

Trade Risk and Misinvoicing (TRIM) Calculator

FROM TRADE MISINVOICING, TO RISK AND POTENTIAL ILLICIT FINANCIAL FLOWS

Manual

ESCAP Statistics Division

Statistics Division, ESCAP – Bangkok



The TRIM calculator – what it does

What the calculator delivers

- Twelve-tab web app (trim-calculator.netlify.app) organised into three modules that run separately or together.
- Module 1 measures trade misinvoicing (PCM+) and trade mispricing (PFM+). Module 2 turns those results into risk areas. Module 3 screens them into potential IFFs.
- UNCTAD/UNODC-aligned PCM+ and PFM+; PFM+ reference quartiles (Q1/Q2/Q3) for many HS6 codes are already embedded – no separate price file needed.
- Outputs: KPI dashboards, XLSX exports per module, PCM+ vs PFM+ correlation analysis, English/Russian interface.

What users will do

- Acquire Reporter JSON and Partner JSON for their country from UN Comtrade – for each year.
- Configure settings (CIF-FOB r, AG level, value unit, materiality) and run PCM+ and PFM+ together.
- Iterate via the Re-upload page: edit XLSX, recreate charts; drill into individual HS6 codes and partner countries.
- Translate results (Inward/Outward IFFs, OE/UE/OI/UI) into reporting language for SDG 16.4.1.

1 Misinvoicing & Mispricing

2 Risk Areas

3 Potential IFFs

EN

RU

SDG 16.4.1

Misinvoicing and mispricing – what each method measures

	PCM+ → trade misinvoicing	PFM+ → trade mispricing
What it is	Value, quantity or type of goods deliberately misdeclared. The two sides of the same shipment disagree.	The price itself departs from a market or arm's-length benchmark, whether or not the partner agrees.
What TRIM measures	CIF/FOB-adjusted gap between the reporter's and the partner's mirror records.	Unit price falling outside the embedded Q1–Q3 benchmark for that HS6 code.
What it catches	One-sided misdeclaration, unreported shipments, duty and quota evasion.	Abnormal prices, including transfer mispricing between related parties.
Blind spot	Consistent misreporting by both sides leaves no gap to see.	Value and quantity falsified in proportion leaves the unit price looking normal.
Result labels	Over / Underinvoiced Exports and Imports (OE, UE, OI, UI).	Over / Underpriced Exports and Imports.

**UNCTAD's guidelines cluster both methods under "trade misinvoicing". TRIM keeps the method names PCM+ and PFM+ for SDG 16.4.1 reporting, and separates the concept each one measures so results are not read as the same quantity.*

Three modules, one pipeline

Module	Tabs	What it produces
1 — Misinvoicing & Mispricing	1–8	The measurement layer. Upload and settings, flow triage, PCM+ misinvoicing, PFM+ mispricing, price explorer, PCM+/PFM+ comparison, drill-down by HS code and by partner country. Outputs are neutral gap and price-deviation figures — no IFF claim.
Re-upload (shared)	9	Feeds corrected or previously saved PCM+/PFM+ spreadsheets back into the tool. Belongs to no single module: it recreates charts for Module 1 and is the entry point for Modules 2 and 3 when Module 1 is switched off.
2 — Risk Areas	10–11	The prioritisation layer. Eight configurable rules flag partner countries and commodities orange, red or purple, and rank them by combined severity.
3 — Potential IFFs	12	The interpretation layer. Screens measured flows against materiality and state-controlled commodities, classifies the rest by likely motive and direction, and produces the Potential IFFs Report XLSX.

The modules run in sequence – measure, prioritise, interpret – but each can be switched on or off independently using the three chips next to the EN/RU toggle in the header.

Module 1 – Misinvoicing & Mispricing (tabs 1–8)

What it does

- Takes UN Comtrade JSON and produces the two measurements: PCM+ mirror gaps (misinvoicing) and PFM+ price deviations (mispricing).
- Tab 2 Flow Triage separates re-exports, re-imports and processing flows before calculation – these create asymmetries that are routing artefacts, not misinvoicing.
- Tabs 5–8 interpret the measurement: price explorer, PCM+ vs PFM+ comparison with Pearson correlation, and drill-down by HS code and by partner country.

What comes out

- PCM+: Export Gaps XLSX, Import Gaps XLSX, Summary XLSX. PFM+: Reporter PFM XLSX, Partner PFM XLSX, Summary XLSX.
- These files carry gap and price-deviation columns only. IFF classification columns live in Module 3, so Module 1 output can be shared without implying an IFF finding.

What to remember

- Module 1 results are statistical indications, not IFF estimates. The plus-element investigation – timing, re-exports, CIF/FOB, classification, measurement error – is what turns them into findings.

Module 2 – Risk Areas (tabs 10–11)

What it does

- Reads the PCM+ and PFM+ results and applies eight detection rules to every partner country and every commodity, year by year.
- Tab 10 Risk Settings holds the thresholds – every one of them editable before you run the assessment. Tab 11 Risk Areas holds the results.
- Flags are graded orange (attention), red (high) and purple (highest – a country that has accumulated repeated red flags across years).

What comes out

- Country risk flags: which partners trip which rules, in which years, and at what value.
- Commodity risk flags: HS codes with gaps or price deviations above threshold, sorted by total exposure.
- Combined risk ranking: partners ranked by country-level severity together with the commodity signals that co-occur with them.

What to remember

- Risk flags prioritise investigative attention. They do not establish that an IFF occurred – that judgement belongs to Module 3 and to national authorities.

Module 2 – the eight risk rules and their defaults

Rule	What it detects	Source	Severity	Default threshold
1	Large relative gap	PCM+	Red	> 30% of bilateral trade
2	Large absolute gap	PCM+	Orange	> \$100M gap
3	Combined mirror gap	PCM+	Red	> 15% and > \$100M together
6	High PFM mispricing	PFM+	Orange	> \$100M mispricing
7	Extreme price deviation	PFM+	Orange	> 30% beyond the Q1–Q3 range
8	Combined PFM signal	PFM+	Red	Rules 6 and 7 fire together (automatic)
10	Accumulated orange flags	Multi-year	Red	≥ 5 orange flags
11	Accumulated red flags	Multi-year	Purple	≥ 2 red flags

Rules 4, 5 and 9 are not implemented: they need flow-level raw data that is no longer available once trade is aggregated. Rule 8 has no threshold of its own – it fires whenever rules 6 and 7 are met at the same time. Adjust any threshold on the Risk Settings tab, then click Assess Risk to rerun.

Module 3 – Potential IFFs (tab 12)

What it does

- Screens the measured flows before any IFF label is applied: rows below the materiality threshold are set aside, and state-controlled commodities (oil, gas, gold, uranium and similar) are excluded.
- Classifies what remains into the four misinvoicing cases – OE, UE, OI, UI – and assigns each a direction, a likely motive and a recommended action.
- Reports inward and outward potential IFFs separately, with PCM+ and PFM+ shown side by side rather than summed.

What comes out

- Potential IFFs summary by likely motive, all years combined, above materiality only.
- Potential IFFs Report XLSX (AG6) – the consolidated deliverable, carrying the IFF case, likely cause and recommended action for every row.

What to remember

- Everything here is a preliminary first-step estimate. PCM+ and PFM+ measure different dimensions and should not be added together without adjustment.
- The plus-element investigation is a national authority task, not a calculator output. TRIM narrows where to look; it does not conclude.

Running the modules separately

How to switch modules on and off

- The three chips beside the EN/RU toggle turn each module on or off. Tabs belonging to a disabled module disappear from the navigation bar; at least one module must stay on.
- Re-upload (tab 9) stays visible whatever the selection, because it is how results enter the calculator when Module 1 is not running.

Three ways to work

- All three modules on – the full workshop path: measure, flag risk areas, screen potential IFFs. This is the default.
- Module 1 only – a measurement exercise. Useful when producing gap and price-deviation figures for a statistical annex, where IFF language would be premature.
- Modules 2 and 3 only – an analysis session on work done earlier. Load previously exported PCM+ spreadsheets through Re-upload, then go straight to Risk Settings and Potential IFFs.

What to watch for

- Modules 2 and 3 need PCM+ results, whether calculated in this session or re-uploaded. PFM+ signals (rules 6, 7 and 8) are only available when PFM+ was calculated in the same session.
- Risk rules 1, 2 and 3 work at any aggregation level, but the Potential IFFs Report XLSX requires PCM+ to have been run at AG6 or All Levels.

Session 2 – Data acquisition (UN Comtrade JSON)

Required input

- Two JSON files per year from UN Comtrade: Reporter JSON (country as reporter) and Partner JSON (partners reporting trade with the country).
- HS classification at AG6 (6-digit subheading) recommended; AG2 (chapter) and AG4 (heading) supported for faster runs.
- Required fields: reporter, partner, flow direction, trade value in USD, quantity, net weight (where available).

Step 1a

Information: Please select variables from each of the following sections to view the report. You can select from previously saved searches from 'My Saved Searches' dropdown

What are you looking for?

Type of Product: **Goods** | Services

Frequency: **Annual** | Monthly

Classifications: **HS** | SITC | BEC
☒ As Reported

Refine your search

HS (as reported) Commodity Codes: **AG6**

Reporters: **Thailand**

Trade Flows: **Imports** | Exports

Periods (year, month): **2021**

Partners: **All**

Modes of transport: **TOTAL modes of transport**

2nd Partner: **World**

Customs Codes: **TOTAL customs procedure codes**

Set Your Query Options

Breakdown Mode: **Plus**

Aggregate By: **None**

Download (dropdown menu): CSV, Excel, **Json**, Tab Separated

Preview | **Download** | **Deliver** | **Reset** | **Share**

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 Developer Portal
 Changelog

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 Subscription Plans

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 Mail to comtrade@un.org
 Help Center

United Nations Statistics Division

Required input

– Two JSON files per year from UN Comtrade: Reporter JSON (country as reporter) and Partner JSON (partners reporting trade with the country).

– HS classification at AG6 (6-digit subheading) recommended; AG2 (chapter) and AG4 (heading) supported for faster runs.

Step 1a

Information: Please select variables from each of the following sections to view the report. You can select from previously saved searches from 'My Saved Searches' dropdown

What are you looking for?

Type of Product
 Goods Services

Frequency
 Annual Monthly

Classifications ⁱ
 HS SITC BEC

☒ As Reported

Refine your search

As reported) Commodity Codes 	Reporters 	Trade Flows <input checked="" type="text"/> Exports <input checked="" type="text"/> Imports
Products (year, month) 	Partners 	Modes of Transport
	2nd Partner 	Customs Codes

Your Query Options

Breakdown Mode

Aggregate By

CSV
 Excel
 Json
 Tab Separated

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[United Nations Statistics Division](#)
[UN Comtrade GUN Data](#)

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[Mail to comtrade@un.org](#)
[Help Center](#)

– Download partners' data in JSON for year 1

Step 1a

Trade Data

[Home](#) > [Data](#) > [Trade Data](#)

UN Comtrade regularly updates its data as official information becomes available from statistical authorities. However, there is no fixed schedule for when data from individual countries will be posted. You can review the available data [here](#)

Information: Please select variables from each of the following sections to view the report. You can select from previously saved searches from 'My Saved Searches'

What are you looking for?

Type of Product

Goods Services

Frequency

Annual Monthly

Classifications

HS SITC BEC

As Reported

Refine your search

HS (as reported) Commodity Codes

AG6

Reporters

All

Trade Flows

All

Periods (year, month)

2023

Partners

Thailand

2nd Partner

All

Modes of Transport

TOTAL modes of transport

Customs Codes

TOTAL customs procedure codes

Set Your Query Options

Breakdown Mode

Plus

Aggregate By

None

Preview

Download

Deliver

Reset

Share

CSV

Excel

Json

Tab Separated

Statistics Section

Resources

Developer Portal

Channels

Premium Service

Subscription Plans

Help & Support

Mail to comtrade@un.org

Help Center

Alternative
download for
trriage

– Download partners' data in JSON for year 1

– Repeat the same for other years

Tab 2: why run flow triage?

Triage will show if the country has reported any alternative flows, such as re-import and re-export and will set them aside in a separate spreadsheet for further manual analysis

1. Upload & Settings
2. PCM+ Results
3. PFM+ Results
4. Price Explorer
5. Compare
6. Explore Code
7. Explore Partner
8. Re-upload
9. Risk Settings
10. Conclusions
11. Flow Triage

Flow-Code Triage

UN COMTRADE JSON


all rep data 2021.json
313.6 MB

IFF flow basis selected: DX + FM - Exportable flows: 123,374
DX ✓ KEEP 85,363 (34.1%) Domestic Export
FM ✓ KEEP 38,611 (15.4%) Foreign Import
M ○ FALLBACK 38,324 (15.3%) Import (aggregate)
RM △ EXTRACT 2,228 (0.9%) Re-import
RX △ EXTRACT 942 (0.4%) Re-export
X ○ FALLBACK 84,532 (33.8%) Export (aggregate)
Triage complete.

Run Triage
Clear

Flow-Code Distribution – THA

CODE	DESCRIPTION	BEHAVIOUR	RECORDS	SHARE	VALUE (USD)	TREATMENT
DX	Domestic Export	Exports of home-produced goods	85,363	34.1%	\$154846.6M	✓ Keep for IFF
X	Export (aggregate)	Aggregate – often DX + RX combined	84,532	33.8%	\$162692.0M	○ Fallback only if DX / FM absent on that side
FM	Foreign Import	Imports for domestic use	38,611	15.4%	\$74211.4M	✓ Keep for IFF
M	Import (aggregate)	Aggregate – often FM + RM combined	38,324	15.3%	\$84190.8M	○ Fallback only if DX / FM absent on that side
RM	Re-import	Re-imports of previously exported goods	2,228	0.9%	\$936.1M	△ Extract for review
RX	Re-export	Re-exports of previously imported goods	942	0.4%	\$96.8M	△ Extract for review

Download XLSX Triage Report
Clean IFF JSON

Methodology note. Re-exports (RX) and re-imports (RM) generate large bilateral asymmetries that are routing artefacts, not misinvoicing – exclude from PCM+. Inward/outward processing flows (MIP, XIP, MOP, XOP) cross the border for transformation, not final use – analyse separately. Aggregate flows X and M can double-count their components; if both X and DX appear for the same trade pair, use one only.

