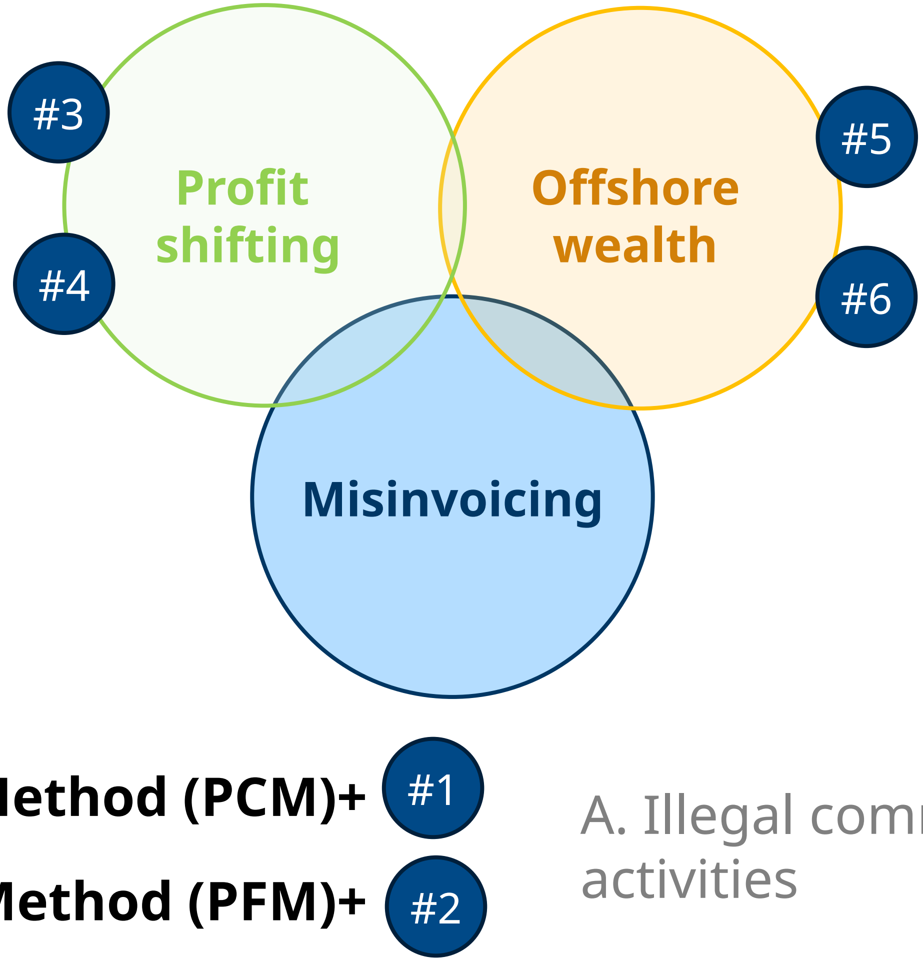
1. Introduction to Tax and Commercial IFFs
2. Trade misinvoicing
3. Aggressive tax avoidance
4. Tax evasion
5. SDG Data reporting

Tax and commercial IFFs

B. Aggressive tax avoidance

Global distribution of MNEs profits and taxes

MNEs vs non-MNEs profit shifting



C. Tax evasion

Flows of undeclared offshore assets indicator

Flows of offshore financial wealth by country

Partner Country Method (PCM)+

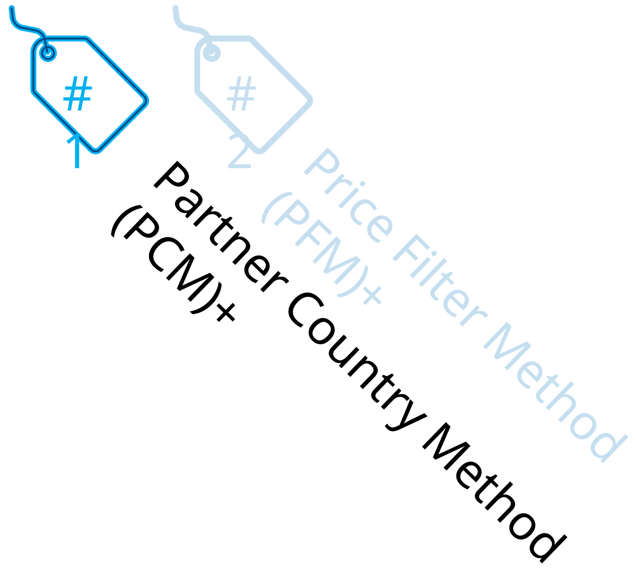
Price Filter Method (PFM)+

A. Illegal commercial activities

Trade misinvoicing IFFs

Method #1

Partner country method “plus” (PCM+)



