Calculating Illicit Financial Flows to and from Indonesia:
a Trade Data Analysis, 2001–2014

PRAKARSA

Welfare Initiative for Better Societies

Research Paper

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Perkumpulan Prakarsa

February 2016

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Perkumpulan Prakarsa is a Jakarta-based NGO think tank that focuses on social welfare policy, economic/fiscal policy and sustainable development as an overarching issue. In particular, for fiscal policy, Perkumpulan Prakarsa believes that tax and budget policies are important fiscal instruments to finance development, advance prosperity, and redistribute resources toward reducing poverty and inequality. Tax reform and the realignment of budget priorities could go a long way in addressing key development challenges Indonesia faces today. We work to encourage fair fiscal policies that complement the aims of welfare improvement and poverty reduction.

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Abbreviation

ADF	Augmented Dicky Fuller
BoP	Balance of Payments
CED	Change in External Debt
CIF	Cost, Insurance and Freight
CPI	Consumer Price Index
DoTS	Direction of Trade Statistics
DPK	Third Party's Funds (*Dana Pihak Ketiga*)
FDI	Foreign Development Investment
FOB	Free on Board
FSI	Financial Secrecy Index
GER	Gross Excluding Reversals
GFI	Global Financial Integrity
HMN	Hot Money Narrow
IFF	Illicit Financial Flows
IHSG	Composite Stock Price Index (Indeks Harga Saham Gabungan)
IMF	International Monetary Fund
IPI	Industrial Production index
IPPS	International Price Profiling System
IRF	Impulse Response Function
NEO	Net Errors and Omissions
OECD	Organization for Economic Co-operation and Development
SDGs	Sustainable Development Goals
TJN	Tax Justice Network
VAR	Vector Auto Regression
VECM	Vector Error Correction Model
WBR	World Bank Residual
WPI	Wholesale Price Index

Executive Summary

Illicit Financial Flows (IFF), a term that is broadly defined as funds or money, capital, funds or assets "received, transferred or used illegally" cross state borders has been a contested topic within the international community due to the magnitude of its size compare to a country's economy. Sluggish global economic growth, in the developed and developing countries alike has led countries to search for more revenues for financing development for their citizens such as for health and education, energy and other social expenditures that are at risk of being reduced. In the Third International Conference on Financing for Development Action Agenda in Addis Ababa in July 2015, all nations have adopted and pledged themselves to double the effort to substantially decrease the illicit financial flows in 2030. Curbing IFF is also a target under Goal 16 of the Sustainable Development Goals (SDGs).

The Global Financial Integrity (GFI), a prominent DC-based think tank, regularly issue global and country reports on IFF since 2005. In this study, Perkumpulan Prakarsa adopts the methodology developed by the GFI to calculate Indonesian IFF between the periods of 2001-2014. The objectives of the study is to find out the values of illicit funds that flow into and out from Indonesia, to find out which countriesare the main destination and the source of the IFF in Indonesia and to calculate and identify the determinant factors and impact of the IFF in Indonesia. The GFI's IFF method is used by summing up the Gross Excluding Reversals (GER) that indicates trade mispricing between trading nations and adding up calculation errors in Balance of Payments (BoP), which is reflected in the Net Error Omission(NEO). From these calculations, the GER Export, GER Import, IFF inflow and outflow are obtained. Further, to analyze the determinant factors of IFF and its impacts, we use econometric equations (Granger Causalityand Vector Auto Regression or VAR) to get the information on causality between variables. For the impact, we only use the illicit financial outflow (GER Outflow data), which is clearly harmful. Since econometric calculations demand larger amount of data, we use monthly dataset that are only accessible from the period of 2006.

This study finds that during the period of 2001-2014, the value of illicit financial inflow is always bigger than illicit financial outflow. The total accumulated funds inflow is USD 628.9 billion while the total accumulated outflow is USD 217.3 billion. The total illicit financial flows is 846.3 billion dollar within the period. The average annual inflow is USD 44.92 billion and outflow is USD 15.52 billion during the period. Based on the annual analysis from 2001-2014, the largest illicit financial outflow from Indonesia took place in 2012 with an estimated value of USD 24.5 billion. The *top three countries with the largest financial inflow values* (sum of under invoicing of import and over invoicing of export) are Singapore, China, and Japan. The annual average of illicit financial inflow from Singapore to Indonesia is USD 15.6 billion between 2001 and 2014. Therefore, Singapore is Indonesia's trade partner with the largest indication of illicit financial inflow, followed by China at USD 5.4 billion, and Japan at USD 3.6 billion. Furthermore, the *top three countries with the largest financial outflow* values (sum of over invoicing of import and under invoicing of export) are Saudi Arabia, China, and Singapore. An illicit financial outflow from Indonesia to Saudi Arabia is USD 2.1 billion in average per year for the period of 2001-2014. Therefore, Saudi Arabia is Indonesia's trade partner the largest indication of illicit financial outflow, followed by China at USD 1.55 billion, and Singapore at USD 1.4 billion per year.

The results of econometric calculation show that the Third Party Funds, M2 (money supply), and Total Trade are the determinants of the GER Outflow, while GER outflow might have an impact to the

Industrial Production Index (IPI). If a 10 percent income tax is applied to the annual illicit financial outflow, which is USD 15.52 billion, would give Indonesia an additional revenues of USD 1.56 billion or IDR 20.28 trillion. This is more than six fold of the total foreign aid to Indonesia in 2015, which was only IDR 3.3 trillion. Meanwhile, if the USD 44.93 billion illicit financial inflow comes from commodities that can be sold, and they are charged with a 5 percent tax, then the value could reach USD 2.25 billion or equals to IDR 29.21 trillion. This amount is IDR 3 trillion more than state revenues from property tax which is IDR 26.7 trillion in 2015.

The study recommends an improvement in the trade management (import/export) because these errors in recordings (mis-invoicing), both intended or unintended took place out of poor management of custom authority. Oversight agencies such as KPK (Corruption Erradication Comission), PPATK (INTRAC), Police, and the attorney general, must also put a tighter monitoring toward the customs as there are huge potentials for state revenue losses from trade. For future research, e.g. to analyze commodity-based financial inflow and outflow, a much larger dataset is required due to a long standard coding system.

Chapter 1 Introduction

1.1 Background

1.1.1 Illicit Financial Flow in Developing Country Context

Recently, the issue regarding "illicit financial flows" (IFFs) has been a hot topic in international discussion. Many studies found that Illicit Financial Flows is destructive against nation states, because of its effectson the economy, to the government, as well as to public in general.

The Illicit Financial Flows is often defined as "monies received, transferred, or used illegally", with the understanding of money as funds or assets (Kar and Spanjers, 2015). With this regards, the Illicit Financial Flows could be divided into two categories, which are: (i) funds as a result of criminal action (e.g. corruption, abuse of power, or organized crime), (ii) the funds legally received but becomes illegal due to the funds used for illegal financing (e.g. terrorism financing) or illegally transferred, (e.g. through the tax law infringement or trade mispricing). Nevertheless, there are no agreed terms in using the Illicit Financial Flows.

In developing countries, some large amounts of monies are illegally transferred to offshore destinations every year. This Illicit Financial Flows is then stripping the developing country's resources that should be used to fulfill the public goods and services from basic needs of health and education, up to financing the development or public infrastructures. Furthermore, the Illicit Financial Flows also weakens the financial system and potential economyof the developing country (OECD, 2014).

The direct impact of the Illicit Financial Flows particularly for a developing country is in respect to the resources to provide good public facilities to the citizens (World Bank/ UNODC 2007, 11-12). For example, corruption cases in developing countries. In many developing nations, rampant corruption of development funds deteriorates the quality and quantity of public facilities because the monies that should be used for the development is cropped for the benefit of certain people/elites that hold the power. In the context of providing public facilities, the Illicit Financial Flows could disrupt the stability and credibility of domestic financial system, even the institution of the nation state itself (Unger, 2007).

Moral hazard occurred, for example, when the customs officials could be bribed or conduct corruption thus it could decrease the credibility of the respective institution (Reed et.al. 2011). Corruption, among others, lead to the destruction of the stability and credibility of the respective institution (such as central bank, PPATK/INTRAC, police, district attorney, and judge) which is responsible to detect, investigate, and sue parties involved in Illicit Financial Flows. The destruction of democratic institution breaksdown the accountability and law enforcement mechanism and erodes the capacity of a nation to conduct its function from providing the social services up to secure the national security. In other words, the Illicit Financial Flows, including money laundering, corruption, and tax evasion could potentially damage the financial system of the developing countries.

1.1.2 The Loss Estimation due to Illicit Financial Flows

Table 1 shows the loss experienced by countries worldwide due to Illicit Financial Flows conducted by tax avoiders, in which the developing countriesthat in need of financing for development suffered the most. It is ironic that the amount of Illicit Financial Flows from the developing countries is bigger than the development aid channeled to the developing countries. As a comparison, in 2013, the Development Assistance Committee (DAC) countries disbursedUSD 70.7 billion of development aid to the developing countries, which was the highest level at that time. Yet, the estimate amount of the Illicit Financial Flows from the developing countries in the same yearreached USD1 trillion (Kar, et.al., 2015). It meanssuch amount of aid only equals to 7 percent of the total Illicit Financial Flows from the developing countries in the same period.