PCM+
PFM+
UNCTAD
SDG 16.4.1
IFF Measurement Toolkit · Trade misinvoicing estimates

Download this

Why run triage?

– Reporter data

CODE	DESCRIPTION	BEHAVIOUR	RECORDS	SHARE	VALUE (USD)	TREATMENT
DX	Domestic Export	Exports of home-produced goods	85,363	34.1%	\$154846.6M	✓ Keep for IFF
X	Export (aggregate)	Aggregate – often DX + RX combined	84,532	33.8%	\$162692.0M	○ Fallback only if DX / FM side
FM	Foreign Import	Imports for domestic use	38,611	15.4%	\$74211.4M	✓ Keep for IFF
M	Import (aggregate)	Aggregate – often FM + RM combined	38,324	15.3%	\$84190.8M	○ Fallback only if DX / FM side
RM	Re-import	Re-imports of previously exported goods	2,228	0.9%	\$936.1M	△ Extract for review
RX	Re-export	Re-exports of previously imported goods	942	0.4%	\$96.8M	△ Extract for review

– Partner data

CODE	DESCRIPTION	BEHAVIOUR	RECORDS	SHARE	VALUE (USD)	TREATMENT
M	Import (aggregate)	Aggregate – often FM + RM combined	170,797	68.3%	\$239938.9M	○ Fallback only if DX / FM absent on that side
X	Export (aggregate)	Aggregate – often DX + RX combined	59,185	23.7%	\$197180.1M	○ Fallback only if DX / FM absent on that side
FM	Foreign Import	Imports for domestic use	12,725	5.1%	\$5018.3M	✓ Keep for IFF
DX	Domestic Export	Exports of home-produced goods	5,376	2.2%	\$7547.0M	✓ Keep for IFF
RX	Re-export	Re-exports of previously imported goods	996	0.4%	\$325.6M	△ Extract for review
XIP	Export inward processing	Re-export after transformation	513	0.2%	\$329.0M	△ Extract for review
MIP	Import inward processing	Temporary import for transformation	252	0.1%	\$175.1M	△ Extract for review
MOP	Import outward processing	Re-import after foreign transformation	60	0.0%	\$94.9M	△ Extract for review
RM	Re-import	Re-imports of previously exported goods	50	0.0%	\$28.5M	△ Extract for review
XOP	Export outward processing	Temporary export for transformation	46	0.0%	\$80.0M	△ Extract for review

If one country reports exports as X only without breakdown for DX, RX, and another country reports them as FM and RM, not only M, these flows will be lost in calculation and data cleaning, thus the calculator runs the analysis on X and M (we download from Comtrade only the X and M data aggregates), but you can download a full dataset, triage it and view the RX and RM in a separate file for manual analysis.

1. Upload & Settings
2. PCM+ Results
3. PFM+ Results
4. Price Explorer
5. Compare
6. Explore Code
7. Explore Partner
8. Re-upload
9. Risk Settings
10. Conclusions
11. Flow Triage

Upload UN Comtrade Trade Data (JSON)

For each year, upload **Reporter JSON** and **Partner JSON** from UN Comtrade. Both PCM+ and PFM+ use the same data. PFM+ price filters are already embedded

Year: auto-detect

Reporter JSON

Partner JSON

+ Add Year

Set CIF-FOB correction

Choose how to display CIF-FOB coefficient

Set the PCM AG level

Set the PFM reference data

Settings

CIF-FOB COEFFICIENT (R)

Default 0.07 (7%). Adjusts CIF→FOB. Used by PCM+.

CIF-FOB IN EXCEL

Include coefficient as editable column per row (Gap formula auto-updates).

PCM+ AGGREGATION LEVEL

HS code depth: AG2 (chapter), AG4 (heading), AG6 (subheading). Choose "All Levels" to compare summaries across all three.

PFM+ RESULTS DISPLAY MODE

REPORTER COUNTRY ISO3

For Partner PFM. Auto-detected if empty.

VALUE UNIT

MATERIALITY THRESHOLD (%)

Default 1%. A gap is immaterial if it is below this % of the sum of both reporter's and partner's declared trade volume for that HS code and partner country.

MATERIALITY FLOOR (USD)

Default \$1,000. Gaps below this absolute amount are always "No action required".

Embedded PFM Filters
Loading embedded data...

Calculate PCM+ & PFM+

Drop
reporter
data here

Drop
partner
data here

Choose how to
display CIF-FOB
coefficient

Set the PCM
AG level

Set the PFM
reference
data

Open the
calculator at
<https://trim-calculator.netlify.app/>

Go through the
calculator
elements

Step 2

Set materiality
thresholds

Calculator settin

Settings

CIF-FOB COEFFICIENT (R)

0.06

Default 0.07 (7%). Adjusts CIF→FOB. Used by PCM+.

1) CIF-FOB Coefficient

You can leave as a default value of 7%, or set any other value

2) Choose if to display the CIF-FOB coefficient in Excel or not: recommended to display,

this way you can edit for any specific partner country

3) Set PCM aggregation level: AG6 – only at 6 digits; AG4 – 4 digits, AG2 recommended for general risk scoping, if you set all levels – the tool will e summary for discrepancies at each digit level

CIF-FOB IN EXCEL

✓ Yes (editable column)

No (applied in calc)

Include coefficient as editable column in excel (sup formula auto-updates).

PCM+ AGGREGATION LEVEL

✓ AG6 (6-digit, subheading)

AG4 (4-digit, heading)

AG2 (2-digit, chapter)

All Levels (AG2+AG4+AG6 summary only)

Calculator settings:

4) PFM calculation mode: the default is to use Reporter's data, however it can be run on partner data for information value only

You can leave as a default value of 7%, or set any other value

5) Reporter country ISO3 will be displayed after the data is uploaded, this is a safety check

6) Value unit: leave as is, but can be changed to billions for larger economies (change to billions)

7) Materiality thresholds: set the value or percent of total trade below which the trade gap is considered to be immaterial.

8) Calculate button will become active after data is dropped

PFM+ CALCULATION MODE

✓ Reporter PFM

Partner PFM

REPORTER COUNTRY ISO3

For Partner PFM. Auto-detected if empty.

VALUE UNIT

Millions USD

MATERIALITY THRESHOLD (%)

1

Default 1%. A gap is immaterial if it is below this % of the sum of both reporter's and partner's declared trade volume for that HS code and partner country.

MATERIALITY FLOOR (USD)

1000

Default \$1,000. Gaps below this amount are always "No action required".

Step 2: Drag and Drop data

1. Upload & Settings2. PCM+ Results3. PFM+ Results4. Data Explorer5. Compare6. Explore Code7. Explore Partner8. Re-upload9. Risk Settings10. Conclusions11. Flow Triage

Upload UN Comtrade Trade Data (JSON)

For each year, upload **Reporter JSON** and **Partner JSON** from UN Comtrade. Both PCM+ and PFM+ use the same data. PFM+ price filters are already embedded.

Year: 2021

repdata 2021.json
250,000 rows · 2021 · X + M

partdata 2021.json
250,000 rows · 2021 · X + M

Year: 2022

repdata 2022.json
250,000 rows · 2022 · X + M

partdata 2022.json
250,000 rows · 2022 · X + M

+ Add Year

Starting calculations...

PCM 2021 (AG6): In=\$233396.2M, Out=\$210004.2M
PFM+Rep 2021: In=\$30677.5M, Out=\$30872.2M
PFM+Part 2021: In=\$199523.2M, Out=\$154173.8M
Done. 1 PCM years, 1 PFM years.

Settings

CIF-FOB COEFFICIENT (R)

0.00

Default 0.07 (7%). Adjusts CIF→FOB. Used by PCM+.

CIF-FOB IN EXCEL

No (applied in calc)

Include coefficient as editable column per row (Gap formula auto-updates).

PCM+ AGGREGATION LEVEL

AG6 (6-digit, subheading)

HS code depth: AG2 (chapter), AG4 (heading), AG6 (subheading). Choose "All Levels" to compare summaries across all three.

PFM+ CALCULATION MODE

Reporter PFM

REPORTER COUNTRY ISO3

THA

For Partner PFM. Auto-detected if empty.

VALUE UNIT

Billions USD

MATERIALITY THRESHOLD (%)

10

Default 1%. A gap is immaterial if it is below this % of the sum of both reporter's and partner's declared trade volume for that HS code and partner country.

MATERIALITY FLOOR (USD)

1000

Default \$1,000. Gaps below this amount are always "No action required".

Embedded PFM Filters

8 years (2017–2024) · 6,092 codes · 8,260 HS names (EN+RU)

Calculate PCM+ & PFM+

You can upload in any order of the years

The calculator displays data processing result

The button is active now

The calculator identified the reporting country

Module 1, tab 3 – PCM+ : measuring trade misinvoicing

What PCM+ does

- Compares the country's bilateral declarations with the partner's mirror declarations, applying a configurable CIF-FOB coefficient (default $r = 0.07$).
- What it measures is trade misinvoicing: the two sides of the same shipment disagree. A gap that both sides report identically is invisible to this method.
- Decomposes gaps into four components – Overinvoiced Exports (OE), Underinvoiced Exports (UE), Overinvoiced Imports (OI), Underinvoiced Imports (UI).
- Choose aggregation: AG2 (chapter), AG4 (heading), AG6 (subheading) or All Levels – output covers inward and outward totals.

Hands-on exercise

- Set the CIF-FOB coefficient r , aggregation level and value unit on the Upload page; click "Calculate PCM+ & PFM+".
- Inspect the KPIs (Inward IFFs, Outward IFFs, Total, Avg Annual, Years Covered) and the trend, component and comparison charts.
- Read the PLUS Element Guidance (time lags, re-exports, classification); download Export Gaps, Import Gaps and Summary XLSX.

Tab 3: the PCM+ page

1. Upload & Settings

2. PCM+ Results

3. PFM+ Results

4. Price Explorer

5. Compare

6. Explore Code

7. Conclusions

11. Flow Triage

⚠ Preliminary Estimates – Plus-Element Investigation Required

These results are **preliminary first-step estimates**, not final figures. They represent statistical indications of possible trade misinvoicing based on bilateral asymmetries (PCM+) or price deviations (PFM+). Before treating any flow as an illicit financial flow, countries should conduct the "plus-element" investigation to identify legitimate explanations for observed discrepancies (e.g., timing differences, re-exports, measurement errors, classification differences).

**Download
these**

[Show PLUS Element Guidance \(PCM+ theory\)](#)

Theory and
method note

All Years

2021

2022

2023

☐ Above materiality only

Export Gaps XLSX

Import Gaps XLSX

Summary XLSX

TOTAL INWARD IFFS

\$5.62B

TOTAL OUTWARD IFFS

\$5.38B

AVG. ANNUAL INWARD IFFS

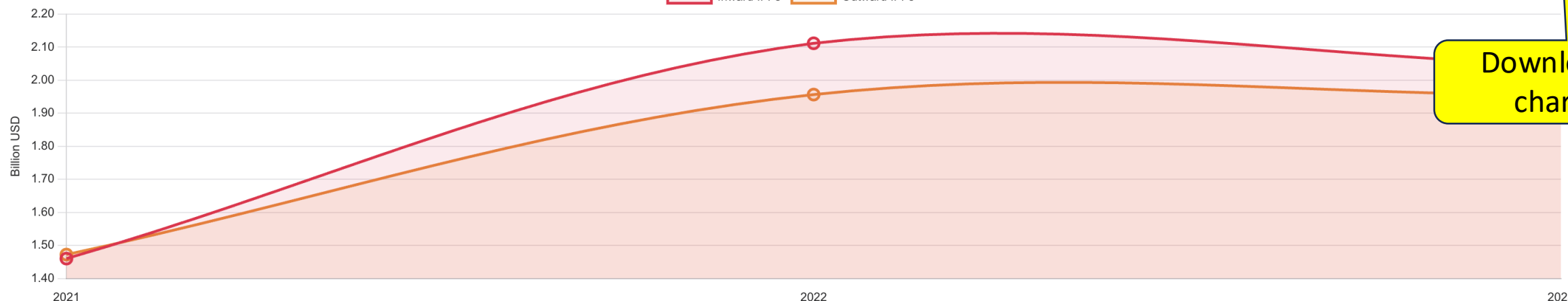
\$1.87B

AVG. ANNUAL OUTWARD IFFS

\$1.79B

YEARS

3
IFF Trends
 Billion USD

■ Inward IFFs ■ Outward IFFs


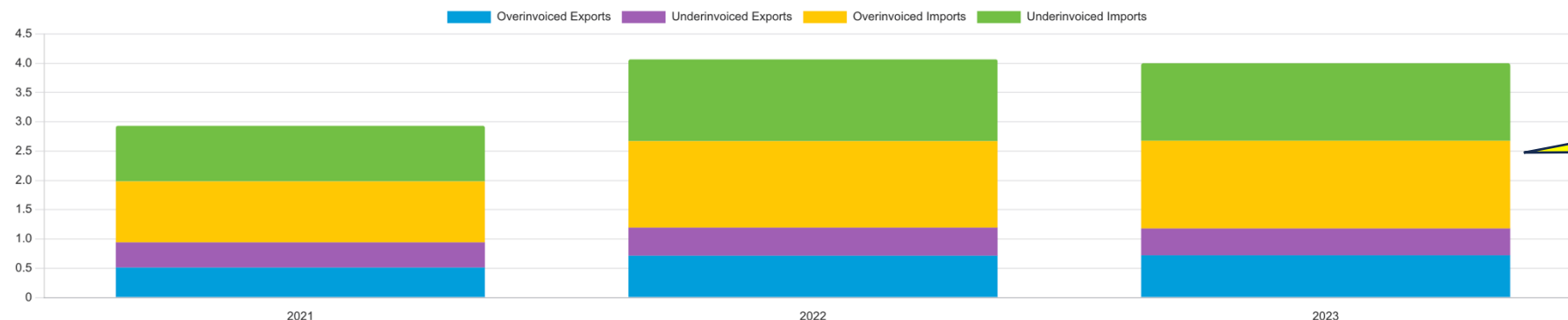
**Download
chart**

Disclaimer: Results are potential IFFs, not final true IFF until the PLUS element is applied manually