M#1 – Concept

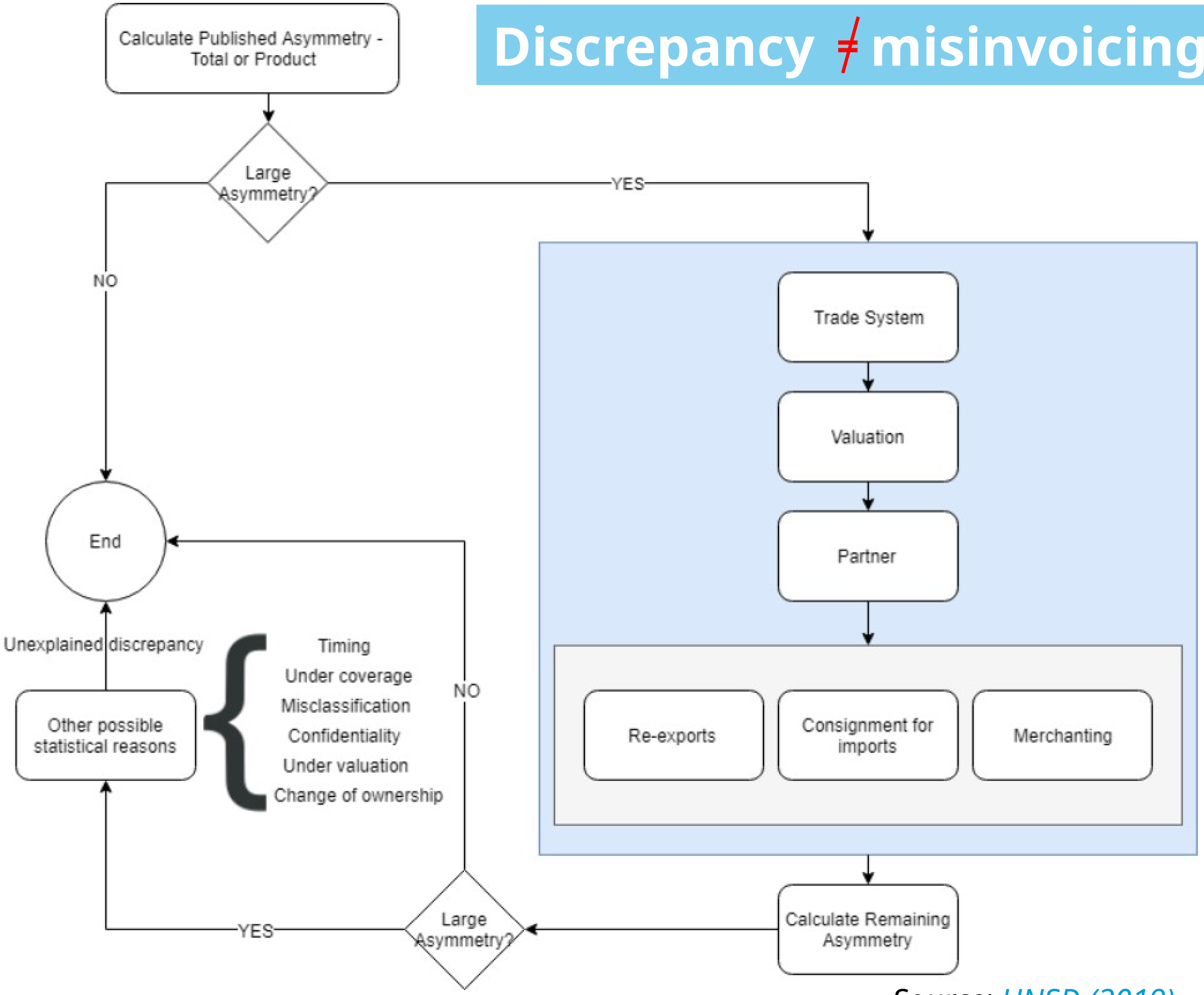
- **Mirroring trade** values by trading partners
- (EX of A to B) vs (IM of B from A)
- Assuming a correct value of one partner -> critical!
- Many factors for **discrepancies** -> [inspect!]

Discrepancy ≠ misinvoicing

Trade System
CIF/FOB
Partner country attribution
Other

M#1 – Estimation process

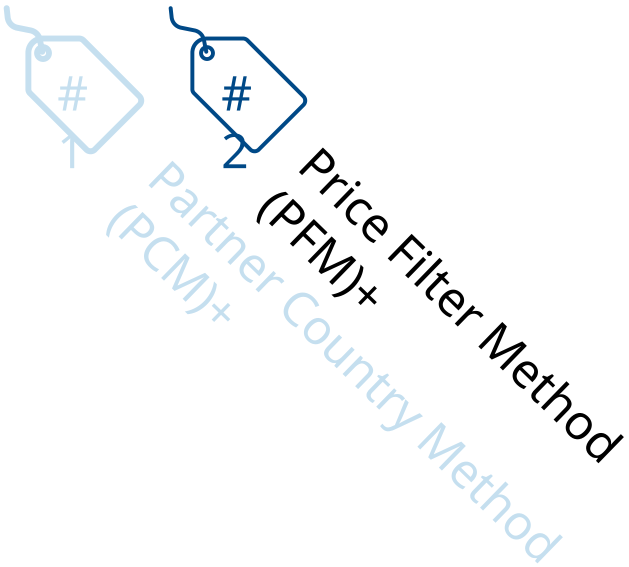
Discrepancy ≠ misinvoicing



Source: UNSD (2019)

Consider:
- National and global **data sources**
- **Collaboration** across institutions and partner countries

