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Commodity Trading and Illicit Financial Flows

1 Commodity trading has come under increasing scrutiny as a conduit for illicit financial flows out of resource-rich developing countries, through trade mispricing and abusive transfer pricing. Assessing whether, and to what extent, commodity trading is subject to trade mispricing is of the essence to measure this phenomenon and evaluate the impact of corrective policies. This paper focuses on the world's largest commodity trading hub, Switzerland. We will examine existing methodological approaches for estimating trade mispricing associated with commodity trade and analyse the data available in the case of Switzerland. Since commodity trading primarily occurs in transit trade, meaning that the merchandise does not physically enter Switzerland, it is it difficult to trace transactions by Swiss-based trading companies in trade statistics. Additionally, identifying mispricing practices raises several methodological issues. Previous studies have hinted at substantial illicit financial flows from developing countries to Switzerland related to commodity trade, with conservative estimates ranging from $8.5 billion to $15 billion a year. We conclude that the reliability of such estimates is weak and that deeper insight into the actual operations of the commodity trading business is required in order to improve them.

1 Introduction

2 Illicit financial flows from commodity exporting countries and tax avoidance related to commodity trade recently made it to the forefront of the international agenda (OECD, 2014). Illicit financial flows from developing countries are seen as a major economic impediment to sustainable development, and developing countries' ability to curb these flows is expected to play a key role in their capacity to mobilize domestic resources in a post-2015 development context.

3 The Swiss Trading and Shipping Association (STSA) reports that trading firms headquartered in the Lake Geneva area account for roughly half of the world's global trade in coffee and sugar, and 35 per cent of international trade in oil, grains, rice and oilseeds. This makes Switzerland the largest trading centre for such commodities, while Swiss-based firms are said to control between 15 to 25 per cent of the global commodity trade (Berne Declaration, 2011). As a major commodity trading centre and a country that has for a long time offered both financial secrecy and attractive tax conditions, Switzerland appears to be particularly susceptible to serving as a destination point for illicit financial flows.

4 Switzerland's emergence as the world's leading commodity trading hub has recently attracted public attention. Since 2011, non-governmental organizations have actively contributed to the policy debate surrounding the Swiss commodity industry, most prominently the Berne Declaration with its ground-breaking publication, *Commodities: Switzerland's Most Dangerous Business*.[1] A series of parliamentary requests–thirty between 2011 and 2012 alone–have dealt with the issue.[2] The Swiss Government (Federal Council) has recognized the problem of illicit flows from developing countries associated with commodity trading and shown interest in preventing these flows.[3] Getting reliable estimates of the size of illicit flows is crucial for effectively addressing the issue and evaluating the impact of policies and voluntary commitments to curb such flows. The Center for Global Development, a Washington-based think tank, released a study that investigated whether the Swiss commodity trade is subject to systematic mispricing and therefore causes illicit financial outflows from commodity exporting countries into Switzerland (Cobham et al. 2014). This study represents a first attempt to assess the scale of illicit financial flows associated with the Swiss commodity-trading sector. The study also illustrates some of the major difficulties associated with estimating commodity trade mispricing.

5 This paper investigates whether it is at all possible to provide reliable estimates of the scale of illicit financial flows based on the methods and data at our disposal and our understanding of commodity trade. This paper points out gaps in the data that currently hinder the reliable assessment of trade mispricing associated with Swiss commodity trading. Such gaps should be included in the list of concerns that the Swiss government plans to address with regard to the illicit movement of capital from developing countries.

6 The next section provides a short discussion of trade and transfer mispricing as a vehicle for illicit financial flows. It also examines the factors that make the Swiss commodity trade specifically vulnerable to illicit financial flows. Section 3 discusses the methodological approaches used to estimate trade mispricing. We will review the data that is currently available on Swiss commodity trading (Section 4) and will point out the major limitations of the different methods, discussing which of them could best serve the purpose of studying the Swiss commodity trade. Finally, we will review the methodology used by the Center for Global Development (Cobham et al. 2014), which was adapted to the Swiss case for illicit financial flows (Section 5). We will conclude by considering the practical implications of the data and methodological constraints facing current attempts to ascertain the scale of the problem and assess the impact of corrective measures.

2. Illicit Financial Flows Through International Trade

7 For the purpose of this study, illicit financial flows are defined as suggested by Baker (2005) and the Global Financial Integrity (GFI). They refer to 'cross-border movements of money that is illegally earned, transferred, or utilized'. This means that even though money might be legitimately earned, it can become illicit once transferred abroad, for instance if it is in violation of exchange control regulations or corporate tax laws. In this sense, illicit financial flows are distinguished from capital flight, which according to Kant (2002) refers to a legal or licit capital outflow from a developing country in response to risk and uncertainty about future events.

8 There are numerous ways to transfer illicit capital across borders. The Financial Action Task Force (FATF), a Paris-based intergovernmental body established in 1989 with the objective of combatting money laundering and terrorist financing, among other things, distinguishes three main methods by which money can be moved with limited scrutiny by government authorities: i) through the use of the financial system, ii) through the physical movement of banknotes, and iii) through false documentation or declaration of traded goods and services (henceforth called trade mispricing).[4] GFI distinguishes two broad channels through which capital can flow illicitly out of a country in a measurable manner: i) leakages from the balance of payments (BoP) and ii) deliberate misinvoicing of external trade (GFI, 2013, p. 3). Illegal transactions that are settled in cash or through informal money transfer systems (for instance, through hawala transactions) cannot be captured using existing economic methods and go largely unrecorded.

9 While in recent decades illicit flows channelled through the financial system and transferred in cash have received considerable attention from FATF and the international community, the manipulation of trade statistics as a means to transfer illicit capital across borders has only recently attracted the attention of policy makers. The FATF now recognizes the misuse of the trade system as one of the main methods by which criminal organizations and terrorist financiers move money for the purpose of disguising its origins (FATF, 2008). In 2006, the organization released its first report on trade-based money laundering. In this report, the FATF maintained that the relative attractiveness of the trading system for transferring illicit capital is based on the relative ease by which individual transactions can be obscured among enormous volumes of trade and increasingly complex transactions (FATF, 2006). The probability of detection is extremely low, given that on average less than five per cent of all cargo shipments are inspected and customs agencies do not usually exchange or perform statistical analysis on customs data. Global Financial Integrity has repeatedly identified trade misinvoicing as the most common means of draining illicit money out of developing countries. Estimates from

several reports suggest that trade misinvoicing makes up over 80 per cent of illicit outflows from the countries studied (GFI, 2014, p. 1).

