

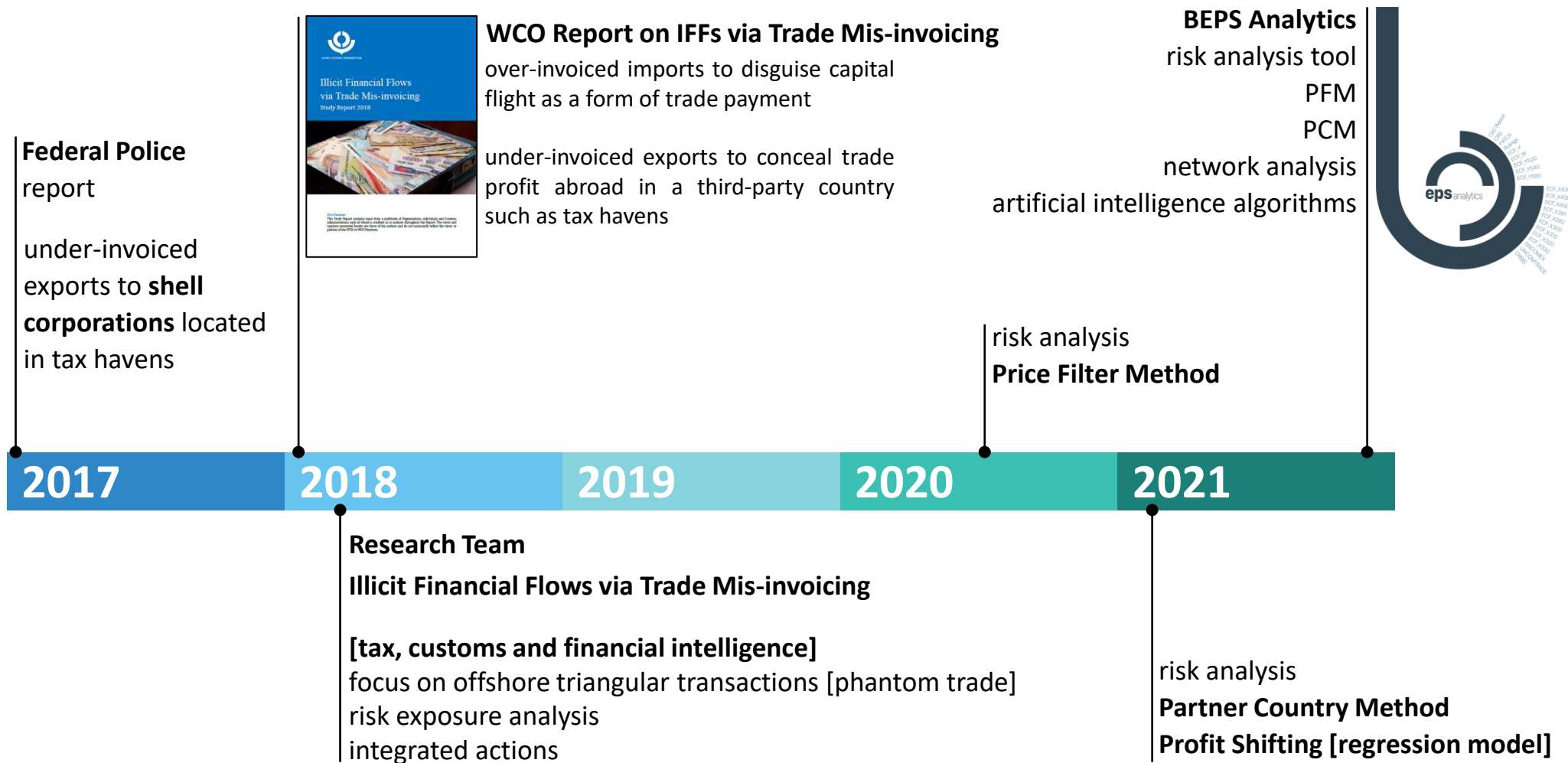


phantom trade

statistical methodology to estimate BEPS-related financial flows or tax-related illicit financial flows

Brazil

background



case study | phantom trade rationale

Hypotheses: empty corporate shells or artificial offshore corporate entities (phantom corporations), with no real business activities, are used as a channel to transfer profits to lower-tax jurisdictions and reduce tax liabilities in Country A.

