FINANCIAL INTELLIGENCE CENTRE

TRADE BASED MONEY LAUNDERING IN ZAMBIA

The dark-side of international trade

2022

MAP OF ZAMBIA

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ACRONYMS

ACC	Anti-Corruption Commission
AGP	Asia Pacific Group
AML	Anti-Money Laundering
AMLA	Anti-Money Laundering Authority
BoZ	Bank of Zambia
CIF	Cost, Insurance and Freight
COMESA	Common Market for Eastern and Southern Africa
CTPF	Countering Terrorism and Proliferation Financing
CV	Coefficient of variation
CMAA	Customs Mutual Administrative Assistance Agreements
DEC	Drug Enforcement Commission
DNFBPs	Designated Non-Financial Businesses and Professions
FATF	Financial Action Task Force
FIC	Financial Intelligence Centre
FOB	Free on Board
FPCA	Forfeiture of Proceeds of Crime Act No. 19 of 2010
GDP	Gross Domestic Product
HTS	Harmonized Tariff Schedule
IFFs	Illicit Financial Flows
LEAs	Law Enforcement Agencies
ML	Money Laundering
MLACMA	Mutual legal Assistance in Crime Matters Act, 1993
NPA	National Prosecution Authority Act No. 34 of 2010
PF	Proliferation Financing
PPMLA	Prohibition and Prevention of Money Laundering Act No. 14 of 2001

EXECUTIVE SUMMARY

Illicit financial flows (IFFs) are a serious draw back on domestic resource mobilization efforts of developing countries. International trade has been abused for purposes of IFFs by criminals. In particular, use of international trade to launder proceeds of crime and move value from one country to another has been identified as a prevalent form of IFFs. This form of IFFs is referred to as Trade Based Money Laundering (TBML). The Financial Action Task Force defined TBML as *"the process of disguising the proceeds of crime and moving value through the use of trade transactions in an attempt to legitimise their illegal origins or finance their activities"*. TBML is an alternative remittance system that allows Transnational Criminal Organizations (TCOs) the opportunity to earn, move and store proceeds disguised as legitimate trade.

The purpose of the study was to identify the TBML risk indicators and provide a basis for authorities to formulate strategies to combat TBML in Zambia. The study further sought to provide recommendations to enhance Zambia's capacity to combat TBML.

Key Findings

i. Based on an analysis of Zambia's top seven (7) trading partners, South Africa had an indicator that was statistically significant.
ii. Export under reporting and import over reporting was observed in the trade statistics between Zambia and South Africa with some risky product lines including electrical appliances, sports equipment some food items and minerals such as copper.
iii. Looking at the absolute values of the anomalies, copper had the highest value recorded while other noteworthy products include alcohol, selected food products and electrical energy.
iv. LEAs can increase cooperation in identifying and investigating TBML through integrating their database with customs database
v. LEAs experienced difficulties in the acquisition of evidence from foreign jurisdictions whenever cases involved multiple jurisdictions.
vi. LEAs lacked adequate technical capacity to effectively investigate TBML. Further, there was limited inter agency cooperation and coor dination on TBML cases.
vii. Legal arrangements such as trusts and legal persons (Local and Off shore companies) were used in TBML schemes.
viii. Financial institutions experienced challenges in identifying TBML scheme because of limited exchange of information between local and foreign financial institutions.

CHAPTER 1
Trade Based Money Laundering problem in Zambia

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1.1 Introduction

Trade is an integral part of the Zambian economy. Following the liberalization of the economy in 1991, the country has witnessed a significant increase in both international and domestic trade. International trade flows have increased fivefold since the liberalization of the economy (World Bank, 2022). In this regard, Zambia has become an active participant in international trade. According to the World Bank, the country had increased its import and export partners to 189 and 121 countries respectively in the last twenty years. In 2020 the value of exports from Zambia's major trading partners reached USD7.8 billion. In the same year the value of imports to Zambia's major trading partners reached USD5.3 billion (BoZ, 2021). This difference between Zambia's imports and exports with its major trading partners represented a trade surplus of USD 2.5 billion. Though the country has made strides in developing mechanisms to record trade transactions, mechanisms to capture domestic trade transactions still lag behind. As a result, reliable data on domestic trade transactions is not readily available.

The mining and agricultural sectors have dominated the country's export sector, with Switzerland and Mauritius becoming the main destinations for mining and agricultural products respectively. Further, retail products such as groceries and electronic items account for the majority of the country's imports with South Africa becoming the major source of Zambia's imports (Zambia Statistics Agency, 2021).

To underpin the country's participation in international trade, Zambia is a signatory to a number of international treaties and agreements on trade. In 1995 Zambia joined the World Trade Organisation, this reflected its growing commitment to international trade. At the continental level Zambia is a founder member of the African Union and ratified the African Continental Free Trade area in 2021. Regionally, Zambia is a member of the Common Market for Eastern and Southern Africa (COMESA) and in 2020 ratified COMESA's tripartite free trade area agreement which is targeted at enabling free movement of goods, services and business persons.

Trade has been identified as one of the conduits criminals use to move illicit funds across borders. Illicit financial flows continue to be a strain on developing countries' domestic resource mobilization efforts.

According to the High Level Panel on Illicit Financial Flows from Africa, the continent loses an estimated USD 50 billion annually from illicit financial flows. Commercial activities were identified by the High Level Panel as one of the main sources of illicit financial flows (2015). Trade based money laundering (TBML) is a form of illicit financial flows through commercial activities. The United States Government Accountability Office report on Trade Based Money Laundering identified TBML as one of the most difficult forms of money laundering to detect due to the complexities of trade transactions and volumes of international trade (2020). The High Level Panel on Illicit Financial Flows report indicated that Zambia is one of the countries in Africa that has a high prevalence of illicit flows emanating from trade mispricing (2015). Trade mispricing schemes such as over/under invoicing are commonly used to launder funds through trade. It should be stated that in some cases trade mispricing schemes are aimed at evading tax. In this regard, the study of TBML is critical to combating illicit financial flows and enhancing the country's domestic resource mobilization efforts.

TBML presents one of the most complex and dynamic forms of illicit money movements. One result is that TBML undermines legitimate business and commerce. Transnational Criminal Organizations (TCOs) can afford to dump imported goods at a discount to get their "clean" proceeds; legitimate businesses can not compete with the discounts often provided. In today's globalized economy legitimate businesses already struggle to compete, TBML adds an additional barrier to entrepreneurship, crowding out legitimate economic activity. In addition, TBML assists in the destabilization of sovereign governments through the losses of tax revenue on discounted goods, undervalued imports and fraudulently manifested goods.

1.2 Background

The Financial Intelligence Centre (FIC) conducts strategic analysis and produces typology reports which identify trends and patterns relating to money laundering (ML), terrorist financing (TF), proliferation financing (PF) and associated crimes. This is in keeping with Section 5(2)(d) of the Financial Intelligence Centre Act No. 46 of 2010 (As amend), which requires the FIC to "conduct strategic analysis to identify related trends and patterns relating to money laundering, financing of terrorism or proliferation or any other serious offence related to money laundering, financing of terrorism or proliferation". Typology studies enable competent authorities as well as the private sector to understand the nature of money

laundering, terrorism financing and proliferation financing and to implement effective strategies to detect, prevent, investigate and prosecute financial crimes and have proceeds of crime forfeited to the state.

The FIC commissioned the typology on *"Trade Based Money Laundering in Zambia"* in September 2020 through the adoption of a Concept Note. The purpose of the study was to enable the authorities to identify the risk indicators and understand the extent to which TBML was occurring in Zambia. The study further sought to identify possible weaknesses in the Anti-Money Laundering/ Countering the Financing of Terrorism (AML/CFT) institutional and legal framework in Zambia that needed to be addressed. The study set out to achieve the objectives listed below:

i. To identify risk indicators of TBML in Zambia;
ii. To determine the methods used in TBML;
iii. To determine the destinations for laundered proceeds;
iv. To identify the sectors in which the proceeds are laundered;
v. To ascertain the adequacy of the institutional and legal; framework to prevent, detect and deter TBML; and
vi. To make recommendations to curb TBML.

1.1.1 Scope of Study

The study adopted the Financial Action Task Force (FATF)'s definition of TBML as the *"process of disguising the proceeds of crime and moving value through the use of trade transactions in an attempt to legitimize their illegal origins or finance their activities"* (2020). The scope of the typology was restricted to international trade in goods. The study excluded analysis of trade in services due to the difficulty in estimating the fair value and the lack of a standardized definition of services. Further, the typology excluded the consideration of domestic trade for the following reasons:

i. domestic trade is less regulated and large in terms of number of transactions. Therefore, the time and resources available to conduct the typology were insufficient; and
ii. the high level of informality in the economy evidenced by high cash usage and non-registration of businesses at company registry and for tax purposes, would have made it difficult to obtain data on domestic trade.

Data collected and analyzed in this study covered the period 1st January 2016 to 31st December 2020.

1.1.2 Methodology

The methodology adopted in the study included the following steps:

i. Mirror trade data analysis;
ii. Administering of questionnaires to key stakeholders;
iii. Analysis of suspicious transaction reports (STRs) to identify unusual transactions and patterns that might indicate TBML;
iv. Review of applicable laws and regulations to determine the adequacy of the legal framework around TBML; and
v. Review of other publicly available information such as court judgements and decisions of regulatory bodies.