Table 1 Loss Estimation Due To Illicit Financial Flows

No	Loss Estimation	Area	Researcher
1	USD 1.6 trillion of illicit funds flows each year	Worldwide	Baker (2005)
	±USD 500-800 billion from the developing countries		
	± USD 20-40 billion from corruption activities		
	± USD 500 billion from tax evasion		
2	60-65% from the total illicit fund came from the international based company. 45% from such illicit ends up in offshore financial centers, while the other 55% ends up in developed countries.	Worldwide	GFI (2010)
3	Total losses suffered by developing countries due to tax evasion practice reached USD 385 billion per year	Developing Countries	Cobham (2005)
4	Total losses suffered by developing countries due to transfer mispricing and transfer misinvoicingpracticereached USD160 billion per year	Developing Countries	Christian Aid (2008)
5	Each year, 25% GDPof the African continents nations (around USD 148 billion) lost due to corruption. There is an indication that the Illicit Financial Flows from countries in African continent is	African Continent Nations	Reed (2011); Christensen 2009; Boyce and Nidikumana (2001)

No	Loss Estimation	Area	Researcher
	bigger than aid channeled to countries in the continent.		
6	Each year USD1 trillion illicit fun flows from the developing countries	Developing Countries	Kar et.al (2015)

Source: Made of various sources

The amount of Illicit Financial Flows arising from the criminal action reaches a fantastic amount, which is USD650 billion per year (see Table 2). The fund mainly sourced from the production of fake goods which reached USD250 billion. The Illicit Financial Flows sources from the crime will be very dangerous. Haken (2011) stated that the criminal usually use the money from crime activities for another illicit and hidden activities. Illegal money will be hard to be invested for legal and valid business activities, because if the source of money is being traced; the authorized institution will be able to trace the source of funds.This will increase legal risks. As such, there is no other choice for the criminal to keep their money other than illicit and hidden.

Table 2 Loss Estimation of Illicit Fund Flows due to Criminal Action

Market	Loss Estimation Amount
Medicines	USD320 billion
Human Trafficking	USD31.6 billion
Wild Animals	USD7.8 -10 billion
Fake Goods (Total)	USD250 billion
Fake Medicines	USD35 - 40 billion
Fake electronic equipment	USD50 billion
Fake cigarette	USD2.6 billion
Organs trade	USD614 million - 1.2 billion
Weapons	USD300 million - 1 billion
Diamond and valuable stones	USD860 million
Oil	USD10.8 billion
Wood	USD7 billion
Fish	USD4.2 - 9.5 billion
Art Objects	USD3.4 – 6.3 billion
Gold	USD2.3 billion
Total	USD639 - 651 billion

Market	Loss Estimation Amount
Estimation	USD650 billion

Source: Haken (2011)

In the Third International Conference on Financing for DevelopmentAction Agenda in Addis Ababa in July 2015, all nations have adopted and pledged themselves to double the effort to substantially decrease the Illicit Financial Flows in year 2030. In line with the Addis Ababa Action Agenda, World Bank (2013) also emphasized that the Illicit Financial Flows could result in the lost of potential financing of development agenda. The financing of development agenda post-2015 should use the available resources more effective and expedite the additional financial capacity strategically, both from the government and private sectors. Therefore, the developing countries need to solve this Illicit Financial Flows issue to improve the capacity of development financing by mobilizing their domestic resources through taxation and maintain the forex reserves.

By solving the Illicit Financial Flows issue, it means securing the potential state income, which could be used to finance the Sustainable Development Goals/SDGs, and encourage fairer global tax regime. The post-2015 agenda could overcome the future challenges in using the resources in more efficient and effective way (Khan and Akbar, 2015). Therefore, it needs the cooperation between country leaders to build the right environment policy, both at the national and international level.

1.2 Problem Formulation

The relevancy of assessing the amount of the Illicit Financial Flows is to understand how and why such funds flow out from the developing countries, and also to design a strategy that could stem such flow. In practice (OECD, 2014), the Illicit Financial Flows is originated from simple practices such as individual fund transfers from a personal account to overseas destination without paying taxes, then went up to a more complex scheme by involving criminal networking in multi-layerandmulti-jurisdiction structures to hide the ownership of the funds.

The goal of this research is only to give an understanding of a concept and an analysis of the impact that could be caused by the Illicit Financial Flows for the developing countries (in this matter, Indonesia). This report begins with the explanation of the concept, methodology, up to the analysis of macro indicators in Indonesia. In addition, this paper also presents the context of the connection between the Illicit Financial Flows and the Sustainable Development Goals and certain recommendations to the most efficient way to limit the Illicit Financial Flows.

In short, the problem formulation of this research is to know **what, why, and how the illicit financial flows occurred, the determinant factors and the impact for Indonesia**. This would be useful for the policyholders in the government to see the tip of the iceberg of the Illicit Financial Flows problem in Indonesia. The research will also identify which countries are the sources and destinations of the Illicit Financial Flows from and to Indonesia using the GFI (Global Financial Integrity) approach. Econometric analysisis employedto see the determinant factor, impact and effect due to Illicit Financial Flows.

1.3 Research Objectives

a) To find out the values of illicit fund that flows into and out from Indonesia

b) To find out which countries are the main destination and the source of the Illicit Financial Flows in Indonesia

c) To calculate and identify the determinant factors and impact of the Illicit Financial Flows in Indonesia

1.4 Methodology

This research employs the GFI's IFF method, by summing up the Gross Excluding Reversals (GER) that indicates trade mispricing between trading nations and adding up calculation errors in Balance of Payments (BoP), which is reflected in the Net Error Omission (NEO). From this calculation, the GER Export, GER Import, Illicit Financial Inflow, and Illicit Financial Outflow will be obtained.

The other methodology is to analyze the link between IFF and other economic factors using an econometric equation, which is used to analyze the causality between variables. To be able to calculate the impact of the Illicit Financial Flows, we only use the Illicit Financial Outflow, which is clearly harmful. This calculation only uses GER Outflow (the trade mispricing caused the money flow out from Indonesia) which data is available every month. More data will make a better econometric calculation, because it meets data elements' adequacy.

The econometric analysis will see the connection between determinant and impact occurred due to IFF by using Granger Causality developed by Granger (1969). Afterwards, by using Vector Auto Regression (VAR) developed by Sims (1980) we could see the impulse response occurred between variable which turn into determinant and impact of the GER Outflow. This impulse response will be able to see the shocks occurred as an impact of GER Outflow and how long the occurrence of such shocks.

The detailed calculation methods of this research can be seen in Chapter 3.

Chapter 2 Brief Theoretical Overview

2.1 Illicit Financial Flows

2.1.1 General Concept

The Illicit Financial Flows has been a global phenomenon that captures international attention. Current literature defines the Illicit Financial Flows concept in broad terms and does not have a clear limit. In general, the Illicit Financial Flows is defined as "capital that is illegally earned, transferred, or utilized and covers all unrecorded private financial outflows that drive the accumulation of foreign assets by residents in contravention of applicable capital controls and regulatory framework" (Kar and Curcio, 2011). In line with such definition, OECD (2014) interprets the Illicit Financial Flows as "a set of methods and practices aimed at transferring financial capital out of a country in contravention of national or international laws."

Meanwhile, Illicit Financial Flows concept may refer to the meaning of the word "illicit" itself (Cobham, 2014), which is "forbidden by law, rule, and custom". The first three words (forbidden by law) may refer to its illegal aspect, but the next words (forbidden by rule and custom), indicates that the Illicit Financial Flows does not always refer to something illegal, but also to something that is socially and/or morally unacceptable. There is also other definition that is more directed to the impact of the Illicit Financial Flows, where the Illicit Financial Flows is defined as "flows that cause damage to the economic development of the country" (Reuter, 2012).

From those definitions, at least there are some characteristics that could be used to understand the concept of Illicit Financial Flows. First, there are some funds or capital flow out from one nation to the other nation. Second, such fund or capital flow is deemed to violate the law, regulation, or good customs nationally or internationally. Third, such fund or capital flow could create a negative impact to a country's economic condition.

The above definitions also explain that the real Illicit Financial Flows consist of : 1) Illicit Financial Flows that may sourced from criminal activities such as drugs trade, human trafficking, smuggling, corruption, tax evasion; and 2) Illicit Financial Flows may also the results of legal activities but socially unacceptable (immoral) or legal activities that use loops in law or violate sense of justice, such as tax avoidance activities conducted by multinational companies (Everest-Philips, 2012).

2.1.2 Illicit Financial Flows and Capital Flight

The term capital flight is frequently associated with the Illicit Financial Flows. There is a tendency to identify that the entire Illicit Financial Flows out from a country is a capital flight (IMF, 1992). Such opinion is approved by Kar and Cartwright-Smith which stated that the terms 'capital flight'is the

most common terms that refers to the money flows out from developing countries, which usually flow to western countries (Kar dan Cartwright-Smith, 2008).

There are three approaches used by Blakenburg and Khan (2012) in understanding the concept and definition of capital flight and Illicit Financial Flows, among others: 1) portfolio approach; 2) social control approach, and 3) dirty money approach.

In portfolio approach, the capital flight is caused by the existence of market distortion and asymmetrical risk occurred in developing countries. The motivationin this approach is called "utility maximization", which means that the capital flight is moved by the economic incentives to maximize the investment profit due to the difference in policy regime and investment risk.

Second, social control approaches. In this approach, the capital flight is defined as the capital transfer from one jurisdiction to another one with the purpose of decreasing the actual or potential level of social control over the capital (Boyce and Zarsky, 1988). The capital flight in this approach is based on the motivation to seek a personal economic gain and avoid the control of policy over capital.

Third, dirty money approaches. The capital flight in this approach is seen more as an effort to hide wealth accumulation from the law (Kar and Cartwright-Smith, 2008). This definition is directed to the unrecorded capital flow and activities that violate or abuse law and regulation.This approach is closer to the concept of Illicit Financial Flows, although the Illicit Financial Flows is not limited to illegal activities only.

Based on the three afore mentioned approaches, the Illicit Financial Flows and capital flight can actually be distinguished. In general, capital flight is more about the flow of money or capital out from a nation with a purpose to find a more secure investment environment and create a higher profit (Reuter, 2012). In line with it, Walter (1987) emphasizesthat the capital flight occurs due to macro economic factors, corporate governance, or as a response to the unfavorable condition in the origin country, suchas economic crisis (Kant, 2002).

Meanwhile, the Illicit Financial Flows is more about activities to transferfunds or capital that violatelaw and regulation (rule oriented) to conceal the source hence unrecorded (Baker and Nordin, 2007). Therefore, the Illicit Financial Flows is occurred in any shape and violate many legal dimensions, such as in corruption and bribery, tax evasion, illegal smuggling, human trafficking and other organized crime, transfer pricing and trade mispricing manipulation, customs fraud, money laundering, and terrorism financing.