10 Trade mispricing practices seem to play a progressively important role, and FATF (2006) expects them to become more attractive as anti-money laundering standards applied to other techniques for transferring illicit money across borders, in particular in the financial sector, have become increasingly effective. At the same time, countries are becoming more open to trade, increasing the amount of exported and imported goods and services in their GDP, which in turn provides more opportunities for traders to misprice, leaving customs authorities struggling to keep pace with rising trade volumes (GFI, 2012, p. 1). De Boyrie et al. (2005b) provided supporting evidence for this. They found that the passage and enactment of a new money laundering law (October 1997 and April 1998) that broadened its reach to include not only banks, but the entire financial sector, explained the significant increase in illicit capital flows from Switzerland to the United States between 1998 and 2000. A further indication of the increasing importance of trade mispricing in the context of illicit financial flows–or at least increased awareness among policy makers–is the recent creation of Trade Transparency Units (TTUs) by American authorities as a counterpart to Financial Intelligence Units (FIUs), which were established in the early 1990s. The U.S. Immigration and Customs Enforcement Bureau (ICE) launched the project in 2004 in order to exchange and analyse trade data, allowing authorities to identify patterns and instances of trade-based money laundering. Partner TTUs have been established in Argentina, Brazil, Colombia, Paraguay, Mexico and Panama.[5]

11 In the literature, the abuse of the international trade system for the purpose of moving illicit money across borders–what we have so far referred to as 'trade mispricing' for simplicity's sake–is further distinguished depending on whether it takes place between related or unrelated parties. The underlying motives differ accordingly, though it is important to note that uncovering the true motives behind different trade mispricing practices is difficult, given their illegal nature. In the strictest sense, trade mispricing refers to a situation in which contractually unrelated parties (i.e. parties dealing at arm's length) collude and intentionally misstate the value, quantity or composition of goods on customs declaration forms and invoices (GFI, 2014, p. 1). The same can happen unilaterally, without the exporting and importing parties colluding. In the context of the Swiss commodity trade, illicit capital can flow from resource-exporting countries to Switzerland if the exported commodities are deliberately underpriced.[6]Managers of a state-owned oil company in a resource-exporting country could, for instance, agree to underprice the oil sold to a Swiss company and thus receive kickbacks into their foreign bank accounts.

12 Transfer mispricing or abusive transfer pricing, on the other hand, takes place when affiliates of a multinational firm overinvoice or underinvoice intra-firm transactions for the purpose of avoiding or evading government regulations.[7] While transfer pricing is legal and legitimate (it happens whenever a multinational enterprise initiates and prices a transaction between affiliates in different countries), abusive transfer pricing as a form of regulatory arbitrage is unanimously considered illicit and unethical. Not only does systematic transfer mispricing violate international standards on transfer pricing in the Organisation for Economic Co-operation and Development (OECD)'s arm's-length pricing rules, but it also implies significant losses in revenue for developing countries (Murphy, 2012).

3. Methods to Assess Trade Mispricing

3.1 Partner-Country Trade Analysis

13 Trade mispricing or misinvoicing is nothing new. In his study on the accuracy of economic statistics, Morgenstern (1950) mentioned the Italian economist C.F. Ferraris, who discovered large discrepancies in the movement of gold declared in France and Great Britain's trade statistics in the late 19th century, even after allowing for transport costs, tariff duties, etc. Morgenstern compared partner-country trade statistics and detected faulty reporting based on the fact that the extent of divergence between the exports and imports reported by trading partners exceeded any reasonable transportation costs or other charges. Bhagwati (1964) and

Bhagwati et al. (1974) further developed this method for estimating trade mispricing, known today as the partner-country trade analysis method. They found evidence of underinvoiced imports entering Turkey from its main trading partners, and of capital flight from 28 developing countries to OECD countries.[8] This happened through a systematic overinvoicing of exports from the OECD countries to the developing countries and underinvoicing of exports from developing countries to the OECD countries.

14 The partner-country trade analysis approach for estimating mispricing in international trade is based on the assumption that one of the two trade partner's statistics are reliable, that is, that the declared export and import values reflect legitimate pricing that would have occurred between unrelated parties. It is generally assumed that the more developed country's trade statistics are reliable, while trade statistics in developing countries are seen as much more susceptible to manipulation. This assumption, however, does not appear to be entirely decisive, given that trade mispricing is also detected between high-income countries such as the United States and Switzerland when using a different methodology (see de Boyrie et al., 2005b). According to the authors, the underlying motives are income tax evasion and avoidance through transfer pricing and money laundering.

15 Secondly, estimates are obtained from data with a high degree of aggregation, which means that overpriced and underpriced transactions could cancel each other out and lead to an underestimation of illicit flows (Hong et al., 2014, p. 209). It also requires data from both trading countries, which can pose problems if trade data is not readily available, as is the case in some developing countries (Hong et al., 2014, p. 209).

16 As Morgenstern pointed out (1950), there are several purely statistical and legitimate reasons why partner country statistics might manifest asymmetries. The most obvious reason for discrepancies between officially reported export and import figures of trade partners is the conceptual difference in valuation (FOB versus CIF). Researchers therefore use estimated trade costs in order to adjust for this difference. There are, however, several other legitimate reasons partner country trade statistics can differ that are much more difficult to detect and extremely likely to be attributed to trade mispricing. It can be difficult to correctly identify the origin and destination countries, especially in cases where goods move through a third country (Nitsch, 2012, p. 312). Another problem is associated with timing: trade over long distances can lead to large time lags between the departure and arrival of goods. This means that trade flows could potentially be declared in different calendar years by customs authorities in the countries of origin and destination, or could lead to significant differences in the price of the good or the applied exchange rate (Nitsch, 2012, p. 313).

17 It is important to note that the partner-country trade analysis approach can only detect trade mispricing if the trade statistics have been manipulated unilaterally. However, it cannot recognize trade mispricing if trade partners collude (Yalta and Demir, 2010, p. 5,6). This is the case for abusive transfer pricing by multinational corporations, but also for unrelated parties that collude and manipulate trade statistics on both sides (see de Boyrie et al., 2005b, p. 218). The more dominant the role of related-party transactions in a country's trade, the less informative the estimate will be.

3.2 Price Filter Analysis Using the Interquartile Range

18 An alternative, widely-used method to estimate trade mispricing is the so-called price filter analysis method. It was introduced by Pak and Zdanowicz (1994) and has been applied in a number of recent studies on trade mispricing. De Boyrie et al. (2005b) estimated the impact of the 1998 Swiss money laundering law on capital flows using trade mispricing between Switzerland and the United States, and de Boyrie et al. (2005a) and de Boyrie et al. (2007) estimated the amount of capital flight through abnormal pricing in trade between Russia and the United States, and Africa and the United States respectively. The central idea of this approach is to use highly disaggregated trade data that offers information on the transaction prices for individual product categories in order to establish the legitimate price range for each product category.[9] This price range should reflect pricing that would occur between unrelated

parties operating at arm's length, that is, independent parties whose commercial relationship is determined by applicable prices on world markets.