CHAPTER 2

Trade Based Money Laundering: Definitions and Conceptual Framework

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2.1 Definitions of Trade Based Money Laundering

Trade related illicit financial flows have been identified as accounting for the majority of illicit financial flows out of Africa. In Zambia, illicit financial flows from commercial activities are the most prevalent. According to the High Panel Report on illicit financial flows, Zambia accounted for 65 percent of illicit financial flows through trade misinvoicing from trade in copper (UNECA, 2015). A report by the Global Financial Integrity estimated that USD 8.8 billion left Zambia between 2001 and 2010 through illicit financial flows largely from the extractive industry (2012). In 2019, the FIC observed that the country experienced illicit financial flows arising from tax evasion,
abusive transfer pricing and environmental crimes (2019).

There are varying definitions of TBML in academic literature and official reports. The differences in the definitions of TBML mainly relates to the scope of activities that are considered as TBML. In large part, the absence of consistency in the definition of TBML contributes to the misunderstanding of the nature and extent of this form of money laundering (Suvillan et. al, 2011). Further, this situation is exacerbated by the fact that there has not been a lot of academic research done on TBML (FATF, 2006). The 2012 Asia Pacific Group Report acknowledged that TBML was a "complex phenomenon since its constituent elements cut across not only sectoral boundaries but also national borders" (2012).

In their 2006 report, the FATF defined TBML as *'the process of disguising the proceeds of crime and moving value through the use of trade transactions in an attempt to legitimise their illicit origins'* (2006). The scope of this definition required the proceeds/funds to originate from illegal activities, however, it did not limit the form of trade transactions. Trade transactions can include international and/ or domestic trade transactions in goods and/or services. Further, the 2006 FATF definition, puts *legitimizing the illicit origins of the funds* at the center of a TBML scheme.

However, in their 2008 report, FATF broaden the definition of TBML as *'the process of disguising the proceeds of crime and moving value through the use of trade transactions in an attempt to legitimise their illegal origins or finance their activities".*

The definition expanded the scope of a TBML scheme, in that the movement of value could also be for the purpose of financing legitimate or illegal activities. In this context, it is important to underscore the underlying drivers of a TBML scheme, which are to *"move value"* with the intention of *"financing activities or legitimizing illicit origins"* of the funds. The *Trade Based Money Laundering: Trends and Developments* report by FATF suggested that the primary objective of a TBML scheme is "the deliberate movement of illicit proceeds through the exploitation of trade transactions" (2020).

In the book *Trade-based Money Laundering : Overview, Issues, Perspectives,* Young defined TBML as involving *"the exploitation of the international trade system for the purpose of transferring value and obscuring the true origins of illicit wealth"* (2017). As compared to FATF's 2006 and 2008 definitions, Young's definition was quite limited in scope as it refers to the "international trade system' which implies the exclusion of domestic trade. However, it's worth noting that in both definitions (FATF and Young's definitions) the concepts of *'proceeds of crime'* and *'movement of value'* feature prominently. Sullivan suggested that in its broadest sense TBML can be defined as *"the use of trade to move value with the intent of obscuring the true origin of fund"*. Sullivan argues that the use of the terms "proceeds of crime" in a definition of TBML excludes "TBML involving otherwise legitimate sources of funds but which are intended for illegal activities, such as terrorism financing" (Sullivan, 2011).

For purposes of this study, the FATF's 2008 definition of TBML will be adopted:- *"process of disguising the proceeds of crime and moving value through the use of trade transactions in an attempt to legitimise their illegal origins or finance their activities"*. According to the APG Report this broadened definition "coupled with the intermingling of licit and illicit funds imply that the abuse of capital flight and the movement of funds for tax avoidance / evasion are within the scope of TBML" (2012).

2.2 Quantifying Trade Based Money Laundering

International trade has for a long time been viewed as a latent territory for the concealing of illicit financial flows.

International trade statistics of exporting and importing countries are wrought with discrepancies in what should be matching trades. One of the reasons for these discrepancies is TBML. Efforts have been made to investigate TBML and create tools that can be used to detect its occurrence.

TBML was pointed out by the FATF as one of the three main methods by which criminal organizations and terrorist financiers move money for the purpose of concealing its source and integrating it back into the formal economy. TBML represents a significant conduit of criminal activity and is vulnerable to money laundering and terrorist financing in Africa (FATF 2006). TBML can be executed in many ways, one of which is through trade misinvoicing. Trade misinvoicing occurs when the true value of exports or imports differs from the amount of exports or imports companies report to the authorities (Stefan Eichler and Andreas Buehn, 2011). One way of looking into trade invoice related illicit financial flows (IFFs) is by comparing official trade statistics reported by two trading partners for the same trade flow. This is called mirror trade data analysis, which compares the export value reported by country A to country B with the import value reported by country B from country A.

It has been estimated that about 50 per cent of IFFs from Africa are generated through trade mispricing and more than half of trade related IFFs arise from the extractive sector (UNECA, 2017). Zambia has not been exempted from trade misinvoicing in some of its commodities. The report of the High-level Panel on Illicit Financial Flows from Africa concludes that the biggest portion of illicit outflows from Africa in precious metals, iron, steel and ores are made by the Southern African Customs Union with Zambia accounting for 65 per cent of trade misinvoicing in copper (UNECA, 2015).

Despite the growing awareness of the existence of TBML, formulating policies to fight illicit behaviour has been a challenge due to the lack of reliable data (UNCTAD, 2020). A host of academic studies have attributed discrepancies in trade statistics to being indicators of the existence of illicit flows of funds entangled in international trade.

One unavoidable cause of discrepancies in mirror trade is the CIF/FOB difference. The CIF/FOB ratio technique has been used to compare the valuation of the same flow of trade recorded by the exporter and the importer. Imports are recorded including freight and insurance (CIF) while exports are recorded net of these charges, the difference between these two charges yield what is used as a proxy for transport costs. Other causes of mirror trade discrepancies include transit time which was pointed out by Yeats (1995). Exports and matchings imports are likely to be reported in different time periods depending on the transit

times resulting in discrepancies. However, Hamanaka (2011) considers this problem as negligible when dealing with yearly data. Exchange rate conversion issues in a volatile environment also result in discrepancies in trade mirror data depending on the changes in the exchange rate at the beginning and the end of the transaction (Carrère and Grigoriou, 2014). Additionally, Federico and Tena (1991) detect different sources that may motivate these discrepancies: unavoidable factors (such as the CIF/FOB wedge), structural differences (for example, the kind associated with partner countries having different reporting standards), human errors and deliberate misreporting. Deliberate misreporting is closely associated with illegal trade.

These studies have used varying approaches. Buehn and Eichler (2011) develop four different models that explain the four types of misreporting that can occur: export over-reporting, export under-reporting, import over-reporting and import under-reporting. Carrère and Grigoriou (2014) on the other hand examine only orphan imports which are imports reported by the importing country without a matching record in the exporting country. Additionally, they build a model that is used to explain the intensity of the CIF/FOB gap which is viewed as an indicator of inconsistencies in trade mirror statistics. In our study, we use an approach like that used by Gara (2019) which focuses on export under-reporting and import over-reporting which are the two cases in which illicit outflow of funds can occur. Nitsch (2012) used a similar approach.

Different authors have used different variables as potential determinants of deliberate misreporting, Berger and Nitsch (2012) as well as Fisman and Wei (2009) included corruption in their studies. Additionally, Berger and Nitsch (2012), Carrère and Grigoriou (2014) and Gara et al (2019) included GDP as a factor that affects trade gaps. Signé (2020) and Patnaik (2010) included inflation rates as a potential determinant. This study impersonates that of Carrère and Grigoriou (2014) and Berger and Nitsch (2012) in that macro explanatory variables which are likely to be the cause of discrepancies in trade are included but more closely mimics that of Gara et al (2019).

The residual approach which was used by Gara et al (2019) is also adopted in this study and the share of the dependent variable not explained by the model is taken as a proxy for deliberate trade misreporting. This approach has two advantages as compared to the ones used in other studies. To begin with, explanatory variables that are included in the model may not

account for the factors that determine capital flight which may result from laundering money earned from illicit good and services. Because proxies for these motivators are difficult to find, leaving them unaccounted for and analysing the resulting estimate residuals may be a better approach. This method therefore gives a more thorough analysis than others do.

Furthermore, this approach aims at creating risk indicators that may be used to detect patterns of trade that are more likely to obscure illegal trade. Unlike most studies whose econometric results have focused on identifying the determinants of trade gaps, in this study the indicators of TBML are built from the results obtained from the model, i.e., the estimated random effects. The result of this paper has the potential to provide tools to tackle TBML in Zambia.

Table 1: Summary of Literature Review

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
Gara et al	2019	Magic mirror in my hand … How trade mirror statistics can help us detect illegal financial flows. To use trade mirror statistics to identify illicit financial flows (IFFs).	Data spanning from 2010 to 2013 is used and a random intercepts model adopting a residual approach is run. Italian export underreporting and Italian import over-reporting is regressed on the country specific variables of trade partners.	Dependent Variable: Log of absolute difference between Italian exports and imports as recorded by imp -orting country for underreporting of exports and the difference between Italian imports and exports to other countries as recorded by importing country for import over-reporting. Independent Variables: Country-Specific (Italian trade partners): GDP per capita (constant 2005 US$) (-	GDP per capita and total tax rate on commercial profits were found to have a statistic -ally significant negative relation -ship with the dependent variable. The other variables were found to have a statistically significant positive relationship with the dependent variable.