Tab 3: view the PCM+ gap components

Gap Components

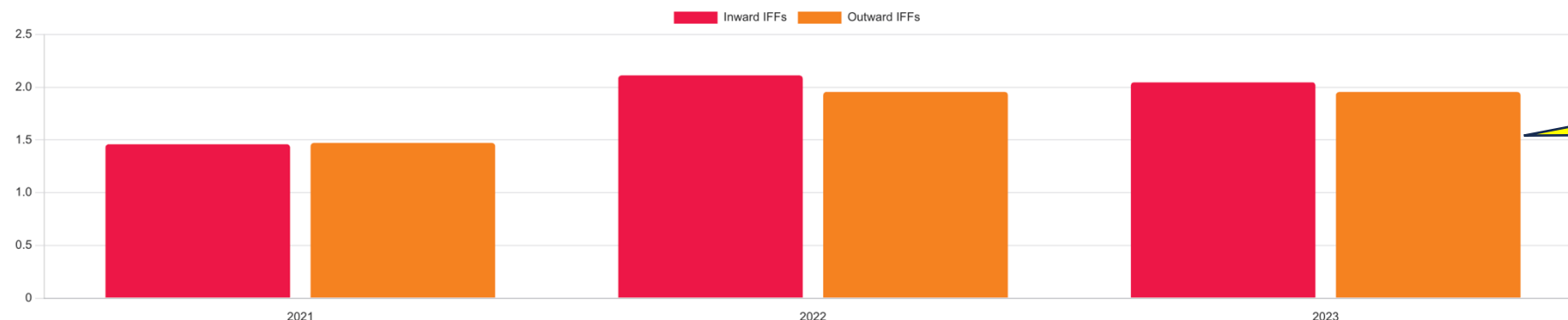
Billion USD



View Gap components

Year Comparison

Billion USD



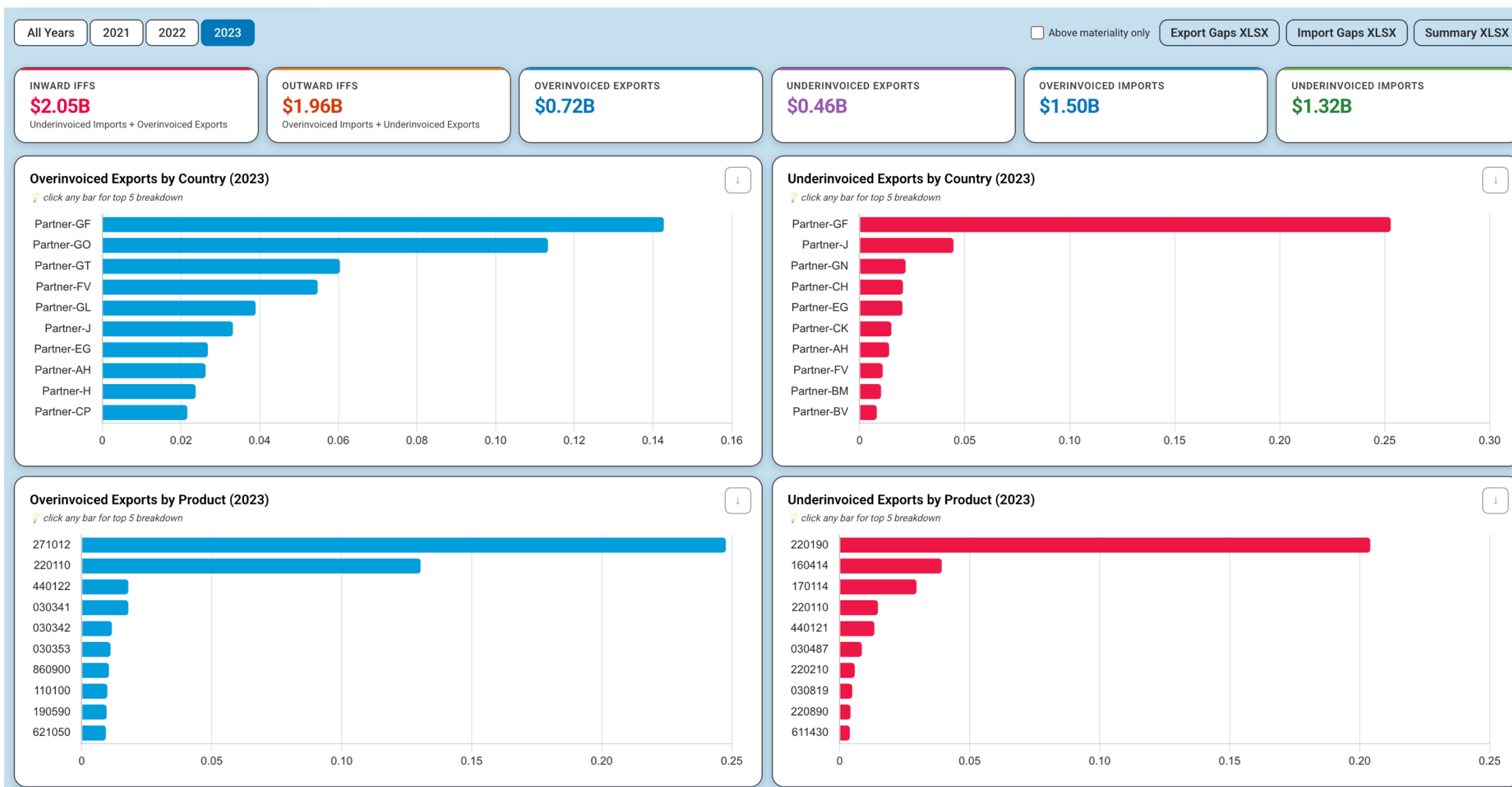
Compare Inward and Outward

Summary Table

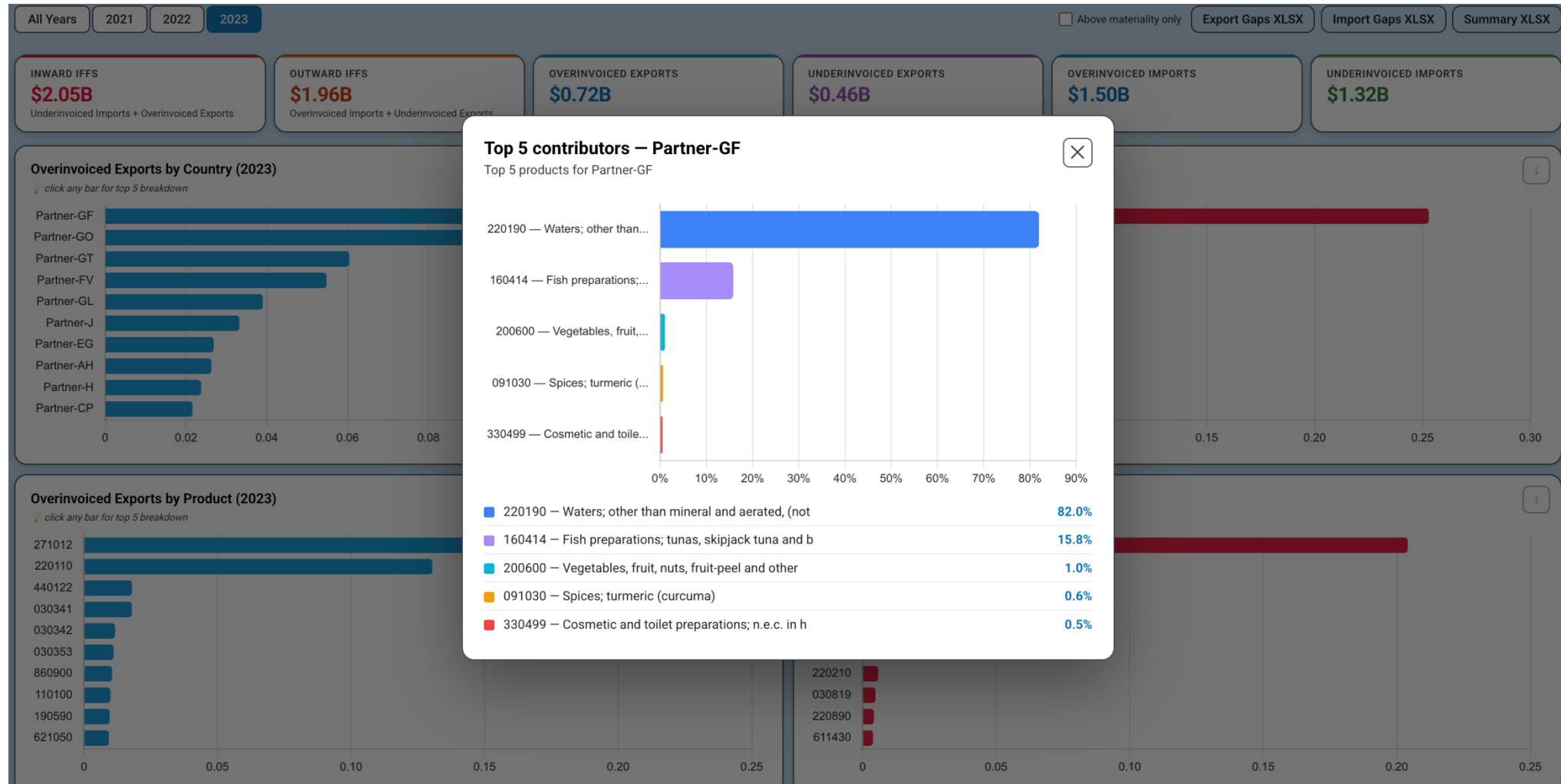
YEARS	OVERINVOICED EXPORTS	UNDERINVOICED EXPORTS	OVERINVOICED IMPORTS	UNDERINVOICED IMPORTS	INWARD IFFS	OUTWARD IFFS
2021	\$0.51B	\$0.43B	\$1.04B	\$0.95B	\$1.46B	\$1.47B
2022	\$0.71B	\$0.48B	\$1.48B	\$1.40B	\$2.11B	\$1.96B
2023	\$0.72B	\$0.46B	\$1.50B	\$1.32B	\$2.05B	\$1.96B

View summary table

Step 3: View year by year

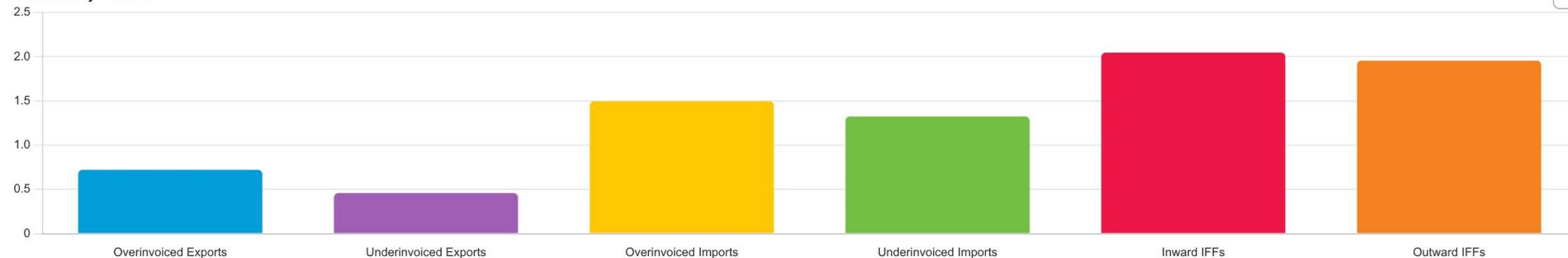


Click on bars to view elements



Summary and Risk Breakdown

IFF Summary — 2023



Risk Breakdown by Category

#	CASE	VALUE	% OF TRADE	ACTION
1.	Overinvoiced exports risk	\$0.41B	11.07%	keep
2.	Underinvoiced exports risk	\$0.43B	11.48%	keep
3.	Overinvoiced imports risk	\$0.80B	21.55%	keep
4.	Underinvoiced imports risk	\$0.62B	16.76%	keep
5.	Low discrepancy: export	\$0.09B	2.32%	Remove?
5.	Low discrepancy: import	\$0.32B	8.66%	Remove?
6.	State-controlled commodity: export	\$0.25B	6.82%	Remove?

% of trade = share of total reporter trade value in matched bilateral pairs.

Remove
and
recalculate

Choose codes to view trends in Explore Code

1. Upload & Settings

2. PCM+ Results

3. PFM+ Results

4. Price Explorer

5. Compare

6. Explore Code

7. Explore Partner

8. Re-upload

9. Risk Settings

10. Conclusions

11. Flow Triage

Explore by HS Code

NA

Enter a 6-digit HS code. Available after running ... (AG6 level).

NA – N/A (AG4 heading – PCM only)

Explore

First code

PCM+ data not available at AG6 level for this code.