19 The most frequently used benchmark to determine whether a transaction is abnormal, (i.e. not within arm's length range), is the interquartile price range. The middle 50 per cent of all observed prices within one commodity group are assumed to be normal, whereas the highest and lowest 25 per cent are considered abnormal. More precisely, a transaction is considered overvalued when its price exceeds the upper-quartile price range, and undervalued if its price is below the lower-quartile range. Scholars make this choice by referring to Internal Revenue Code 482, a transfer pricing regulation issued by the U.S. Internal Revenue Service (IRS) in 1994 stating that the interquartile price range is an acceptable measure to determine the arm's length price range in international trade (de Boyrie et al., 2005b, p. 221). The transfer pricing regulation stipulates that '[i]f the interquartile range is used to determine the arm's length range, such adjustment will ordinarily be to the median of all the results' (Section 1.482-1e, (3)). Scholars, however, tend to adopt a more conservative approach by bringing deviations from the interquartile range back to either the upper- or lower-quartile price range and not to the median as specified in the IRS transfer pricing regulation (see de Boyrie et al., 2014, p. 126).

20 The price filter analysis approach averts some of the problems associated with the partner-country trade data comparison approach. Given that the method employs trade data with a high level of product disaggregation, it avoids netting out different mispriced transactions and allows for, at least in principle, the detection of trade mispricing in the case of both unilateral manipulation of trade statistics for unrelated party transactions, and cooperation between related and unrelated parties. Furthermore, the accuracy of the estimates does not depend on the quality or availability of each individual trade partner's statistics, because this method is applied to a single country's trade statistics.

21 The price matrix filter approach, using the interquartile range, has its own disadvantages, and estimates should be interpreted with caution. Most importantly, the choice of the interquartile range to represent the arm's length price range is arbitrary and entails a number of problems as developed below (Nitsch, 2012, p. 324).

22 **Endogeneity of the chosen price filter**: Given that the lower- and upper-quartile prices are estimated based on the population of observed trade transactions, this method will always produce some overpriced and underpriced transactions, as long as there is at least some variation in prices within one commodity group and country pair (Hong et al., 2012, p. 209). This means that mispricing will be diagnosed in situations where all transaction prices lie within legitimate price ranges.

23 **The effect of related party transactions:** Strictly speaking, Section 482 of the IRS regulation stipulates that in cases where uncontrolled comparables are not sufficiently complete for their range to be used as the arm's length range, and where these uncontrolled comparables are not disposed of, the 'reliability of the analysis must be increased (...), by adjusting the range through application of a valid statistical method', namely the interquartile range (Section 1.482-1e, (1)(iii)(B)). This means that in fact this method proposes a comparison of transaction prices between unrelated parties, which are more likely to reflect legitimate pricing, and between related parties, which are more likely to reflect distorted prices, in order to assess whether a transfer price is within the arm's length range (Fuest and Riedel, 2012, p. 119). The interquartile range should only be applied in cases where the unrelated party transactions are not 'sufficiently complete that it is likely that all material differences [between the prices of related and unrelated party transactions] have been identified' (IRS, Section 1.482-1e, (1)(iii)(A)), and then, only to unrelated party transactions. When estimating trade mispricing with this approach, however, one cannot distinguish between related and unrelated party transactions. This means that if a commodity is dominated by related party transactions–and these transactions cannot be excluded from the estimation–the estimated interquartile range will be biased and will not represent the arm's length price range (Hong et al., 2014, p. 210).

24 **Unclear counterfactual:** Fuest and Riedel (2012, p. 217) pointed out that it becomes difficult to interpret the results of the mispriced estimates given that the counterfactual analysis is not

clear. To illustrate this, imagine a sample of trade transactions with one transaction lying above the upper-quartile price range and one below the lower-quartile price range. We then imagine a counterfactual analysis where the two mispriced transactions lie within the interquartile range, and no mispricing takes place. If the prices are adjusted to within the interquartile range in the next period, however, other transactions that were previously not deemed mispriced will be identified as such, given that the quartile price range will have changed.

25 **Identification of both underpriced and overpriced transactions:** By design, this approach identifies income shifting in both directions, given that it always identifies some transactions above the upper-quartile price range and some below the lower-quartile price range for each product group (Fuest and Riedel, 2012, p. 117). This is not necessarily consistent with the theory, and many papers therefore only report mispriced transactions that lead to income shifting in the more obvious direction, simply ignoring income shifting in the other direction (see de Boyrie et al. (2007)).

26 **Product heterogeneity:** Most trade mispricing estimates using the price filter approach are based on the United States Merchandise Trade Database. Even though this data offers a high level of product disaggregation by defining commodities using a 10-digit harmonized commodity code, the level of specificity of these commodity codes differs considerably (de Boyrie et al., 2005a). As Hong et al. (2014, p. 210) pointed out, for the more heterogeneous product categories, particularly in terms of product quality, the price filter analysis method can lead to an incorrect identification of high-end products as overpriced and of low-end products as undervalued. At the same time, abnormally priced transactions of mid-range products might be wrongly classified as legitimate transactions.

27 **Large quantity transactions:** Estimates of the amount of trade mispricing will suffer a downward bias when there are transactions in large quantities for which the prices are only marginally mispriced and not detected by the price filter (Hong et al., 2014, p. 210). In such cases, the overall mispriced amount may be significant, given the large quantity of transactions.

28 **Volatile prices:** For products with extremely volatile prices, particularly commodities, the price filter approach will produce less reliable results (Hong et al., 2014, p. 210). This stems from the fact that the interquartile range is estimated based on prices grouped over a certain period. True market prices could therefore be wrongly identified as abnormal.

3.3 Price Filter Analysis Method with Free Market Prices

29 In a recent paper, Hong et al. (2014) used a modified version of the price filter analysis method to measure the amount of trade mispricing in U.S. banana trade with Latin American and Caribbean countries. In view of the shortcomings of the interquartile price range as a price filter, they proposed using free market prices as an alternative proxy for the legitimate price range. They obtained free market prices for bananas from the UNCTAD's monthly free market commodity price data, which the authors assumed to be FOB destination, i.e., including freight and insurance. Under this alternative price filter approach, trade mispricing was estimated by comparing the CIF transaction prices declared in the trade statistics of the commodity's free market price, allowing for a legitimate difference of ten per cent from the free market price. Any declared price that lied within the ten per cent range of the free market price was considered normal, and the overvalued and undervalued amounts were calculated as the deviation from the upper or lower boundaries of this range.

30 This version of the price filter analysis method is an acceptable alternative, as long as free market prices are available for the product category of interest. The choice of the arm's length price range over the free market price, however, remains arbitrary.