Economic activity: export transactions of agricultural commodities.

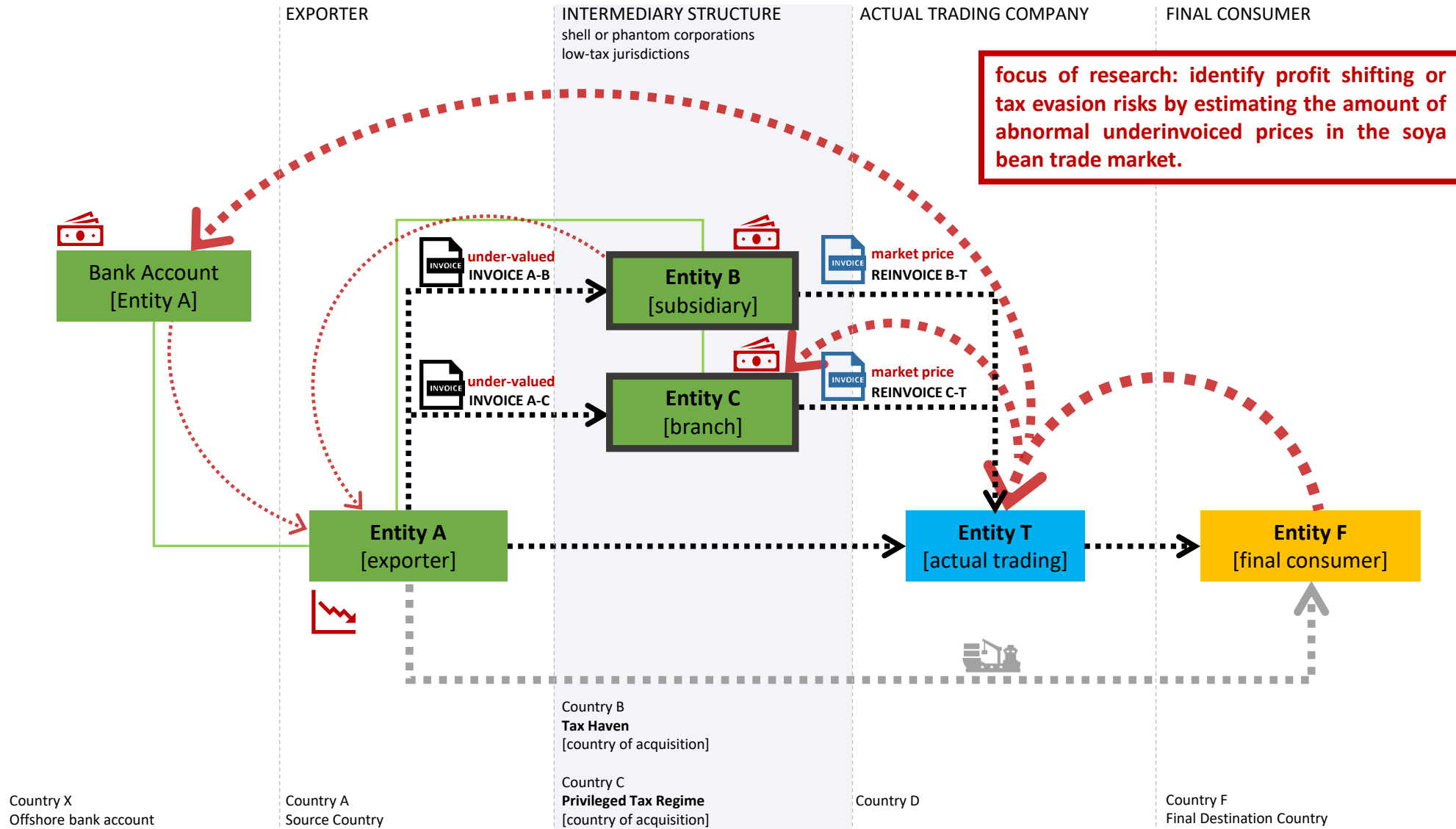
Manipulation: underpricing of export transactions.

Channel or enabler: empty corporate shells with no real business activities (*phantom corporations*) located in tax havens or privileged tax regimes, designed to minimise companies' tax liabilities.

Tax-related illicit financial flows generating activities: international tax evasion or tax fraud.