With such broad concepts, there are many factors that drive illicit financial flows. The three main factors are tax evasion, corruption, and crime, where all three is the cause and effect of a country's institution or agency fragility (Reuter, 2012). Baker (2005) also states that most of the illicit financial flows that goes out of a country are mostly related to cleptocracy, corruption, tax embezzlement, and tax evasion.

Simply put, tax evasion practices can reduce the amount of funds that a country has that can be used to provide public services. Encroaching corruption can also slowly deteriorate a country's legitimacy and morale in the eyes of the public. Further more, a high crime rate may diminish the public's trust towards the country's authority. Logically, these three factors are the drivers of illicit financial flow, however link between the three is yet to be established and quantified.

2.1.3 Types of Transactions and Actor in Illicit Financial Flow

Aside from the legality issue in the concept of illicit financial flows, Cobham (2014) stresses that illicit financial flow is a hidden flow phenomenon that comes from different types of transactions with various motivations behind them. This illustrates how broad and expansive the hidden flow phenomenon. Cobham (2014) presents a cluster that demonstrates the main motivation of illicit financial flow, and divides them into four categories, they are: 1) *market/regulatory abuse*; 2) *tax abuse*; 3) *abuse of power*; including stolen state's money and assets; and 4) *proceeds of crime*.

By looking into the types of illicit financial flows, the main actors of illicit financial flows can also be identified. According to Cobham (2014) the main actor of illicit financial flows involves: 1) private sectors (individuals, national companies, and multi national companies); 2) public authorities, and 3) criminal groups.

Below are a few definitions on the illicit financial flow techniques in Indonesia

- **Transfer Pricing**

  Transfer pricing is a legal procedure that can be held by parties involved during the transfer of cross country commodity transfers. Eventhough, to be considered legal, the transactions must follow the existing guidelines (for instance, guidelines from OECD) and using the *arm's length principle*, where **the price set by seller to buyer is the same as the price set by the seller to other uninvolved parties.**

  When this principle is not implemented, "*transfer mispricing*" or "*abusive transfer mispricing*"takes place, a mode of tax avoidance by companies. Some common transfer mispricing practices are described in the following.

- **Over Invoicing of Export**

  Over Invoicing of Export takes place when the value of export from country A to country B is bigger than the value received by country B from country A. For instance, Indonesia records a transaction of rice export of USD 1 million to Thailand, while in Thailand the recorded value is only USD 200,000, then it can be said that there is a USD 800,000 illicit financial flows into Indonesia, or also known as *illicit financial inflow*.

Figure 1 Mechanism of Over Invoicing of Export

- **Under Invoicing of Export**

Under Invoicing of Export take place when the value of export from country A to country B is smaller than the value of import recorded in country B. For instance, Indonesia records a transaction of rice export of USD 200,000 to Thailand, while in Thailand the recorded import is USD 1 million, then it can be said that there is USD 800,000 of illicit financial flows from Indonesia, known as *illicit financial outflow.*

Figure 2 Mechanism of Under Invoicing of Export

- **Over Invoicing of Import**

Over Invoicing of import happens when the value of import recorded by country Afrom country B is bigger than the value of export recorded by country B. For example, if Indonesia imported rice from Thailand with value the of USD 1 million while Thailand only exported the commodity with the value of USD

200,000 then it can be said that there is money worth of USD 800,000 coming out of Indonesia but was not recorded in Thailand. This is cathegorized as Illicit Financial Outflow.

Figure 3 Mechanism of Over Invoicing of Import

Import from Thailand

Recorded US$ 1.000.000

Indonesia Import from Thailand

Indonesia recorded import > Thailand recorded export (over-invoicing of import)

Export to Indonesia

Recorded US $ 200.000

Cash Outflow from Indonesia **US$ 1.000.000**

Cash Inflow from Indonesia **US$ 200.000**

?

US$ 800.000

Difference between actual and reality of cash that must come to Indonesia, so there is Illicit Financial Outflow

- **Under Invoicing of Import**

Under Invoicing of Import happens when the value of registered import in country A from country B is smaller than the value of export to country A recorded by country B. For example if Indonesia import rice from Thailand with value of USD 200,000 whilst the export of rice recorded in Thailand is USD 1 million, it can be said that there is an unregistered import to Indonesia with the value of USD 800,000. This is called Illicit Financial Inflow.

Figure 4 Mechanism of Under Invoicing of Import

Import from Thailand

Recorded US$ 200.000

Indonesia Import from Thailand

recorded Indonesia import < Recorded Thailang Export (under-invoicing of import)

Export to Indonesia

Recorded US $ 1.000.000

Cash Outflow from Indonesia **US$ 200.000**

Cash Inflow to Thailand **US$ 1.000.000**

?

US$ 800.000

Amount of unrecorded Import Value that come to Indonesia from Thailand (Illicit Financial Inflow)

2.1.4 Tax Evasion and Tax Avoidance

In the debate on the impact of illicit financial flows in developing countries, there is a view that the flow of illicit funds can reduce the ability or capacity of a country to increase their tax revenues. The argument is that the flow of illicit funds can move economic resources from one jurisdiction to the other, for example to the tax havens countries, which caused potential tax loss. This is worse in countries with high level of shadow economy, in both informal economy sector as well as formal economy (e.g. multinational company) that practice tax evasion and tax avoidance (Fuest and Riedel, 2012).

In most countries, tax avoidance is usually defined as a transactional scheme aims to minimize tax burden by exploiting loop holes in the tax regulation of a country (Barry Larking, 2005). While tax evasion is defined as a scheme to minimize payable tax in ways that violate the tax provisions, for example by not reporting all sales or by increasing fictious costs. *Tax evasion* basically contains element of illegality and clearly contribute in the increase of illicit financial flows (Leite, 2012). The parties involved in tax evasion usually report their taxable income incorrectly or claiming unnecessary costs.

In relation to illicit financial flows which involve international transaction, one of the methods to evade tax is through profit shifting. This is because the multinational companies have control to transfer their profit from one country to another, for example from a high taxation country to a low taxation country (Fuest and Riedel, 2012).

Grubert and Mutti (1991) analize the practice of profit shifting in an American multinational company and use data which include both developed countries and developing countries. Based on their analysis, those companies systematically report higher tax profit in a low taxation country. Furthermore, the tax havens countries have also extensively played an important part in the practice of tax avoidance and tax evasion, either by a company or individual. One estimation of loss of tax revenue due to the existence of tax havens countries was published by Tax Justice Network (2005), which states that the global lost of tax revenue is USD 255 million per year.

Tax evation can also be done by transfer pricing manipulation. Transfer pricing manipulation is done deliberately by increasing or decreasing the price of the products (goods, service or intangible goods) traded between the parent company and its affiliates (Eden, 2012). One method to estimate the value of transfer pricing manipulation is by evaluating the export and import database, which is massive and requires complicated calculations. Meanwhile, trade mispricing is a practice that manipulates the value of import and export (*over/underinvoicing*) with purpose to reduce/avoid tax (Clausing, 2003). There're several motives for trade-mispricing among others can be seen in Table 3.

Table 3 Motives for Price Manipulation (Mispricing) in International Trade Transaction

Trade Transaction	Over invoicing	Under invoicing
Export	To obtain support on export	*Capital flight*, tax evasion on export

Import	*Capital flight*, to reduce domestic profit	Tax evasion on import

2.1.5 Illicit Financial Flow, Corruption and Money Laundering

Illicit financial flow is closely related to the practice of money laundering. The money received from illegal or criminal activities usually need to be "washed" to cover the source, usually by using international financial network. When the money produced from such illegal activities has been circulated overseas, the money can be used as a legitimate capital in any country, including the country of origin where the money is earned (Thoumi and Anzola, 2012).

There are some situation that triggered money laundering practices. First, the country of origin has the capability to supervise and inspect the money earned from illegal and criminal activity. Other than that, the country that has military power to support its authoritarian regime had experiences in laundering money from the state assets, as is the case in Haiti, Indonesia, Nikaragua, Pakistan, Paraguay, Peru, Russia, Saudi Arabia, and some countries in Africa (Baker, 2005).

Money laundering can also be associated with other illegal activities. For example, in Colombia money laundering practice are mostly associated with illegal drugs industry, where they practice cross-border activities and payment transactions (Thoumi and Anzola, 2012). Corruption is one of activities that are closely related to money laundering. Chaikin and Sharman (2009) even called them to have a symbiotic relationship, "*corruption and money laundering are symbiotic: not only do they tend to co-occur, but more importantly the presence of one tends to create and reciprocally reinforce the incidence of the other*". In relation to this, Chaikin and Sharman also said that corruption makes enormous profits for money laundering practices.

In general, money laundering technique includes a variety of activities, ranging from a simple transfer transaction to countries with high secrecy jurisdiction to complicated business transaction which involves "shell banks", a bank which is established without any real clients (Reed and Fontana, 2011).

2.1.6 Illicit Financial Flow and Shadow Economy

One of economic activities that have potential to be exposed to illicit financial flow are shadow economy's activities. There are different views on the definition of shadow economy, but the fondationauthors, shadow economy can be defined as all economic activities that contribute to the economy of a country, but was not recorded (Schneider and Enste, 2000). Meanwhile, according to Bahl (2004), shadow economy is a part of a population and business that are not easily or effectively reached by the reporting and recording system.

This definition indicates that the flow of illicit funds can be sourced from the shadow economy activities, especially because of its characteristic that are not recorded and difficult to detect. From various definitions that exist, the shadow economy activities can be at least classified as follows (Darussalam, 2011):

a) Illegal economic activities, such as smuggling, gambling, prostitution, human trafficking and drug trafficking;

b) Economic activities that are legal in nature, but the revenue of such activities was not reported to the tax authority, so no tax is charged.

Human trafficking is part of shadow economy (Fleming, Roman, and Farrell, 2000). The fundamental of human trafficking is not only the desire of the people in a poor country to move to a wealthier country, but there is also a demand factor from the wealthier country. In this case, the presence of criminal activities such as human trafficking is motivated by a business orientation to increase revenues by creating new products and services (Kopp, 2012). The flow of funds from human trafficking activity is what can be categorized as Illicit Financial Flows.