1. Upload & Settings

2. PCM+ Results

3. PFM+ Results

4. Price Explorer

5. Compare

6. Explore Code

7. E

Explore by HS Code

coa

030253 Fish; fresh or chilled, coalfish (Pollachius vi...

030365 Fish; frozen, coalfish (Pollachius virens), ex...

030369 Fish; frozen, of Bregmacerotidae, Euclichth...

030373 Fish; coalfish (pollachius virens), frozen (e...

030473 Fish fillets; frozen, coalfish (Pollachius vire...

030479 Fish fillets; frozen, of the families Bregmac...

270111 Coal; anthracite, whether or not pulverised,...

270112 Coal; bituminous, whether or not pulverise...

270119 Coal; (other than anthracite and bituminou...

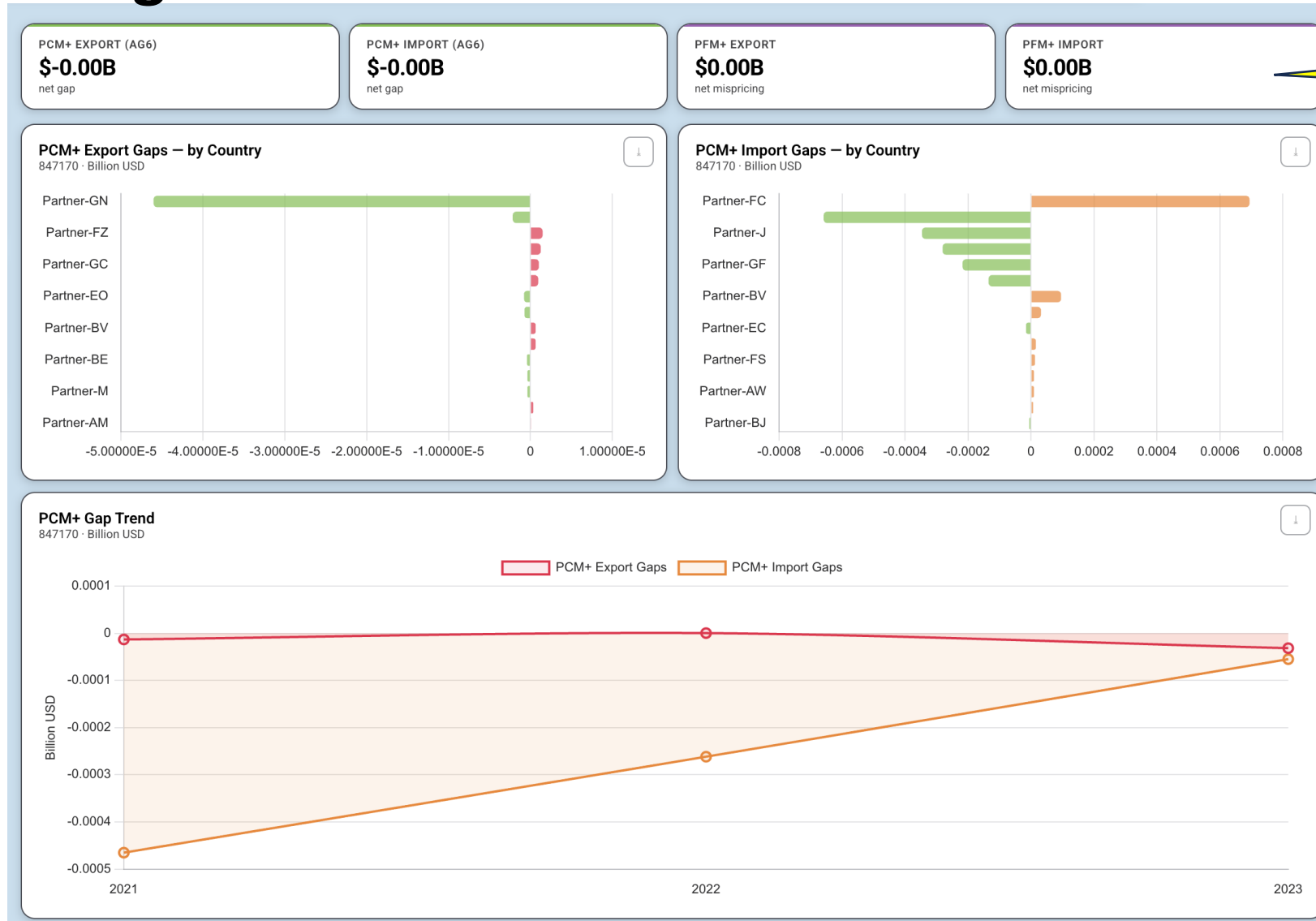
PCM+ data not available at AG6 level for this code.

PCM+ PFM+ UNCTAD SDG 16.4.1 IFF Measu

Enter the code here

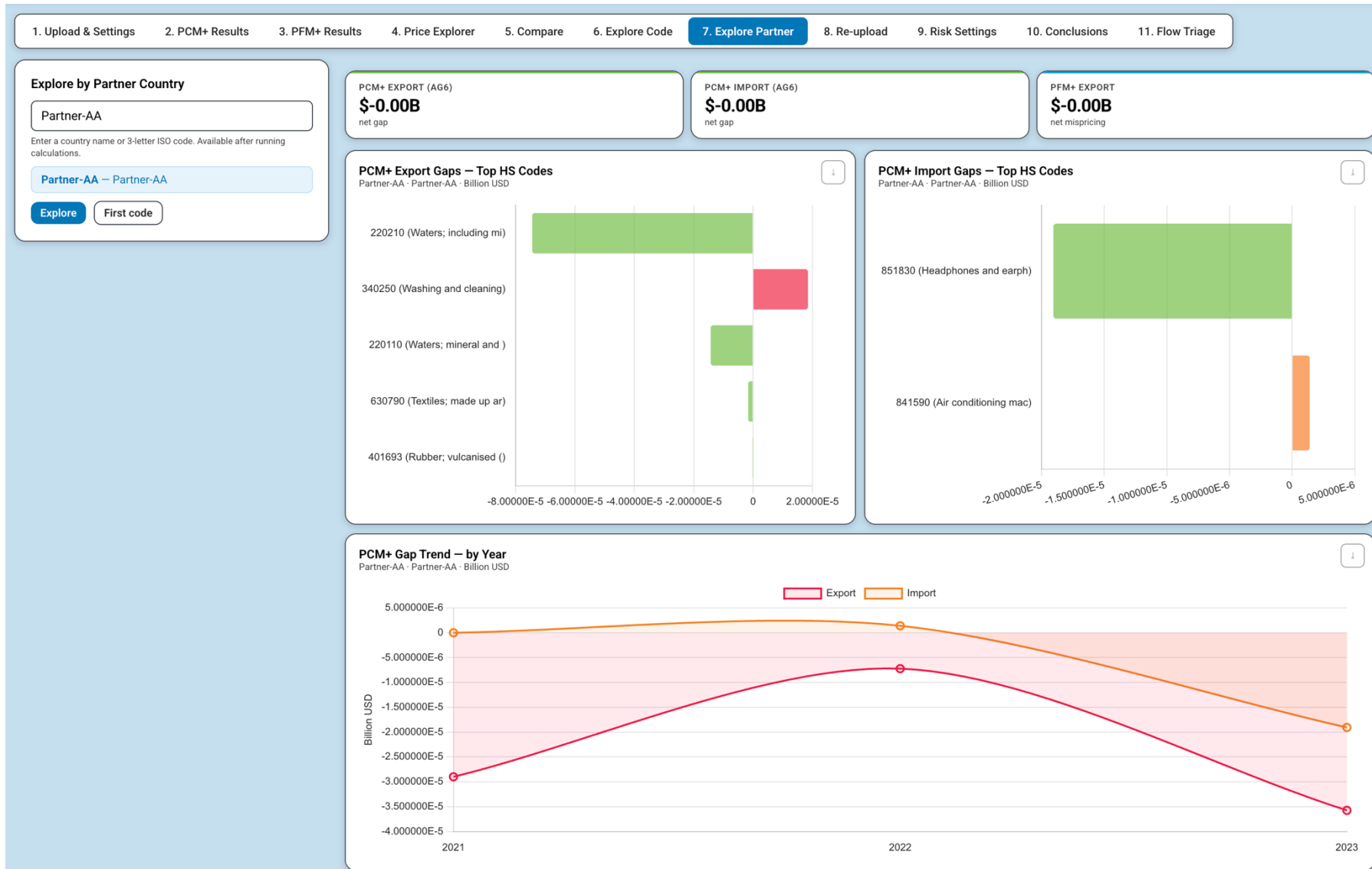


Code: 847170 – Units of automatic data processing machines; storage units



General tendency

Choose countries to view in Explore Partner



Choose countries to view in Explore Partner

PCM+ Export Gaps by Code & Year

[↓ XLSX](#)

YEAR	HS CODE	DESCRIPTION	VALUE (REPORTER)	VALUE (PARTNER)	GAP
2021	220210	Waters; including mineral and aerated, c	0	29,233.1	-27,320.65
2021	630790	Textiles; made up articles (including dr	0	1,780.79	-1,664.29
2022	340250	Washing and cleaning preparations; powde	18,496.26	0	18,496.26
2022	220210	Waters; including mineral and aerated, c	0	27,449.24	-25,653.49
2022	401693	Rubber; vulcanised (other than hard rubb	0	73.75	-68.93
2023	220110	Waters; mineral and aerated, including n	0	15,304.45	-14,303.23
2023	220210	Waters; including mineral and aerated, c	0	22,942.27	-21,441.38

PCM+ Import Gaps by Code & Year

[↓ XLSX](#)

YEAR	HS CODE	DESCRIPTION	VALUE (REPORTER)	VALUE (PARTNER)	GAP
2022	841590	Air conditioning machines; with motor dr	1,497.54	0	1,399.57
2023	851830	Headphones and earphones, whether or not	0	19,061.74	-19,061.74

PFM+ Export Misinvoicing by Code & Year

[↓ XLSX](#)

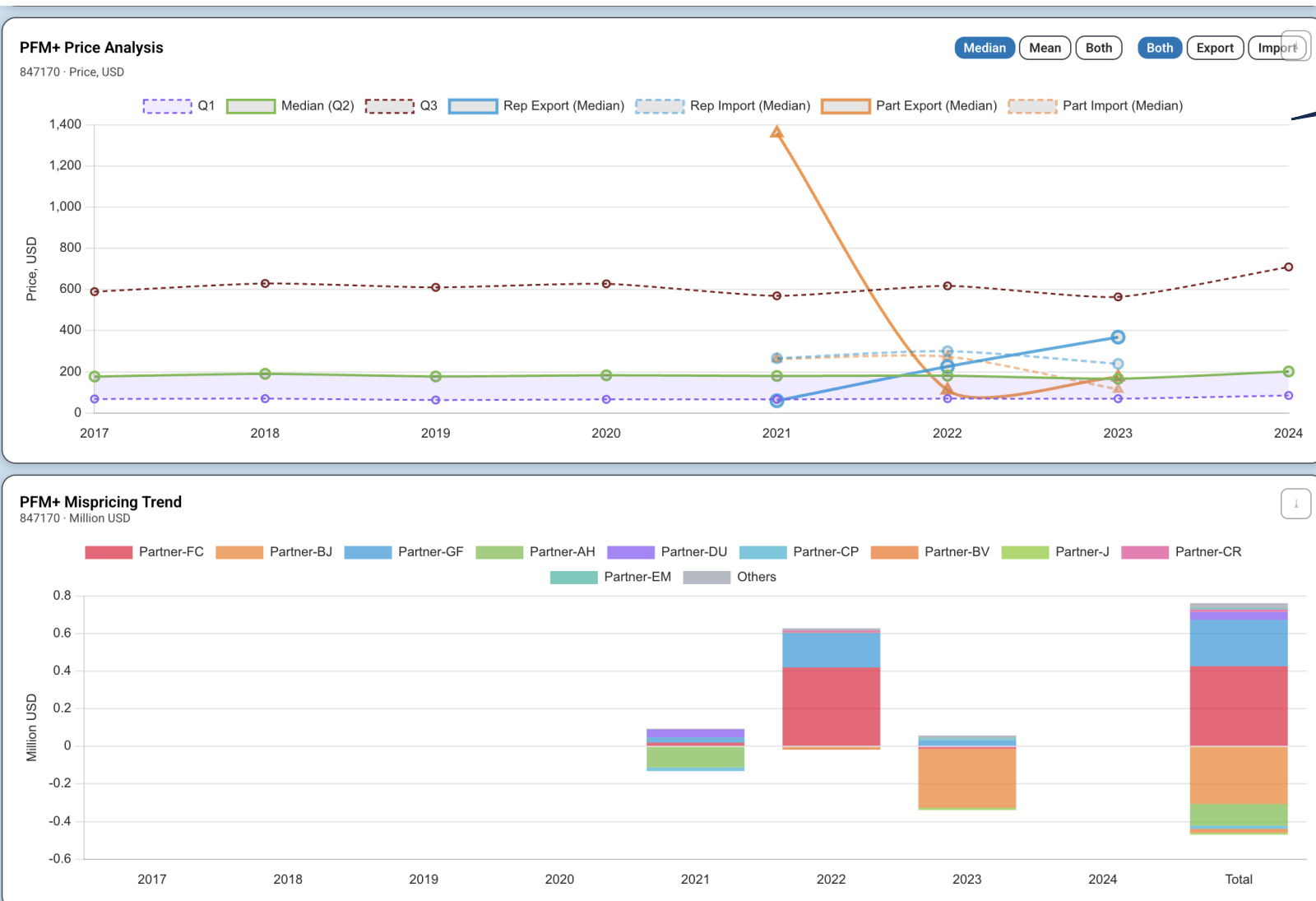
YEAR	HS CODE	DESCRIPTION	MISPRICING REPORTER	MISPRICING PARTNER
2021	220210	Waters; including mineral and aerated, c	—	3,787
2021	630790	Textiles; made up articles (including dr	—	462.38
2022	220210	Waters; including mineral and aerated, c	—	647.56
2022	340250	Washing and cleaning preparations; powde	-3,898.62	—
2023	220110	Waters; mineral and aerated, including n	—	5,573.76
2023	220210	Waters; including mineral and aerated, c	—	1,250.92

PFM+ Import Misinvoicing by Code & Year

[↓ XLSX](#)

YEAR	HS CODE	DESCRIPTION	MISPRICING REPORTER	MISPRICING PARTNER
2023	851830	Headphones and earphones, whether or not	—	18,957.38