BEPS-related financial flows generating activities: cross-border aggressive tax planning strategies, which erodes the tax base of a country where that income was generated.

Case study and infographic representation: this is a case study used to illustrate the exposure to BEPS opportunities in export transactions enabled by triangular operations with offshore intermediary entities, located in tax havens or privileged tax regime jurisdictions. It would be necessary to carry out a specific tax audit proceeding to identify, case by case, and according to the evidence collected and the national legal framework in force, if the suspicious transactions with the offshore corporate structure enable (1) tax evasion, (2) aggressive tax planning or (3) lawful tax avoidance.

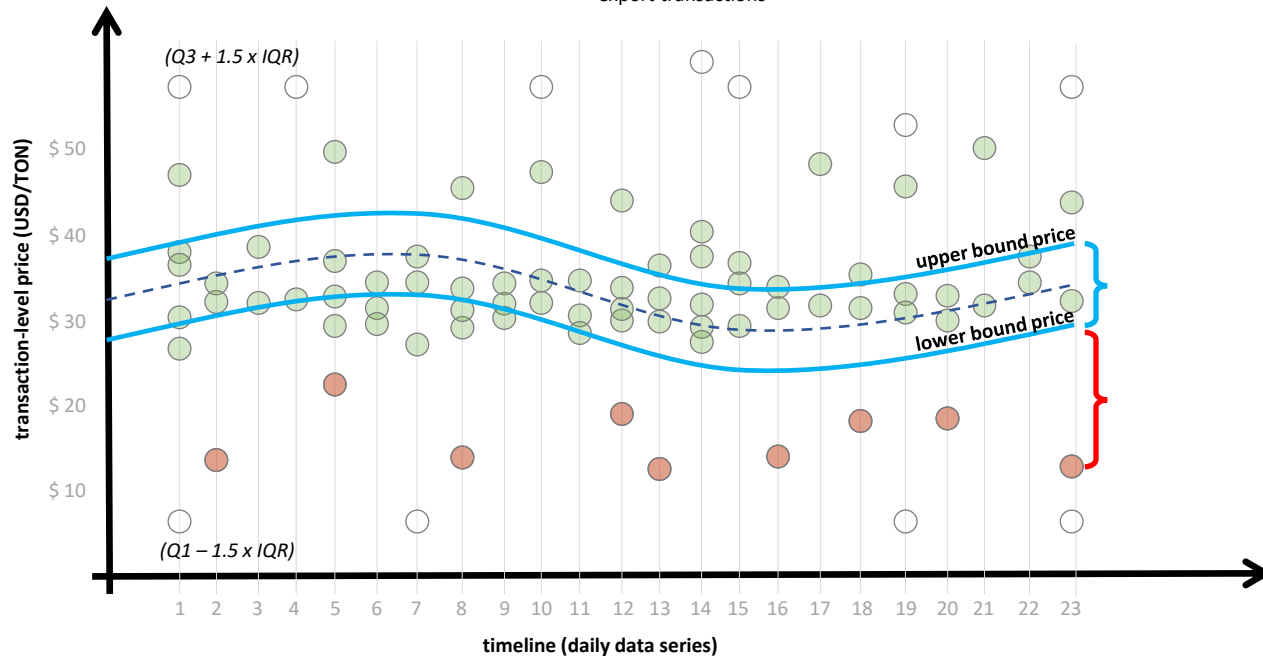


price filter method | abnormally priced transactions

PRICE FILTER = [MARKET PRICE or STATISTICALLY ESTIMATED PRICE] +/- α (%)

SOYA BEAN PRICE FILTER = [THREE-DAY WEIGHTED MOVING AVERAGE PRICE] +/- 1σ

transaction-level trade data collected by the Customs Bureau and for a specific commodity HS Code (8-digit level) export transactions



(1) Outliers treatment = interquartile range(IQR)

$$(2) \text{Weighted Average Price } (t) = \frac{\sum_i^n [\text{Invoice Price } (t) \times \text{Quantity}(t)]}{\sum_i^n [\text{Quantity}(t)]}$$

$$(3) \text{Weighted Moving Average Price}(t) = \frac{\sum_{t'=t-3}^t [\text{Weighted Average Price}(t') \times \text{TIN}(t') \times E(t')]}{\sum_{t'=t-3}^t [\text{TIN}(t') \times E(t')]}$$

$$(4) \text{Price Filter Range } (t) = [\text{Weighted Moving Average Price}(t) \pm 1\sigma]$$

