UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

December 2020

UNCTAD Research Paper No. 57
UNCTAD/SER.RP/2020/16

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Statistical methodology to estimate BEPS-related financial flows or tax-related illicit financial flows channelled via *phantom trade*

Abstract

This research paper presents a statistical methodology to assess BEPS risks and estimate BEPS-related financial flows, generated by cross-border aggressive tax avoidance, or commercial and tax-related illicit financial flows, generated by international tax evasion practices, resulting from tax-minimizing routes which artificially divert cross-border trade income flows into offshore intermediary entities, located in low-tax jurisdictions.

Key words: BEPS, BEPS risks, BEPS-related financial flows, artificial financial flows, commercial and tax-related illicit financial flows, cross-border aggressive tax avoidance, international tax evasion, export transactions, cross-border trade

Contents

Acknowledgements

This research was prepared as a case study for the UNCTAD-UNODC Task Force on the Statistical Measurement of Illicit Financial Flows. The authors would like to thank the Secretary-General of the Secretariat of the Federal Revenue of Brazil, Mr. Décio Rui Pialarissi, the Under-Secretary of Auditing, Mr. Jonathan José Formiga de Oliveira, and the General Coordinator of Programming and Research Studies, Mr. Paulo Cirilo Santos Mendes, for their support, without which this work would not have been initiated or completed. Support, comments, and suggestions from Mrs. Anu Peltola, Mr. Steve MacFeely, Mr. Bojan Nastav and Mr. Fernando Cantu, from the UNCTAD Development Statistics and Information Branch, are also gratefully acknowledged.

Introduction[1]

The boundary between legal and illegal tax practices may be unclear. Considering a continuum of tax aggressiveness, activities may range from activities which are clearly within the spirit of the law (i.e. legal tax planning), activities that aggressively push the boundaries of what is acceptable under the law (i.e. aggressive tax avoidance), to behaviours which are clearly illegal (i.e. tax evasion).

This complexity is also reflected in the international debate concerning illicit financial flows. According to the OECD[2], tax-related illicit financial flows are essentially generated by international tax evasion or trade mispricing. The UNCTAD-UNODC Conceptual Framework for the Statistical Measurement of Illicit Financial Flows[3] notes that aggressive tax avoidance, although usually legal, can drain resources and be considered illicit. For this reason, aggressive tax avoidance has also been included as an illicit financial flow for the purposes of SDG indicator 16.4.1.

The OECD/G20 Base Erosion and Profit Shifting (BEPS)[4] package has addressed issues related to aggressive tax avoidance or tax planning strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations where there is little or no economic activity or to erode tax bases through deductible payments such as interest or royalties. The OECD Report on Measuring and Monitoring BEPS[5] indicates that most tax planning channels overlap with BEPS behaviours and represent tax-induced artificial financial flows that are not related to the location of real economic activity. According to the OECD, although some schemes used are illegal, most are not.

This statistical research seeks to contribute to this debate by estimating price anomalies likely resulting from tax-minimizing routes which artificially divert cross-border trade income flows into offshore intermediary entities, located in low-tax jurisdictions. Considering that the boundaries between legal and illegal tax practices may be unclear and that it is statistically infeasible to separate illegal (i.e. tax evasion) from legal practices (i.e. aggressive tax avoidance), for the purposes of this statistical research, the estimates include both BEPS-related financial flows, generated by aggressive tax avoidance practices, and tax-related illicit financial flows, generated by tax evasion or tax fraud. Possibly, the estimates overwhelmingly capture aggressive tax avoidance, but the estimated scale might include tax evasion and tax fraud.

[1] The views expressed are those of the authors and do not necessarily reflect the views or policies of the Secretariat of the Federal Revenue of Brazil.