Look at PFM insights for this code



Price is under the median

Partner-J Partner-CR

Total

Partner-FC: 0.426
Partner-BJ: -0.306
Partner-GF: 0.247
Partner-AH: -0.115
Partner-DU: 0.043
Partner-CP: -0.017
Partner-BV: -0.021
Partner-J: -0.01
Partner-CR: 0.013
Partner-EM: 0.008
Others: 0.025

2024

Total

What the calculator already does

- Once you’ve downloaded the EXLS files from the PCM page:

☐ Above materiality only

Export Gaps XLSX

Import Gaps XLSX

Summary XLSX

- You can open them in MS Excel and edit to achieve the PLUS component:
 - Fill national data instead of UN Comtrade for your country
 - Adjust CIF-FOB ratio for each partner/commodity line
 - Clean up the time lags, missing partners
 - Follow the logic of prioritizing the large gaps
- You can click the box “Above materiality” to omit unimportant rows from download

What the calculator doesn't do

Cleanup	What the tool does
File and metadata parsing	Reads UN Comtrade JSON schema; auto-detects year from period field; auto-detects Reporter ISO3; flags empty or malformed JSON in the activity log instead of failing silently.
Bilateral matching	Joins Reporter and Partner datasets on the composite key Year × Country × HS6 × Flow. Rows on only one side are kept with the missing counterpart shown explicitly. Nonreporting partners are removed from analysis, aggregated groups are removed.
CIF-FOB adjustment	Applied per row before any gap calculation. Imports are divided by (1 + r) so they're comparable to FOB-based exports. The exact formulas are spelled out for both Export and Import sheets.
Unit price with zero-quantity protection	Value ÷ Quantity computed at calculation time; rows with Qty = 0 return #N/A; PFM+ silently skips #N/A rows rather than crashing or producing misleading zeros.
HS code aggregation	AG6 underlying detail preserved; AG4 and AG2 computed from underlying values (not by re-summing rounded AG6).
Automatic PFM+ quartile lookup	Q1/Q3 looked up from the embedded price filter database per HS6; codes not in the embedded set get blank PFM+ columns and are silently excluded from PFM+ totals. PCM+ for that same row is unaffected.
Mispricing filter	Only out-of-band prices count: shortfall against Q1 if underpriced, excess over Q3 if overpriced, zero if within Q1–Q3. Applied row by row — no manual filter needed.
Built-in IFF Case classification	Module 3 strips the three non-IFF tags (low / negligible discrepancy, state-controlled commodity, no discrepancy detected) from the headline figure automatically, leaving only OE/UE/OI/UI rows for investigation. Module 1 exports carry no IFF classification at all.

What the tool doesn't do

Issue	Why it is not automated · What you should do
Time-lag corrections	Shipments crossing year-ends or quarter-ends produce mirror asymmetries that are not misinvoicing. The tool does not realign by transit time. Use national partner-specific transit-time data
Re-exports through third countries	Comtrade records the partner as the country shipping the goods, not the original origin. Re-exports through various hubs produce systematic asymmetries that are not in themselves IFFs. Use national re-export statistics to identify and reclassify these flows. Currently, the re-exports flows are dropped from calculation and do not show in the results.
Partner classification differences	Customs administrations sometimes classify the same product under different HS6 codes. The tool joins on HS6 exactly, so a misclassified row will look like a discrepancy. Manual reconciliation against partner customs codes is required.
Sanctions corridors and embargoed flows	Sanctions create reporting asymmetries by design (one side records, the other does not). The tool does not exclude these automatically - exclude them manually.
FX-conversion timing	All values come from Comtrade in USD; the tool does not re-convert from local currency. If you suspect a partner used a stale FX rate on a specific bilateral flow, you need to verify against central-bank reference rates.
Country code reconciliation across vintages	ISO codes change occasionally (e.g., Sudan/South Sudan splits, country name updates). The tool uses the codes in the JSON as supplied; manual reconciliation is needed for historical comparisons spanning a country split.
Plus-element investigation	Materiality thresholds are configurable on the Upload page (percentage of bilateral trade and an absolute floor), but the plus-element work behind them is not. Timing, re-export routing, CIF/FOB variation by partner and classification differences must be resolved against national records before a gap becomes a finding.
Document-level verification	The tool only sees aggregate JSON data as reported in Comtrade. Underlying invoices, bills of lading, transfer-pricing documentation, and contract terms are with customs, the tax authority, and the FIU.

Module 3 – the seven IFF cases

Case	Trigger	Likely risk	Recommended action
1. Overinvoiced exports	Reporter exports exceed partner imports after CIF/FOB adjustment	Inward IFF risk: duty evasion by the partner, laundering, capital flight, subsidy or VAT refund abuse	Check against PFM+ prices. Review export documents and VAT/export incentives.
2. Underinvoiced exports	Reporter exports are below partner imports after CIF/FOB adjustment	Outward IFF risk: under-declared export revenue, quota avoidance, smuggling	Check for low pricing. Review export documents and partner import restrictions.
3. Overinvoiced imports	Reporter imports exceed partner exports after CIF/FOB adjustment	Outward IFF risk: inflated import payments, profit shifting, laundering	Check against PFM+ prices. Review import documents, transfer pricing, and FX controls.
4. Underinvoiced imports	Reporter imports are below partner exports after CIF/FOB adjustment	Inward IFF risk: customs/VAT evasion, quota avoidance, smuggling	Check customs declarations, tariffs, quotas, and PFM+ prices.
5. Low discrepancy	Estimated gap is small relative to trade volume	Likely rounding, timing, FX conversion, or reclassification	Exclude from headline IFF figure. No further action.
6. State-controlled commodity	HS6 covers oil, gas, gold, uranium, military goods, or similar	Non-market pricing or state contracts may distort values	Exclude or apply sector-specific checks before drawing conclusions.
7. No discrepancy	Reporter and partner values align after adjustment	No IFF risk detected	No action required.

Once you complete the manual corrections

– Re-upload files in the Re-upload page:

TIFF

Trade IFF Measurement Toolkit
PCM+ & PFM+ · UN Comtrade JSON · UNCTAD/UNODC Methodology · SDG 16.4.1

ENRU

SDG 16.4.1

1. Upload & Settings2. PCM+ Results3. PFM+ Results4. Price Explorer5. Compare6. Explore Code7. Re-upload

Re-upload Estimation Spreadsheets
Select PCM+ or PFM+ and upload generated Excel files to recreate charts and summaries without re-running the calculation.

RE-UPLOAD MODE

PCM+

EXPORT GAPS XLSX

Export Gaps XLSX

IMPORT GAPS XLSX

Import Gaps XLSX

SUMMARY XLSX (OPTIONAL)

Summary XLSX (optional)

Recreate Charts

Clear All

How to use
1. On the **PCM+ Results** page download **Export Gaps XLSX** and **Import Gaps XLSX**.
2. Return here and upload both files into the drop zones.
3. Click **Recreate Charts** to regenerate all charts and tables.

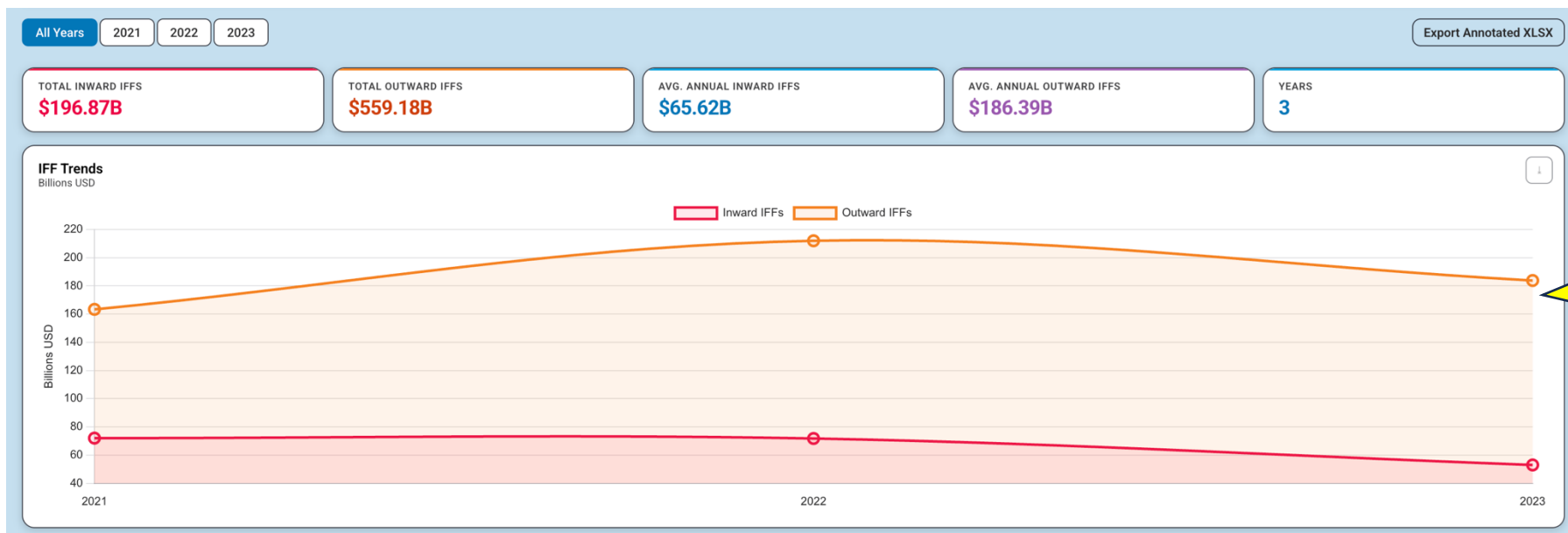
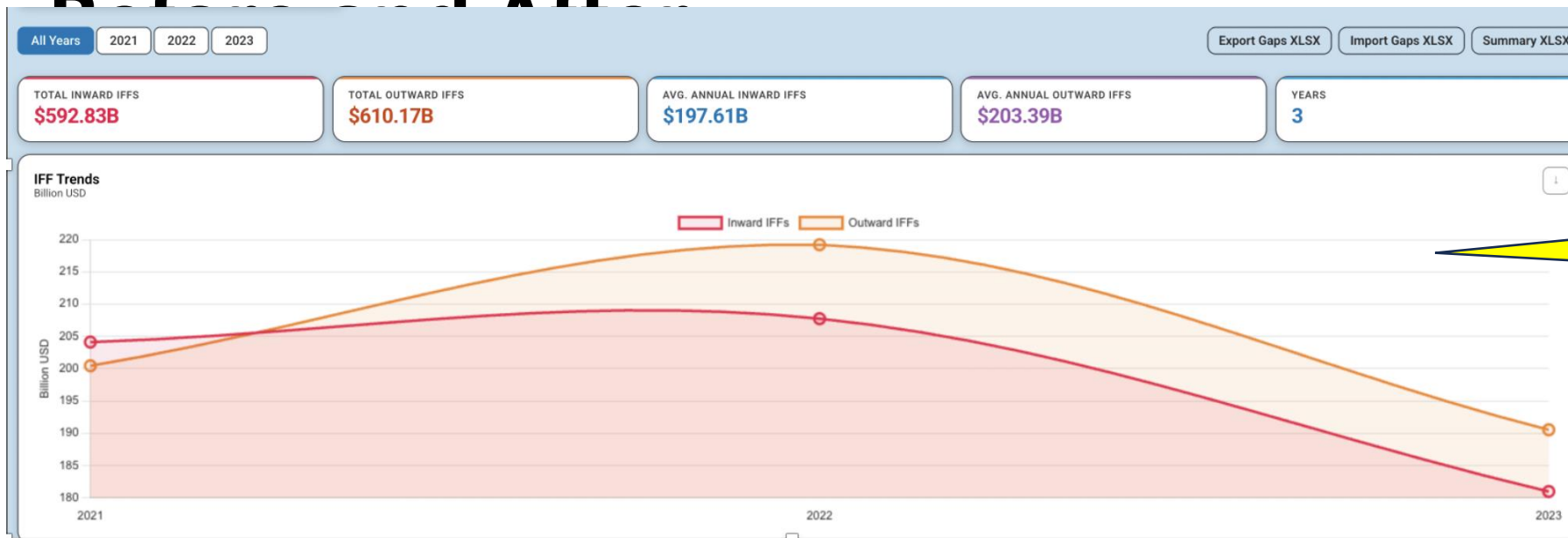
If you only have the **Summary XLSX**, upload it alone – trend charts will be shown without country/product breakdowns.

Value Unit

DISPLAY UNIT

Millions USD

PCM+PFM+UNCTADSDG 16.4.1 · IFF Measurement Toolkit · Trade misinvoicing estimates



Before and After

Initial step

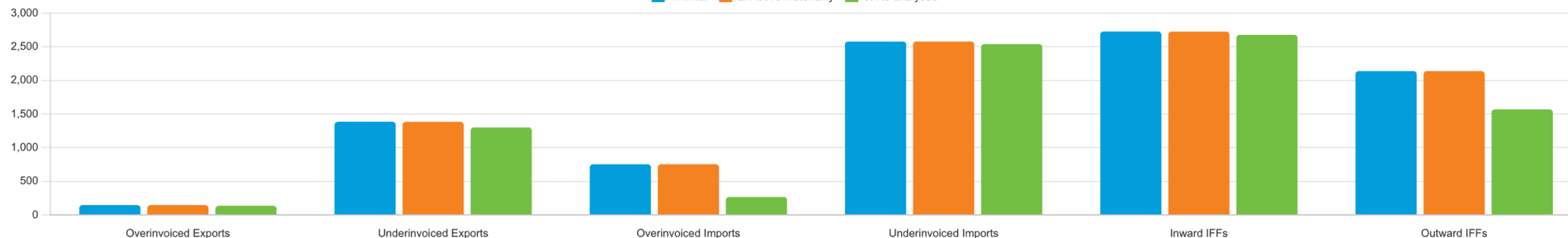
After immaterial
flows are dropped

After manual editing
and re-upload

Before & After Comparison

METRIC	1. INITIAL	2. ABOVE MATERIALITY	3. RE-ANALYSED
Overinvoiced Exports	\$147.3M	\$147.2M	\$136.1M
Underinvoiced Exports	\$1385.2M	\$1384.4M	\$1301.0M
Overinvoiced Imports	\$753.6M	\$753.1M	\$267.7M
Underinvoiced Imports	\$2579.0M	\$2578.5M	\$2539.9M
Inward IFFs	\$2726.3M	\$2725.8M	\$2676.0M
Outward IFFs	\$2138.8M	\$2137.5M	\$1568.7M

1. Initial 2. Above materiality 3. Re-analysed



Module 1, tab 4 – PFM+ : measuring trade mispricing

What PFM+ does

- Compares declared unit prices against embedded reference quartiles (Q1, Q2 median, Q3) for each HS6 code.
- What it measures is trade mispricing: the price departs from the benchmark whether or not the partner agrees. This is how transfer mispricing between related parties becomes visible, since it leaves no mirror gap for PCM+ to find.
- Flags underpriced flows (price below Q1) and overpriced flows (price above Q3). Results are labelled Over / Underpriced, not Over / Underinvoiced – the wording differs from PCM+ on purpose.
- Two display modes: Reporter PFM (the country's own data) and Partner PFM (partner data; needs the Reporter ISO3).
- Runs at 6-digit level only. Codes absent from the embedded price database are skipped in PFM+ and left untouched in PCM+.