Method #2



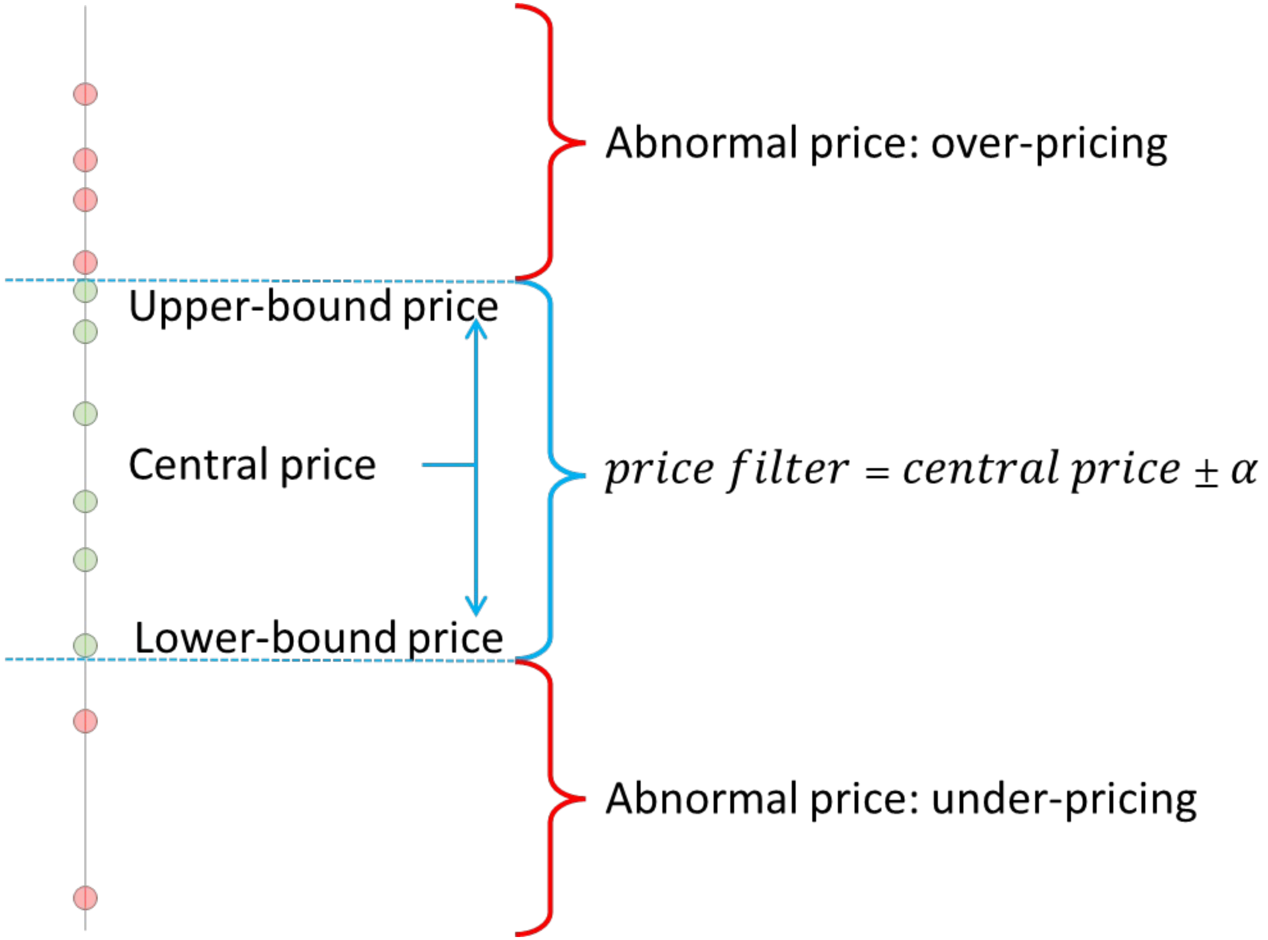
Price filter method “plus” (PFM+)

M#2 – Concept

Detect **abnormal prices**, deviating from arm's length

Central price? [statistical vs market price filter] [heterogeneity of products]

Variations? [consult experts]



M#2 – Overcoming limitations

Limitations

- Challenges in determining specific, detailed price filters
- Price filters in time, by commodity, by partner, by flow

Solutions

- Use of **transaction-level** customs data
- **Collaboration** with Customs and commodities experts
- Consider identifying partners (related vs non-related) -> conceptual border-crossing with profit shifting

Aggressive tax avoidance IFFs

Method #3

Global distribution of profits

3 Global distribution of MNEs profits and taxes

4 MNEs vs non-MNEs profit shifting

M#3 - Concept

Global distribution of profits

Tax semi-elasticity approach

Assuming **shifting profits to lower-tax** units

Any systematic deviation from predicted profitability is a sign of potential profit shifting -> caution in interpretation!

Data	[country-by-country reports, tax returns]
Tax rate	[effective tax rates, non-linear tax sensitivity]
Validate results	[location & economic activity of the unit]

M#3 – Overcoming limitations

- Data (un)availability
  - Microdata
  - Effective tax rates by units

- Assumptions and parameters
  - Specific work around negative taxes or profits
  - Increase sample size with insignificant statistical parameters
  - Check validity with experts!

Method #4

MNE vs comparable domestic enterprises

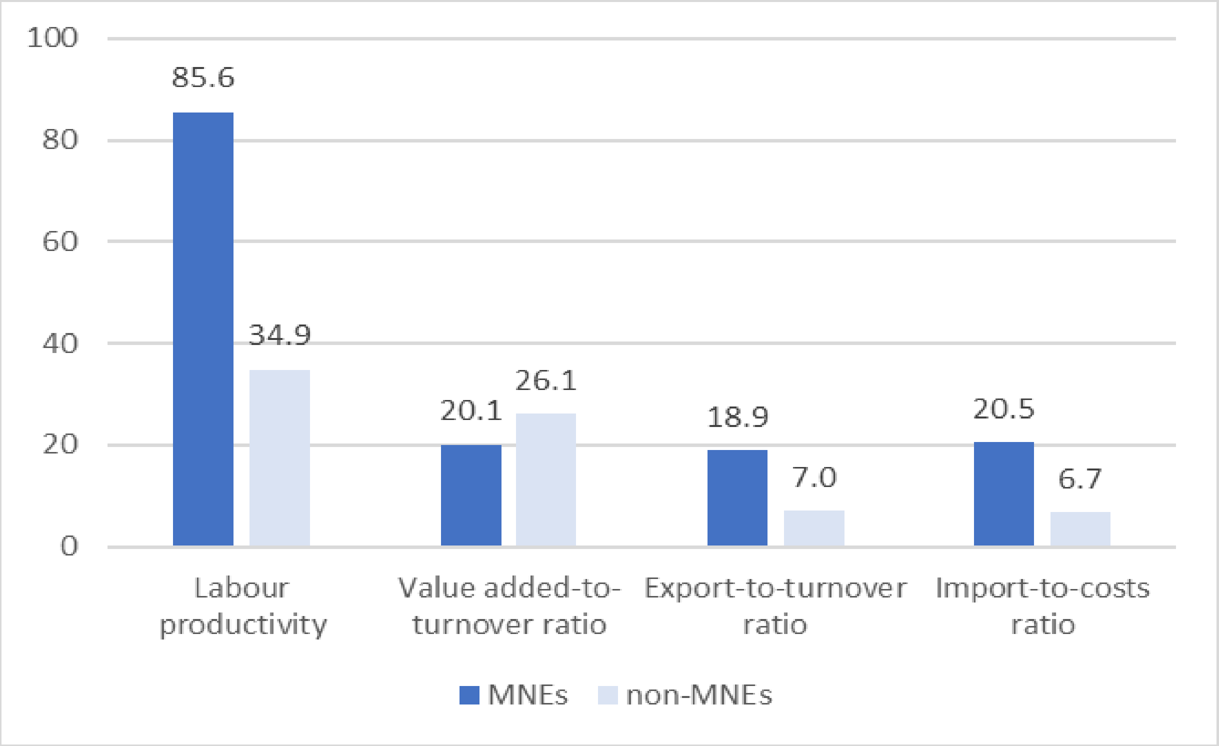
3 Global distribution of MNEs profits and taxes