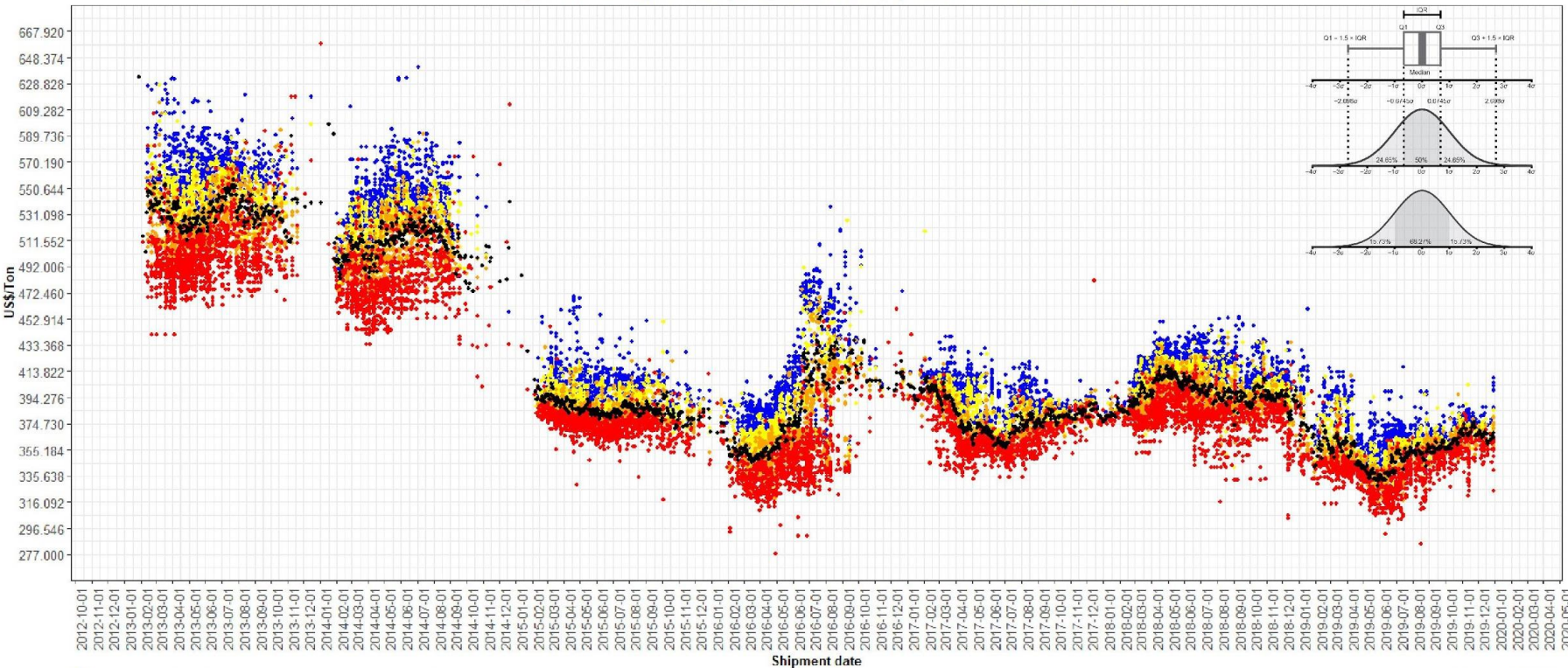
$$(5) \text{Total Estimated BEPS or tax-related IFFs} = \sum_{t,i}^n [\text{Lower Bound Price}(t) - \text{Invoice Price } (t, i)] \times \text{Quantity}(t, i)$$

The assumption is that the undervalued export transactions or abnormally underpriced transactions in relation to the lower bound price, likely, enables profit shifting out of countries or tax-related illicit financial outflows.

price filter method | abnormally priced transactions

SOYA BEAN EXPORTS

Shipment date vs. Soyabean CME price quotation US\$/ton (**) - Period: 2013-01-28 a 2019-12-31



- transaction-level invoice price: quartile Q4
- transaction-level invoice price: quartile Q3
- transaction-level invoice price: quartile Q2
- transaction-level invoice price: quartile Q1
- soya bean price filter