[2] OECD (2014). Illicit Financial Flows from Developing Countries: Measuring OECD Responses. Available at: https://www.oecd.org/corruption/Illicit_Financial_Flows_from_Developing_Countries.pdf

[3] UNCTAD-UNODC (2020). Conceptual Framework for the Statistical Measurement of Illicit Financial Flows. Available at: https://www.unodc.org/unodc/en/data-and-analysis/iff.html

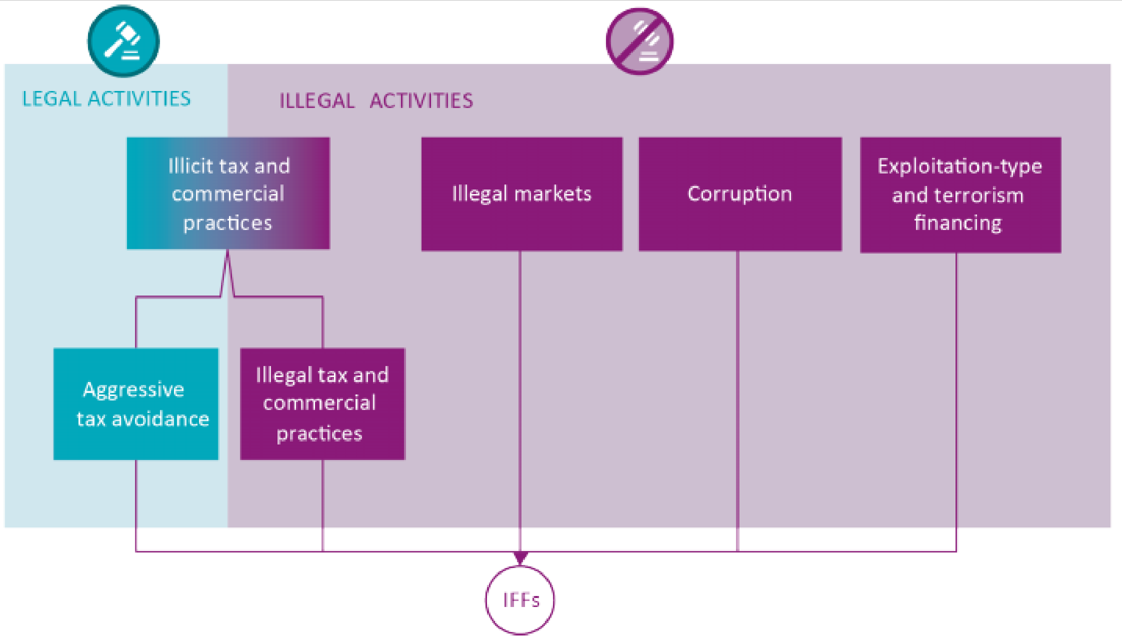
[4] According to the OECD, Base Erosion and Profit Shifting (BEPS) refers to tax planning strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations where there is little or no economic activity, resulting in little or no overall corporate tax being paid. Available at: https://www.oecd.org/tax/beps/about/ and http://www.oecd.org/ctp/preventing-the-artificial-avoidance-of-permanent-establishment-status-action-7-2015-final-report-9789264241220-en.htm#:~:text=Base%20Erosion%20and%20Profit%20Shifting%20(BEPS)%20refers%20to%20tax%20planning,overall%20corporate%20tax%20being%20paid.

[5] OECD. Measuring and Monitoring BEPS, Action 11 – 2015 Final Report. Available at: https://www.oecd.org/tax/beps/measuring-and-monitoring-beps-action-11-2015-final-report-9789264241343-en.htm

1. Conceptual approach

The UNCTAD-UNODC Conceptual Framework adopted a broader definition[6] of tax-related illicit financial flows, which includes both illegally generated flows from international tax evasion and flows that are not strictly illegal such as cross-border aggressive tax avoidance, which erodes the tax base of a country where that income was generated.

Figure 1. Categories of activities that may generate IFFs.



Source: UNCTAD and UNODC.

However, as pointed out in the Conceptual Framework[7], it is statistically unfeasible to separate illegal (i.e. tax evasion) from legal practices (i.e. aggressive tax avoidance).

Moreover, the literature[8] also indicates that the estimates of global profit shifting and associated tax revenue losses do not distinguish between tax avoidance, tax evasion and tax fraud.

The Brazilian experience also suggests that it is 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 offshore corporate structures enable (1) tax evasion, (2) aggressive tax planning or avoidance or (3) lawful tax avoidance.