4 MNEs vs non-MNEs profit shifting

M#4 – Concept

- Deviation from normality: **domestic firms vs MNEs**
- Bottom-up method, based on enterprises **microdata**
- Processed in two phases:
  1) **Identification phase**: identify which MNEs are avoiding taxes
  2) **Measurement of BEPS** -> IFFs amount
- Similar but separate models for inward and outward IFFs

Multinational enterprises vs. non-multinational enterprises, 2015 (%)

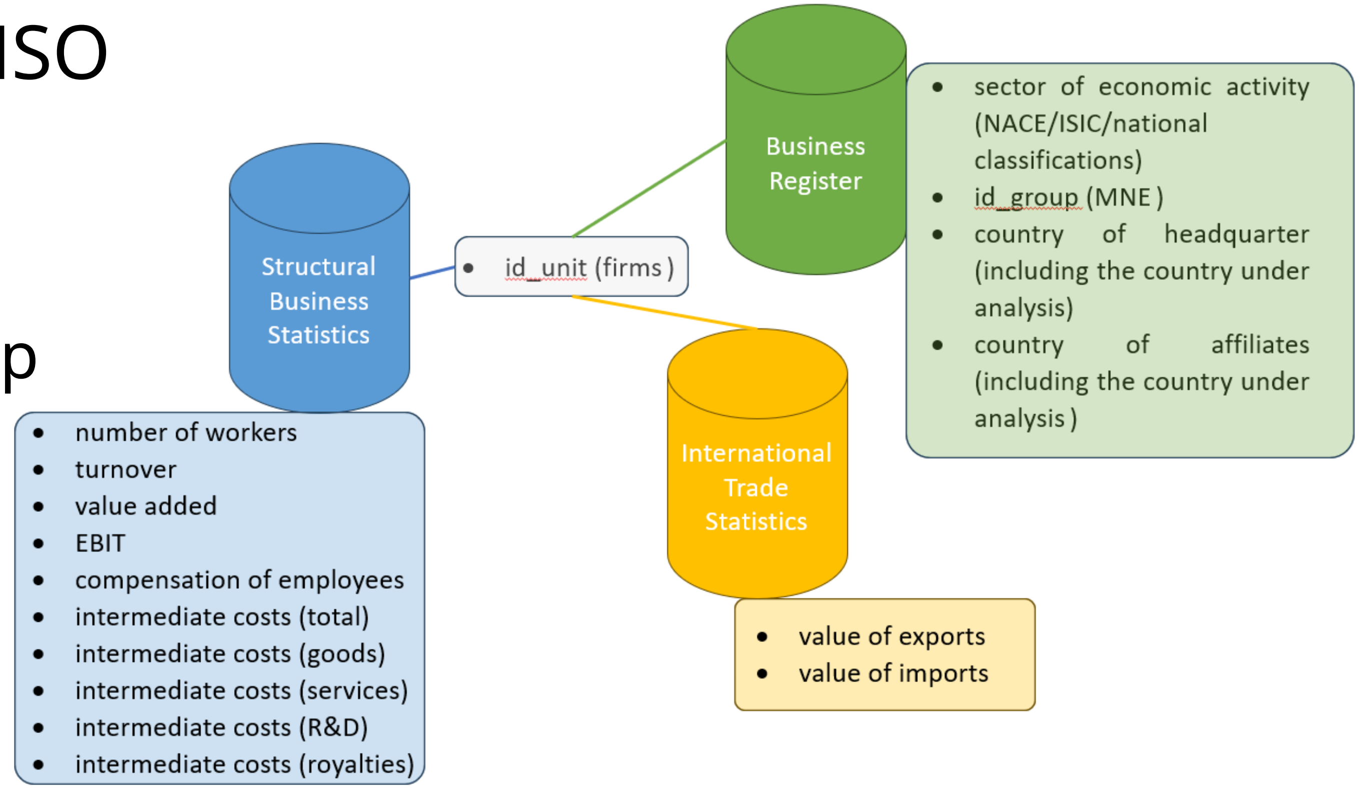


Source: Sallusti (2021)

M#4 – Data

- **Microdata** available to NSO

- **Challenges**
  - No domestic control group
  - Size of strata
  - Linking of data!



Tax evasion IFFs (by individuals)

Method #5

Undeclared offshore assets indicator

#5 Flows of undeclared offshore assets indicator

#6 Flows of offshore financial wealth by country

M#5 - Concept

M#5: Undeclared offshore assets indicator

Assets declared offshore by citizens of country A
vs
Assets of country A's citizens reported in other countries

- Assumption:
  $\boxed{\text{internationally reported}} > \boxed{\text{reported to national authorities}}$

$$\phi_i = \sum_j \underbrace{\boxed{\beta_{j,i}}}_{\text{BIS LS, OECD CRS}} - \underbrace{\boxed{\alpha_i}}_{\text{National Tax Authority}}$$

Assumptions!