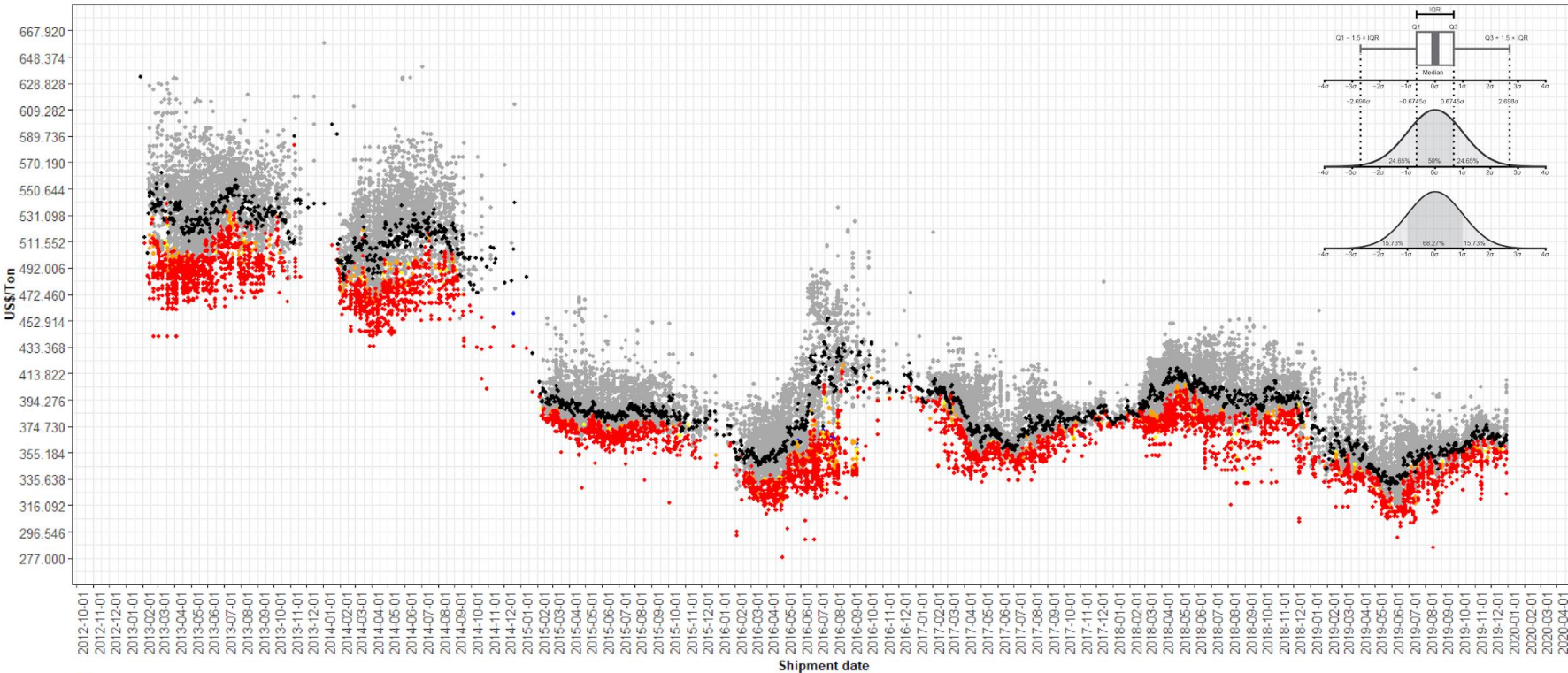
Source: SISCOMEX
 (*) Outliers treatment:
 $IQR = (Q3 - Q1)$
 $MIN = Q1 - (1.5 \times IQR)$
 $MAX = Q3 + (1.5 \times IQR)$
 (**) US\$/ton = CME Price Quotation x 36,7437 / 100

Transaction-level invoice prices, segregated by quartiles Q1, Q2, Q3 and Q4 and suspicious abnormally underpriced invoices below the lower bound.

price filter method | abnormally priced transactions

SOYA BEAN EXPORTS

Shipment date vs. Soyabean CME price quotation US\$/ton (***) - Period: 2013-01-28 a 2019-12-31