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
				Merchandise trade (% of GDP) (+) Distance (+) EU/EMU member (0=no RTA, 1=EU not EMU, 2= both EU and EMU) (+) Total tax rate (on commercial profits) (-) Custom tariff (yearly average) (+)	
Helge Berger & Volker Nitsch	2012	Gotcha! A Profile Of Smuggling In International Trade To assess whether the discrepancies in trade statistics are partly due to smuggling.	The paper makes use of robustness analysis. The pair-wise trade gap is regressed on the variable corruption and various control variables which may affect the bilateral gap in trade reporting are included. Data on the world's five largest importers is used from the year 2002 to 2006.	Dependent Variable: Trade gap defined as the difference between the log of import values (country j's imports from country i) and the corresponding log of exports (corresponding exports from i to j as recorded in i) at the 4-digit HS level. Independent Variables: Corruption in the exporter country i (+) Per capita income of exporting country i.(-)	More corruption in the exporting country results in larger underreport -ing of exports and in so doing widens trade gaps. Per capita income in the exporting country has a negative and significant relationship with the trade gap signifying that poorer countries have a tendency to understate exports. A negative relation -ship was found between trade gaps and the country size entailing that

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
				Country size of the exporter country i (-) Import tariff rate in destination country j (-)	trade gaps are larger for geographically smaller exporters. Import tariffs have a negative relationship with the trade gap. Trade gaps therefore decrease with the level of import protection.
Landry Signé et al	2020	Illicit Financial Flows In Africa: Drivers, Destinations, and Policy Options To determine the drivers of IFFs	The study uses data on illicit financial flows (IFFs) from Africa from 1980 to 2018 using the methodology of Global Financial Integrity (GFI) which combines a trade approach and a capital account residual approach when calculating IFFs. Illicit outflows are computed by adding export under-invoicing and import over-invoicing. Illicit inflows are computed by summing up import under-invoicing and export over-invoicing.	Dependent variable: Illicit financial flows Independent Variables: Real GDP(+) Inflation (+) Taxes(+)	A positive and sign -ificant relationship was found between real GDP and IFFs. Higher economic activity increases the opportunity to transfer illicit funds abroad. Inflation and taxes had a positive correlation with aggregate IFFs. These findings could show that macroeconomic fluctuations, such as inflation, wane confidence in a country's macroeconomic environment and encourage people to direct their capital abroad.

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
			Secondly, balance of payments discrepancies (net errors and omissions) are used to estimate IFFs. Correlation analysis was carried out between IFFs and macroeco -nomic variables.		
Ila Patnaik et al	2010	Determinants of Trade Misinvoicing. To determine the factors affecting export under -invoicing and import over-invoicing	Feasible Generalised Least Squares Estimation was used on data from the period 1980 to 2005. Import over-invoicing in imports to industrialised countries was regressed on various macro -economic variables for a set of six countries. The share of export under invoicing in exports to industrialised countries was also regressed on macroeconomic variables for a set of six countries.	Determinants of Export Under-voicing Dependent Variable: Share of export under-invoicing. Independent variables (All in exporting country): Current account deficit (+) Trade openness (+) Political stability (-) External indebtedness (+) Real interest rates (no significant impact) Inflation rate (no significant impact)	An increase in the ratio of current account deficit to GDP raises capital flight through export under invoicing. Export under invoicing rises with an increase in trade openness. Political stability was found to be a significant predictor of capital flight and has a strong negative influence on export under -invoicing. Higher external indebtedness was found to be associated with higher capital flight through export under-invoicing.

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
				Determinants of Import Over -invoicing Dependent variable: Share of import over-invoicing Independent Variables: Current account deficit in the importing country(+) Exchange rate overvaluation (importing country) (+) Customs duties in the importing country (-) External Indebtedness of the importing country (no significant impact) Inflation in the importing country (no significant impact	Conversely, real interest rate and inflation rate did not have a signifi -cant impact on export under -invoicing Current account deficit was found to have a positive impact on import over-invoicing An increase in exchange rate overvaluation induces devaluation expectations, which could induce capital flight for hedging purposes. Customs duties had a negative relationship with import over invoicing. External indebted -ness and inflation did not have a significant impact on import over invoicing.
Raymond Fisman and Shang-Jin Wei	2009	The Smuggling of A rt, and the Art of Smuggling: Uncovering the Illicit Trade in Cultural Property and Antiques.	A measure of illicit trafficking is generated by comparing imports recorded in United States'	Dependent Variable: Antiques trade gap Independent Variable	It was found that there exists a high correlation between the under recording of exports of

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
		To determine factors affecting the trade gap in cultural property and antiques.	customs data and the (supposedly identical) trade recorded by exporting countries' customs authorities. Correlation analysis is carried out between the trade gap and corruption in the exporting country and exporter's income.	Corruption in exporting country (high correlation) Exporter's income (no correlation)	cultural objects and the exporting country's level of corruption. No correlation was found between exporter's income and dependent variable.
Stefan Eichler and Andreas Buehn.	2011	Trade Misinvoicing: The Dark Side of World Trade Analyse the determinants of trade misinvoincing	The absolute value of the trade discrepancy was regressed on the hypothesised microeconomic determinants for each of the four types of invoicing i.e. import under/ over invoicing and export under/ over invoicing. The data spans over the period 1986 to 2005 for 86 countries. Import misinvoicing is found by taking the difference between the value of US exports to country i (the true value of i's imports) and the amount of i's imports from	Dependent variable: Import Under Invoicing Independent variables: GDP per capita BMP (Black Market Premium) in country i- the importing country (-) Import tariffs in country I (+) Exchange rate variation (no significant impact) Dependent variable: Import Over -Invoicing	GDP per capita was found to have a significant relationship with import under invoicing. It was found that a higher BMP decreases the incentive to under-invoice imports. Higher import tariffs in the importing country increase the incentive to under-invoice imports significantly. A variation in the real exchange rate has a significant influence on import under -invoicing.

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
			the United States reported by i's authorities divided by the US exports to country. The value is positive (negative) if import under -invoicing (over-invoicing) happens, i.e. domestic importers report less (more) imports than they actually bought from the United States. Export misinvoicing is calculated as the difference between US imports from country i (the true value of i's exports) and i's exports to the United States reported by i's authorities divided by the US imports from i. If the value is positive (negative), export under-invoicing (over-invoicing) occurs, i.e. domestic exporters report less (more) exports than they sold to the United States.	Independent variables: GDP per capita BMP (Black Market Premium) in country i- the importing country (-) Import tariffs in country I (-) Exchange rate variation (no significant impact) Dependent variable: Export Over-Invoicing Independent variables: Black Market Premium (-) Taxes on exports (-) Dependent variable: Export Under-Invoicing Independent variables: Black Market Premium (-) Taxes on exports (+)	GDP per capita was found to have a significant relationship with import over invoicing. It was found that a higher BMP increases the incentive over -invoice imports. For import over -invoicing, a negative relationship was found, the lower the tariffs the higher the optimal absolute amount of import over -invoicing. No significant impact on import over-invoicing. A real depreciation increases the amount of import under-invoicing significantly, as the US dollar -denominated profit from import under -invoicing is worth more in domestic currency. Export over-invoicing was found to have a

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
					negative impact on BMP. An increase of taxes on exports thus induces a decrease of export over -invoicing as the profitability of over-reported exports decreases. Export over -invoicing was found to have a negative impact on BMP. An increase of taxes on exports thus induces an increase of export under-invoicing as the profitability of underreported exports increases.
Céline Carrère and Christopher Grigoriou	2014	Can Mirror Data Help To Capture Informal International Trade? To assess whether mirror data can be used to capture informal international trade.	A correlation analysis was run after which a probit was run on orphan imports (imports reported by the importing country without a matching record in the exporting country).	Dependent Variable: Orphan Imports Dummy Variable (= 1 if exports from country i to j correspond to an orphan import. =0 otherwise) Independent Variables: Implementation of regional trade agreements (RTA). (-)	Existence of RTAs between two countries decreases the probability of orphan imports. GDP per capita of the two countries are negatively correlated to the probability of having orphan imports. Tariffs were found to be negatively correlated with the probability

Author	Year of Study	Title and Objective	Methodology	Key Variables	Key Results
				GDP per capita of both countries (-) Tariff rate in exporting country i. (-)	to have orphan imports.

Another concept successfully utilised by several countries to quantify and detect TBML is through the establishment of a Trade Transparency Unit (TTU). A TTU is a bi-lateral partnership with customs and other criminal investigative and financial agencies to detect trade discrepancies and combat TBML. TTUs focus on sharing trade information with international partners allowing each country to compare values declared on foreign counterpart export/import declarations. Investigators are thus able to see both sides of the trade transactions (e.g., both the import and the corresponding export transaction) to add a level of transparency to quickly determine anomalies indicative of over- and under-valuation as well as quantity differences. TTUs are historically established between two countries' customs agencies; however, the concept of a TTU partnership could theoretically include three or more countries.