3.4 Implications for Estimating Swiss Trade Mispricing

31 Reviewing the most widely used approaches for estimating trade mispricing demonstrates the limited alternatives available for estimating trade mispricing in Swiss commodity trading. The partner-country trade analysis approach can be discarded because of its methodological shortcomings. By design, it is unable to detect abusive transfer pricing by multinational corporations, which can be expected to play an important role in Swiss commodity trade. In addition, using aggregate trade data for calculating trade mispricing in this context is

unsuitable, given that it would not take into account the missing trade volumes (or transit trade).

32 The price filter analysis method seems more appropriate for estimating trade mispricing in Swiss commodity trading. As outlined above, however, there are many disadvantages associated with the use of the interquartile range as a price filter. The endogeneity of the price filter presents a particularly serious problem in this case, given that intra-firm transactions are likely to play a dominant role in commodity trading. Furthermore, it means that we would be determining the 'true' price based on transactions that we suspect to be mispriced, at least in principle. The better option is the price filter analysis method using free market prices. Unfortunately, this method is difficult to implement, given the limitations with respect to the data. In order to estimate illicit flows for the entire commodities sector, free market prices for several hundreds of commodities would be required. But an even more serious problem is the fact that commodity categories at the six-digit level of the HS system are still very broad and offer no information on the specific characteristics of the commodities. Using the example of coffee, the trade statistics offer information about the volume and the value of coffee traded in five different subcategories. However, information on the free market prices of coffee, for instance from UNCTAD's Commodity Price Bulletin, is different, providing the monthly prices of different types of coffee according to their species and not their stage of processing, as in the trade statistics.[10] In the light of these differences in the way commodity prices and transactions are recorded, it is impossible to match the HS system's commodity groups with their respective free market prices for the total range of commodities traded by Swiss companies.

4. The Swiss Case

33 There are several aspects of the Swiss commodity trade that make it particularly susceptible to trade mispricing and transfer price manipulation. A large proportion of the world's natural resources–about two thirds of all energy resources and metals, and the majority of agricultural commodities–come from developing countries (Berne Declaration, 2011).[11] Many of these countries are characterized by weak governance and high levels of corruption, factors that tend to facilitate illicit financial flows.

34 In a study on transfer mispricing practices by major corporations, Murphy (2012) found that the combination of low tax rates and financial secrecy provided a particularly attractive environment for multinationals to abuse international standards on transfer pricing. Switzerland has traditionally combined these characteristics, and multinational enterprises operating in Switzerland should therefore be considered specifically prone to abusive transfer pricing. In 2013, the country was ranked first out of eighty-two jurisdictions on the Financial Secrecy Index published by the Tax Justice Network,[12] and both PricewaterhouseCoopers (PwC) and KPMG promote Switzerland as an ideal location for commodity trading companies because of its favourable and attractive tax conditions.[13] At present, Switzerland is in the process of implementing both far-reaching changes to its tax system and transparency policies in response to increasing international pressure. Since the global financial and economic crisis and the resulting financial distress of many countries, Swiss tax practices have faced international criticism, and pressure on Switzerland to loosen its bank secrecy requirements has increased. Fiscal reforms and their potential implications for the Swiss commodity trading sector will be discussed in further detail below.

4.1 Current Fiscal Reforms in Switzerland

35 The Swiss Confederation and cantons are currently reshaping Swiss tax legislation. The Corporate Tax Reforms (CTR III), which are currently in the consultation phase (22 September 2014 to 31 January 2015) and are expected to enter into force by January 2019, will constitute the most significant reform of the Swiss tax landscape in recent decades. The starting point for the reforms is the abolition of the cantonal tax status, which granted special tax breaks to international firms (holding companies, mixed companies and management companies). Most commodity trading companies operating in Switzerland qualify as mixed companies,

i.e., firms that predominantly perform their activities elsewhere, and hence benefit from tax breaks. Removing tax incentives for Swiss commodity trading firms is expected to lead to a loss of competitiveness for Switzerland, which is why they will be accompanied by other internationally acceptable measures aimed at strengthening Switzerland's appeal as a tax location, such as a reduction in corporate income taxes in the Swiss cantons.[14] In Geneva, for instance, companies that are granted special tax breaks are taxed at an average effective rate of 11.6 per cent (compared to the effective corporate income tax rate of 24.2 per cent). In order to remain attractive for trading companies even after the implementation of CTR III, the Geneva canton plans to cut the effective corporate income tax rate to 13 per cent. The tax reform is therefore expected to lead to only a slight increase in effective tax rates for commodity trading firms. It is unlikely that this will have a significant effect on Switzerland's attractiveness to international trading companies or on the profit-shifting incentives of these companies, as long as the international tax differential and other factors adding to Switzerland's attractiveness as a trading centre remain in place.

36 In November 2014, Switzerland signed the Multilateral Competent Authority Agreement (MCAA) on the automatic exchange of financial account information based on Article 6 of the OECD/Council of Europe's Multilateral Convention on Mutual Administrative Assistance in Tax Matters. It forms the basis for the implementation of the new global standard on the Automatic Exchange of Information (AEoI) aimed at preventing cross-border tax evasion and avoidance. Switzerland intends to begin the bilateral exchange of information with other signatories in 2018.[15] The AEoI is an essential transparency tool that could potentially help developing countries tackle illicit financial flows to Switzerland and other countries. There are, however, several reasons why the policy is likely to have little effect on illicit flows through the Swiss commodity trade, at least in the near future. The signing of the MCAA is without prejudice to the countries with which the automatic exchange of information should be introduced. This means that Switzerland retains full discretion in deciding with whom it shares information.[16] Moreover, the exchange of information is strictly reciprocal. Accordingly, only countries that have the capacity to collect and exchange data in compliance with the data safety and confidentiality standards required under the treaty can participate and benefit from this exchange. The Status of Commitments illustrates the limited participation of developing countries, many of which currently lack the necessary capabilities to exchange information, not to mention the expertise to effectively use the received information.

4.2 Data Sources

37 Despite growing public pressure on the Swiss government for improved transparency and regulation of the commodities sector, the availability of reliable data remains extremely limited. Most statistics are fragmented and based on estimates, and the Swiss government itself seems to be left in the dark. In its 2013 background report on the commodities sector, the government recognized that '[i]t is difficult to accurately estimate the number of companies and employees active in the industry', and that '[t]here are, at present, no figures available on tax revenues deriving from the commodities industry'. Furthermore, the information available on the market share of Swiss companies for the main commodity groups could not be verified. The report stated that some companies active in the Swiss commodities sector are involved at all stages of the value chain, from extraction or production to trading, while others are exclusively involved in the trading of commodities. The second type of company is, however, considered to dominate the industry. Commodity trading firms engage in what is called merchanting or transit trade, meaning that companies located in Switzerland purchase goods from a supplier abroad and subsequently sell them to a buyer abroad, without the goods entering or leaving Switzerland nor undergoing any transformation between purchase and resale.