- transaction-level invoice price: quartile Q4 < lower bound price set at -1σ
- transaction-level invoice price: quartile Q3 < lower bound price set at -1σ
- transaction-level invoice price: quartile Q2 < lower bound price set at -1σ
- transaction-level invoice price: quartile Q1 < lower bound price set at -1σ
- transaction-level invoice price > lower bound price set at -1σ
- soya bean price filter

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 (*) Outliers treatment:
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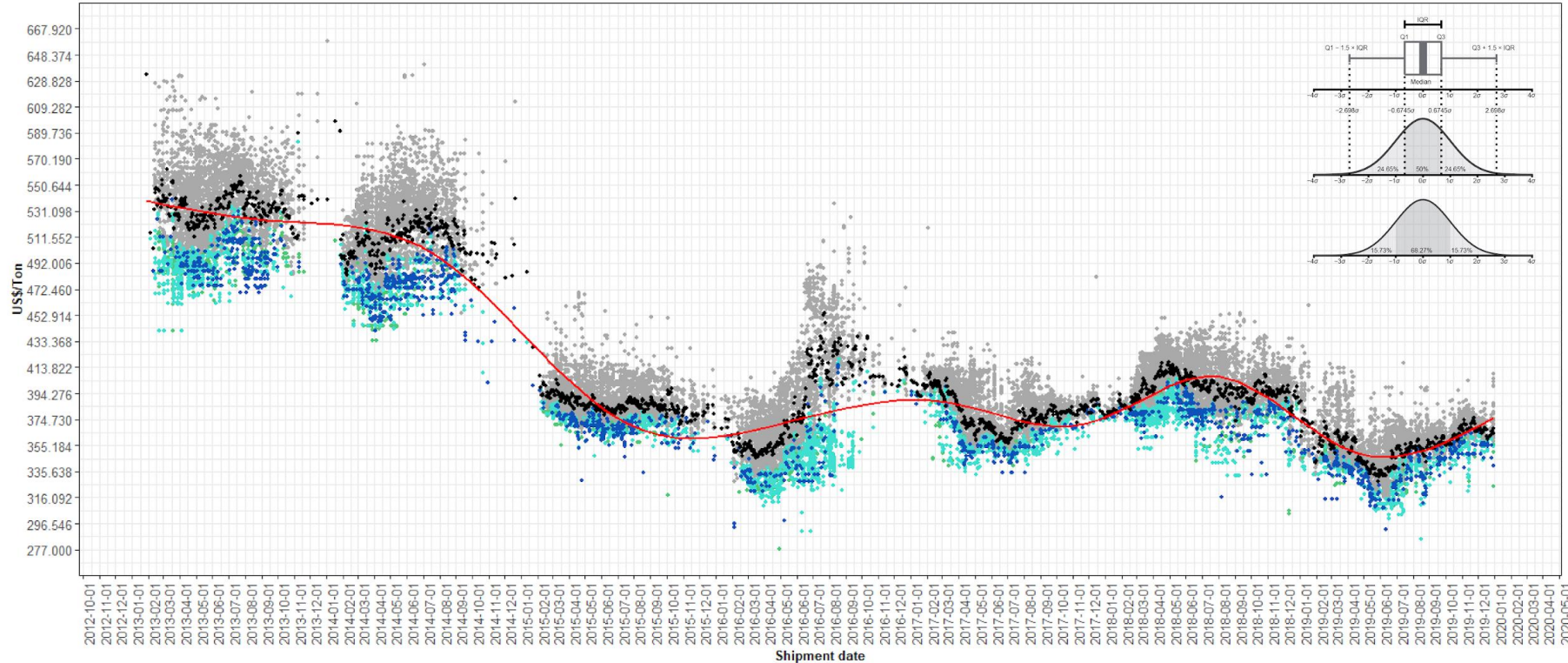
The transaction-level invoice prices classified in the quartile Q1 would be the most exposed to trade mispricing or profit shifting opportunities through the use of offshore intermediary entities located in low-tax jurisdictions.

price filter method | economic substance offshore hubs

SOYA BEAN EXPORTS

Estimated exposure to BEPS opportunities, segregated by triangular transactions with tax havens or privileged tax regimes, as defined by the RFB Normative Ruling nº 1.037/2010

Shipment date vs. Soyabean CME price quotation US\$/ton (**) - Period: 2013-01-28 a 2019-12-31