[Not distinguish between various categories of IFFs] -> double counting!

[Data requirements and availability]

[Citizenship vs residence]

[Stock vs flows]

M#5 – Case study: South Africa

- **Study:** OECD (2022). *Assessing Tax Compliance and Illicit Financial Flows in South Africa*
- **Data sources**
  - Personal income tax from national tax authority
  - Data from voluntary disclosure programmes
  - Data exchanged within CRS
- **Step-by-step**
  - Estimating past non-compliant foreign wealth
  - Estimating non-compliant wealth in IFC
  - IFFs estimated from stock of foreign non-compliant wealth

Method #6

Offshore financial wealth by country

#5 Flows of undeclared offshore assets indicator

#6 Flows of offshore financial wealth by country

M#6 - Concept

M#6: Offshore financial wealth

Unreported **wealth** held by individuals outside their countries

Validation and calibration of assumptions!

[Non-compliance rate]

[Divide offshore wealth into deposits and portfolio investments]

[Capital gains, wealth consumption?]

Data exchange -> agreements, confidentiality

M#6 – Case study: ESCAP global study

Title: ESCAP (forthcoming) Estimating Illicit Financial Flows from Offshore Wealth (working paper)

Method: assuming that the discrepancy between liabilities and assets on the global scale is due to a potentially illicit nature and it can be broken down by country based on the countries' general participation in the external wealth flows.

Data: open access data from 4 databases:

- *External Wealth of Nations (EWN)*
- *Coordinated Portfolio Investment Survey (CPIS)**
- *Balance of Payments and International Investment Position database (BOP/IIP)*
- *Bank for International Settlements (BIS)*

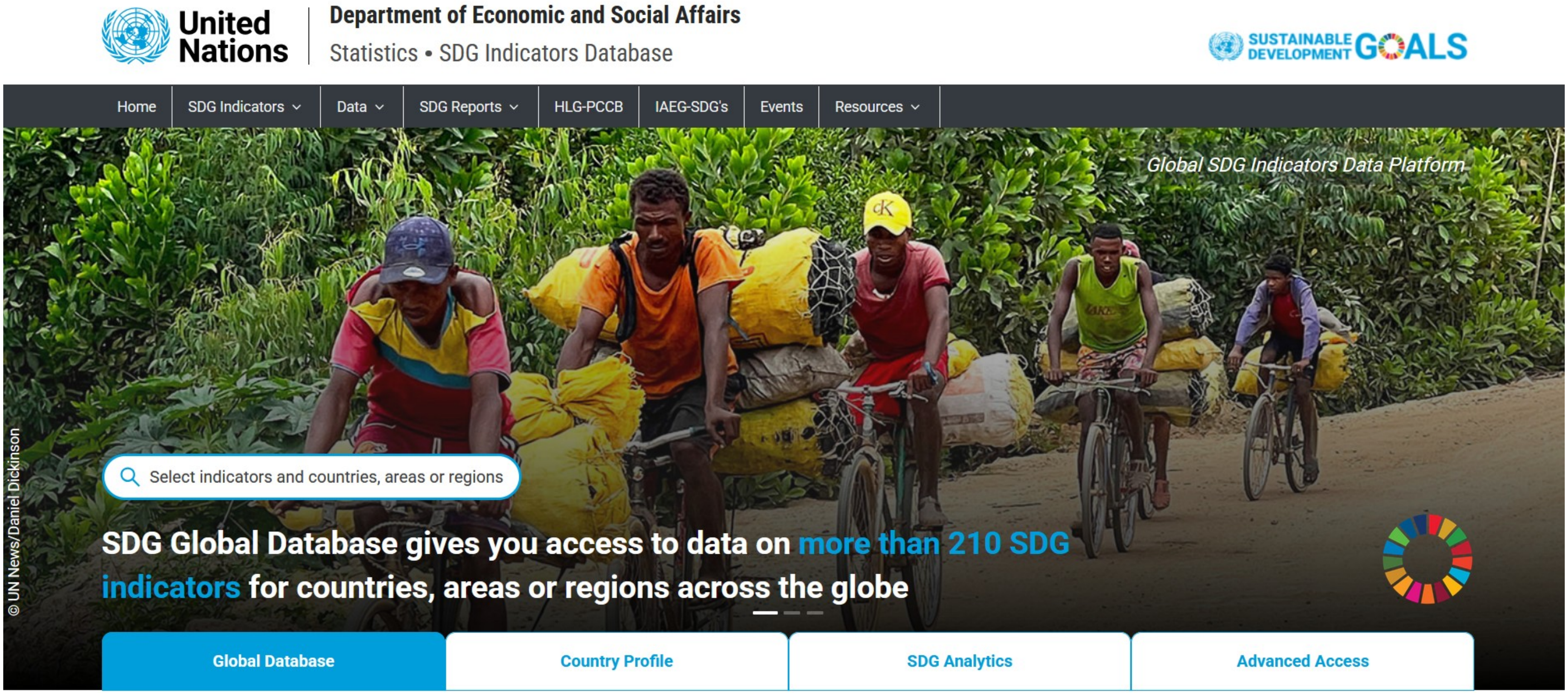
* Now known as Portfolio Investment Positions by Counterpart Economy (PIP)

Materials

- Conceptual Framework: https://unctad.org/publication/conceptual-framew -measurement-illicit-financial-flows
- Methodological Guidelines (draft): https://unctad.org/publication/methodologic lines-measure-tax-and-commercial-illicit-financial-flows-methods
- Towards a Statistical Framework to measure tax and commercial IFFs: https://unctad g/publication/towards-statistical-framework-measurement-tax-and-commercial-illicit-financial-flows
- Statistical Measurement of Tax and Commercial Illicit Financial Flows: Pilot testing methodologies for SDG indicator 16.4.1: https://unctad.org/publication/statistical-measurement-tax-and-commercial-illicit-financial-flows
- Project website: https://unctad.org/project/measuring-and-curbing-illicit-financial-flows
- UNCTAD website: https://unctad.org/statistics/illicit-financial-flows