2.1.7 Pattern and Policy to Prevent Illicit Financial Flow in the Context of Political and Economic Structure

Blakenburg and Khan (2012) said that understanding the dynamics of the relationship between capital flows, economic growth, technological changes and political contraints, is very challenging, even for advanced economic countries. For that end, both of them build three typology based on the economic, politic and government structure in determining policy related to the flow of illicit funds. Blankenburg and Khan specifically divide it into 3 typologies, among others: 1) *developed countries as opposed to the developing countries*, 2) *normal/intermediate developing countries*, and 3) *fragile developing countries*.

Table 4 Illicit Financial Flow in the Context of Countries with Different Characteristics

Typology of Country	Developed Countries	Developing Countries	Fragile Countries
Definition and Characteristic	Average income is high and a stable political condition in the long term. Political response to the decrease in the economic performance and distribution is carried out effectively.	Average income is low. The political system is a combination between formal and informal redistribution structure (*patron-client*).	The breakdown of political agreement that led to social and political order chaos.
Main Policy	Terms and fiscal program should pay attention to social cohesion and economic growth	Build, maintain and expand the appropriate development strategy, particularly in the productive sectors.	Country's development and reconstruction of political agreement to begin developing a sustained economy
Main Types of Illicit Financial Flow	The flow of funds violates more regulations that	Capital flight in the context of failure to improved profitability is a problem, but not	It is not easy to define the flow of illicit fund in neutral conditions, given

Typology of Country	Developed Countries	Developing Countries	Fragile Countries
	already exists (e.g. *tax evasion*)	always illicit. The flow of funds relates to international crime, such as drugs.	the involvement of the elites in the conflict.
Focus of the Policy Related to Illicit Financial Flow	Strengthening law and regulation enforcement. At the time of crisis, trying to carry the rule of law back in line with the consensus of social and political objectives.	Economic policy to increase profitability by addressing market failure. To build the capability of the government to enforce the financial flow regulation that is not prone to political issues.	Establish a proper political arrangement. Make it more difficult for outsiders to contribute and extend the current conflicts.

Source: Blakenburg and Khan, in Peter Reuter (2012)

The explanation in Table 2 indicates that illicit financial flow needs to be better understood to enable better policy design to overcome it. In the context of developing countries, for example, the flow of illicit funds are generally driven by political and economical actors with different motives, therefore requires different approach (Blakenburg and Khan, 2012).

2.2 Methods to Calculate Illicit Financial Flow

There are several methods in calculating the flow of illicit funds, among others by using Hot Money (Narrow) Method, World Bank Residual, IMF Direction of Trade Statistics (DOTS), International Price Profiling System (IPPS) (Kar, et,al 2008), and Global Financial Integrity (GFI) method.

2.2.1 Hot Money (Narrow) Method

Hot Money Narrow is a method that can measure the flow of financial funds that are not registered, usually by using Net Error Ommision [1](NEO) to see the error in the country's external account from its balance of payment. Hot Money Narrow Method is based on two things which are (1) Net Error Ommisions in the Balance of Payment of the country of origin which shows *capital outflows* that are not recorded (or *capital inflow* if the NEO is positive) and (2) capital flow coming out of the private sectors (government, monetary authority, or banks does not contribute in this matter) that are supposed to be added in financial transaction in which the NEO becomes a proxy.

$$illicit\ flows_{Hot\ Money} = all\ funds\ coming\ in\ (credit) - all\ funds\ going\ out\ (debt)$$

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[1] Hot Money Narrow can be measured by +/‐ NEO = +/‐ (Current Acct. Bal. + Capital & Financial Acct. Bal. + Reserves)

Hot Money Narrow (HMN) approach is the extension of balance of payments identity which measures *Net Errors and Omissions (NEOs).* NEO shows the difference between *broad capital flight* (which is calculated using WBR approach) and illicit private capital flows.

The NEO calculation is very simple:

G = -(A + B + F + H) − C − D − E or

G = -(A + B + F + H) − (C + D + E)

Remarks

A = the current trade balance

B = net capital flow (including foreign direct investmentand portfolio investment)

C = short term capital from other sectors

D = portfolio investment that includes other debt securities

E = the change of foreign money deposited in banks

F = change in central bank reserves

G = Net Errors and Omissions (NEO)

H = change in external debt

2.2.2 World Bank Residual Method

This approach is generated from the equation of balance of payments identity (Stijn Claessens and David Naudé, 1993)

The identity of the balance of payment can be stated with:

A + B + C+ D + E + F + G + H = 0

Remarks

A = the currenct trade balance

B = net capital flow (including foreign direct investmentand portfolio investment)

C = short term capital from other sectors

D = portfolio investment that includes other debt securities

E = the change of foreign money deposited in banks

F = change in sentral bank reserves

G = Net Errors and Omissions (NEO)

H = change in external debt

Or can be calculated with:

C + D + E + G = -(A + B + F + H)

When made equal to:

K = [Δ External Debt + FDI (net)]–[CA Deficit + Δ Reserves]

Illicit flows is calculated with World Bank Residual Method = (increase in foreign debt + increase in FDI) − (financing of the current account deficit + additions to the country's reserves)

This data has been recorded in the NEO of Bank Indonesia every year.

2.2.3 IMF Direction of Statistics (DOTS)

Trade misinvoicing has been recognized as the main cause of the flow of illicit funds in the trading system. The mode is by over invoicing of import and under invoicing of export. The DOTS approach can measure this mode so we can see the value of the illicit financial outflow from one country to another; therefore values of capital flight that is illicit in a relevant country can be obtained.

This study uses trade misinvoicing with data that has been adjusted with *cost of insurance and freight* [2](or CIF factor) from a country that conducts export to its country partner (who usually uses the free on board[3]). For example, if Indonesia exports rice to Thailand worth of USD 5 million in the Port of Tanjung Priok, the rice will no longer worth USD 5 million when it arrives in Thailand because there are additional costs of freight, insurance and others, that must be paid by Thailand. It could be that at the time the rice gets into Thailand it will worth USD 5.5 million.

DOTS formula is as follows:

$$K = \left[X_i - \frac{M_j}{\beta}\right] + \left[\frac{M_i}{\beta} - X_j\right]$$

Remarks

K = component of IFF

X_i = export to country i

M_i = import from country j

2.2.4 Global Financial Integrity Approach

Global Financial Integrity approach is done by calculating:

- *Trade misinvoicing* calculated by using the *Gross Excluding Reversals* (GER) approach: To calculate the incompatibility between the report of export value of a country with the import value of the destination countries.

- Leakage of *balance of payments* (BoP): by using the *World Bank Residual*/ WBR approach that is derived into *Hot Money (Narrow)*/ HMN approach where HMN was derived based on the *Net Errors and Omissions* / NEO approach.

It can be said that the GFI approach is carried out by calculating *Hot Money (Narrow)* and IMF *Direction of Statistics* (DOTS) where HMN is calculated from the NEO and GER is calculated by using the same *proxy* with IMF DOTS. The *trade misinvoicing* approach calculates the value of *Gross Excluding Reversals* (GER).

$$K = \left[X_a - \frac{M_b}{\beta}\right] + \left[\frac{M_b}{\beta} - X_a\right]$$

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[2] Cost, insurance and freight (cif) are trading conditions required by seller to determine cost of transport by sea to its destination, and to provide necessary documents until the goods reach the buyer.

[3] Free on Board (FOB) is the conditions required by seller in the relevant vehicle that is used to send goods to the buyer. The buyer fulfil its obligation to send the goods until it reaches the relevant transportation vehicle (e.g. sea port, airport, railway, bus station) (Investopedia, 2015)

Remarks

К = shows the value of the flow of illicit fund through trade misinvoicing

M = import

β = cost of the freight and insurance adjustment factor (10%/ 20%)

X = export

This method assumes that there has been a flow of illicit fund in export and import. Particularly, the export that takes place from country A to country B using FoB (X) is compared with import (M) that is reported after being adjusted with CiF (β). On the import side, the import (M) from country A to country B is altered by using the value of FoB method and compared with what is reported by country B as export to country A.

IFF is said to have occurred if the export value from country A is smaller that the report that is said as the import of country B, and vice versa. After calculating the GER it will then be added with the following formula:

$$IF = K + NEO$$

Remarks

К = illicit financial flows through trade misinvoicing,

NEO = Net Errors and Omissions

2.2.5 IPPS based Trade Mispricing Method

John Zdanowicz from Florida International University developed the *International Price Profiling System* (IPPS) based on individuals export and import from the USA to the world. IPPS is a risk-based analysis system that evaluates the characteristics of risk from the international trade transaction's relative price. IPPS has a unique superiority that the price of each transaction comes from the invoice of the party that does the trade and shows the value of the traded goods.

2.2.6 Alternative Methodsto Calculate IFF

The following are several methods to calculate other IFF that has been undertaken globally

Table 5 Types of Financial Flow and Applicable Methodology

Type of Capital Flow	Recorded and Unrecorded	Methodology	Treatments of Inflow and outflow
Broad Capital flight (net)	recorded and unrecorded	WBR (net) + Trade misinvoicing (net)	Net for inflows and outflowsof both components
Broad capital flight (outflows only)	recorded and unrecorded	CED + GER (outflows only)	Only outflows are included in estimates; Inflows are set to zero

Type of Capital Flow	Recorded and Unrecorded	Methodology	Treatments of Inflow and outflow
Licit capital flight	recorded	WBR (*net*) minus NEO	Net of inflows and outflows
Illicit capital flight	unrecorded	HMN + GER	Only outflow
Total Illicit Flows	unrecorded	HMN + GER	Outflow plus inflow

Source: Dev Kar and Sarah Freitas (February 2013) Russia: Illicit Financial Flows and the Role of the Underground Economy

Chapter 3 Research Methodology

3.1 Source of Data

3.1.1 GER Data

To conduct an analysis of the illicit financial flows in Indonesia, appropriate data as used by GFI are required. The said data are data of export from Indonesia to countries all over the world and data of export of all countries to Indonesia. Other data are data of Indonesia's importation from all over the world and data of importation of all countries in the world from Indonesia

The main sources of data that are used in this research are from trademap.com and UN Comtrade. This research employs the same methodology developed by the GFI. The difference is that the GFI uses annual reports of each country, while this research uses monthly reports from TradeMap.