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[6] According to Cobham & Janský (2017), there is no single, agreed definition of illicit financial flows. The European Parliament has sought to bring the tax avoidance aspect into the definition of IFFs within the European Community. Available at: https://www.europarl.europa.eu/doceo/document/A-8-2015-0184_EN.pdf?redirect

[7] UNCTAD-UNODC (2020). Conceptual Framework for the Statistical Measurement of Illicit Financial Flows. Available at: https://www.unodc.org/unodc/en/data-and-analysis/iff.html

[8] International corporate tax avoidance in developing countries. European Parliament, TAX3 Committee: Hearing on Evaluation of Tax Gap. Available at: http://www.europarl.europa.eu/cmsdata/161049/2019%2001%2024%20-%20Petr%20Jansky%20written%20questions%20-%20Ev_TAX%20GAP.pdf

Referring to the World Customs Organization (WCO) Study Report on Illicit Financial Flows via Trade Mis-invoicing[9], the OECD states that "transfer pricing can also be used as part of an aggressive tax planning policy by a multinational enterprise group: the transfer pricing policy may be applied in such a way as to comply with the strict letter of the law, but that aggressively pushes the boundaries of what is acceptable under those laws. Some multinational enterprises may also engage in illegal tax evasion through fraudulent transfer mis-pricing."

Additionally, according to the OECD, BEPS refers to tax planning strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations where there is little or no economic activity, resulting in little or no overall corporate tax being paid. The OECD Report on Measuring and Monitoring BEPS[10] points out that most tax planning channels overlap with BEPS behaviours and represent tax-induced artificial financial flows that are not related to the location of real economic activity. Although some schemes used are illegal, most are not.

Considering that the boundaries between legal and illegal tax practices may be unclear, for the purposes of this statistical research, the estimates include both BEPS-related financial flows, generated by transfer pricing abuse practices (i.e. aggressive tax avoidance), and tax-related illicit financial flows, generated by trade mis-invoicing (i.e. tax evasion or tax fraud). Possibly, the estimates overwhelmingly capture aggressive tax avoidance, but the estimated scale might include tax evasion and tax fraud. Thereupon, for the purposes of this research paper, tax-related illicit financial flows are also referred to as artificial financial flows or BEPS-related financial flows.

2. Phantom trade rationale

Analogously to the *phantom investment* phenomena identified by a recent International Monetary Fund (IMF)[11,12] research, studies and audits carried out by the Secretariat of the Federal Revenue of Brazil (RFB)[13] demonstrate that Brazilian export transactions follow a pattern of very high reliance on triangular operations through offshore intermediary entities, likely, special purpose entities[14] or pass-through entities, located in tax havens or privileged tax regime jurisdictions. These tax-induced structures, frequently enabled by empty corporate shells with no real commercial activity, artificially divert the financial flows of trade transactions to low-tax jurisdictions. These artificial financial flows routed through transactions with *phantom corporations* also generate a serious distortion to what is believed to be the real structure of the Brazilian international trade network since the reported export transactions would be biased due to aggressive tax avoidance or international tax evasion strategies.

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[9] WCO (2018). Study Report on Illicit Financial Flows via Trade Mis-invoicing. Available at: http://www.wcoomd.org/en/media/newsroom/2018/july/the-wco-presented-its-study-report-on-illicit-financial-flows.aspx

[10] OECD. Measuring and Monitoring BEPS, Action 11 – 2015 Final Report. Available at: https://www.oecd.org/tax/beps/measuring-and-monitoring-beps-action-11-2015-final-report-9789264241343-en.htm

[11] According to the IMF Working Paper "What is real and what is not in the Global FDI Network?", phantom corporations in low-tax economies give multinational firms a number of opportunities to avoid taxes in the high-tax economies where the real investments and the ultimate investors are located. Phantom investment that pass through empty corporate shells with no real business activities are designed to minimise companies' tax liabilities rather than financing productive activity, according to the research.