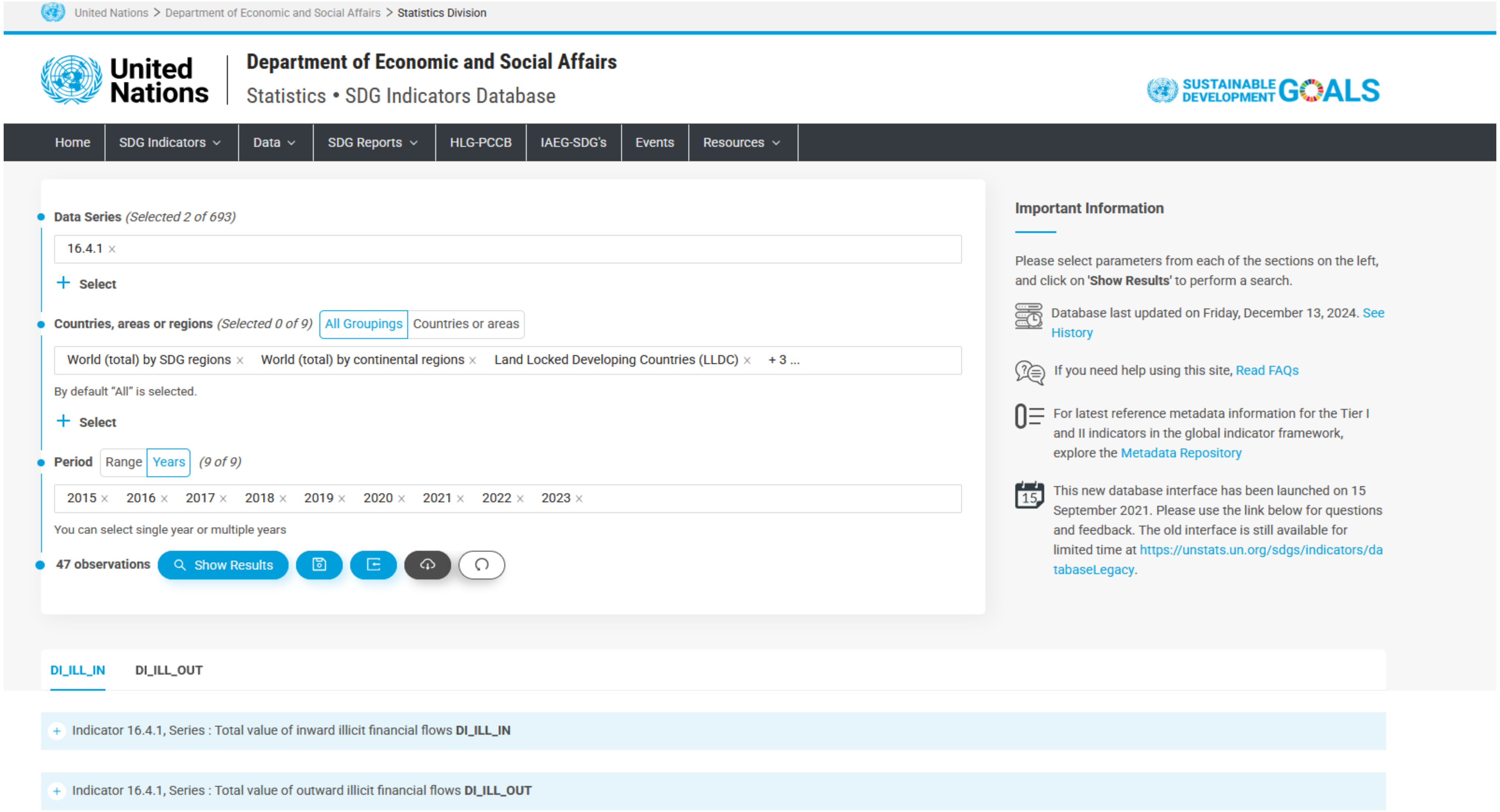
SDG data reporting

Global SDG indicator database



https://unstats.un.org/sdgs/dataportal

Global SDG indicator database



Official IFF estimates

DI_ILL_IN DI_ILL_OUT

Indicator 16.4.1, Series : Total value of inward illicit financial flows **DI_ILL_IN**

Disaggregated by Illicit Financial Flows

Go to Metadata | Search this table... | Select years to hide

Country	Illicit Financial Flows	2015	2016	2017	2018	2019	2020	2021	2022	2023
Afghanistan	ILM_DRG	-	-	-	NaN fn,E	NaN fn,E	-	NaN fn,E	-	NaN fn,E
Colombia	ILM_DRG	NaN fn,E	NaN fn,E	NaN fn,E	NaN fn,E	NaN fn,E	-	-	-	-
Mexico	ILM_DRG	12261 fn,E								-
Mexico	ILM_SOM	-								-
Myanmar	ILM_DRG	-								NaN fn,E
Nepal	ETF_TIP	-								-
Peru	ILM_DRG	1336 fn,E								-