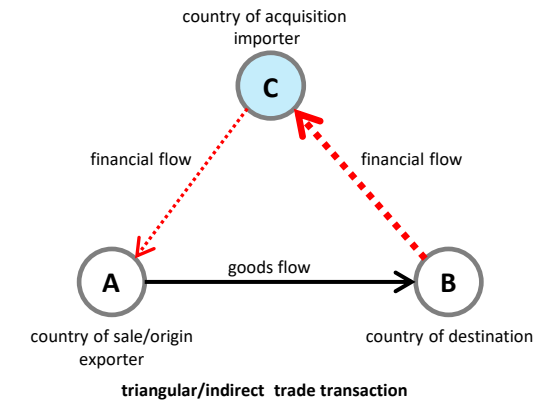


- intermediary jurisdiction = tax haven | transaction-level invoice price < lower bound price set at -1σ
- intermediary jurisdiction = privileged tax regime | transaction-level invoice price < lower bound price set at -1σ
- intermediary jurisdiction = others or direct exports | transaction-level invoice price < lower bound price set at -1σ
- transaction-level invoice price > lower bound price set at -1σ
- soya bean price filter
- ~ generalized additive model (GMA) or generalized linear model

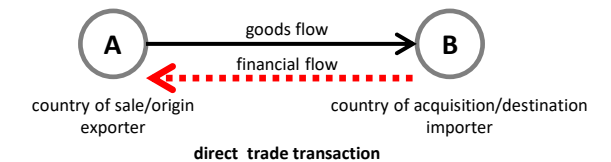
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Transaction-level invoice prices, segregated by **type of jurisdiction or country of acquisition** and estimated risk exposure to BEPS opportunities (2012-2020). Classified as:

- (1) tax haven
- (2) privileged tax regime
- (3) other jurisdictions.



In triangular or indirect export transactions, the country of acquisition is different from the country of destination.