There are several obstacles in obtaining the data, especially due to the difference of the acquired annual and monthly data. From two data that we have chosen, i.e. UM Comtrade and TradeMap, the most feasible data to be used is the data from TradeMap. TradeMap has complete monthly data for the period of 2000-2014 while UM Comtrade only has complete data for the period of 2012-2014.

Figure 5 Display of the Trademap Site
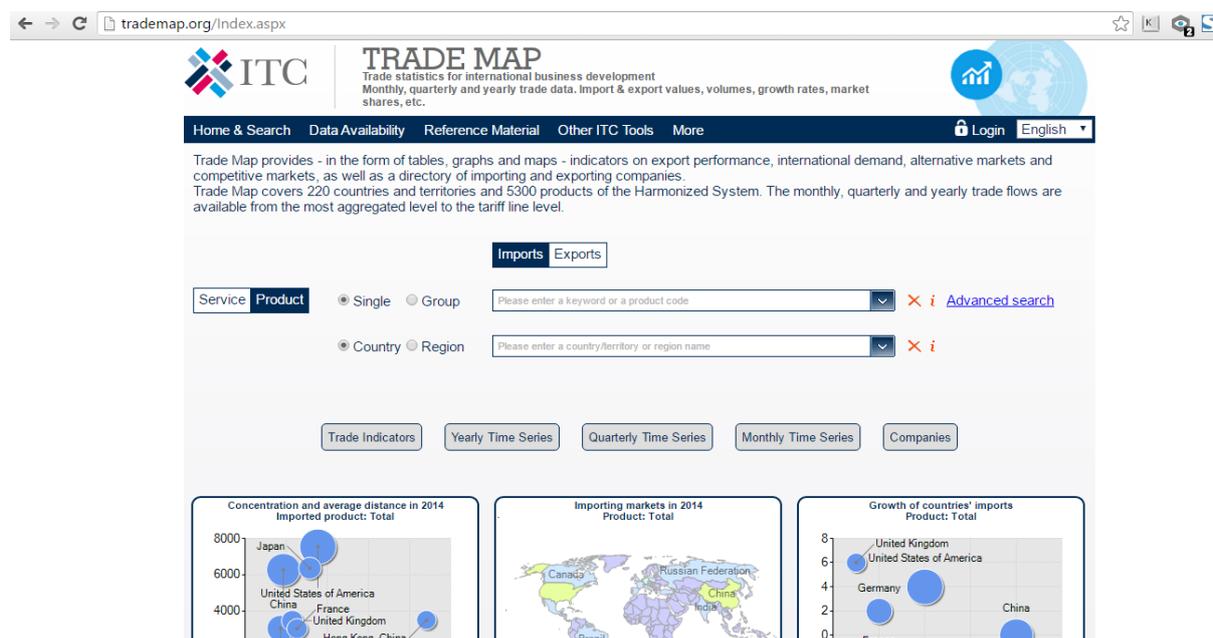
Figure 6 Display of the UM Comtrade Site
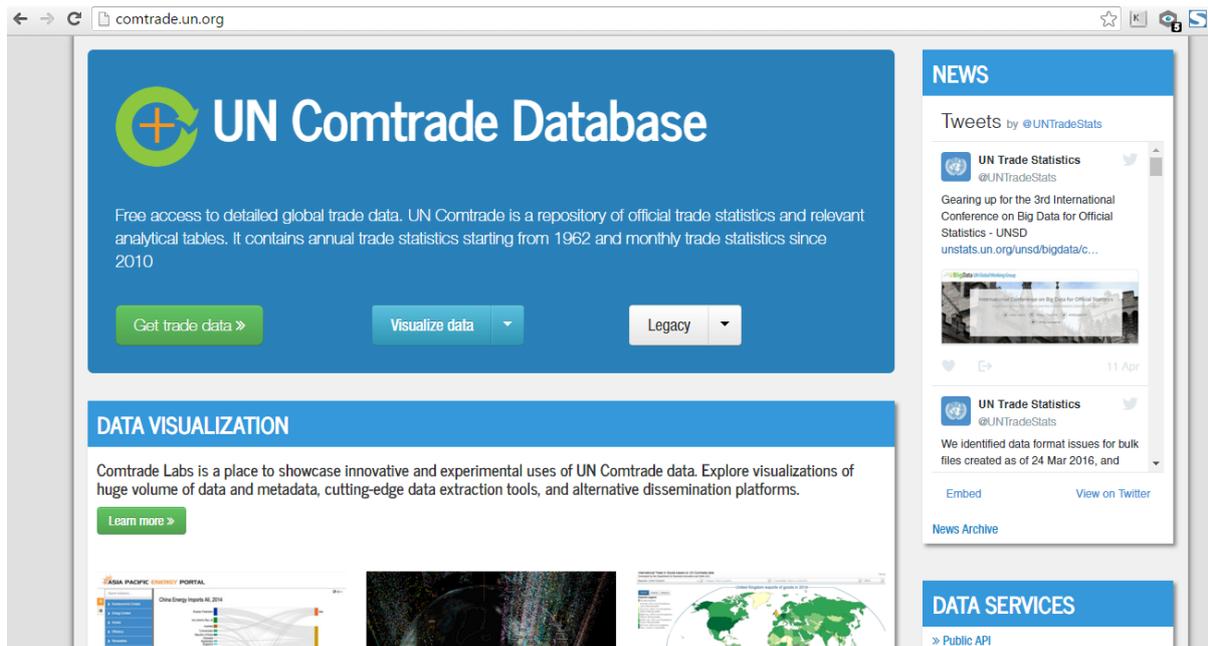
3.1.2 Supporting Data for the Econometric Analysis Purposes

- **CPI   = Consumer Prices Index**

   CPI or Consumer Prices Index is an index that measures the average price of goods and services consumed by households, including transport costs, food, health and etc[4]. In Indonesia, the Consumer Prices Index is published by BPS. The Consumer Prices Index often used to measure the inflation rate of a country.

- **DPK   = Third Party Funds**

   Third Party Funds (deposit) is fund trusted by the society to the bank based on a fund deposit agreement in the form of *giro,* time deposit, deposit certificate, deposit and or other form equal to it (Indonesian Banking Law No. 10 of 1998)

- **IHSG   = Composite Stock Price Index**

   Composite Stock Price Index is index prepared from all companies that are listed in the Indonesian Stock Exchange (BEI). IHSG is prepared by BEI with the following formula:

$$IHSG = \Sigma p/dx100$$

Note

p   = closing market rate

X   = total stocks

D   = total of market value from total stocks listed on 10 August 1982 and used as basis for calculating the IHSG (value 100 at the opening of IHSG from the value of 13 stocks of companies that were listed at that time)

- **IPI   = Industrial Production index**

   IPI or also known as *Indeks Harga Produk Industri* is used to measure the change in the price of domestic production goods that are sold to manufacturing company.

- **M2   = Money Supply**

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[4] http://www.investopedia.com/terms/c/consumerpriceindex.asp

Money supply is the entire stock of currency and other liquid instruments in a country's economy as of a particular time. The money supply can include cash, coins and balances held in checking and savings account. M2 include coins and notes that are in circulation and other money equivalents that can be converted easily to cash and, in addition, short-term time deposits in banks and certain money market funds.

- **Total Trade = Total Trade (Export + Import)**

Total Trade between export and import, this data is very interesting to be analyzed because it can shows whether the fund flows will increase or decrease the export or import.

- **WPI Export = wholesales prices indexfor export commodities**

This index calculate the price of several type of wholesale goods that become the export commodities in international trading, ideally using the export price with this f.o.b index can be used to calculate the inflation caused by the outgoing goods.

- **WPI Import = wholesales prices index for import commodities**

This index calculate the price of several type of wholesale goods that become the export commodities in international trading, ideally using the impirt price with this f.o.b index can be used to calculate the inflation caused by the incoming goods.

- **Xrate = Exchange rate of Rupiah against Dollar**

Assumption that can be made by using this variable is if the number of inflow illegal fund is high then the Rupiah will be strengthened, while if the number of outflow illegal fund is high then Rupiah will be weaken.

3.1.2 Data Net Error Omission (NEO)

The NEO Data obtained from Bank Indonesia or Ministry of Finance will show the residual category that will cause BoP to become 0. NEO will be decreased from balance in the financial account reduced by balance of the current account and capital account. This data has the current denomination in USD.

3.2 IFF Analysis

3.2.1 GER Export and GER Import

Formula to calculate the GER is as follows:

$$K = \left(\frac{M_i}{\beta} - X_j\right) + \left(\frac{M_j}{\beta} - X_i\right)$$

Note

К = [Mi/β - Xj] + [Mj/β-Xi]

K = Reflect the illicit financial flows through trade misinvoicing

Mi = import

B = cost of the freight and insurance adjustment factor (20%)

X   = export

In brief, the calculation methodology is as follows:

Table 6 Methodology of Calculation of Illicit Financial Outflow and Inflow

	Illicit Financial Outflow	*Illicit Financial Inflow*
GER Export		
Formula	$$\frac{M_{ni\ from\ idn}}{\beta}) - X_{idn\ to\ ni}$$	
	Under Invoicing of Export	Over Invoicing of Export
Assumption	Export Note in Indonesia < Import Note in Thailand (under invoicing of export)	Export Note in Indonesia > Import Note in Thailand (over invoicing of export)
Indicator	Positive GER Export (+)	Negative GER Export (-)
Sample of Case	if Indonesia conducts exportation to Thailand in the value of USD 200 thousand, but in Thailand, the importation record from Indonesia is USD 1 million, then it can be said as an under Invoicing of Export because importation from Indonesia that are registered in Thailand is higher compare to the realization of export that is conducted by Indonesia

This shows that the acceptance of export income by Indonesia which should be in the amount of USD 1 million is reduced for an amount of USD 800 thousand. The said loss of potential export income of Indonesia can be said as *illicit financial outflow*, or there is money that is not inflow to Indonesia in the amount of USD 800 thousand with no explanation as to where the money goes.