(fn)Footnotes (E)Estimated data

Goal	Target	Indicator	SeriesCod	SeriesDesc	GeoAreaC	GeoAreaN	TimePerio	Value	UpperBound	LowerBound	Source
16	16.4	16.4.1	DI_ILL_IN	Total value	484	Mexico	2016	12764	18751	7658	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	484	Mexico	2018	10952	15089	7668	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	484	Mexico	2017	12357	17351	8522	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	484	Mexico	2017	991.9	1081	908.8	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	484	Mexico	2018	1218	1410	1049	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	484	Mexico	2016	1139	1254	1036	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	104	Myanmar	2018	NaN	1845	829	UNODC (201
16	16.4	16.4.1	DI_ILL_IN	Total value	104	Myanmar	2019	NaN	1073	490	UNODC (202
16	16.4	16.4.1	DI_ILL_IN	Total value	104	Myanmar	2020	NaN	1247	341	UNODC (202
16	16.4	16.4.1	DI_ILL_IN	Total value	104	Myanmar	2021	NaN	850	340	UNODC (202
16	16.4	16.4.1	DI_ILL_IN	Total value	104	Myanmar	2022	NaN	1720	540	UNODC (202
16	16.4	16.4.1	DI_ILL_IN	Total value	104	Myanmar	2023	NaN	2250	882	UNODC (202
16	16.4	16.4.1	DI_ILL_IN	Total value	524	Nepal	2021	3.3	5.9	1.5	Pilot estimate
16	16.4	16.4.1	DI_ILL_IN	Total value	604	Peru	2015	1336	1477	1196	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	604	Peru	2016	1454	1669	1301	UNODC estin
16	16.4	16.4.1	DI_ILL_IN	Total value	604	Peru	2017	1657	1949	1483	UNODC estin

1 Next 7 / page

ons Download XLS

SDG 16.4.1 reporting framework

Global SDGs indicators database

<u>Objective</u>

2 aggregated estimates:

total inward IFFs and total outward IFFs

Indicator 16.4.1, Series : Total value of inward illicit financial flows **DI_ILL_IN**

Indicator 16.4.1, Series : Total value of outward illicit financial flows **DI_ILL_OUT**

Disaggregation

IFFs type

TXC: Tax and commercial
ILL: Illegal market
COR: Corruption
ETF: Exploitation type and terrorism financing

IFFs sub-type

TXC_TMI :Trade misinvoicing
TXC_TAV: Tax evasion
....
ILL_DRG: Illicit drug
ILL_SOM: Smuggling of migrants
....
ETF_TIP: Trafficking in persons

<u>Optional</u>

Economic sector

ISIC4_A: Agriculture, forestry and fishing
ISIC4_B: Mining and quarrying
ISIC4_C: Manufacturing
……

Commodity

HS 01, HS 02, … HS 99

Other possible disaggregation:

Geographic

Region
Subregion
Country

Reporting cycle

Tax and commercial IFF estimates

UNCTAD

reports

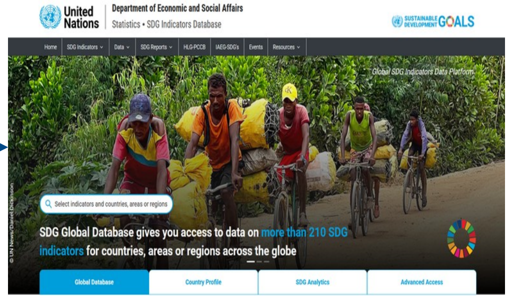
If estimates are valid

Country
(focal point)

If estimates are NOT valid

UN Statistics Division

publish



UNSD publishes new estimates every quarter (end of March, June, September, December)

reports

UNODC

If estimates are valid

Crime-related IFF estimates

Instructions

Estimates reporting:

- **Separate inward IFFs and outward IFFs** -> no sum, no net
- **By calendar year** -> no sum, no average over a period
- **In millions of United States dollars** -> if in original currency, UN Treasury exchange rates recommended
- **IFF subtype-specific** -> no sum, no average of different IFFs subtypes (e.g. trade misinvoicing + aggressive tax avoidance)
- **Method-specific** -> no sum, no average of two methods
- **Separate midpoint, lower and upper bound estimates** allowed.

Reporting template

Each sheet, 2 tables = inward IFFs - outward IFFs!

Aggregated (total) estimates

Midpoint estimates, by:
- Year
- IFF subtype
- Method

Lower and upper bound estimates, by:
- Year
- IFF subtype
- Method

IFF subtype estimates

Select method

Trade misinvoicing, by:
- Year
- HS code (2 digits)

Aggressive tax avoidance, by:
- Year
- ISIC sector

Tax evasion, by:
- Year
- Country of origin and country of destination

Total estimates

Illicit financial flows (IFFs) official estimates. Totals by year. Midpoint estimates

Another Excel sheet is available for lower and upper bound estimates.

Inward illicit financial flows (in current millions of United States dollars)

Flow direction	IFF type	IFF sub-type	Method	Year: 2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	Earlier year (please specify_)	Footnotes	Comments
Total inward IFFs (DI_ILL_IN)	Tax and commercial IFFs (_TXC)	Trade misinvoicing (_TMI)	M#1 - Partner Country Method (plus)																	
			M#2 - Price Filter Method (plus)																	
		Aggressive tax avoidance (_ATA)	M#3 - Global distribution of MNEs profits																	
			M#4 - MNEs vs comparable non-MNEs profit shifing																	
		Tax evasion by individuals (_TEV)	M#5 - Undeclared offshore wealth indicator																	
			M#6 - Offshore financial wealth by country																	

Reporting by IFF subtype and by method. No totals!

INWARD IFFs TOTAL – Observations and comments:

Space for metadata

Inward and outward IFFs: Two separate tables

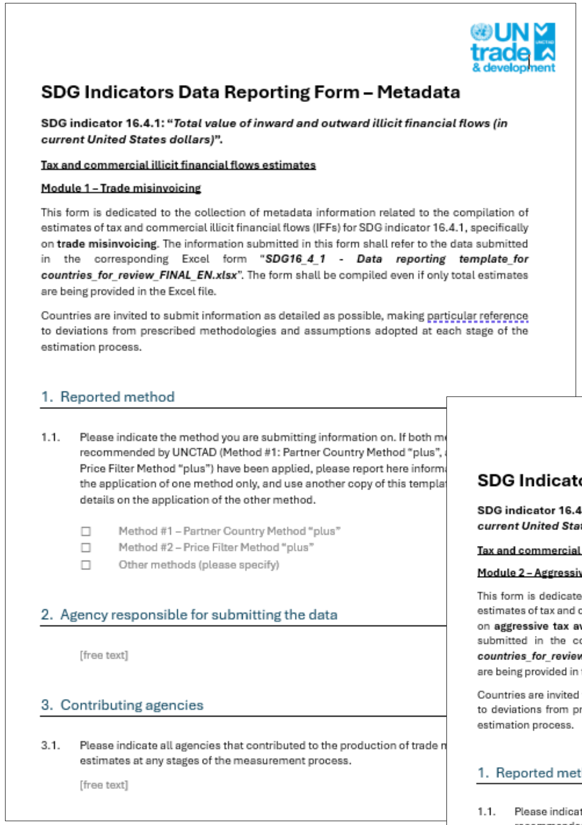
Outward illicit financial flows (in current millions of United States dollars)