A 2016 FATF Mutual Evaluation Report notes the establishment of a TTU as a means to identify instances and patterns of TBML through the exchange of and subsequent analysis of trade data for anomalies that would only be apparent by examining both sides of a trade transaction. Bilateral mechanisms such as existing Customs Mutual Assistance Agreements and Mutual Legal Assistance Treaties can facilitate the establishment of a TTU and the reciprocal exchange of trade and related data. A TTU agreement also addresses rules governing the security and confidentiality of such information, including procedures for receipt, dissemination, storage and protection of, as well as access to such information.

Several factors contribute to an effective TTU, including appropriate legal mechanisms such as a Customs Mutual Assistance Agreement (CMAA) to provide for the exchange of trade data, periodic TBML training to both partner countries, scheduled exchange of reciprocal harmonized tariff information (e.g., at the 6-digit tariff level) and other key data fields including shipper/consignee, declared value and units of measure. Having such factors in place allows a TTU to effectively perform unit price analysis by analysing trade pricing data to identify quantity differences and over or under-pricing of goods, which may be an indicator of TBML.

Partnered with a Financial Intelligence Unit or other law-enforcement agencies may also enable a TTU to perform financial data analysis by analysing suspicious financial activities, and the identity of parties to these transactions to identify patterns of criminal activity.

CHAPTER 3

Trade Based Money Laundering Regulatory Environment

CHAPTER 3

Trade Based Money Laundering Regulatory Environment

3.1 Legal framework

The Zambian Government has enacted Anti-Money Laundering/ Countering Terrorism and Proliferation Financing (AML/CTPF) legislation to deal with ML (which includes TBML), TF and PF. Further, the country has enacted complementary laws to form part of the AML/CFTP legal framework in Zambia. In this context, the AML/CFTP legal framework includes;

i. **The Financial Intelligence Centre (FIC) Act No. 46 of 2010 (as amended).** The FIC Act establishes the Financial Intelligence Centre (which is the Zambian financial intelligence unit). Further, the FIC Act provides for duties of supervisory authorities and AML/CFTP obligations of reporting entities.

ii. **The Prohibition and Prevention of Money Laundering Act No. 14 of 2001 (PPMLA)** (as amended by Act No. 44 of 2010). The PPMLA adequately criminalizes the offence of ML consistent with the expectations under international standards.

iii. **The Forfeiture of Proceeds of Crime Act (FPCA) No. 19 of 2010.** The FPCA provides for civil and criminal forfeiture and seizure of proceeds of crimes.

iv. **The Anti-Corruption Act No. 3 of 2012.** This Act provides for the existence of the Anti-Corruption Commission and its powers and functions. The Act further provides for the prevention, detection, investigation, prosecution and punishment of corrupt practices and related offences.

v. **The Companies Act No. 10 of 2017.** The Companies Act provides for the formation and maintenance of companies and for the incorporation, categorization, management and administrat -ion of different types of companies. The Companies Act further provides for the creation and maintenance of beneficial ownership register.

vi. **The National Prosecution Authority (NPA) Act No. 34 of 2010.** The Act provides for the establishment of the National Prosecution Authority and its powers and functions. It further provides for a framework for the effective administration of criminal justice and establishment of the Witness Management Fund. Following the enactment of the NPA Act, all prosecution powers in Zambia were consolidated in the NPA which is headed by the Director of Public Prosecutions.

vii. **The Public Interest Disclosure (Protection of Whistleblowers) Act No. 4 of 2010** provides for disclosure of conduct inimical to public interest.

viii. **Mutual Legal Assistance in Criminal Matters Act (MLACMA) , 1993,** CAP 98 of the Laws of Zambia as amended by Act No. 14 of 2020. The Act provides for the implementation of treaties for mutual legal assistance in criminal matters and to provide for matters connected with or incidental to the foregoing.

ix. **The Plea Negotiations and Agreements Act, No. 20 of 2010.** The Act provides for the introduction and implementation of plea negotiations and plea agreements in the criminal justice system and for matters connected with, or incidental to, the foregoing.

x. **The Penal Code Act,** Cap 87 of the Laws of Zambia. The penal code is an Act to establish a Code of Criminal Law in Zambia.

3.2 Institutional framework

The institutional framework in Zambia comprises of policy bodies, law enforcement agencies, statutory agencies, supervisory authorities, reporting entities and inter-agency working groups. The institutional framework is summarised below:

i. The **Anti-Money Laundering Authority (AMLA).** This is the AML/CFT highest Policy making body on AML/CFT in Zambia and comprises the following members; the Governor-Bank of Zambia, the Commissioner General of the Zambia Revenue Authority (ZRA), the Inspector General of Police, the Commissioner-Drug Enforcement Commission (DEC), the Director General-Anti Corruption Commission (ACC), FIC Director and Director of public prosecution. The mandate of AMLA is to provide general or specific policy directives and to advise Government on measures required to prevent and detect money laundering in the Republic of Zambia.

ii. **The National Task Force of Senior Officials on AML/CFT matters.** The Zambian Government is cognizant about the importance of coordination among key stakeholders for the effective functioning of the AML/CFT framework. For this reason, Cabinet Office set up the National Task Force of Senior Officials on AML/CFT. The overall mandate of the National Task Force of Senior Officials is to coordinate AML/CFT matters among key stakeholders with a view to improving the effectiveness of existing policies to combat money laundering, financing of terrorism and other serious offences.

iii. **The Financial Intelligence Centre (FIC)**. The Financial Intelligence Centre was established to be the designated agency responsible for the receipt, requesting, analysis and disseminating of intelligence reports to designated authorities pursuant to the Financial Intelligence Centre Act No 46 of 2010 ("The FIC Act" or "the Act"). Further, it is the responsibility of the FIC to supervise reporting entities to ensure reporting entities comply accordingly with the provisions of the FIC Act.

iv. **Law Enforcement Agency (LEAs).** Section 2 of the FIC Act designates the following as Law enforcement Agencies (LEAs) in Zambia:

i. The Zambia Police Service, established under the Constitution;
ii. The Anti-Money Laundering Investigations Unit established under the Prohibition and Prevention of Money Laundering Act, 2001;
iii. The Anti-Corruption Commission established under the Constitution;
iv. The Zambia Revenue Authority established under the Zambia Revenue Authority Act; and
v National Anti-Terrorism Centre, established under the Anti-Terrorism and Non-Proliferation Act,
vi The Immigration Department established under the Immigration and Deportation Act.
vii The Drug Enforcement Commision established under the constitution.
viii Any other investigative institution that the Minister may prescribe, on the recommendation of the Centre.

v. **Supervisory Authorities.** Supervisory authorities as prescribed under the FIC Act include:-

i. The Bank of Zambia established under the Constitution;
ii. The Pensions and Insurance Authority established under the Pension Scheme Regulation Act, 1996;
iii. The Securities and Exchange Commission established under the Securities Act, 2016;
iv. The Law Association of Zambia established under the Law Association of Zambia Act;
v. The Zambia Institute of Chartered Accountants established under the Accountants Act, 2008.

vi. **Reporting Entities.** Reporting entities are institutions regulated by Supervisory Authorities and are required to make suspicious transaction reports concerning money laundering, terrorist financing and any other serious offences to the Financial Intelligence Centre. Inter alia, reporting entities include:

i. Financial Service Providers e.g. Commercial Banks and Non-Bank Financial Institutions e.g. micro finance institutions

ii. Designated non-financial businesses and professions (DNFBPs) e.g. Casinos, Real estate agents, Accountants; and Legal Practitioners.

iii Virtual Asset Service providers (VASPs)

vii. **The Judiciary**. The Judiciary is considered to be a relevant stakeholder on AML/CTPF related issues as it provides efficacy to the process by being an impartial arbiter in proceedings. All prosecuted cases and claims for forfeiture must come before the courts of law.

viii. **Others Government Agencies.** The Office of the Auditor General, Ministry of Home Affairs, Ministry of Mines, Ministry of Defense, Registrar of Societies and the department for the registrar of NPOs under the Ministry of Community Development and social services among others are considered very critical for the provision of intelligence information on money laundering, terrorist financing and other serious offences.

3.3 Gaps in the Legal and Institutional Framework

Existing legal framework appears sufficient to allow the Government's investigators and prosecutors in its key agencies (e.g., ACC, DEC/AMLIU, ZRA) to conduct trade-based money laundering investigations and allow for the sharing of information. Zambia has adequate structures to enable efficient national coordination and cooperation on AML/CFT matters. A critical component to a successful TBML criminal investigation and subsequent prosecution are the customs trade documents (e.g., bill of entry, bill of lading, invoice, permits, etc.) associated with the offending trade transaction. With respect to gaps in the institutional framework, the Government should assess the extent of its existing collaboration addressing TBML. Further, consideration should be given to addressing gaps limiting collaboration by including multiple agencies on a working group to provide an enhanced multi-stakeholder approach to address TBML.

CHAPTER 4
Identifying Trade Based Money Laundering Risk Indicators

CHAPTER 4

Identifying Trade Based Money Laundering Risk Indicators

4.1 Conceptual framework

There exist several reasons why firms may misreport their trade data. Some of these reasons include; tax and tariff evasion, earning export subsidies, transfer pricing, export tax credits, etc. This leads to the authorities in different countries recording different data in their records. There are four different discrepancies that can arise;

i. Import under-reporting which may be done by the importer in order to reduce the import bill by avoiding charges such as import value added tax, excise duty, etc.
ii. Over- reporting of imports which may signal the transferring of ill-gotten capital out of Zambia. Firms in Zambia may overstate their imports in order to move illegal funds out of Zambia.
iii. Under- reporting of Zambia's exports to its partner countries with a view to shifting capital out of Zambia into a foreign country
iv. Over- reporting of Zambia's exports which could be used as a means of moving illicit funds into Zambia.