Following the above formula then the value of denominations is positive (+). Thus if the value of Export GER is | if Indonesia conducts exportation to Thailand in the value of USD 1 million, but in Thailand, the importation record from Indonesia is USD 200,000, then it can be said that Indonesia is conducting an Over Invoicing of Export because importation from Indonesia that are registered in Thailand is lower compare to the realization of export that is conducted by Indonesia.

This shows that there is an illicit financial inflow to Indonesia in the amount of USD 800,000 which source is unknown.

Following the above formula then the value of denominations is negative (-). Thus if the value of Export GER is negative then it can be said that an **Illicit Financial Inflow** has occurred or illicit financial inflow to Indonesia. |

	Illicit Financial Outflow	*Illicit Financial Inflow*
	positive then it can be said that an **Illicit Financial Outflow** has occurred or illicit financial outflow from Indonesia.	
GER Import		
	$$\frac{M_{idn\ from\ ni}}{\beta}) - X_{ni\ to\ idn}$$	
	Over Invoicing of Import	Under Invoicing of Import
Assumption	Import > Export	Import < export
Indicator	Positive GER Import	Negative GER Import
Sample of Case	If Indonesia conducts importation from Thailand in the value of USD 1 million, but in Thailand, the exportation record to Indonesia is only USD 200 thousand, then the said matter can be said as an over invoicing of import because the registered Thailand's export to Indonesia is higher compare to the import realization. This is also known as Illicit Financial Outflow because the money that is being paid is lower compare to the money that should be paid. There is outflow money from Indonesia to Thailand in the amount of USD 800 thousand which source is unknown. Following the above formula then the value of denominations is positive (+). Thus if the value of Import GER is positive then it can be said that an **Illicit Financial Outflow** has occurred or illicit financial outflow from Indonesia.	If Indonesia conducts importation from Thailand in the value of USD 200 thousand, but in Thailand, the exportation record to Indonesia is USD 1 million, then the said matter can be said as an under invoicing of import because the registered import from Indonesia in Thailand is higher compare to the export realization of Indonesia. This is also known as Illicit Financial Inflow because the money that is being paid is higher compare to the money that should be paid. There is inflow money from Thailand to Indonesia in the amount of USD 800 thousand which source is unknown. Following the above formula then the value of denominations is negative (-). Thus if the value of Import GER is negative then it can be said that an **Illicit Financial Inflow** has occurred or illicit financial inflow to Indonesia.

3.2.2 Illicit Financial Inflow and illicit Financial Outflow

- **Illicit Financial Inflow**
  - **Trade Illicit Financial Inflow**

Illicit Financial Inflow can be measured from Under Invoicing of Import added with Over Invoicing of Export. In the above table it can be seen that *illicit financial inflow* can occur from both export and import

$$Illicit\ Financial\ Inflow_{total} = Illicit\ Financial\ Inflow_{trade} + NEO(-)$$

- o **Total Illicit Financial Inflow**

    Total Illicit Financial Inflow occurs if *Illicit Financial Inflow* in trade added with NEO if the NEO is negative. As such, it should be added between illicit financial inflow from trade misinvoicing and NEO that has a negative denomination.

$$Illicit\ Financial\ Inflow_{total} = Illicit\ Financial\ Inflow_{trade} + NEO(-)$$

    From total Illicit Financial Inflow, it can be seen the value of inflow money to Indonesia whether from trade misinvoicing or from error in the recordation that occurs in Indonesia

- **Illicit Financial**
  - o **Trade Illicit Financial Outflow**

    Illicit financial outflow can be measured from Over Invoicing of Import added with Under Invoicing of Export. In the above table it can be seen that illicit financial outflow can occur from either export or import side.

$$Illicit\ Financial\ outflow_{trade} = Import\ Over\ Invoicing + Export\ Under\ Invoicing$$

    Total Illicit Financial outflow occurs if Illicit financial outflow in trade added with NEO if the value of NEO is positive, Thus it should be added between the illicit financial outflow from trade misinvoicing and NEO that has a positive denomination.

3.3 Econometric Analysis

Econometric analysis is performed to assess the determinant and impact of the illicit financial flows in Indonesia. The illicit flows analysis that we have performed used only the GER Outflow because the illicit financial flows are definitely harmful and cause the occurrence of capital flight. The econometric analysis can be performed if the data is extensive and thus to measure the IFF, we have used monthly data so that the model is better with an appropriate degree of freedom. It should be noted that we only use data from the first month of 2006 to the fourth month of 2015 that are collected from Trademap, because the monthly data for period of 2001-2006 are inaccessible.

3.3.1 Stationery Test

The purpose of the Stationery Test is to analyze the time-series data stationer (with no unit roots) or no stationer (with unit roots). In general, time series data is not stationer. Regression by using data that is not stationer will cause spurious regression (marked with a high R^2 value and

significant t-stat, F-stat but with relatively small dw < 0.5) which regression will show later as "good" but actually it's not.

Statistically, a time series data is said as stationer if average, variant and co-variant of the said variables are entirely not affected by time or in other word constant, therefore Yt~I(0) (read: Y integrated zero degree).

One way to perform Stationary Test is by using an (Augmented) Dicky Fuller Assumption Test in which Yt is time series that depends on Yt-1. It is also known as *first-order autoregressive* (AR) process.

$$Yt = rYt - 1 + ut$$

If r ≥ 1 then it can be said that Yt variable has unit roots or not stationer. If r < 1 then Y variable does not have any unit roots. If the above equation is reformulated by detracting Yt-1 on the right and left side then it will be obtained:

$$Yt - Yt - 1 = rYt - 1 - Yt - 1 + ut$$

$$DYt = \delta Yt - 1 + ut$$

Where δ = (r-1)

H0: δ = 0; there are unit roots (not stationer)

H1: δ < 0; there are no unit roots (stationer)

In its development, the Dicky Fuller test is extended by using the Augmented Dicky Fuller (ADF)

$$\Delta Y_t = \delta Y_{t-1} + c \, 1 \Delta Y_{t-1} + c2 \Delta Y_{t-2} + \ldots + c_p \Delta Y \tau - p + u_t$$

$$\Delta Y_t = \delta Y_{t-1} + c \, 1 \Delta Y_{t-1} + c2 \Delta Y_{t-2} + \ldots + c_p \Delta Y_{t-p} + c_0 + u_t$$

$$\Delta Y_t = \delta Y_{t-1} + c \, 1 \Delta Y_{t-1} + c2 \Delta Y_{t-2} + \ldots + c\_p \Delta Y_{t-p} + c_0 + d_1 T + u_t$$

Where: C0 is constants of T is deterministic trend

H0: δ = 0; there are unit roots (not stationer)

H1: δ < 0; there are no unit roots (stationer)

If t- statistics of the d coefficient (referred as t-ADF) is smaller in absolute from Critical Value McKinnon (1%, 5%, 10%), means it is not significant so accepted HO: with unit roots. The said variables are not stationer. If t- statistics of the d coefficient (referred as t-ADF) is higher in absolute from Critical Value McKinnon (1%, 5%, 10%), means it is significant so refused HO: with unit roots. The said variables are stationer.

3.3.2 Granger Casuality

A strong statistic relationship cannot indicate the existence of causal relationship (Kendall and Stuart, 1961). As such to see the causal relationship, it must be based on the causal relationship theory as illustrated by Koop (2000) as two consecutive events. For example, there are A and B events. If A occurs first before B, then there is a possibility where A causes the occurrence of B.

Nevertheless, we cannot say that B causes the occurrence of A. The past event can cause the event that happen now but the future event cannot cause event that happen now. The said illustration was used as the basis for the Granger causality test

3.3.3 Vector Autoregression (VAR)

Before entering into the Vector Error Correction Model, it is better to first understand the source of this model, i.e. the Vector Auto Regression. Vector Auto Regressions (VAR) is an estimation model developed by Christopher A. Sims on 1980. VAR is a priory method against the economics theory. These methods arise as a way out over the issues that rose in using the structural approach for simultaneous model. Economics theory usually used to describe the relationship between variable. But there were times where the economics theory alone is not sufficient to provide a dynamic model specification between variables because of the endogeneity variable whether from the dependent or independent side. "The VAR Method is used to overcome such problem".

- **Usage of VAR**

  1. *Forecasting*, extrapolation of current and future value of all variables by using all past information of the variable

  2. *Impulse Response Functions (IRF),* trace out the current and future response of each variable caused from changes or shocks of a certain variable. IRF shows the response of each endogenous variable at all time against shocks from the said variable and other endogenous variable. IRF is used to see the contemporary effect from an independent variable if receives shocks or innovation from independent variable in the amount of one standard deviation. The result of the said IRF is very sensitive against variable ordering that is used in the calculation. The variable ordering that is based on the cholesky factorization. Variable that has prediction value against other variable shall be placed upfront side by side with eact other. Variable that has no prediction value against other variable shall be placed on the last place.

  3. *Forecast Error Variance Decomposition (FEVDs),* forecast contribution of variant percentage of each variable against changes to a certain variable. This method is used to see how changes in a macro variable shown by a change of variance error that is affected by other variables. This method can also see the strength and weakness of each variable in affecting the other variable in a longer period (how long / how persistent). Decomposition of variant describe variant from error forecast to become components that can be connected to each endogenous variable.

- **Forms of VAR**

  1. **VAR (Unrestricted VAR**) : Common VAR that is free from restriction

  2. **VECM (Restricted VAR**) : VAR design fro non-stationer that has co-integration connection.

  3. **Structural VAR**: S-VAR restricts based on strong theoretical connection of scheme (connection map) of ordering variables that are used in VAR system.

- **Steps that are performed to VAR**

  - **Determination of Optimal Lag**

    First step determines the length of maximum lag of a stable VAR system. The stability of VAR system is seen from the value of the inverse roots of the characteristic AR polynomial. A VAR system shall be deemed as stable (stationer) if all roots have moduus smaller than one and all located in the unit circle (Lutkepohl, 1991).

    Second step, the length of optimize interval will be seek by using information criteria of Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz

Information Criterion (SC), and Hannan-Quin Criterion (HQ). In this matter, we are using AIC to determine the optimal lag.