PFM export

All Years 2021 2022 **2023**

☐ Above materiality only **Reporter PFM XLSX** **Partner PFM XLSX** **Summary XLSX**

INWARD IFFS

\$1286.6M

Underinvoiced Imports + Overinvoiced Exports

OUTWARD IFFS

\$380.2M

Overinvoiced Imports + Underinvoiced Exports

OVERINVOICED EXPORTS

\$41.4M

UNDERINVOICED EXPORTS

\$265.7M

OVERINVOICED IMPORTS

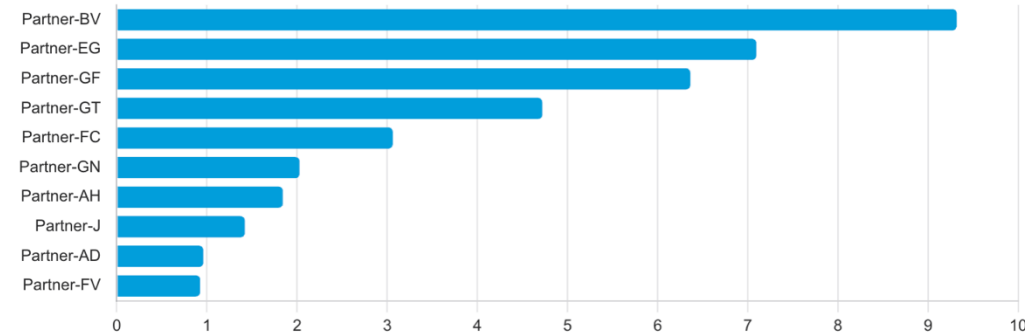
\$114.5M

UNDERINVOICED IMPORTS

\$1245.2M

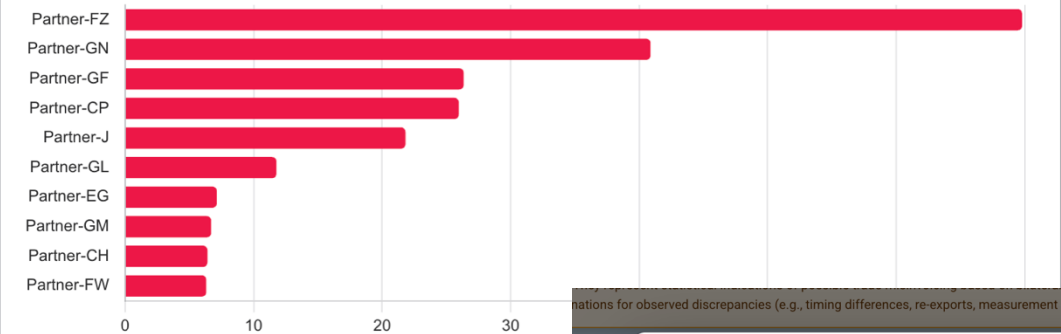
Overinvoiced Exports by Country (2023)

[click any bar for top 5 breakdown](#)



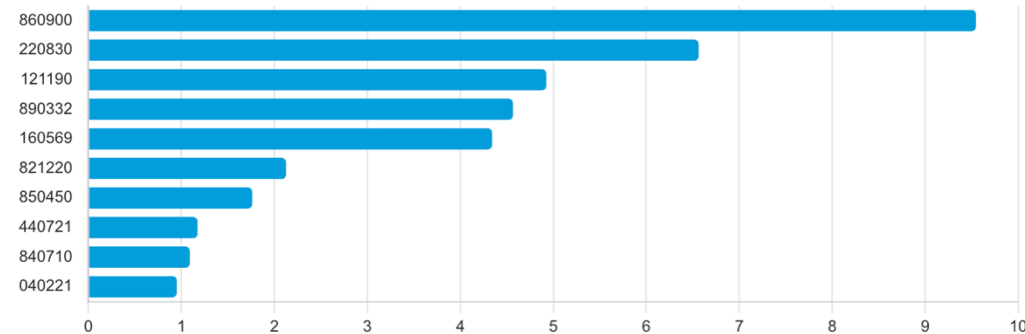
Underinvoiced Exports by Country (2023)

[click any bar for top 5 breakdown](#)



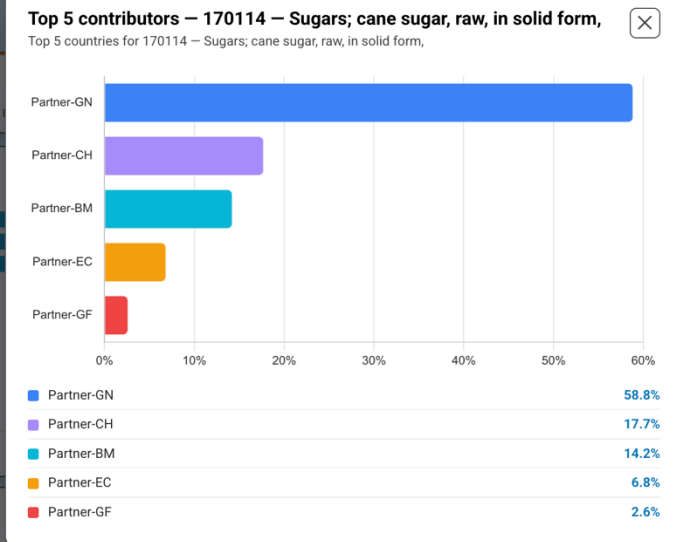
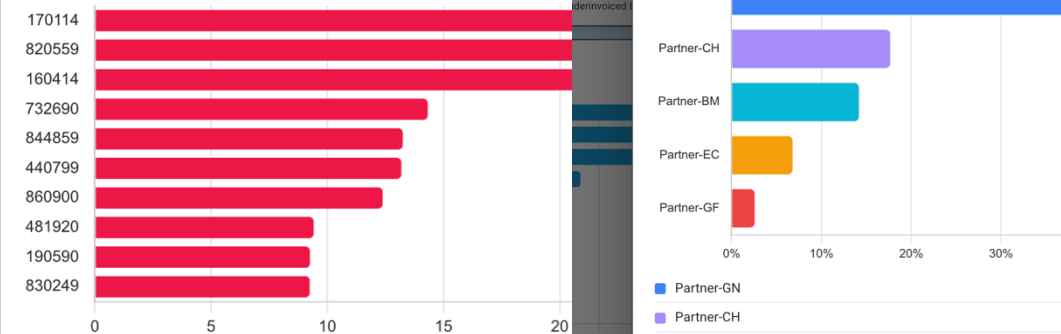
Overinvoiced Exports by Product (2023)

[click any bar for top 5 breakdown](#)



Underinvoiced Exports by Product (2023)

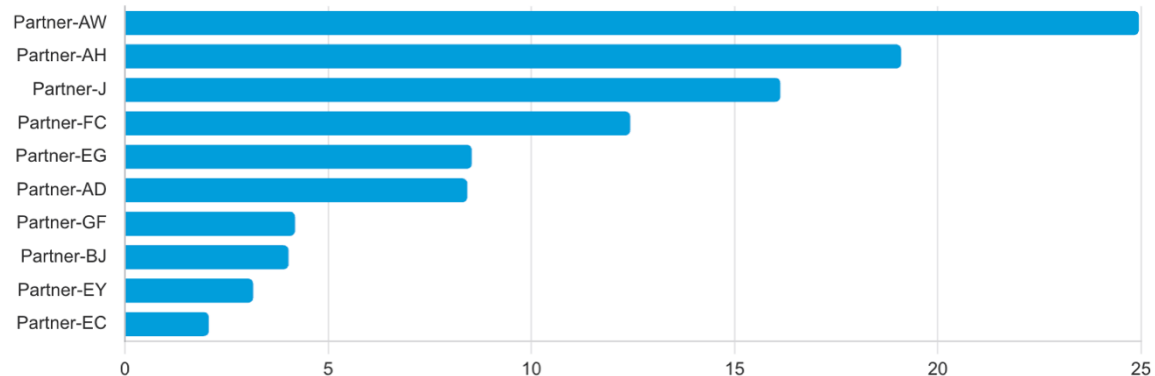
[click any bar for top 5 breakdown](#)



PFM import

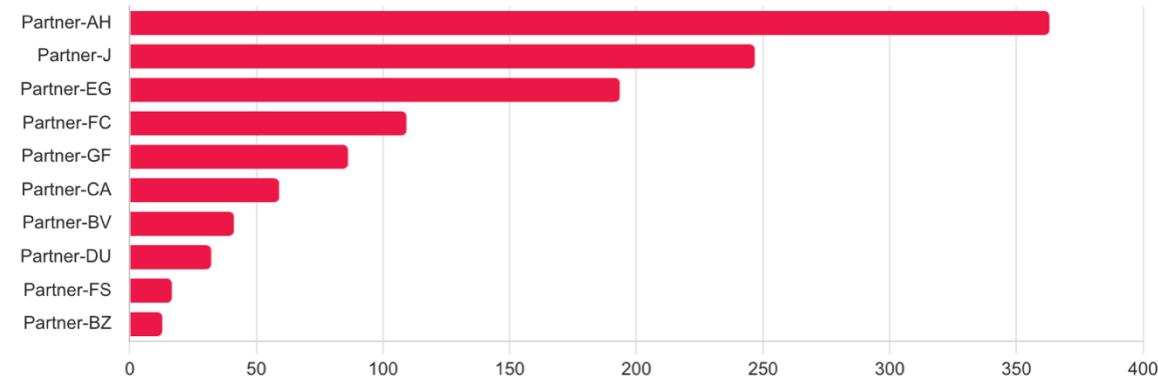
Overinvoiced Imports by Country (2023)

click any bar for top 5 breakdown



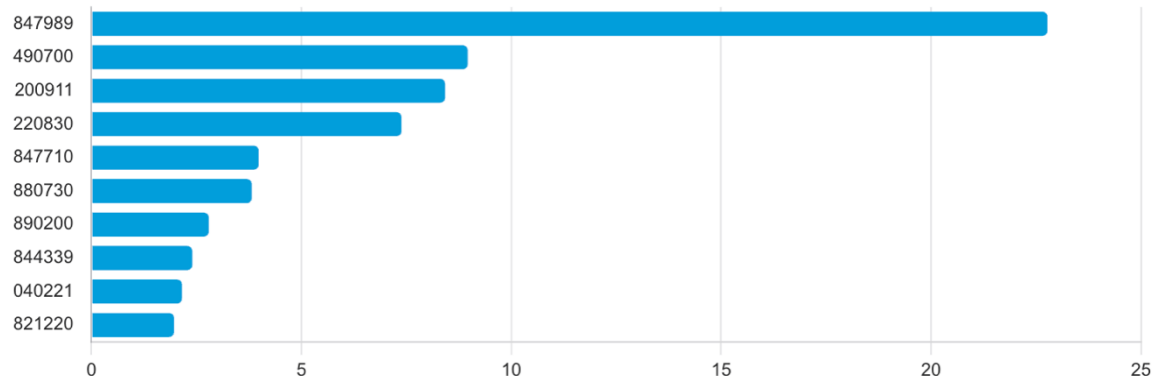
Underinvoiced Imports by Country (2023)

click any bar for top 5 breakdown



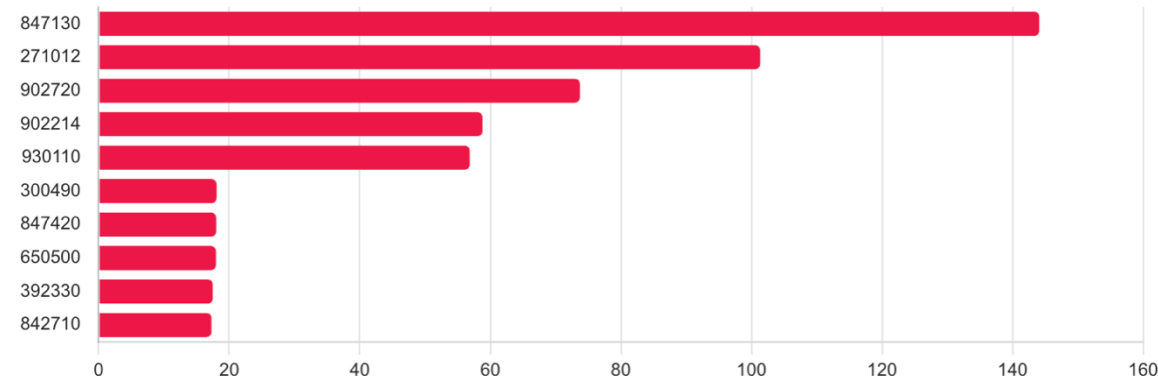
Overinvoiced Imports by Product (2023)