This analysis focused on the second and third scenarios as the main aim of the paper was to analyse ways that illicit funds can be moved out of Zambia. The scenarios below as illustrated by Zdanowicz. J. S (2009) have been borrowed and changed to the Zambian currency Kwacha (ZMW) to shade more light on how export under-reporting and import over-reporting can be used to transfer illicit funds out of Zambia.

Example: Overvalued Zambian Imports[2]

Assume a criminal wants to launder ZMW1 million to a foreign country. A foreign exporter would be needed to collude on the transaction. The transactions used to launder the money would include:

1) The foreign exporter buys 10,000 razor blades for ZMW0.10 per blade. (ZMW1, 000)
2) The foreign exporter exports 10,000 razor blades to a domestic importer for ZMW100 per razor blade. (Total Invoice ZMW1, 000,000)
3) The domestic importer receives 10,000 razor blades worth ZMW1, 000 but pays the foreign exporter ZMW1, 000,000.
4) Outcome: The domestic importer has moved ZMW1million to the foreign country less the ZMW1, 000 transactions cost of procuring the razor blades.

[2]Adopted from Trade-Based Money Laundering and Terrorist Financing by Zdanowicz, J. S. (2009).

Example: Undervalued Zambian Exports[3]

Assume a criminal wants to launder ZMW1 million to a foreign country. He would need to have a foreign importer to collude on the transaction. The transactions used to launder the money would include:

1) Domestic criminal uses his ZMW1 million to purchases 200 gold watches for ZMW5, 000 per watch. (ZMW1, 000,000) The watches would be purchased for cash.
2) Domestic exporter sells the 200 gold watches to a foreign importer for ZMW5.00 per watch (ZMW1, 000).
3) Foreign importer receives the 200 gold watches and is presented with an invoice for ZMW1, 000, which he pays to the domestic exporter.
4) Foreign importer sells the gold watches at the market price of ZMW5, 000 per watch and converts the 200 gold watches into ZMW1, 000,000.
5) Outcome: The domestic exporter has moved ZMW1million to the foreign country less the ZMW1, 000 transaction cost of the invoice payment.

4.2 Summary statistics

The following table contains the summary statistics for each of the four cases above based on the whole sample of Zambian trade statistics with its major trading partners; South Africa, China, Switzerland, Congo DR, UAE , India and Singapore. Summary statistics are also shown for the sub-sample that is used in the econometric analysis. Lastly, the table shows summary statistics for the other variables used in the analysis. The data is highly dispersed around the mean as seen from the high values of the coefficients of variation (CV).

Table 2: Summary Statistics (2016 to 2020)

Type of discrepancies	N	%	Mean	Median	$_p95$[4]	$_p99$	CV[5]
Zambian Export Discrepancies							
Negative	5 987	21.0	-177 766.6	-1 294.5	-172 929.6	-2 427 672	-13.5
Null	13 612	47.9	-	-	-	-	-
Positive	8 831	31.1	3 315 220	5 007	1 230 007	21 000 000	18.7
Total	28 430	100	992 346.7	0	117 626	2 722 165	34.9
Zambian Import Discrepancies							
Negative	45 026	54.9	-426 063.3	-14379.37	-1268112	-6 725 771	-11.02
Null	22 281	27.2	-	-	-	-	-
Positive	14 688	17.9	1 054 381	4 737.7	407454.3	2 746 454	44.5
Total	81 995	100	-45 090.25	-213.84	-572395.2	-3 875 663	-445.7
Regression Sample							
Impot[6] **Discrepancies**	12 614		1 179 050	4 460.3	404 959	2 914 000	42.7

Adopted from Trade-Based Money Laundering and Terrorist Financing by Zdanowicz, J. S. (2009).

[4] For the negative discrepancies, the 5th and 1st percentiles of the partial distributions are considered symmetrically instead of the 95th and 99th, to allow for consistency with the positive case.

[5] Not expressed in percentages.

[6] These are the positive import discrepancies that represent import over invoicing which could denote a capital outflow which is the focus of this econometric analysis.

Type of discrepancies	N	%	Mean	Median	p95[4]	p99	CV[5]
Absolute[7] Export Discrepancies	5 981		174 344	1 287.9	168 948	2 143 264	13.7
Total	18 595		55 890.5	2 985.7	316 907.7	2 721 113	48.5
Explanatory variables - Registration							
GDP per capita	18 595		6 163.8	1 915.4	39 700.49	56 757.92	2.1
Corporate Income Tax	18 595		34.58911	35	40	40	0.16
Trade Openness	18 595		0.3992788	0.3480927	0.5930398	1.313898	0.4
Distance	18 595		5 229.869	2 278.582	8 603.64	10 960.79	0.6
COMESA=0	14 163	76.2	-	-	-	-	-
COMESA=1	4 432	23.8					
SADC=0	9 087	48.9	-	-	-	-	-
SADC=1	9 508	51.1					

Source: ZIPAR's own construction using data used in the study

4.3 Variable description

The dependent variable is designed to include only export under reporting and import over reporting as these may be channels of illegal capital outflows.

$EXP_{zc} - IMP_{cz} < 0$; Under reporting of Zambia's exports

$IMP_{zc} - EXP_{cz} > 0$; Over reporting of Zambia's imports

With EXP_{zc} = Zambia's exports to country c, IMP_{cz} = country c's imports from Zambia (fob), IMP_{zc}= Zambia's imports from country c (fob), EXP_{cz} = country c's exports to Zambia. The discrepancies in mirror statistics are net of cif/fob, taken in absolute value and then taken in logs.

Our explanatory variables include GDP per capita which is used as a proxy for the level of development in Zambia's trade partner country. The higher the level of development in a country, the higher the chances of having more effective and reliable statistical reporting structures, therefore, a negative relationship is expected between GDP per capita and the trade statistics gap. GDP per capita is taken at 2015 constant prices in US Dollars.

[7] These are the negative export discrepancies that represent export under-invoicing which could denote a capital out flow. The absolute value was then taken.

Secondly, distance is used as an explanatory variable. Countries that are close geographically are more likely to exchange data frequently, share common commercial practices and share similar reporting standards. Therefore, the expectation is that the larger the distance between Zambia and its trade partners, the larger the trade gap.

Common membership in a regional trade agreement is another explanatory variable. Common membership is likely to result in sharing similar reporting standards and customs practices thus leading to less discrepancies in trade data. Membership to Southern Africa Development Community (SADC) is included as dummy variable as well as membership to Common Market for Eastern and Southern Africa (COMESA) where the dummy takes the value of 1 if the partner country is a member and 0 if it is not a member. A negative relationship is expected with the trade statistics gap.

Furthermore, trade openness is another explanatory variable that has been added. The argument is that for illegal trade to occur, there should also be legal trade as legal trade reduces the risk of detecting illegal trade. The more trade a country participates relative to the size of its economy, the more chances are that illegal trade will occur alongside the legal trade. A positive relationship with the trade gap is expected. Trade openness in this study is found by adding the total exports and total imports of Zambia's trade partner and dividing the sum by the trade partner's GDP.

Corporate income tax rates in Zambia's trade partner countries were also included as an explanatory variable. This was done to address misinvoicing such as export under reporting which has the aim of reducing the Zambian exporter's payable tax by taking advantage of a more favourable tax structure in the partner countries. A negative relationship is expected between the trade gap and corporate income tax.

Table 3: Expected results of explanatory variables

Variable	Expected Sign
GDP per capita	-
Distance	+
Common Membership to A regional trade	-
Trade Openness	+
Corporate Income Tax	–

4.4 The econometric model

In order to account for the fixed and random effects, the econometric analysis was done using a linear latent model. The basic specification below was used:

$$discrepancyic = \beta 0 + \beta_1 corp\_inc\_tax_c + \beta_2 gd\_pc_c + \beta_3 traopen_c + \beta_4 dist_c + \beta_5 COMESA + \beta_6 SADC_c + \beta_7 (trade_{ic} - trade_{jc}) + \beta_8 EXPORT_C * \beta_9 (trade_{ic} - trade_{jc}) + \beta_9 EXPORT_c + \beta_9 EXPORT_c * trade_{jc} + SECTOR\ (2-digit) + YEAR + \mu_{jc} + \varepsilon_{ic}$$

The uppercase letters are used for dummy variables and the lowercase letters were used for continuous variables. The continuous variables were changed to their natural logarithms. The dependent variable discrepancy was the natural logarithm of the absolute discrepancies being observed, it consisted of both export under-reporting and import over-reporting. When computing export under-reporting, the imports corresponding to each trade flow were deflated by 10%[8] to account for the cif/fob wedge after which this figure was subtracted from the exports reported by Zambia. The negative figures represented export under-reporting. When calculating import over-reporting, the exports as recorded by Zambia's trade partner were inflated by 10% to account for the cif/fob wedge after which this figure was subtracted from the corresponding imports recorded by Zambia. The positive figures represent import over-reporting. This was done for each trade flow. COMESA is a dummy variable equal to 1 if country c is a member of COMESA, 0 otherwise. SADC is also a dummy variable which will take on the value 1 if country c is a member of SADC and 0 if country c isn't a member. EXPORT is a dummy variable taking the value of 1 if the dependant variable refers to export under-reporting and 0 if it refers to import over-reporting. Trade openness was computed by adding the total exports and imports to and from Zambia's trade partners respectively and dividing the sum by the trade partner's GDP.