[12] IMF (2019). Jannick Damgaard, Thomas Elkjaer, Niels Johannesen. What is real and what is not in the Global FDI Network? Available at: https://www.imf.org/en/Publications/WP/Issues/2019/12/11/what-is-real-and-what-is-not-in-the-global-fdi-network

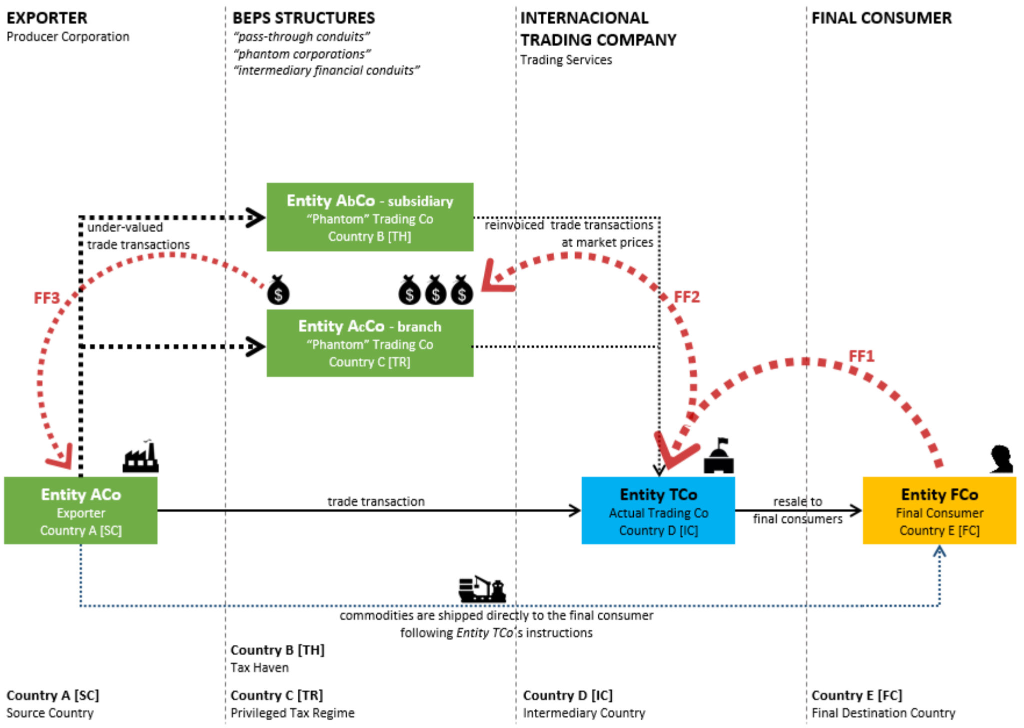
[13] RFB (2019). Fighting illicit financial flows: Brazilian Custom´s approach. Fabiano Coelho, Lucas Rodrigues Amaral, Luciana Barcarolo. Available at: https://mag.wcoomd.org/magazine/wco-news-89/fighting-illicit-financial-flows-brazilian-customs-approach/

[14] IMF (2018). Final Report of the Task Force on Special Purpose Entities. "An SPE resident in an economy, is a formally registered and/or incorporated legal entity recognized as an institutional unit, with no or little employment up to maximum of five employees, no or little physical presence, and no or little physical production in he host economy."
Available at: https://www.imf.org/external/pubs/ft/bop/2018/pdf/18-03.pdf

Considering the conceptual approach proposed, studies have been carried out to estimate the exposure to BEPS opportunities in export transactions of agricultural and mineral commodities. The main features of the *phantom trade* typology can be summarized as follows:

- **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 Brazil.
- **Economic activity**: export transactions of agricultural and mineral commodities.
- **Manipulation**: underpricing of export transactions.
- **Channel or enabler**: offshore artificial corporate entities (*phantom corporations*) located in tax havens or privileged tax regimes.
- **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. As stated in the conceptual approach, 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.

Figure 2. Case Study Infographic.



Note: The payments or financial flows (FF) enabled by the BEPS structures could be disentangled, for didactic purposes, as follows:

FF1 (Country E [FC] to Country D [IC]): payments from final consumers (e.g.: *Entity FCo*) to actual international trading companies (e.g.: *Entity TCo*) at market prices. Low-tax or non-transparent jurisdictions not involved.