click any bar for top 5 breakdown



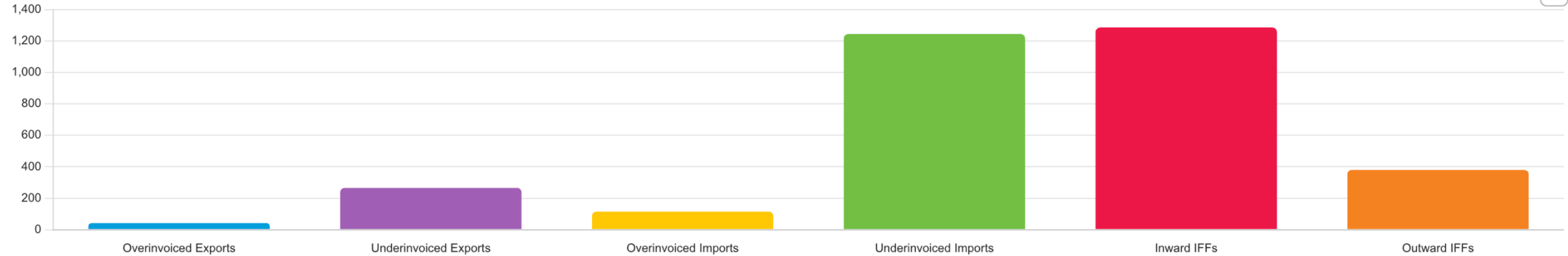
Underinvoiced Imports by Product (2023)

click any bar for top 5 breakdown



You can remove low discrepancy rows and recalculate

IFF Summary – 2023



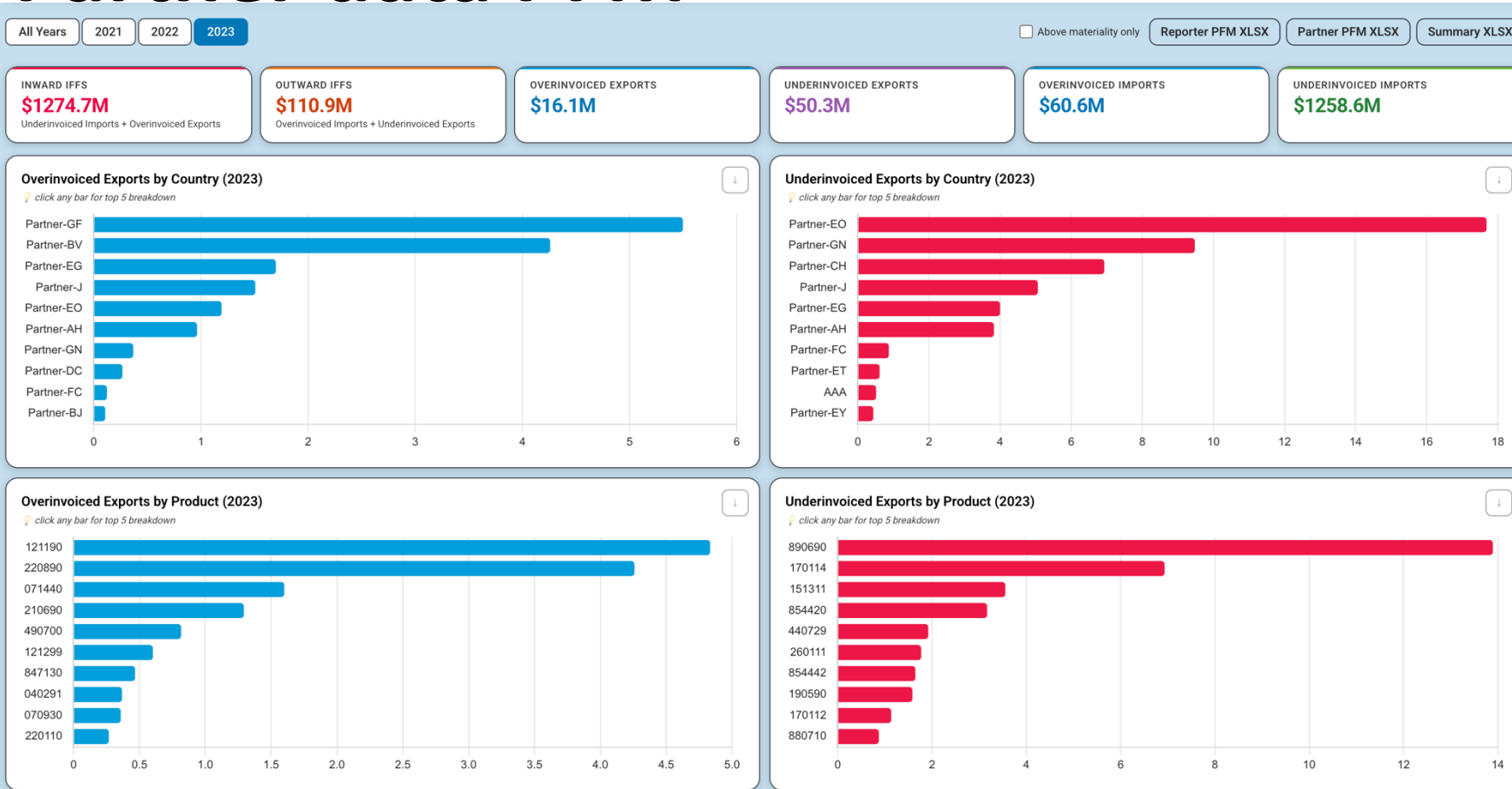
Risk Breakdown by Category

#	CASE	VALUE	% OF TRADE	ACTION
1.	Overinvoiced exports risk	\$41.4M	4139450320.42%	keep
2.	Underinvoiced exports risk	\$265.7M	26567603033.91%	keep
3.	Overinvoiced imports risk	\$114.2M	11423793370.54%	keep
4.	Underinvoiced imports risk	\$1143.8M	114384428571.05%	keep
5.	Low discrepancy: export	\$37.3M	3729632684.21%	Excluded
5.	Low discrepancy: import	\$135.9M	13593025720.79%	Excluded
6.	State-controlled commodity: export	\$31.4M	3142119927.75%	Excluded

△ Some categories are excluded – charts and KPIs reflect the filtered totals.

% of trade = share of total reporter trade value in matched bilateral pairs.

Partner data PFM



	A	B	C	D	E	F	G	H
1	Year	Source	Overinvoiced_	Underinvoiced_Ex	Overinvoiced_	Underinvoiced_Im	Inward_IFF	Outward_IFF
2	2023	reporter	436,666,181.02	(9,466,183,795.97)	551,816,666.75	(11,813,225,257.58)	12,249,891,438.60	10,018,000,462.72
3	2023	partner	48,479,681.56	(4,319,504,541.50)	18,816,261.61	(2,133,234,980.42)	2,181,714,661.98	4,338,320,803.11
4								

There is always difference between reporters and partners price data

Price Explorer (for reference only)

1. Upload & Settings 2. PCM+ Results 3. PFM+ Results **4. Price Explorer** 5. Compare 6. Explore Code 7. Re-upload 8. Flow Triage

Commodity Price Explorer

Replaces the original price explorer with the full commodity dashboard: quartiles, box plots, reporter detail, regional trends, and import/export comparison.

870323 - Vehicles; with only spark-ignition internal combustion reciprocating piston engine, cylinder capacity over 1500 but not over

Search by HS code or commodity name. Prepared price JSON is available for the commodity codes bundled with the commodity dashboard dataset.

870323 – Vehicles; with only spark-ignition internal combustion reciprocating piston engine, cylinder capacity over 1500 but not over 3000cc

Explore First code

FLOW

Imports (M)

Exports (X)

CIF/FOB ADJUSTMENT

0%

Adjusts import prices downward to an FOB-equivalent basis. The bar comparison and regional import/export index update immediately.

Tip: the grouped bar chart always shows both imports and exports side by side, while the rest of the dashboard follows the active flow toggle.

You can set a uniform CIF-FOB

870323 – Vehicles; with only spark-ignition internal combustion reciprocating piston engine, cylinder capacity over 1500 but not over 3000cc

Chapter 87: Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof

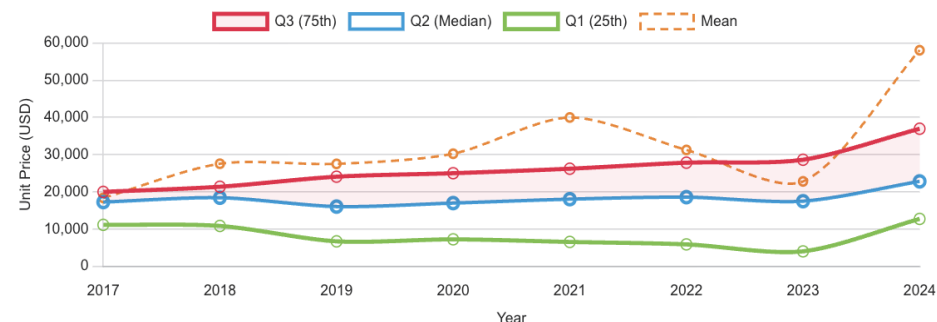
Observations: 66,545 Reporters: 176 Years: 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024

Based on all global trade as reported by all reporters

01 Price Quartile Trends

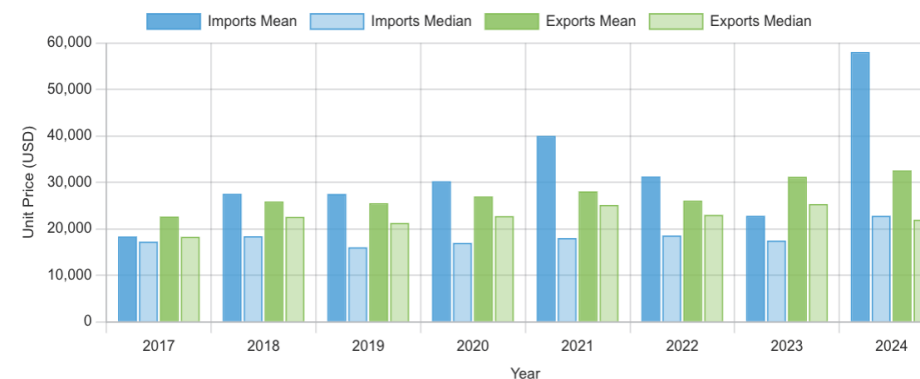
Q1, Q2 (Median), Q3 Over Years

Interquartile range and mean by year for the selected flow.



Import vs Export Mean/Median by Year

Grouped bar comparison of annual mean and median unit prices for imports and exports.



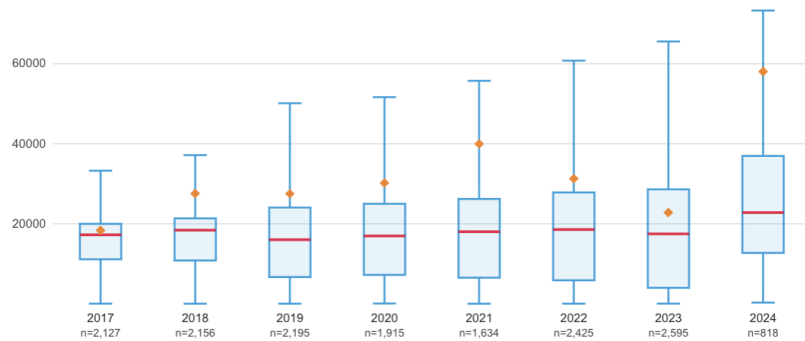
Price Explorer (for reference only)

Annual price distributions

Outliers

Price Distribution by Year

Box = IQR, red line = median, diamond = mean, whiskers = 1.5×IQR.



Price Outlier Reporters

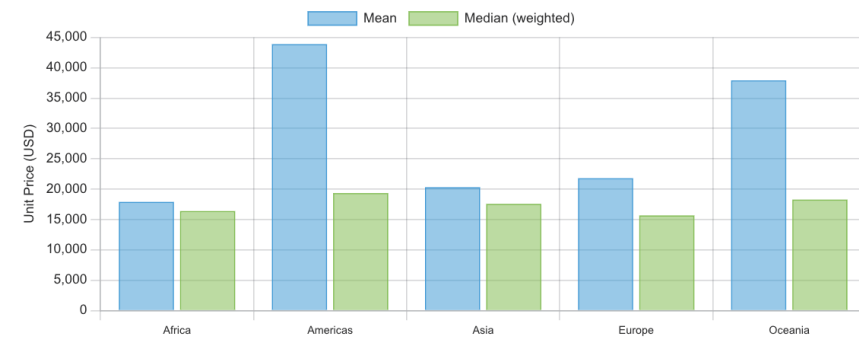
Reporters whose mean unit price falls outside the yearly 1.5×IQR range.

YEAR	REPORTER	MEAN PRICE	STATUS
2018	DOM Dominican Republic	189853.82	outlier
2019	DOM Dominican Republic	180955.36	outlier
2020	DOM Dominican Republic	175887.55	outlier
2020	AUS Australia	70603.12	outlier
2021	DOM Dominican Republic	209652.75	outlier
2021	AUS Australia	186805.69	outlier
2022	DOM Dominican Republic	195229.81	outlier
2024	DOM Dominican Republic	250779.32	outlier

03 Regional Price Analysis

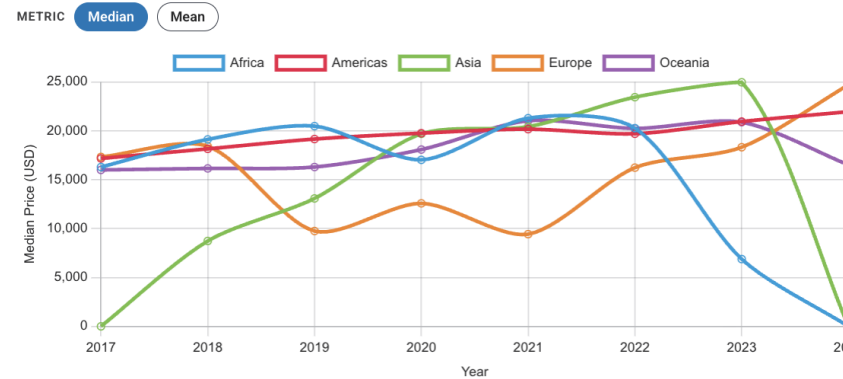
Mean & Median by Region

UN M49-style regional grouping aggregated across all available years.