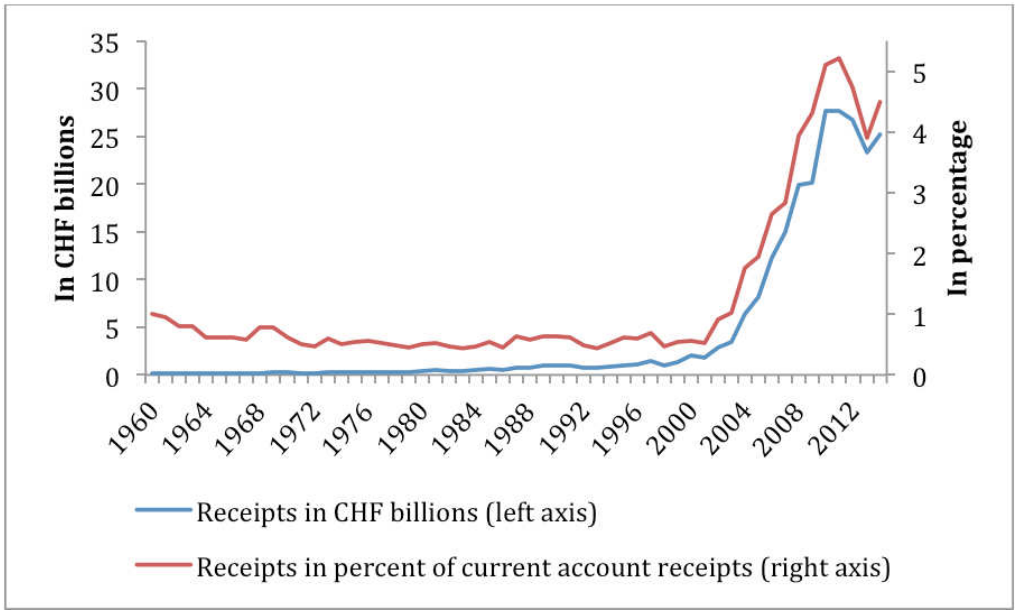
4.2.1 The Swiss National Bank

38 Given that the majority of traded commodities never pass through the Swiss Customs Administration, transactions of this type are not listed in Swiss trade statistics. The Swiss National Bank (SNB), however, publishes some data on merchanting in the balance of

payments (BOP). There are some caveats to this data, though. First of all, it does not include commodities that are actually imported to Switzerland (as is the case to a large extent for coffee and gold), meaning that merchanting data does not give a complete picture of the Swiss commodity trade. Secondly, transit trade may include goods that do not fall under the category of commodities. This means that due to the lack of regularly published, detailed figures on the composition of transit trade, merchanting data tells us relatively little about the Swiss commodity trade. According to figures provided by the SNB in 2011, the vast majority of Swiss merchanting is in commodities. This year, 94 per cent of merchanting sales revenue came from commodities, with energy commodities alone accounting for 59 per cent of sales revenues (SNB, 2012, p. 37). The figures on Swiss merchanting therefore serve as a rough approximation of the Swiss commodity trade.

39 Until 2014, net receipts (the difference between sales revenue abroad minus expenses abroad for the purchase of goods and other expenses) from merchanting were reported as export of services. Now merchanting is listed under goods in the balance of payments, due to an alignment of the Swiss BOP with the sixth edition of the IMF's Balance of Payment and International Investment Position Manual. As can be seen in Figure 1, receipts from merchanting, both in absolute value and as a percentage of current account receipts, have increased dramatically since 2000. The Swiss National Bank, however, cannot disentangle the relative impact of increasing commodity prices (price effect), increasing volume of commodities supplied by Swiss firms (quantity effect), and widening of the statistical survey on merchanting in Switzerland from the increase in merchanting receipts.

Graph. 1. Merchanting receipts in CHF billions and in percentage of current account receipts



Source: Swiss National Bank

40 In 2009, the Swiss National Bank launched an initiative–the so-called 'serviceBOP project'– with the objective of improving the statistical data on Switzerland's trade in services with foreign countries, in particular to provide more complete and detailed data. In the course of this project, the SNB has increased the number of surveyed companies (banks, insurance corporations, and freight forwarding and logistics companies) from approximately 500 to 2,200 companies after conducting a preliminary survey of 9,000 companies with a response rate of 90 per cent (SNB, 2011). This means that most probably the number of surveyed companies active in the commodities sector has increased, which could have led to an increase in the receipts recorded. This might be the reason why merchanting receipts reported under goods since 2000 are considerably higher than those reported under services for the same period (2000-2012).[17] The following statement from the Swiss National Bank in one of its circulars corroborates this hypothesis:

> The results of the preliminary survey confirm the SNB's conjecture that, at present, Switzerland's export of services and, in particular, its imports of services are radically underestimated. Although the future survey methodology was only partially applied in the preliminary survey, we can assume that the volume of trade in services will roughly double in the new survey (SNB, 2011).

41 Taking into consideration these methodological issues, the reliability of the transit trade data provided by the Swiss National Bank remains questionable. But it is even more important to note that the data, though it illustrates the increasing importance of commodity trade for Switzerland, does not offer valuable information on the number of companies involved in the commodity business or on the volumes, prices, or origin and destination countries of the traded commodities, etc. This means that the data is not pertinent to the assessment of commodity mispricing by Swiss trading companies.

4.2.2 International Trade Statistics

42 International trade statistics provide data on the Swiss commodity trade at the transaction level and are therefore more appropriate for assessing whether trade is subject to mispricing. But several characteristics of Swiss commodity trading complicate the analysis. As mentioned above, most of the commodities traded by Swiss commodity trading companies are not imported into Switzerland, but are directly shipped from the supplier to the buyer (with some exceptions). A 2006 survey on the practices of trade statistics compilers around the world showed that most countries follow the International Merchandise Trade Statistics (IMTS) recommendations on partner country attributions: 90.2 per cent of the responding countries compiled the country of origin for imports, and 90.9 per cent declared the country of last known destination for exports. This suggests that transit trade transactions managed by Swiss companies are, in principle, impossible to recognize, given that these transactions are only recorded by customs administrations in the exporting and importing countries, never mentioning Switzerland. The commodity-exporting country would declare the export as being destined for the country of final destination, i.e., the country that buys the commodities from the Swiss company, whereas the importing country would declare the import as coming from the country of origin, i.e. the commodity-exporting country.

43 The trade statistics, however, indicate that in practice, this is not the case, or that there are at least reasons why countries might not always follow these rules for declaring the country of origin and destination. When comparing the volume of trade declared as exports to Switzerland and the volume declared as imports by Switzerland for a specific commodity category and exporting country, the import volumes seem to be considerably lower, on average, than the export volumes. Of course, this might be in part due to data errors or the fact that the data on exports tends to be less reliable than on imports. The scale of this so-called untraceable volume of trade, however, suggests that it is caused by a more systematic element. Cobham et al. (2014) found that for the 2,596 commodities selected in their study, on average 43.9 per cent of declared commodity exports to Switzerland were untraceable. The share of untraceable exports to Switzerland's four largest neighbours (Austria, France, Germany and Italy), on the other hand, is negative (-17.9 per cent), which means that on average, they report more commodity imports than are declared as exports in the commodity-exporting countries.