FF2 (Country D [IC] to Country B [TH] or Country C [TR]): payments from actual international trading companies (e.g.: *Entity TCo*) to *phantom* trading companies (*Entities AbCo and AcCo*) at market prices. Low-tax or non-transparent jurisdictions involved.

FF3 (Country B [TH] or Country C [TR] to Country A [SC]): payments from *phantom* trading companies (*Entities AbCo and AcCo*) to the *Entity ACo* (Exporter) at under-valued prices. Low-tax or non-transparent jurisdictions involved.
The FF2 is artificially created through the insertion of *phantom* trading companies (*Entities AbCo* and *AcCo*), empty corporate shells with no real economic activity located in low-tax and non-transparent jurisdictions, leading to profit shifting and tax revenue loss where the real economic activity is undertaken and the income is generated (Country A [SC]).

[SC]: Source Country, wherein the income is generated.

[TH]: Tax Haven, wherein the *phantom* trading company (intermediary financial conduit) is located.

[TR]: Privileged Tax Regime, wherein the *phantom* trading company (intermediary financial conduit) is located.

[IC]: Intermediary Country, wherein the actual international trading companies are located.

[FC]: Final Destination Country, wherein the final consumers are located.

3. Statistical methodology

According to Alex Cobham and Petr Janský[15], almost all approaches to tax-related illicit financial flows estimation are based on exploiting anomalies in data that may arise from the process of hiding. The main existing methodologies are based in four groups of estimates: (i) capital account-based; (ii) trade-based; (iii) offshore wealth; (iv) corporate tax avoidance. Thereupon, for the purposes of quantifying the impact of *phantom trade*

[15] Cobham, Alex & Yanký, Petr (2017). Measurement of Illicit Financial Flows. UNODC-UNCTAD Expert Consultation on the SDG Indicator on Illicit Financial Flows. Available at: https://www.unodc.org/documents/data-and-analysis/statistics/IFF/Background_paper_B_Measurement_of_Illicit_Financial_Flows_UNCTAD_web.pdf

on tax base erosion, a possible trade-based method, known as Price Filter Method[16], has been used to estimate the exposure to BEPS opportunities and measure the associated BEPS-related financial flows.

3.1 The Price Filter Method

As stated by Philip K. Hong and Simon J. Pak in the WCO Study Report on Illicit Financial Flows via Trade Mis-invoicing[17], "the Price Filter Method (PFM) estimates price filters for each Harmonized Commodity Description and Coding System (HS code) as a proxy for arm's length prices and uses the price filters to detect suspicious transactions with abnormal prices, which is an indication of possible trade mispricing. Trade mispricing occurs when the unit price of a transaction declared is different from the arm's length price of the transaction. The arm's length price in a transaction varies depending on the particular transaction circumstance, such as contractual terms, economic circumstances, and business strategies pursued by buyer and seller, to name a few."

Moreover, according to the WCO Study Report, to detect abnormally priced transactions, the price filters for each HS code include benchmark upper and lower bound prices allowing for variations in arm's length price during a specified time period. The price filters may be constructed from observable market prices or may be statistically estimated using transaction-level trade data.

The lower and upper bound prices may be set at the first quartile price and the last quartile price, such as the lower and upper quartile prices. Or they can be set at the average price +/- α (%) for each HS Code based on the judgment of commodity specialists. The price filter range may be set narrower or wider around the market price as appropriate. Additionally, the interquartile price range also may be used as a price filter to detect abnormal prices.

PRICE FILTER = [MARKET PRICE or STATISTICALLY ESTIMATED PRICE] +/- α (%) (1)

In this approach, all abnormally priced transactions detected by the price filter method are assumed suspicious mispriced[18] transactions and, likely, enables illicit capital flight or profit shifting out of countries either through import overinvoicing or export underinvoicing. The underinvoiced amount in export transactions, which is the focus of this statistical research, may be estimated as the lower bound price minus invoice price times quantity.

UNDERINVOICED AMOUNT = [LOWER BOUND PRICE - INVOICE PRICE] x [QUANTITY] (2)

3.1.1 The Price Filter Method for the Soya Bean Trade Market