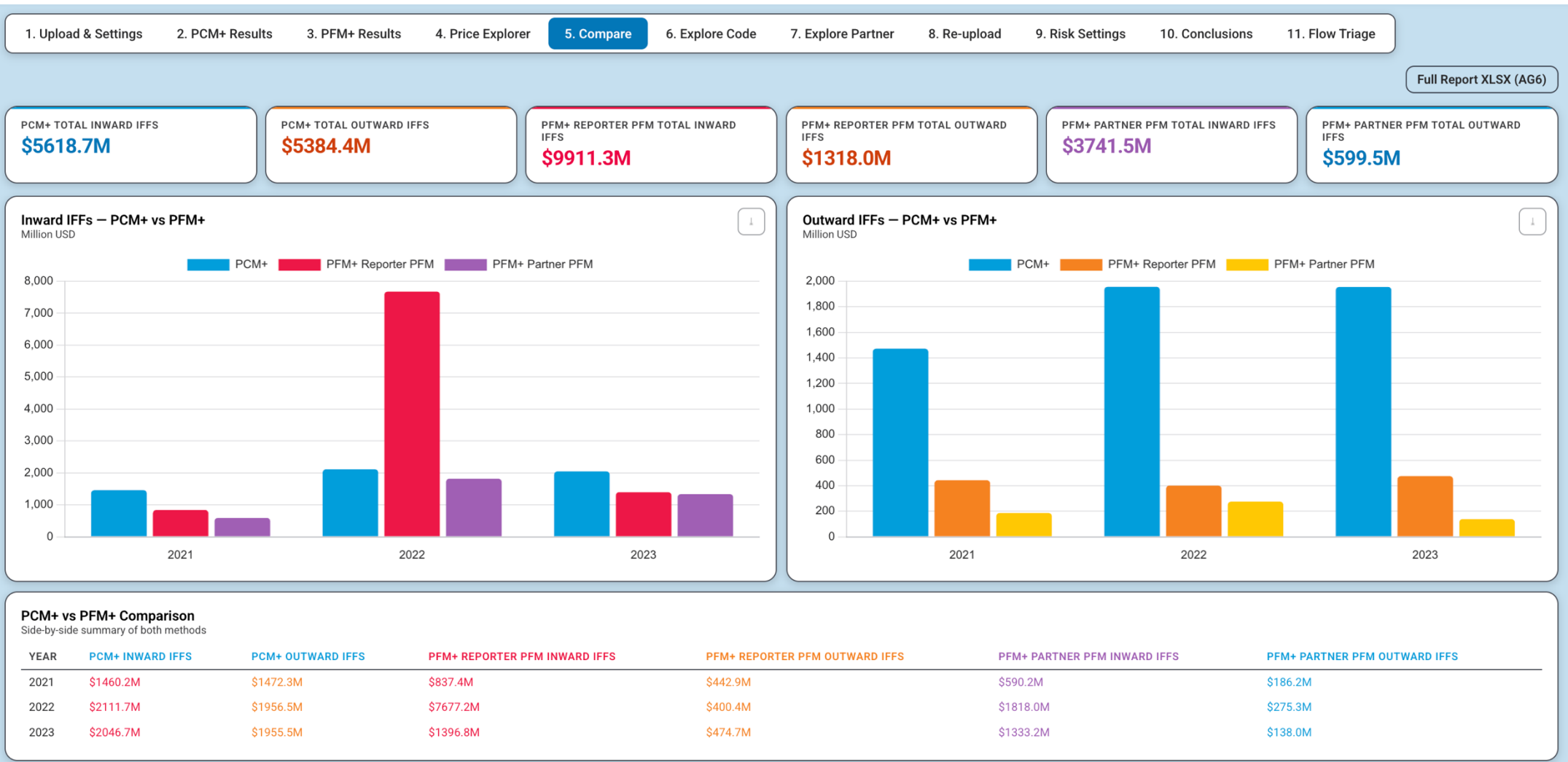
Regional Trends Over Time

Median unit price by region across years.



Regional trends

Compare page



The Full Report in Module 3

Where to find it

- The consolidated AG6 report is no longer downloaded from the Compare page. It now sits at the top of tab 12, Potential IFFs, and is called Potential IFFs Report XLSX (AG6).

Why it moved

- It is the only export that carries the IFF classification columns – IFF case, likely cause and recommended action.
- Module 1 exports deliberately leave those columns out, so gap and price-deviation figures can be circulated without implying an IFF finding.

Requirement

- Available only when PCM+ was run at AG6 or at All Levels. At AG2 or AG4 the button does not appear.

Session 5 – Reviewing results & rerunning (Re-upload page)

Why iterate

- First-pass estimates are sensitive to data quality, partner coverage and the CIF-FOB choice – iteration is part of the method.
- The Re-upload page recreates all charts from saved XLSX without rerunning the full calculation.
- If CIF-FOB-in-Excel was set to "Yes", the r-coefficient is editable per row in the XLSX and the gap formula updates itself.

Hands-on exercise

- Open the Re-upload page and pick a mode: PCM+, PFM+ Reporter or PFM+ Partner.
- Upload the relevant XLSX – Export Gaps and Import Gaps for PCM+, or the Reporter or Partner PFM file for PFM+.
- Click "Recreate Charts".

Where it fits in the module structure

- Re-upload belongs to no single module. With Module 1 off it becomes the entry point: load saved PCM+ results, then work in Risk Areas and Potential IFFs.

Module 3 — the Potential IFFs page

Calculated Data

PCM+ INWARD IFF
\$2726.3M

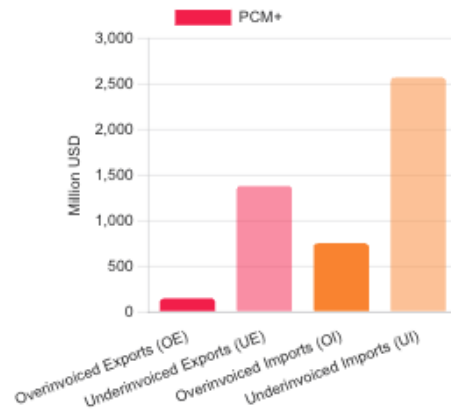
PCM+ OUTWARD IFF
\$2138.8M

COMBINED ESTIMATE –
INWARD IFF
\$2726.3M

COMBINED ESTIMATE –
OUTWARD IFF
\$2138.8M

IFF Conclusion Summary

Million USD



Estimated IFFs by Likely Motive

IFF CLASSIFICATION	DIRECTION	PCM+	COMBINED ESTIMATE	%	LIKELY MOTIVES
Overinvoiced Exports (OE)	Inward IFF	\$147.3M	\$147.3M	3.0%	tax/customs duty evasion by partner; money laundering; capital flight; exploitation of export subsidies or VAT refund schemes
Underinvoiced Exports (UE)	Outward IFF	\$1385.2M	\$1385.2M	28.5%	tax/customs duty evasion; partner country import quotas or restrictions; smuggling or undeclared shipments
Overinvoiced Imports (OI)	Outward IFF	\$753.6M	\$753.6M	15.5%	capital flight disguised as import payments; transfer pricing to shift profits abroad; money laundering through inflated invoices
Underinvoiced Imports (UI)	Inward IFF	\$2579.0M	\$2579.0M	53.0%	customs duty/tax evasion; compliance with import quotas; smuggling of under-declared goods

Figures are gross absolute estimates. PCM+ and PFM+ measure different dimensions of trade misinvoicing and should not be summed without adjustment.

Re-uploaded Data

PCM+ INWARD IFF
\$2676.0M

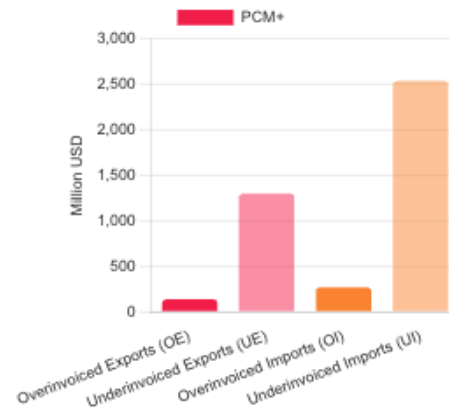
PCM+ OUTWARD IFF
\$1568.7M

COMBINED ESTIMATE –
INWARD IFF
\$2676.0M

COMBINED ESTIMATE –
OUTWARD IFF
\$1568.7M

IFF Conclusion Summary

Million USD



Estimated IFFs by Likely Motive

IFF CLASSIFICATION	DIRECTION	PCM+	COMBINED ESTIMATE	%	LIKELY MOTIVES
Overinvoiced Exports (OE)	Inward IFF	\$136.1M	\$136.1M	3.2%	tax/customs duty evasion by partner; money laundering; capital flight; exploitation of export subsidies or VAT refund schemes
Underinvoiced Exports (UE)	Outward IFF	\$1301.0M	\$1301.0M	30.6%	tax/customs duty evasion; partner country import quotas or restrictions; smuggling or undeclared shipments
Overinvoiced Imports (OI)	Outward IFF	\$267.7M	\$267.7M	6.3%	capital flight disguised as import payments; transfer pricing to shift profits abroad; money laundering through inflated invoices
Underinvoiced Imports (UI)	Inward IFF	\$2539.9M	\$2539.9M	59.8%	customs duty/tax evasion; compliance with import quotas; smuggling of under-declared goods

Figures are gross absolute estimates. PCM+ and PFM+ measure different dimensions of trade misinvoicing and should not be summed without adjustment.

Module 2 – Risk Settings (tab 10)

Configure before you assess

- Every threshold in the eight risk rules is editable on this tab – relative and absolute gap sizes, PFM+ mispricing values, price deviation beyond the Q1–Q3 range, and the flag counts that trigger multi-year escalation.
- Reset to defaults restores the standard settings (30%, \$100M, 15% + \$100M, \$100M, 30%, 5 orange, 2 red).

Then run it

- Assess Risk applies the current thresholds and moves you to tab 11, Risk Areas, where the results appear.
- Change a threshold and click Assess Risk again to see how sensitive the ranking is – this is worth doing before reporting any risk list.

Prerequisite

- PCM+ results must exist, either calculated in this session or brought in through Re-upload. Without them the Assess Risk button is replaced by a warning.

Module 2 – Risk Areas: partner and commodity flags (tab 11)

Trade Risk Ranking

Thresholds: R1=30% · R2=\$100M · R6=\$100M · R7=30% · R10≥5 · R11≥2

Combined Risk Ranking

Countries ranked by combined country-level severity and co-occurring commodity signals

Score – how it is calculated

Country severity **Purple** = 100 · **Red** = 50 · **Orange** = 20

Country flags +5 per individual flag raised

Red HS codes +10 per red-flagged commodity code co-occurring with this country

Orange HS codes +3 per orange-flagged commodity code co-occurring with this country

A country appears only if it has at least one country-level flag. Commodity codes are counted only when this partner country appears in the underlying data rows for that code.

All severities

Search country...

↓ XLSX

RANK ↓	COUNTRY ↓	SEVERITY ↓	FLAGS ↓	RED HS ↓	ORANGE HS ↓	SCORE ↓
1	Partner-EG Partner-EG	Purple	20	3887	—	39070
2	Partner-J Partner-J	Purple	20	3792	—	38120
3	Partner-AH Partner-AH	Purple	20	3560	—	35800
4	Partner-GF Partner-GF	Purple	16	2497	—	25150
5	Partner-CA Partner-CA	Purple	12	2431	—	24470
6	Partner-BV Partner-BV	Purple	7	1981	—	19945
7	Partner-FV Partner-FV	Purple	7	1880	—	18935
8	Partner-GB Partner-GB	Purple	7	1870	—	18855

Risk flags and the Potential IFFs Report

Two different outputs

- Module 2 produces the risk view: which partners and commodities deserve attention first, graded orange, red and purple.
- Module 3 produces the row-level view: every above-materiality flow classified by IFF case, likely cause and recommended action.

How they work together

- Use the Module 2 ranking to choose which partners and HS codes to examine, then filter the Potential IFFs Report XLSX to those rows.
- A partner flagged red or purple with several co-occurring commodity signals is where the plus-element investigation gives the most return.

What neither output claims

- A flag is a statistical signal. Confirming an illicit financial flow needs documentary evidence held by customs, the tax authority and the FIU.

Session 6 – Interpretation, comparison & reporting

Reading the results across the calculator

- Compare (tab 6): PCM+ misinvoicing and PFM+ mispricing side by side, with Pearson correlation across years.
- Price Explorer (tab 5): quartile trends, box plots, outlier reporters, regional analysis, $|1-(M/X)|$ import/export index.
- Explore Code (tab 7) and Explore Partner (tab 8): drill into any AG6 HS code or partner country – gap by country, mispricing legend, price trends.
- Risk Areas (tab 11): where to look first. Potential IFFs (tab 12): what the flows may represent, and in which direction.

Reporting deliverables

- Report headline numbers as ranges; keep the "Preliminary Estimates – Plus-Element Investigation Required" disclaimer attached to Module 3 figures.
- Anchor figures to SDG 16.4.1 categories; flag re-exports, sanctions corridors, customs-union effects and classification issues.
- Potential IFFs Report XLSX (AG6 or All Levels) is the consolidated deliverable.

Practical work

Download sample data for a country: for 2 years:

Run all the computations

Scenario:

Report on results:

- Summary IFFs before and after detailed manual analysis: Did you manage to reduce the total IFF value?
- What are the main trade partners and traded commodities with which this country has the most trade discrepancies and mispricing episodes?
- What are the main possible reasons for IFFs for this country?
- What actions do you recommend for what partner-commodity pairs?