Tradeic and tradejc are size variables. Tradeic is the six-digit value of trade between Zambia and nation[9] c, in the case of export underreporting[10], it equals the value of Zambian exports to country c in sector i as determined by the average of the relevant records in the two countries' external trade statistics. In the case of import over-reporting it is equal to the value of Zambian imports from country c in sector i calculated similarly. $Trade_{jc}$ is the 4-digit average of $trade_{ic}$, where j is the sector at 4-digit level. The regression coefficients (β's) are the population-averaged effects of the independent variables given the values of the random intercepts μ_{jc}, which can be interpreted as measuring the unobserved effects.

[8] It is common practice to set the cif/fob at 10 per cent to account for the difference in the valuation of import and export flows e.g. Trade Misinvoicing in Primary Commodities in Developing Countries: The Cases of Chile, Côte d'Ivoire, Nigeria, South Africa and Zambia (UNCTAD, 2016a) though this method is criticised by some authors.

4.5 Data sources

The World Bank's World Integrated Trade Solution (WITS)[11] was the source of data on trade flows which were expressed in thousands of US Dollars at the 6-digit level. These trade flows were on Zambia's major trade partners: China, Congo DR, Switzerland, South Africa, United Arab Emirates (UAE), Singapore and India for the years 2016 to 2020.

The data source for the macroeconomic variables (GDP, GDP per capita, and corporate income tax rate) was taken from the World Development Indicators availed by the World Bank and some inflation figures were taken from the PwC website. The CEPII[12] database was used for the distance and common language variables as well as membership to COMESA and SADC regional Trade Agreements.

4.6 Model Estimation

The results of the model show that the coefficients of three variables of interest, namely the distance variable, trade openness and common membership to SADC recorded the expected sign. However, only two of the coefficients were significant namely common membership to SADC and trade openness. This means that for the 7 partner countries selected, specifically for trade openness, the more trade occurs between Zambia and its partners counties, relative to the size of the economy, the more chances are that illegal trade will occur alongside the legal trade. The result for common membership to SADC indicates that there exists a negative relationship with the trade gap as a result of common membership to SADC arising from similarity in standards and harmonisation of procedures. GDP per capita and corporate income tax recorded coefficients that were different from the expected signs. However, only two of these variables recorded significant results namely GDP per capita and common membership to COMESA. These results indicate that there actually exists a positive relationship between the GDP of Zambia's partner country and the trade gap. Further, there exists a positive relationship between common membership to COMESA and the trade gap. This is counter intuitive and could be indicative of the low levels of integration in the regional bloc. One would expect a highly integrated regional bloc to have harmonised rules and regulations that would then create a negative relationship with the trade gap. However, this does not seem to be the case within the COMESA region.

It is worth noting that the above results could have largely been influenced by the number of countries selected for analysis. For this assessment, only 7 partner countries were selected on both the import and export side. This likely affected the significance for some of the variables due to the limited sample. A recommendation has been made to that effect to try and remedy this challenge.

[9] That is, $trade_{ic} = \ln [(EXP_z + IMP_c)/2]$
[10] $Trade_{ic} = \ln [(IMP_z + EXP_c)/2]$
[11] https://wits.worldbank.org/WITS/WITS/Restricted/Login.aspx
[12] http://www.cepii.fr/CEPII/en/bdd_modele/inscription.asp?id=6

Table 4: Model Estimation results

Variable	Coefficient and P value
Corporate income tax	0.1190 0.149
GDP per capita	0.1167 0.000
Trade Openness	0.0339 0.033
Distance	0.1202 0.255
COMESA	0.7382 0.000
SADC	-0.3009 0.021
EXPORT=1(for export under-reporting)	0.1149 0.041
(tradeic-tradejc)	0.9021 0.000
(tradeic-tradejc)*EXPORT	0.0267 0.000
tradejc	0.8990 0.000
tradejc*EXPORT	0.0050 0.431
Year dummy 2017	-0.0094 0.642
Year dummy 2018	-0.015 0.472
Year dummy 2019	0.0051 0.806
(Year dummy 2020	-0.0119 0.580
Constant	
N	18 595
N groups	2986
R-squared	0.9154

Having completed the model assessment, we isolated the anomalies for the seven partner countries and allocated the percentage of anomalies (see table). The results showed that only South Africa recorded significant results for the anomalies. This is not surprising given the limited sample of only 7 trading partners.

4.7 Proportion of anomalies at country level

Building on from the estimation results obtained, analysis of the residues was conducted to using regression methods to assess the discrepancies in the trade data. Table 5 shows that from this assessment, only South Africa recorded a significant result. Again, this could have been a function of the small sample size which was restricted to seven partner countries.

Table 5: Anomalies at country level

Country	Share of Anomalies (%)	Significance
China	3.5	0.83
Congo Democratic Republic	2.9	0.97
India	1.6	0.23
Singapore	1.6	1
South Africa	0	0.03*
Switzerland	0	1
United Arab Emirates	0	1

*p<0.05

4.8 Residual analysis of country-product effects

Having identified South Africa as the only country (from the sample) that provided significant results, we assessed the results to examine the sectors with the highest anomalies.

The primary goal was to define TBML risk indicators for operational use. Such indicators have a wide range of potential applications. They may give authorities involved in anti-money laundering an extra instrument to conduct TBML prevention and detection based on a solid risk-based approach. Based on the lists of anomalous commercial routes, the same authorities might profit from the findings of this investigation by raising their awareness of certain product lines and Zambia's trade partners.

The goal of the econometric analysis presented above is to determine the role of important structural variables in explaining trade mirror misalignments. In order to construct our indicators of TBML risk, we must first isolate the unobserved sources of discrepancy that are thought to be linked to illegal capital flight. To that goal, the analysis concentrated on the model's systematic residuals.

Indeed, the risk indicators are simply identified as the country/4-digit random effects μjc in our model. They can also be understood as the proportion of the dependent variable that remains unexplained by the model after accounting for the structural determinants of observed trade statistics disparities. The observations in the 2.5% right-hand tail of the overall random effects distribution were considered anomalous in this approach.

Among the top seven countries that were chosen in this analysis, only South Africa had an indicator that was statistically significant as indicated earlier (see Table5). The table below shows the anomalous trade flows for South Africa that were in the top 2.5% of the overall random effects. An almost equal amount of export under-reporting and import over-reporting is observed with some risky sectors including minerals such as copper, electrical appliances, sports equipment and some food items. Looking at the absolute values of the anomalies, copper has the highest value recorded while other noteworthy products include alcohol, selected food products and electrical energy.

Table 6: Anomalous trade flows at sector (4 digits) level – South Africa

4- Digit Sector / Tariff	4- Digit Sector Description	Type of Misreporting (Export under-reporting)	Anomalies in US Dollars
7403	Refined copper and copper alloys, unwrought Refined copper	export under-reporting	$14,362,746
4907	Nused postage, revenue or similar stamps of current or new issue in the country in which they have, or will have, a recognized face value; stamp-impres-sed paper; bank notes; cheque forms; stock, share or bond certificates and similar documents of title.	export under-reporting	$6,337,886
7204	Ferrous waste and scrap.	export under-reporting	$1,763,086
1207	Other oil seeds and oleaginous fruits, whether or not broken.	export under-reporting	$1,411,136
7404	Copper waste and scrap	export under-reporting	$965,440
7602	Aluminium waste and scrap	export under-reporting	$633,561
8431	Parts suitable for use solely or principally with the machinery of headings 8425 to 8431	export under-reporting	$262,527

4- Digit Sector / Tariff	4- Digit Sector Description	Type of Misreporting (Export under-reporting)	Anomalies in US Dollars
7202	Unwrought nickel	export under-reporting	$258,874
7402	Unrefined copper; copper anodes for electrolytic refining.	export under-reporting	$142,852
8459	Machine-tools (including way-type unit head machines) drilling, boring, milling, treading or tapping by removing metal, other than lathes (including turning centres) of heading 8459	export under-reporting	$126,412
7601	Unwrought aluminium	export under-reporting	$79,447
8479	Machines and mechanical appliances having individual functions,	export under-reporting	$56,641
9018	Instruments and appliances used in medical, surgical, dental or veterinary sciences, incl. Scintigraphic apparatus, other electro-medical apparatus and sight-testing instruments, n.e.s	export under-reporting	$26,175
8473	Parts and accessories (other than covers, carrying cases and the like) suitable for use solely or principally with machines of headings 8469 to 84	export under-reporting	$22,919
8407	Spark-ignition reciprocating or rotary internal combustion piston engines	export under-reporting	$15,366
8501	Electric motors and generators (excluding generating sets)	export under-reporting	$14,424
8539	Electric filament or discharge lamps including sealed beam lamp units and ultra-violet or infra- red lamps, arc lamps; light-emitting diode (led) lamps	export under-reporting	$6,949
8428	Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics)	export under-reporting	$3,627
2530	Mineral Substances	export under-reporting	$2,856
9506	Articles and equipment for general physical exercise, gymnastics, athletics, other sports (including table tennis) or out-door games, not specified or included elsewhere in this chapter; swimming pools and paddling pools	export under-reporting	$2,433
8452	HS Codes of Sewing machines, other than book-sewing machines of heading 8440; Furniture, bases and covers specially designed for sewing machines; Sewing machine needles	export under-reporting	$2,312
8519	Turntables (record-decks), record-players, cassette-players and other sound reproducing apparatus, not incorporating a sound recording device.	export under-reporting	$1,653
8422	Dish washing machines; Machinery for cleaning or drying bottles or other containers; Machinery for filling, closing, sealing or labelling bottles, canes, boxes, bags or other containers; Machinery for capsuling bottles jars, tubes and similar containers	export under-reporting	$816
9011	Compound optical microscopes, including those for photomicro -graphy, cinephotomicrography or microprojection	export under-reporting	$234
0304	Stainless steel sheet	export under-reporting	$27