Final step, value of the *Adjusted* R^2 VAR variable of each interval candidates compare to the suppression on the most important variables of the said VAR system. The optimize interval will be chosen from the VAR system that produce the highest value of the *Adjusted* R^2 VAR on the most important variables in the system.

o **Co-integration Connection Test**

The Co-integration Connection Test is a long term connection between variables that despite of individually is not stationer, but linier combination between the said variable can be stationer (Thomas, 1997). The method that is used to perfrom the co-integration test, such as Engle-Granger Cointegration Test, Johansen Cointegration Test, and Cointegration Regression Durbin-Watson Test.

o **Form of Order of Variable**

The needs of form of order of variable in accordance with the causality test only occur if the residual correlation value between variables in the system in majority (more than 50 percent) becomes 0.2. If a majority of the correlation value between variables is above 0.2, then the specification of order of variables in accordance with the economic theory or causality test need to be performed. If the result is contradictive or otherwise then there is no need to raise the issue of a proper form of order.

o **Ready to Test Variable**

The following can be used to see the proper model to perform the econometric analysis test

Figure 7 Usage Structure of Data Time Series Analysis Method
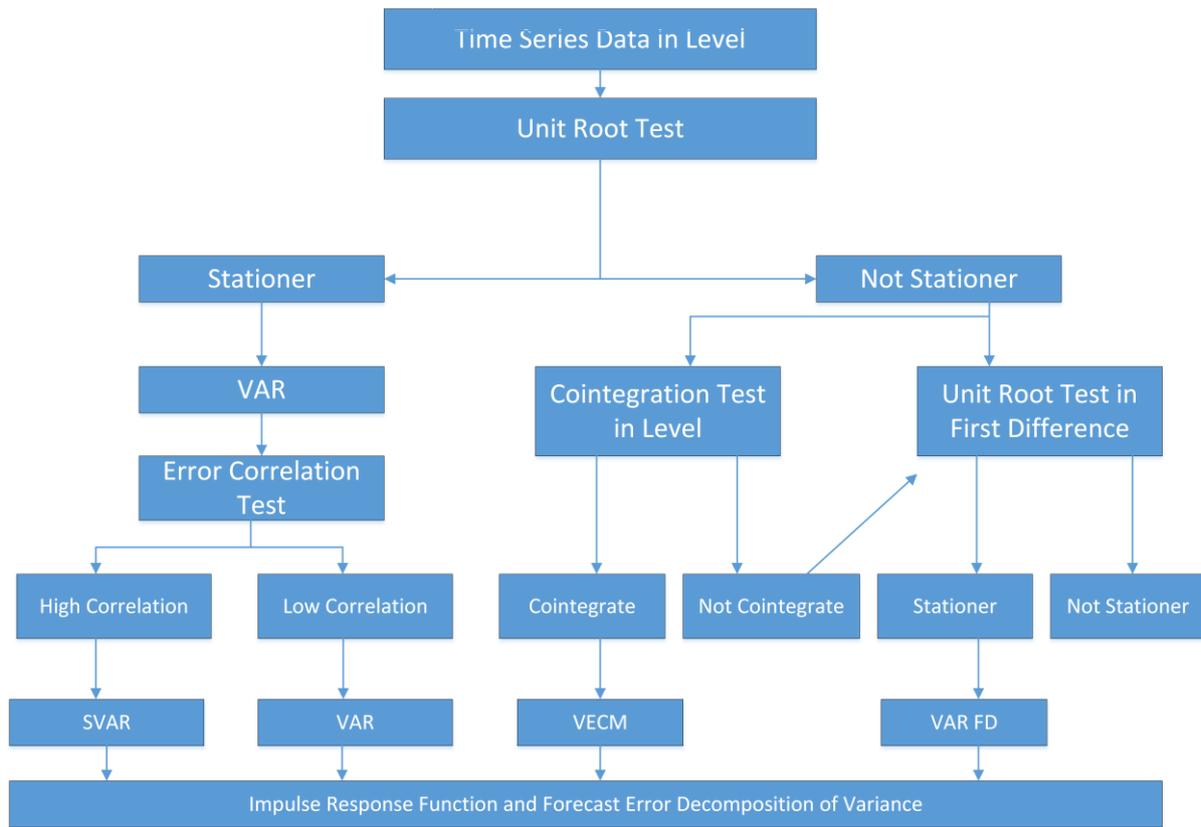
- **Advantages and Disadvantages of VAR**

    o **Advantages**

        1. Develop a model in a multivariant (complex) system in order to capture the relationship of the entire variables in the system.

        2. VAR test that is multi-variant in nature can avoid a refracted parameter resulting from the exclusion of the relevant variable.

        3. Able to detect the connection between variables in the equation system by making all variables endogenous.

        4. Since it works based on data, VAR method is free from all limitation of economics theory that often arise including spurious variable endogeneity and erogeneity symptom in the conventional econometric model especially on the simultaneous equation so it avoid a wrong interpretation.

        5. By using the VAR technique only relevant variables will be selected for synchronization with the existing theory.

    o **Disadvantages**

        1. Not based on a theory on the connection between variables (non-structural model)

        2. VAR model is not proper for policy analysis

        3. The number of lag selected in the equation may cause issues

        4. Coefficient interpretation obtained from VAR model is not easy.

Chapter 4 Research Findings

4.1 Annual IFF in Indonesia

This calculation shows that more illicit fund flows in to Indonesia compared to such funds flow out ofIndonesia. Table 7 shows that in the period of 2001-2014, the cumulative illicit financial inflow to Indonesia is USD 628.97 billion and illicit financial outflow from Indonesia is USD 217.33 billion. The total cumulative of both inflow and outflow during the same period is USD 846.3 billion.

Annual average funds inflow is 44.92 billion dollar and 15.52 billion dollar for the funds outflow. If the exchange rate is assumed at 13,000 Rupiah/USD then each year there is an inflow of 583.96 trillion and an outflow of 201.76 trillion Rupiah. Theannual illicit outflow is equivalent to 10 percent of Indonesia's annual state budget (APBN), which is 2039.5[5] trillion Rupiah, and the inflow is equivalent to 29 percent of the APBN.

Table 7 Annual Illicit Financial Flows2001-2014 in Indonesia (in million dollars)

	Illicit Financial Outflow	Illicit Financial Inflow	NEO	Total Illicit Financial Outflow	Total Illicit Financial Inflow	Total Illicit (Total Illicit Financial Outflow + Total Illicit Financial Inflow)
2001	10.520,91	(17.586,19)	714,00	11.234,91	(17.586,19)	28.821,10
2002	10.598,32	(19.247,07)	(2.633,00)	10.598,32	(21.880,07)	32.478,39
2003	9.663,60	(29.725,59)	(2.817,00)	9.663,60	(32.542,59)	42.206,19
2004	13.998,69	(33.022,17)	(3.106,59)	13.998,69	(36.128,76)	50.127,46
2005	8.355,45	(36.848,02)	(178,01)	8.355,45	(37.026,03)	45.381,49
2006	11.970,93	(41.730,61)	624,87	12.595,80	(41.730,61)	54.326,41
2007	15.167,63	(49.686,26)	(1.368,43)	15.167,63	(51.054,69)	66.222,32
2008	23.433,56	(38.435,97)	(238,43)	23.433,56	(38.674,40)	62.107,96
2009	13.308,91	(34.222,73)	(2.977,12)	13.308,91	(37.199,85)	50.508,76
2010	15.613,36	(49.310,15)	(1.327,16)	15.613,36	(50.637,31)	66.250,67
2011	24.081,98	(67.897,59)	(3.464,68)	24.081,98	(71.362,27)	95.444,25
2012	24.252,14	(66.345,64)	(275,37)	24.252,14	(66.621,01)	90.873,16
2013	21.921,70	(62.765,06)	(186,15)	21.921,70	(62.951,21)	84.872,92
2014	13.105,79	(61.335,26)	(2.240,84)	13.105,79	(63.576,10)	76.681,89

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[5] http://www.anggaran.depkeu.go.id/dja/acontent/bibfin.pdf

	Illicit Financial Outflow	Illicit Financial Inflow	NEO	Total Illicit Financial Outflow	Total Illicit Financial Inflow	Total Illicit (Total Illicit Financial Outflow + Total Illicit Financial Inflow)
Cumulative	215.992,99	(608.158,32)	(19.473,91)	217.331,86	(628.971,10)	846.302,96
Average	15.428,07	(43.439,88)	(1.390,99)	15.523,70	(44.926,51)	60.450,21

Notes: if negative denomination (number in bracket) then its hows inflow while positive denomination shows outflow

Figure 6 show that there was a significant increase of Illicit Financial Outflow from USD 15 billion to USD 24 billion in the period of 2010-2011. This is in line with the increase of Indonesian export value as recorded by the Indonesian Statistics (BPS). In general, it can be said that if the export value is high then the trend of Illicit Financial Outflow will also high, and vice versa. The same trend is also found for the Illicit Financial Inflow; if the value of import is high then in general, the illicit financial inflow to Indonesia also increases, and vice versa.