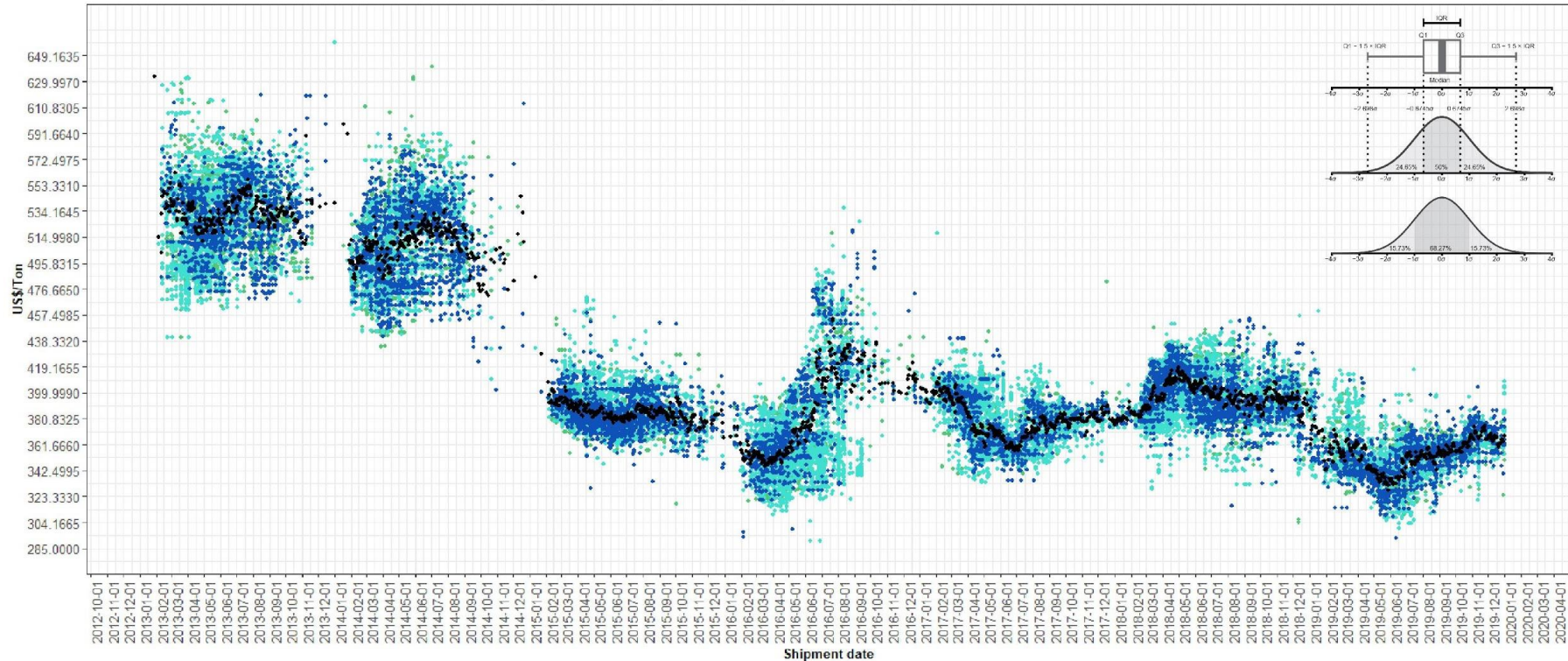


price filter method | economic substance offshore hubs

SOYA BEAN EXPORTS

Estimated exposure to BEPS opportunities, segregated by triangular transactions with tax havens or privileged tax regimes, as defined by the RFB Normative Ruling n? 1.037/2010

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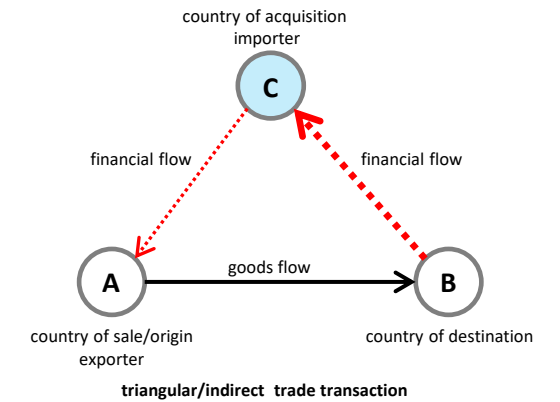


- intermediary jurisdiction = tax haven | all transaction-level invoice prices
- intermediary jurisdiction = privileged tax regime | all transaction-level invoice prices
- intermediary jurisdiction = others or direct exports | all transaction-level invoice prices
- soya bean price filter

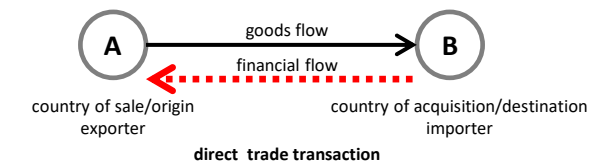
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In triangular or indirect export transactions, the country of acquisition is different from the country of destination.



the price filter, statistically estimated using transaction-level trade data collected by the Customs Bureau, likely, would be biased down by cross-border aggressive tax planning strategies or tax evasion practices

price filter method | conclusions and way forward

Estimated BEPS-related financial flows or tax-related illicit financial outflows

Period: 2017 to 2019

country of acquisition	triangular transactions	Incoterms	total exports US\$	quantity TON	estimated BEPS-related FFs US\$
Art.1º - Tax Haven	Yes	FOB	18.128.478.967	47.964.971	162.298.531
Art.2º - Privileged Tax Regime	Yes	FOB	29.913.890.618	79.024.100	300.401.808
Other jurisdictions	Yes	FOB	5.552.651.496	14.590.957	38.643.608
Other jurisdictions	No	FOB	150.150.582	407.331	2.507.883
Total			53.745.171.664	141.987.359	503.851.830

- Transaction-level trade database biased down, likely, by aggressive tax planning strategies or tax evasion practices, results in **biased down estimates**.
- The price filter could be constructed based on other databases such as the '**IMF Primary Commodity Prices Database**' or based on prices reported by relevant trade partners such as the prices reported in the '**UN COMTRADE Database**'.
- **High levels of risk exposure** to profit shifting or trade mispricing.
- Low-tax jurisdictions and the lack of transparency, likely, play key roles as drivers of the 'phantom trade' phenomena.
- The **OECD Country-by-Country (CbC) Reports** contain useful information on the level of revenues, profits, and economic activities, which might be used as initial indicators that mne groups have entities in low-tax jurisdictions with disproportionate earnings in relation to their level of economic activity.



Thank you for your attention

Luciana Barcarolo

luciana.barcarolo@rfb.gov.br

Pedro Augusto Frantz

pedro.frantz@rfb.gov.br

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