4- Digit Sector / Tariff	4- Digit Sector Description	Type of Misreporting (Import over-reporting)	Anomalies in US Dollars
2207	Undenatured ethyl alcohol of an alcoholic strength by volume of 80% vol. Or higher; ethyl alcohol and other spirits, denatured, of any strength.	import over-reporting	$3,212,247
2522	Quicklime, slaked lime and hydraulic lime, other than calcium oxide and hydroxide of heading 2825	import over-reporting	$2,496,610
2716	Electrical energy	import over-reporting	$2,282,234
0207	Meat, edible offal of domestic poultry	import over-reporting	$642,987
2834	Nitrites	import over-reporting	$492,280
8539	Electric filament or discharge lamps including sealed beam lamp units and ultra-violet or infra- red lamps, arc lamps; light-emitting diode (led) lamps	import over-reporting	$362,917
7402	Unrefined copper; copper anodes for electrolytic refining.	import over-reporting	$112,768
8431	Parts suitable for use solely or principally with the machinery of headings 8425 to 8430	import over-reporting	$103,252
1207	Other oil seeds and oleaginous fruits, whether or not broken.	import over-reporting	$65,972
0304	Stainless steel sheet	import over-reporting	$62,615
3707	Chemical preparations for photographic uses (other than varnishes, Glues, adhesives and similar preparations); unmixed products for photographic uses, put up in measured portions or put up for retail sale in a form ready for use.	import over-reporting	$50,730
8452	HS Codes of Sewing machines, other than book-sewing machines of heading 8440; Furniture, bases and covers specially designed for sewing machines; Sewing machine needles	import over-reporting	$27,875
9011	Compound optical microscopes, including those for photomicrography, cinephotomicrography or microprojection	import over-reporting	$26,646
2530	Mineral substances	import over-reporting	$25,660
8428	Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics)	import over-reporting	$20,990
8401	Nuclear reactors; Fuel elements (cartridges), non irradiated for nuclear reactors, Machinery and apparatus for isotopic separation.	import over-reporting	$17,646
9506	Articles and equipment for general physical exercise, gymnastics, athletics, other sports (including table tennis) or out-door games, not specified or included elsewhere in this chapter; swimming pools and paddling pools	import over-reporting	$17,646
8479	Machines and mechanical appliances having individual functions,	import over-reporting	$12,147

4- Digit Sector / Tariff	4- Digit Sector Description	Type of Misreporting (Import over-reporting)	Anomalies in US Dollars
7202	Unwrought nickel	import over-reporting	$11,615
5509	Yarn (other than sewing thread) of synthetic staple fibres, not put up for retail sale	import over-reporting	$6,992
7403	Refined copper and copper alloys, unwrought Refined copper	import over-reporting	$6,907
8407	Spark-ignition reciprocating or rotary internal combustion piston engines	import over-reporting	$5,988
8519	Turntables (record-decks), record-players, cassette-players and other sound reproducing apparatus, not incorporating a sound recording device.	import over-reporting	$3,361
8459	Machine-tools (including way-type unit head machines) drilling, boring, milling, treading or tapping by removing metal, other than lathes (including turning centres) of heading 8458	import over-reporting	$3,180

The results of our model on the determinants of TBML in Zambia indicate that some variables were found to have a relationship with the trade gap while other coefficients posited different signs from our a priori expectations. This is instructive as it points to the unique case for Zambia with respect to the trade gap and relationship with selected explanatory variables. However, the limited number of countries selected for analysis could have been a contributing factor to significance levels as well as signs of the various coefficients. The results of the model, specifically the anomalies with respect to TBML are as a result of a reduced sample size for partner countries. This analysis restricted the collection of data to 7 partner countries in terms of imports and exports due to time constraints and the data demands for larger analysis

CHAPTER 5
Combating Trade Based Money Laundering: Stakeholder feedback

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5.1 Stakeholder feedback

Questionnaires were administered to various stakeholders including reporting entities, supervisory authorities, civil society organisations and law enforcement agencies. The feedback received provides views and experiences by key stakeholders on TBML in Zambia. The key findings arising from the feedback provided in the questionnaires were as outlined below:

5.1.1 What patterns of goods are involved in TBML schemes?

Urea, tobacco/cigarettes, natural minerals and metals, motor vehicles, used clothes, portable electronic goods, jewellery, consumer goods, industrial equipment and scrap metal were indicated by respondents as being involved in TBML schemes in Zambia.

5.1.2 What sectors are prevalent in TBML schemes?

Extractive/mining sector, agriculture sector, consumer goods/groceries (Wholesale), textile, garments, second hand clothes sector, wildlife sector and motor vehicle dealerships were indicated by respondents as being prevalent in TBML schemes in Zambia.

5.1.3 What are the prevalent jurisdictions of origin or destination associated with TBML schemes?

China, Mauritius, United Arab Emirates, Seychelles, South Africa, Switzerland, Bahamas, India, Congo, Hong Kong, Namibia and Nigeria were indicated by respondents as prevalent jurisdictions associated with TBML schemes in Zambia.

5.1.4 What types of persons (natural or legal) are used by criminal syndicates in TBML schemes?

Companies, offshore companies and trusts.

5.1.5 What are the common indicators or red flags for TBML schemes?

The feedback from the stakeholders revealed that the common indicators/red flags for TBML schemes in Zambia included:

i. Physical trade documents appear fraudulent/unauthorized amendments to documents;
ii. Shipment locations of the goods, shipping terms, or descriptions of the goods are inconsistent with Letter of Credit;
iii. Frequent amendments to Letters of Credit;
iv. Overcomplicated transactions involving multiple third parties;

v. Multiple invoicing of goods and services;
vi. Significant discrepancies between the description of goods on the bill of lading and invoice;
vii. Unexplained or constant material changes to a specific transaction;
viii. Excessive/aggressive/pressured contact by the client / a reluctance to provide requested information;
ix. Significant discrepancies between instructions issued by a customers and information contained on the invoice provided;
x. Items shipped are inconsistent with the nature of the customer's stated line of business;
xi. Obvious over-or underpricing of goods and services;
xii. Suspicious client conduct, for example the client requests an unusual degree of confidentially, the client is reluctant to provide clear answers to routine questions;
xiii. Use of shell companies registered in high-risk jurisdictions.

5.1.6 Which predicate offences have been associated with TBML?

Corruption, customs violations, tax evasion, trading in banned goods and fraud were indicated by respondents as the predicate offences associated with TBML in Zambia.

5.1.7 What challenges/obstacles are faced by reporting entities in identifying TBML schemes?

Respondents to the questionnaire listed the following challenges faced by reporting entities in identifying TBML schemes were:

i. Limited information exchange between reporting entities and competent authorities;
ii. Variety and complexity of trade products and trade financing arrangements;
iii. Reliance on large volume and complex documentation in trade financing;
iv. Limited exchange of information between local and foreign financial institutions;
v. Inadequate knowledge by reporting entity staff to identify TBML red flags;
vi. Secrecy under which such TBML activities happen makes it difficult to identify TBML scheme; and
vii. Insufficient information on other reporting entity beneficiaries or senders due to privacy laws.

5.1.8 How many cases of TBML have been prosecuted in the period 2016 to 2020?

During the last five years, it is worth noting that there had been no prosecution of any TBML cases by the NPA. However, AMLIU intimated that although there have been no TBML cases prosecuted by them, they have investigated cases that could qualify as such.

5.1.9 In what ways can LEA and customs agencies increase cooperation in investigating TBML?

Respondents listed the following ways to enhance cooperation:

i. Conduct joint investigations;
ii. Quick sharing of customs information whenever there is suspected criminality on matters under the purview of Customs Agencies;
iii. Linking customs databases to LEAs;
iv. Signing of MOUs between customs agencies and LEAs.

5.1.10 What are the challenges or obstacles faced by LEAs in identifying and investigating TBML?

Respondents listed the obstacles below as usually encountered in identifying and investigating TBML in Zambia.

i. Difficulties in the acquisition of evidence from foreign jurisdictions whenever cases involve multiple jurisdictions;
ii. Lack of cooperation from witness employed by companies involved in TBML schemes;
iii. Inadequate technical capacity to effectively investigate TBML;
iv. Failure to prioritize TBML investigations; and
v. Limited inter-agency cooperation and coordination on TBML cases.