44 A KPMG report on commodity trading companies explains that centralized trading companies have the ability to re-route products, especially homogeneous products, when they are already in transit to a new destination, as well as to buy products of a similar quality to redistribute to the original location (KPMG, 2012). This reduces transport costs and allows the companies to sell into whatever market will fetch the top profit margin, but it also distorts trade statistics, given that export statistics are rarely adjusted for changes. Similarly, the destination of goods could be unknown at the time of export, given that they can easily be redirected while at sea. It is possible that commodity trading companies have therefore adopted a general practice of declaring the intermediary country as the destination country, but unfortunately there is no information available to confirm this. In this case, the untraced volume of Swiss trade would provide a reliable estimate of the volume traded by Swiss trading companies. But it is also possible that both the final destination and intermediary country are used to report the destination for exports, depending on the trading firm, the country, etc.

45 It is difficult to interpret the trade statistics without having information on the practices of commodity trading companies. It seems that at least part of Switzerland's untraced trade volume is a result of commodity transit trade undertaken by numerous Swiss commodity trading companies, but it does not necessarily follow that the untraced volume of Swiss trade is identical to the volume that is transit-traded by Swiss trading companies. Not being able to identify transactions corresponding to Swiss companies implies that we are uncertain of both the actual volume of trade managed by these companies and the pricing of these transactions. This makes it extremely difficult to provide a reliable estimate of the amount of illicit outflows from developing countries induced by the Swiss commodity trade.

5. The GGD Study

46 In 2014, the Center for Global Development (CGD) published a study by Cobham et al. (2014) that estimated the scale of illicit financial flows associated with the Swiss commodity trading business. The authors used a methodology that was adapted to the particularities of the Swiss commodity trade, and which therefore differed from the prevalent approaches introduced in the previous section. The differences mainly lay in the way mispriced transactions were identified, but the authors also had to make additional assumptions in order to account for transit trade by Swiss trading companies. However, as will be argued in this section, the proposed methodology suffers major limitations and is based on many assumptions, some of which are, in our opinion, somewhat unrealistic. This once again emphasizes the fact that at this point in time (given the data limitations), the reliability of illicit flow estimates associated with the Swiss commodity business is rather restricted.

5.1 The Model

47 Cobham et al. (2014) used annual UN Comtrade bilateral trade data at the most disaggregate level, the six-digit code of the Harmonized System, and considered 244 countries and 2,596 commodity codes in total. In order to estimate the illicit capital outflows from developing countries, they calculated the Swiss trade margin, i.e., the difference between the original export price of a commodity group and the subsequent Swiss re-export price, which is the price of the same commodity leaving Switzerland as an export. They then determined the excess trade margin for each commodity class by comparing the Swiss trade margin to the average trade margin i) for all other partner countries in the data set, and ii) for the largest neighbouring countries (Austria, France, Germany and Italy). The authors chose the latter benchmark in order to make sure that transport or other location-specific costs did not distort the benchmark.

48 The idea underlying this approach is that if Switzerland exhibits excess trade margins, capital is shifted into Switzerland, since Swiss re-export prices are assumed to be undistorted, and any excess trade margins are attributed to underpriced exports to Switzerland only. However, in some cases the authors found the Swiss re-export prices to be far above the corresponding export prices from resource-exporting countries, as well as re-exports from all other countries, and therefore partly relaxed the assumption of undistorted re-export prices. They estimated four models, making different assumptions about the re-export prices each time.

49 For Model I, they calculated the Swiss excess trade margin for all 2,596 commodities using the two different benchmarks, except for transactions for which Swiss re-export prices were more than one thousand times higher than the original export price. For these transactions, illicit flows were estimated as the difference between the price of the commodity exported to Switzerland and the average price when exported to all other countries. They did the same for Models II and III, but treated transactions separately when the Swiss re-export price was more than one hundred times (Model II) or more than ten times (Model III) higher than that of the original exporter.[18] In Model IV, the authors considered all Swiss re-export prices to be unreliable and compared the prices of all declared commodity exports to Switzerland with the average price of exports to all other trading partners.

50 Finally, they estimated two versions of all four models. For the first version, they estimated the illicit flows–excess trade margin plus the deviation from average export prices to all other countries for the excluded transactions–for only the volume of exports that were declared by the Swiss Customs Administration as being physically imported to Switzerland. The second

version was estimated for the total volume of commodities declared as exported to Switzerland, and was meant to include both imports to Switzerland and transit trade transactions that were carried out by Swiss trading companies but were not actually shipped to Switzerland.

Table 1. Estimates of illicit flows to Switzerland from Cobham et al. (2014) in USD billion, 2007-2010

Model		I		II		III		IV	
Benchmark		World	Neighb.	World	Neighb.	World	Neighb.	World	Neighb.
Physical imports	Total	-2,218.8	-2,200.8	-2,351.1	-2,296.6	-2,444.2	-2,425.0	25.5	81.2
	Dev. C.	73.4	91.7	64.2	82.9	32.3	51.7	34.0	61.3
Declared exports	Total	893.7	884.6	635.5	631.6	238.6	254.9	25.5	81.3
	Dev. C.	578.0	560.1	441.3	427.7	154.4	155.6	34.0	61.3

Source: Cobham et al. (2014)

51 Table 1 provides a summary of the Cobham et al. (2014) estimates of illicit flows to Switzerland between 2007 and 2010. The results from the different models range from net illicit financial outflows of several thousand billion USD to the rest of the world, and illicit flows of capital from developing countries to Switzerland of up to 578 billion USD (Models I-III), to illicit flows to Switzerland below 100 billion USD (for the more conservative Model IV).

5.2 Assumptions Regarding the Trade Margin

52 When determining the excess trade margin for Swiss trade by comparing the average Swiss trade margin for a particular commodity category with the average trade margin of all other countries (and with that of neighbouring countries only), Cobham et al. (2014) presumed that trade of countries other than Switzerland was completely undistorted. Though trade mispricing may be particularly prominent in trade with Switzerland given that it is more involved in commodity transit trading, there is no evidence that trade with other countries is not subject to manipulation.