Flow direction	IFF type	IFF sub-type	Method	Year: 2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	Earlier year (please specify_)	Footnotes	Comments
		Trade misinvoicing (_TMI)	M#1 - Partner Country Method (plus)																	
			M#2 - Price Filter Method (plus)																	

Metadata compilation

➔ Two templates, each by IFFs subtype
➔ Each template to be compiled for each method applied

- Time coverage
- Geographical coverage
- Products coverage
- Estimates granularity (HS level…)
- Methodological steps and adjustments
- Aggregation with other estimates
- Data sources
- Comparability (internal and external)
- Missing values and data quality management
- Suggested data and methodological adjustments



SDG Indicators Data Reporting Form – Metadata

SDG indicator 16.4.1: "*Total value of inward and outward illicit financial flows (in current United States dollars)*".

Tax and commercial illicit financial flows estimates

Module 1 – Trade misinvoicing

This form is dedicated to the collection of metadata information related to the compilation of estimates of tax and commercial illicit financial flows (IFFs) for SDG indicator 16.4.1, specifically on **trade misinvoicing**. The information submitted in this form shall refer to the data submitted in the corresponding Excel form "***SDG16_4_1 - Data reporting template_for countries_for_review_FINAL_EN.xlsx***". The form shall be compiled even if only total estimates are being provided in the Excel file.

Countries are invited to submit information as detailed as possible, making particular reference to deviations from prescribed methodologies and assumptions adopted at each stage of the estimation process.

1. Reported method

1.1. Please indicate the method you are submitting information on. If both me
recommended by UNCTAD (Method #1: Partner Country Method "plus", a
Price Filter Method "plus") have been applied, please report here informa
the application of one method only, and use another copy of this templat
details on the application of the other method.

☐ Method #1 – Partner Country Method "plus"
☐ Method #2 – Price Filter Method "plus"
☐ Other methods (please specify)

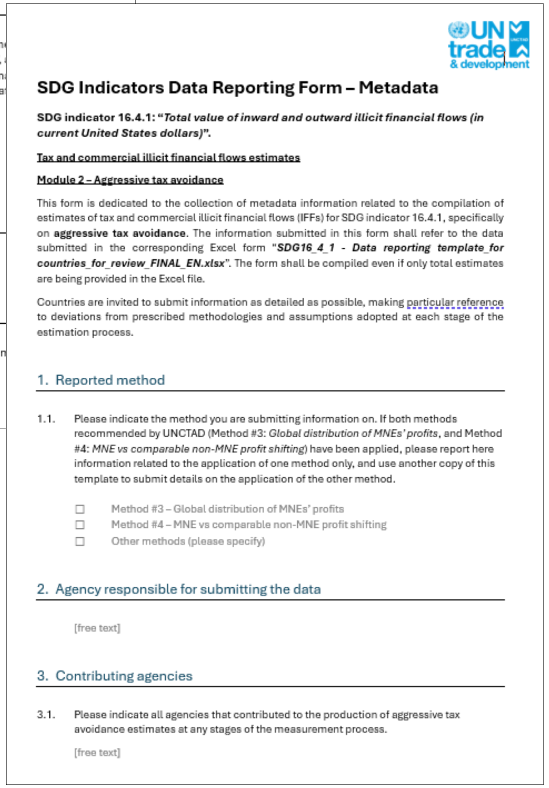
2. Agency responsible for submitting the data

[free text]

3. Contributing agencies

3.1. Please indicate all agencies that contributed to the production of trade m
estimates at any stages of the measurement process.

[free text]



SDG Indicators Data Reporting Form – Metadata

SDG indicator 16.4.1: "*Total value of inward and outward illicit financial flows (in current United States dollars)*".

Tax and commercial illicit financial flows estimates

Module 2 – Aggressive tax avoidance

This form is dedicated to the collection of metadata information related to the compilation of estimates of tax and commercial illicit financial flows (IFFs) for SDG indicator 16.4.1, specifically on **aggressive tax avoidance**. The information submitted in this form shall refer to the data submitted in the corresponding Excel form "***SDG16_4_1 - Data reporting template_for countries_for_review_FINAL_EN.xlsx***". The form shall be compiled even if only total estimates are being provided in the Excel file.

Countries are invited to submit information as detailed as possible, making particular reference to deviations from prescribed methodologies and assumptions adopted at each stage of the estimation process.

1. Reported method

1.1. Please indicate the method you are submitting information on. If both methods recommended by UNCTAD (Method #3: *Global distribution of MNEs' profits*, and Method #4: *MNE vs comparable non-MNE profit shifting*) have been applied, please report here information related to the application of one method only, and use another copy of this template to submit details on the application of the other method.

☐ Method #3 – Global distribution of MNEs' profits
☐ Method #4 – MNE vs comparable non-MNE profit shifting
☐ Other methods (please specify)

2. Agency responsible for submitting the data

[free text]

3. Contributing agencies

3.1. Please indicate all agencies that contributed to the production of aggressive tax avoidance estimates at any stages of the measurement process.

[free text]

Thank you

https://unctad.org/statistics/illicit-financial-flows

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