5.1.11 Why do you consider Zambia vulnerable to TBML?

The stakeholders that considered Zambia vulnerable to TBML submitted the factors below to support their view.

i. Involvement in significant international trade transactions;
ii. Lack of effective framework to investigate TBML;
iii. Lack of skills necessary to identify cases of TBML;
iv. Weak enforcement of existing laws meant to curb TBML, making the country fertile for the vice; and
v. The country has a cash based economy.

5.2 Trade based money laundering schemes observed in Zambia

The study sought to identify TBML schemes that have been observed in Zambia by competent authorities. Below are three (3) case studies of some of the TBML schemes observed in Zambia.

5.2.1 Case study one: Misclassification/False Imports

A clique of prominent influence persons PIPs working with Asian nationals based in Zambia would facilitate the illegal harvesting and export of rosewood to Country A in Asia. The Asian nationals operated manufacturing companies in Zambia. The Asian nationals working with the clique of (PIPs) would bribe officials and traditional leaders to enable the illegal harvest of the rosewood. At the point of export from Zambia to Country A, the rosewood would be misclassified as sawn wood.

The buyers of rosewood in Country A would then pay a company in Country A that supplies equipment and machinery, to export the equipment and machinery to Zambia. The equipment and machinery would be sent to the Asian nationals' manufacturing company in Zambia as part of the normal operational needs of the manufacturing company. The manufacturing company in Zambia would then buy real estate and motor vehicles whose beneficial owners were the clique of PIPs

5.2.2 Case study two: Phantom Shipments

Foreign nationals incorporated companies in Zambia with locals used as fronts. The companies were importing food products for sale in Zambia. The purported imports were from Asia. The nature of business as per companies' registry was wholesale and retail food products. All the companies were shell companies as there were no business operations at their registered physical business address. The companies would pay/settle supplier invoices for the importation of foods products from Asia, but there were no deliveries of the consignment imported. Over a period of 9 months the companies settled suppliers invoices worth USD 7.8million, however there were no goods received to support the remittances. The USD 7.8million was suspected to have been generated from illegal activities as there were no business activities being undertaken by the companies.

5.3 Case study three: Tax evasion/Aggressive Profit-Shifting

Company X in the extractive industry sector entered into an off-take agreement with a related party for its minerals. The related party was domiciled in a secrecy jurisdiction. Company X would sale the minerals at below market price, thereby understated its taxable income and tax liability. Over a 5 year period Company X had understated revenue from mineral sales by over USD700million. Company X would manipulate its financial statements to mask the aggressive profit shifting practices. Company X's cash flow statements were manipulated to give the impression that it was investing in plant and machinery, which costs would be used to claim capital allowance for tax purposes at 100%. Company X used international banks and audit firms to process its transactions and audit the financial statement.

CHAPTER 6
Recommendations

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Recommendations

Therefore, arising from the findings, albeit with limited sample size, we make the following recommendations:

(i) **Undertake comprehensive TBML assessment:** A more comprehensive analysis would be needed to assess anomalies with all of Zambia's trading partners. This would probably yield more significant results. The constraint in this analysis was the time limit that could only allow for analysis of Zambia's top trading partners given the enormous demands with respect to data compilation. However, going by the results it would be more useful to allocate much more time for comprehensive analysis which would yield more nuanced results.

(ii) **Devote more resources to curbing TBML in Zambia:** The policy implication of these findings is that more attention needs to be devoted more resources to curbing TBML in Zambia as it seems nuanced and more complicated than meets the eye. The nature of relationship between the explanatory variables and the trade gap indicates that in some cases, the occurrence of TBML does not follow the theoretical expectations for several explanatory variables. As such, LEAs need to be equipped with additional financial resources to enable them to tackle the scourge through increased human resource capacities and infrastructure among others.

(iii) **Customs authorities to develop product specific interventions:** Based on the list of products recorded that have anomalies, the customs authorities might profit from a focus on specific product lines in their enforcement efforts. For this analysis, copper has been shown to have highest susceptibility and given its significance in Zambia's trade, specific interventions to monitor TBML in this sector must be developed.

(iv) **Multi-stakeholder approach to TBML:** Combating TBML is a shared mission between the Government, the private sector and foreign partners. The Government must develop a multi-stakeholder approach generally to curb illicit financial flows in the country. The establishment of a technical working group for Illicit Financial Flows is a good starting point and this must be institutionalised for greater impact. The Government should consider a multi-stakeholder approach that includes one or more of Zambia's top trading countries as a partner for the establishment of a TTU to investigative and combat TBML.

[13]FATF's Global Money Laundering & Terrorist Financing Threat Assessment, July 2010. https://www.fatfgafi.org/media/fatf/documents/reports/Global%20Threat%20assessment.pdf

Establishing a TTU is consistent with FATF's Recommendation 40 regarding international cooperation and in which FATF encourages a country to consider establishing a TTU[13]. This international partnership can establish a gateway to facilitate the exchange of international trade information to identify leads for criminal investigation and subsequently combat TBML through prosecution or other enforcement action. Existing legal mechanisms such as existing Customs Mutual Assistance Agreements may permit and facilitate the creation of a TTU.

Of Zambia's top seven trading partners, the trade data analyzed in this TBML report reflects data from South Africa as the strongest trade indicator that was statistically significant. Unlike the other six trading partners, export under-reporting and import over-reporting was observed in the trade statistics between Zambia and South Africa. Accordingly, the Government should consider approaching the Government of South Africa as a candidate for the establishment of a TTU.

How to establish a TTU – Through existing Customs Mutual Administrative Assistance Agreements (CMAA), and other legal framework, the Government may leverage and enhance its TBML capacity through partnerships with one or more countries. Although the CMAA provides broad authority for the exchange of trade and related financial information, a separate TTU Agreement can be created and signed by both partner countries to provide clarity on the exchange of information related to the importation and exportation of merchandise, the frequency with which information is shared on a reciprocal basis, and the make-up of the TTU noting the participating agencies.

Due diligence should be conducted to understand the potential TTU partner agency make-up, applicable criminal laws and partner country's support for joint TBML investigations. Partnering with the appropriate foreign agencies can better ensure appropriate evidentiary/investigative assistance when cases are later developed.

The following assessment questions, steps and timelines may assist in determining appropriate make-up of a TTU and is provided as a general reference:

1. Does the respective foreign customs agency have authority to conduct the following:

a) Customs-related administrative investigations?

b) Customs related criminal investigations?

c) Financial-related investigations?

2. If the foreign customs agency does not have investigative authority, will the customs agency involve other agencies with the authority to conduct criminal investigations?
3. Will those other agencies agree to conduct joint TBML investigations?
4. Is the foreign customs agency currently conducting customs-related administrative and/or criminal investigations involving trade with Zambia?
5. Will the prospective TTU partner have access and the ability exchange international currency reports it collects?
6. Does the foreign customs agency have an established data collecting system capable of being downloaded to be formatted?
7. Determine whether the prospective TTU partner is interested in only collecting lost revenue as the basis for becoming a TTU or whether it is supportive of prosecutions, arrests and seizures.
8. Has the prospective TTU partner previously worked with the Government on any joint investigations involving trade fraud, TBML or other financial crimes?
9. Does the prospective TTU partner have customs and money laundering laws similar to Zambia?
10. Ensure signed Customs Mutual Assistance Agreement (CMAA) is in place, which is a pre-requisite to establishing a TTU.
11. Drafting of the TTU MOU, which may take 6 - 8 months, depending on the specifics of the MOU. Specific language should build upon language in the CMAA and note the purpose of a TTU be not merely a duty/revenue collection tool, but a tool to identify cross-border TBML violations that may only be apparent through global partnership and collaboration.

As above Recommendation (iii) notes, copper has been shown to have highest susceptibility to TBML. Given its significance in Zambia's trade, specific interventions to monitor TBML in this sector must be developed. A specific intervention can begin with a partnership with a country where Zambia has an established CMAA, for example, South Africa. Small steps can be taken to provide for a reciprocal exchange of one or two like commodities (e.g., copper, tariff chapter 7403) where each country has an interest in the chosen commodity. The exchange of reciprocal trade data can be further clarified with a partner country to include the following parameters:

a) Agree to reciprocally share trade data on copper, for example, at either the 4-digit or 6-digit tariff level. Sharing data at the 6-digit tariff level is recommended as this level of detail will significantly narrow the discrepancies in value and other recorded factors vs. exchange of data at the broader 4-digit level.

b) Agree to a specific time frame for the exchange of reciprocal trade data, e.g., one to two years, depending on how many transactions exist with each country.

c) Determine which documents to exchange, such as bill of entry, lading, invoice, etc.

d) A short training period, typically one week, where both countries meet may be necessary to review the data sample from each respective countries' imports and exports to understand the columns of data and to apply any needed conversions of units of measure and currency.

e) Analysis of the specific commodity data reciprocally shared can then be further vetted by the FIC and other internal law-enforcement partners to develop information that may lead to the development of a criminal lead.

(v) Capacity building for Competent Authorities: Competent authorities should provide training to officers on international trade practices and TBML. Training on international trade practices and TBML will develop the expertise required for identification, investigation, and prosecution of TBML.

(vi) National AML/CFT Policy and Strategy: The country needs to develop an Anti-Money Laundering National Policy to set the tone and direction at national level on combating money laundering. Further, the Policy should be the basis on which the country develops a National Strategy on combating money laundering. The strategy will coordinate the efforts of various competent authorities and ensure resources are directed towards areas of greatest risk.

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