53 Moreover, Cobham et al. (2014) assumed that Swiss re-export prices were undistorted, such that any excess trade margin could be attributed to underpriced exports to Switzerland. The authors admitted that Swiss re-export prices were inexplicably high compared to the exports and re-exports from all other countries. In fact, for 3.9 per cent of all exports to Switzerland, Swiss re-export prices seemed to be more than 1,000 times higher than the original export prices. These two assumptions lead to a more fundamental problem regarding the use of trade margins to estimate illicit flows. It seems that Cobham et al. (2014) chose this methodology because it allowed them to estimate illicit capital flows without knowing the arm's length price range and estimated trade costs. However, they never seemed to question why Switzerland would import a commodity and at the same time export the same commodity to other countries without changing it in some way. The KPMG report on commodity trading companies emphasised that commodity trading companies are highly specialized in maximizing logistical efficiency. Taking this into consideration, it seems implausible that Swiss commodity trading companies would import commodities to Switzerland and subsequently export them without processing them. If in fact Switzerland mainly re-exports commodities after adding value to them, these re-export prices could not be considered undistorted for the purpose of determining the Swiss excess trade margin. The following section will discuss the example of coffee exports to and from Switzerland in order to illustrate this idea.

5.2.1 The Example of Coffee Trade

54 According the UN Comtrade database, Switzerland both imports and exports coffee under all existing HS categories. In 2013, the country was a net importer of coffee, i.e., of all goods that fall under the description of coffee, including roasted and not roasted, decaffeinated and caffeinated, coffee husks, skins, and coffee substitutes containing coffee in any proportion.

Table 2. Net imports of coffee to Switzerland in 2013, in kilograms

HS Code	Product Description	Net Imports
0901.11	Coffee, not roasted: not decaffeinated	129,350,862

0901.12	Coffee, not roasted: decaffeinated	12,066,581
0901.21	Coffee, roasted: not decaffeinated	-37,761,050
0901.22	Coffee, roasted: decaffeinated	-4,345,460
0901.90	Other	5,246

Source: UN Comtrade

55 When considering the more detailed subgroups separately, we noticed that surprisingly, Switzerland is a net exporter of both decaffeinated and caffeinated roasted coffee (see Table 2). Given that Switzerland is certainly not a coffee-producing country, the net exports of roasted coffee can only be explained if imported green coffee beans are processed in Switzerland and subsequently exported under a different HS Code.

Table 3. Volume and average (trade weighted) price of coffee exports to Switzerland and re-exports from Switzerland, 2013

HS Code	Product Description	Exports (kg)	Value ($)	Re-exports (kg)	Value ($)
0901.11	Coffee, not roasted: not decaff.	77,381,115	2.23	1,668,644	4.39
0901.12	Coffee, not roasted: decaff.	12,193,311	5.85	25,541	3.76
0901.21	Coffee, roasted: not decaff.	10,640,620	9.15	47,908,030	41.30
0901.22	Coffee, roasted: decaffeinated	193,995	9.39	4,600,251	45.30
0901.90	Other	104,556	6.71	7,242	42.14

Source: UN Comtrade

56 Table 3 depicts the trade-weighted average value per kilogram of coffee exported to Switzerland and of coffee re-exported by Switzerland to the rest of the world. It shows that re-export prices for coffee are significantly higher than the original export prices for three out of five HS codes. Cobham et al. (2014) would have found coffee exports to Switzerland to be underpriced if the difference between export and re-export prices of coffee had been larger for Switzerland than for all other countries. We believe, however, that there are legitimate reasons why the Swiss re-export prices could be considerably higher than coffee export prices from coffee-producing countries, and why they also might be higher than the re-export prices for coffee from all other countries.

57 Coffee capsules produced by Nespresso, an operating unit and currently the fastest growing business of Nestlé Group, serve as a perfect example to explain this phenomenon. According to Nespresso, its coffee capsules are currently produced at only two factories in Switzerland and are subsequently exported to almost 60 countries worldwide.[19] The company imports green coffee beans to Switzerland–allegedly only the highest-quality beans selected from the estimated top one to two per cent of the world's green coffee crop–where they are then processed into single-use capsules. The coffee capsules are exported under the 8-digit HS codes 0901.2100 and 0901.2200, depending on whether they contain decaffeinated coffee or not.[20] Naturally, Nespresso capsules, which imply a certain level of quality, come at a higher price per kilogram than common bags of loose coffee produced in any coffee-producing or -processing country. There are several possible explanations for a higher per kilogram price of Nespresso coffee capsules, but all of them are legitimate: higher labour costs of production in Switzerland, the sophisticated aluminium packaging, the use of only high-quality coffee beans, or simply the brand name. Taking into account that a large share of the coffee exported from Switzerland to the rest of the world is processed in Switzerland, and that Nespresso capsules constitute a significant share of Swiss coffee exports, attributing a possibly larger trade margin (compared to the benchmark countries) entirely to trade mispricing is erroneous, given that the excess trade margin can be explained to a significant extent by factors other than underpriced exports of coffee from coffee-producing countries.

58 This illustrates that i) it would be wrong to consider Swiss re-export prices to represent the undistorted value of a product, given that these might have a higher value for a legitimate reason, and that ii) determining the excess trade margin with respect to other countries' trade

margins could be misleading, given that it is impossible to distinguish from data in cases where value has been added locally, and to determine how the amount of value added differs from country to country for legitimate reasons. Whether coffee imports to Switzerland and coffee traded by Swiss companies and shipped to other countries is significantly underpriced nevertheless remains an important question. The same applies to gold, which is also imported in large amounts to Switzerland, where it is processed and then re-exported.

5.3 Assumptions Regarding the Untraceable Volume of Trade

59 When extrapolating the excess trade margins of commodities that physically arrive in Switzerland to all transit trade transactions managed by Swiss trading companies, Cobham et al. (2014) made two assumptions. First of all, they considered the transit trade volume to be equal to the untraceable volume of trade, i.e., the difference between declared exports to Switzerland and declared imports into Switzerland. As discussed in Section 3, we have little knowledge of how partner countries are attributed in the trade statistics for merchanting trade. The amount of transit trade could be larger or smaller than that represented by the untraceable volume of trade. Making this assumption, however, is essential and so far inevitable when estimating the amount of trade misinvoicing in trade managed by Swiss commodity firms. Secondly, the authors assumed that the level of price distortion for physical exports to Switzerland is the same for transit trade transactions. At this point in time, we can neither prove nor refute this assumption.

6. Conclusion

60 The Swiss commodity trading sector has lately come under criticism for allegedly facilitating illicit financial flows from developing countries through trade mispricing and abusive transfer pricing. Illicit financial outflows are considered a fundamental obstacle to economic growth and good governance in the affected countries, and it is of great importance to assess whether (and to what extent) the Swiss commodity trade is subject to trade mispricing. The information and data available at this point in time, however, is not suitable for providing a reliable estimate of the extent of mispricing in Switzerland's commodity trade. In particular, it is difficult to interpret international trade statistics, that is, to know which commodities are traded by Swiss companies and how these transactions are priced. Furthermore, assessing potentially abnormal pricing poses problems. Given the lack of suitable free market pricing data, the legitimate price range is necessarily determined based on a particular group of transaction prices, suggesting that this range is always endogenous, and might not reflect the true undistorted price.[21]

61 Taking into consideration the data, as well as methodological limitations addressed in Section 3 and 4, and bearing in mind the issues raised with respect to the assumptions underlying the Cobham et al. (2014) approach, Model IV in Cobham et al. (2014) appears to provide the most realistic estimates of illicit flows to Switzerland related to the commodity trade. In this model (which is similar to the price filter analysis method using the interquartile range), mispricing is estimated by comparing the prices of commodities declared as exports to Switzerland with the average price declared for the exporting country's exports to other trading partners. Though rather conservative, the estimates still point to substantial illicit financial outflows from developing countries. The results indicate that illicit outflows amounted to approximately 8.5 to 15 billion USD per year for the period of 2007–2010. These estimates are nonetheless subject to the following limitations: If a country's exports in one commodity class are generally mispriced–whether the commodities are traded by Swiss firms or not–the results will not reflect the true amount of mispriced exports. Furthermore, it is problematic to use annual data, given that commodity prices experience considerable price volatility and estimates become less exact the longer the period under examination. Again, the unknown true volume and prices of commodities traded by Swiss commodity trading companies, as well as the relatively broad commodity categories that can comprise differently priced goods, remain an issue.

62 There are no alternative methods or approaches that would currently allow us to estimate illicit flows related to Swiss commodities trading through trade mispricing and that could be

used to compare the above results in order to check for their reasonableness or robustness. As discussed in Section 4.4, partner-country trade is not suitable for this particular case, while the price filter analysis method using free market prices cannot be implemented due to the lack of data. Moreover, it is not possible to use other trade mispricing models to estimate illicit flows through this channel. The two most commonly used methods to capture leakages of capital from the balance of payments–the World Bank Residual method and the Hot Money Narrow method based on the Net Errors and Omissions (NEOs) term in the balance of payments–do not include illicit flows through the deliberate mispricing or misinvoicing of a country's exports and imports, which is why these models are usually adjusted for possible illicit flows through trade mispricing in order to obtain a comprehensive estimate of total illicit flows.[22]

63 In order to provide more realistic and reliable figures, it is imperative to gain further insight into the operation of the commodity trading business, and most importantly into how origin and destination countries are reported for commodities traded by Swiss companies. A starting point for enhanced transparency could be the recent decision of the Swiss commodities trader Trafigura (which is among Switzerland's biggest trading companies in terms of profit) to voluntarily publish details of payments to governments that are party to the Extractive Industry Transparency Initiative (EITI) as part of its annual report (starting in December 2015). Though the disclosed information may not be sufficient[23] to shed light on partner country attribution practices, Trafigura's voluntary commitment to publish data on its payments to governments, and to be more transparent in general, could increase the pressure on other trading companies to follow this standard, inducing the Swiss government to enact mandatory reporting practices for trading companies.

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Notes

1 An electronic version of the book is available at https://www.bernedeclaration.ch/ (accessed on November 20, 2014).

2 For a list of related parliamentary requests between 2002 and 2012, see Annex 2 of the *Background Report: Commodities*.

3 For details, see the *Background Report: Commodities*.

4 Sometimes, the term ‘trade misinvoicing’ is used instead, given that it includes both the manipulation of prices as well as of the quantity or composition of traded goods. But we will use ‘trade mispricing’ given that a statistical analysis of trade data is only able to detect a manipulation of prices.

5 For more information, see the ICE web page at https://www.ice.gov/trade-transparency (accessed on November 20, 2014).

6 Of course, illicit money can also flow to Switzerland in the case of overpriced exports from Switzerland to resource-exporting countries. The motives for trade mispricing include laundering illegally obtained money, be it the proceeds of theft, bribery or other forms of corruption by government officials, the evasion of customs duties and restrictions, or to take advantage of government subsidies.

7 There is evidence, for instance, that multi-national enterprises shift profits through transfer pricing manipulations in response to changes in tax rates (Leite, 2012, p. 249). But apart from tax differentials between countries, there are a number of other internal and external motivations that typically affect the setting of transfer prices (Eden, 2012, p. 205).

8 The authors refer to developing countries as ‘less developed countries (LDCs)’.

9 The U.S. Merchandise Trade Database contains the most disaggregated trade data available. It reports U.S. imports and exports at the ten-digit Harmonized System (HS) level. International trade statistics are reported at the six-digit level only.

10 For the Commodity Price Bulletin for September 2014, see http://unctad.org/en/PublicationsLibrary/tdbcn1cpbl234_en.pdf .

11 In aggregate, Swiss companies trade all three of the usually distinguished types of commodities: energy commodities, mineral commodities and agricultural commodities. The latter are renewable and generally referred to as 'soft commodities', whereas the other two are non-renewable, so-called 'hard commodities'. Mineral commodities can be further subdivided into metal commodities and non-metal mineral commodities.

12 For details, see http://www.financialsecrecyindex.com (accessed on November 20, 2014).

13 See and https://www.kpmg.com/CH/en/Library/Articles-Publications/Documents/Tax/pub_20110608_FS_Commodity-Business-in-Switzerland_EN.pdf (accessed on November 20, 2014).

14 This information was retrieved from fact sheets and press releases published by the Swiss Federal Department of Finance.

15 The decision to join the MCAA is still subject to parliamentary approval (the Federal Council will submit the proposal for consultation at the beginning of 2015) and also a possible public vote.

16 According to the Swiss State Secretariat for International Financial Matters, negotiations will be initiated with the EU and countries with close economic and political ties.

17 In fact, between 2000 and 2012, net receipts from merchanting reported under goods were on average almost 40 per cent higher than those reported under services. The share of receipts from merchanting in total current account receipts is on average 0.38 percentage points higher under goods than under services.

18 As shown in Table 2 of the paper, excluding transactions for which commodity re-export prices from Switzerland are more than ten times higher implies that 8 per cent of the transactions were excluded from the trade margin calculation.

19 For further information see http://www.nestle-nespresso.com/media/library/documents.

20 Please note that the Swiss foreign trade statistics do not provide this information. The Swiss customs authority, however, has confirmed that Nespresso capsules are exported under the aforementioned HS Codes exclusively.

21 In case of the price filter analysis using the interquartile range, the range is determined based on all prices in one commodity group traded between two particular countries. In case of Model IV in Cobham et al. (2014), the exporting country's exports in the same product category as other trading partners forms the basis.

22 See for instance GFI (2012, p. 3).

23 If an increasing number of EITI-implementing countries and Swiss commodity trading companies were to publish the type, volume and prices of traded commodities, one could use this data to retrace trade flows, and to find certain patterns in the trade statistics. This would only be possible, however, if all Swiss companies trading a certain commodity published the information, so that conclusions could be drawn about the partner country attribution based on this information.

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