Figure 8 Total Illicit Financial Inflow and Outflow 2001-2014 (million US$)
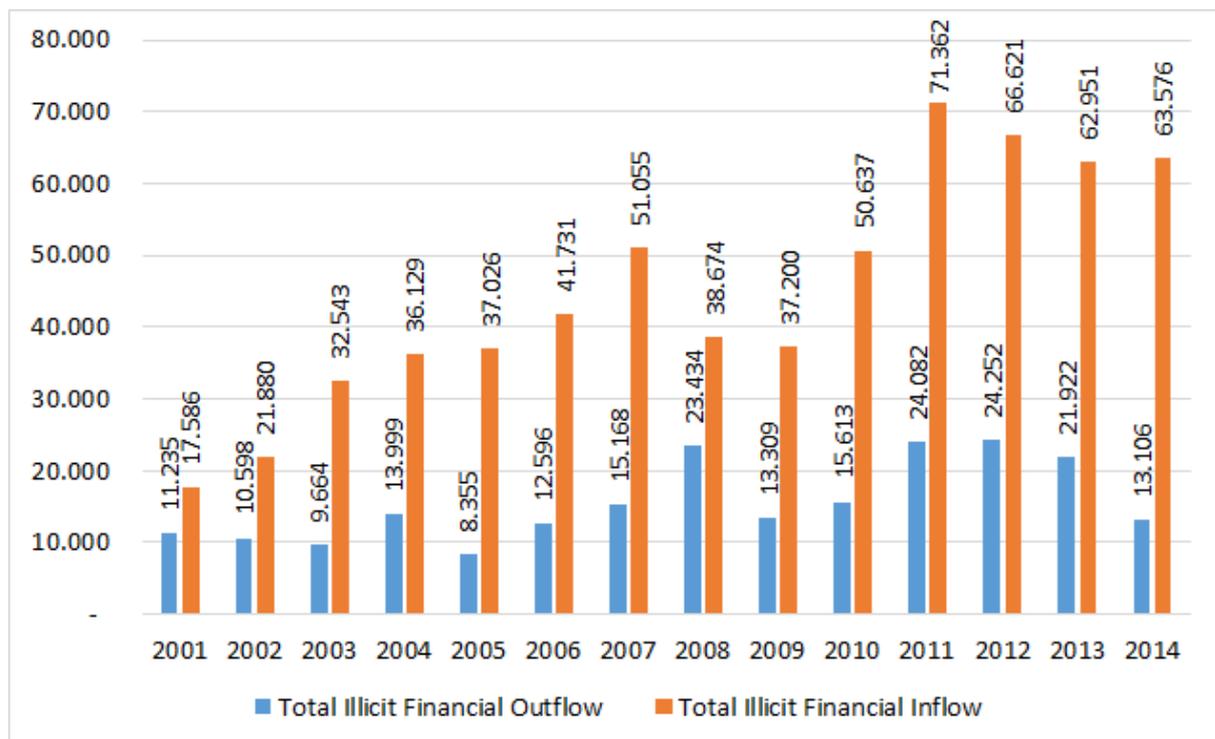
The illicit financial inflow to Indonesia peaked in the period of 2011-2012 and remained quite high until 2014. In 2014, illicit financial inflow was five times bigger than the outflow. The outflow was also peaked in the same period. The most notable economic events during the period were the commodities price boom, which was started in the end of the global financial crisis and went down in 2014. The price of CPO (crude palm oil) and coal were the highest during the same period.In February

2011 and April 2012, the price index of CPO was the highest[6]. It is widely known thatthe trade and investment sector in Indonesia are poorly governed, therefore both illicit funds inflow and outflow are disadvantegous for the economy. Illicit financial inflow is not always beneficial to the country's economy as it might flourish underground economy and reduce potential state tax revenues.

Overall, the result of this research is only slightly different with GFI's result that only measures the Illicit Financial Outflows. In figure 9it can be seen that there is a small difference, with the most significant difference took place in 2013 with a difference of 7 billion dollar.This research is calculated at 50% larger than GFI. The GFI's average GER Outflow in year 2004-2013 is 17.21 billion dollar while this research' calculation is 16.75 billion dollar.

Figure 9 Comparison of GER Outflow calculated by the GFI and Prakarsa
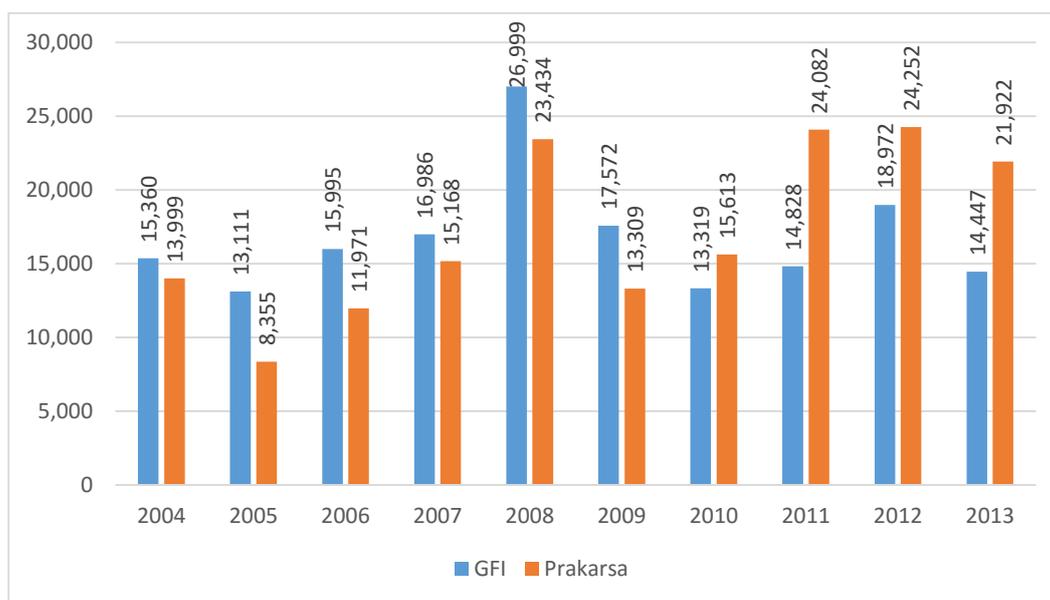
4.2 Country of Origin and Destinations of Illicit Financial Flows

4.2.1. GER Export Analysis

a)   Positive GER Export Analysis

Value of Positive GER Export occurs at the time when the value of export in Indonesia is recorded smaller compared to the record of the importer country. This means that there is an illicit financial flow from Indonesia to the importer country (illicit financial outflow) or it can be said that there have been some loss of potential income from Indonesian export.

Figure 9 shows that during the period of 2001-2014, China is the main destination country of the illicit financial outflow from Indonesia. It is recorded that the annual average of USD 1.5 billion of potential income from Indonesian export is missing because of this illicit financial flow. Other than China, illicit financial outflows from Indonesia also go to Germany and China Taipei, each for the amount of USD 976.3 million and USD 662.47 million

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[6] http://www.indexmundi.com/commodities/?commodity=palm-oil&months=120

China is the 2nd destination country of Indonesia's export, with the share reaches 11 percent of the total value of Indonesia's export, which value around USD 20.8 billion in 2014. Indonesia mainly exports oil, palm oil, chemicals, woodpulp, woods etc to China.

Figure 10 Top Ten Destination Countries for Illicit Outflow of 2001-2014 Based on Export Data

(Annual Average, in Million Dollars)
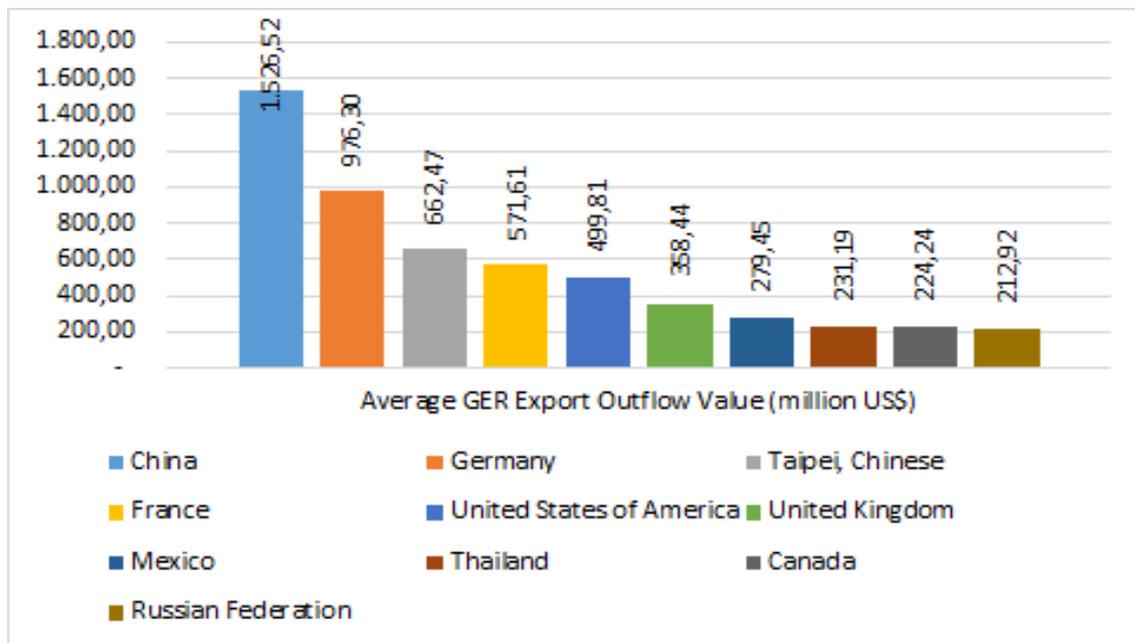
With Germany, the value of Indonesia's export is USD 4.78 billion and share of export is 2.4 percent of the Indonesian total export, dominated by products such as textiles and clothing, machine and electronics, vegetable, footwear, rubber, etc[7]. While China Taipei is not one of the top export destination of Indonesia, -mainly due to Indonesia's one-China foreign policy, Indonesia exports a number of commodities to China Taipei such as oil, gems and precious metals, wood, iron and steel, copper, paper, etc.

b) Negative GER Export Analysis

Value of negative GER Export occurs at the time when the value of export in Indonesia is recorded larger compare to the recordation of the importer country. This shows that there is an illicit financial flow to Indonesia as export income, where the source is not clear (illicit financial inflow).

Figure 10 shows illicit financial inflow to Indonesia through vague export transactions in the period of 2001-2014 from the top ten annual average countries. Annually there is an average illicit inflow of USD 1.53 billion, with the biggest average coming from Japan. Other than Japan, the biggest nominal indications show countries such as Netherlands and Malaysia through vague export

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[7]http://wits.worldbank.org/CountryProfile/en/Country/IDN/Year/2014/TradeFlow/Export/Partner/DEU/Product/All-Groups

transactions. The Illicit Financial Inflow average coming in from the Netherlands during 2001-2014 is USD 1.01 billion, while Malaysia is at USD 904.2 million.

Figure 11 Top Ten Origin Countries of IlicitFinancial Inflow to Indonesia 2001-2014 Based on Export Data

(Annual Average, in Million Dollars)
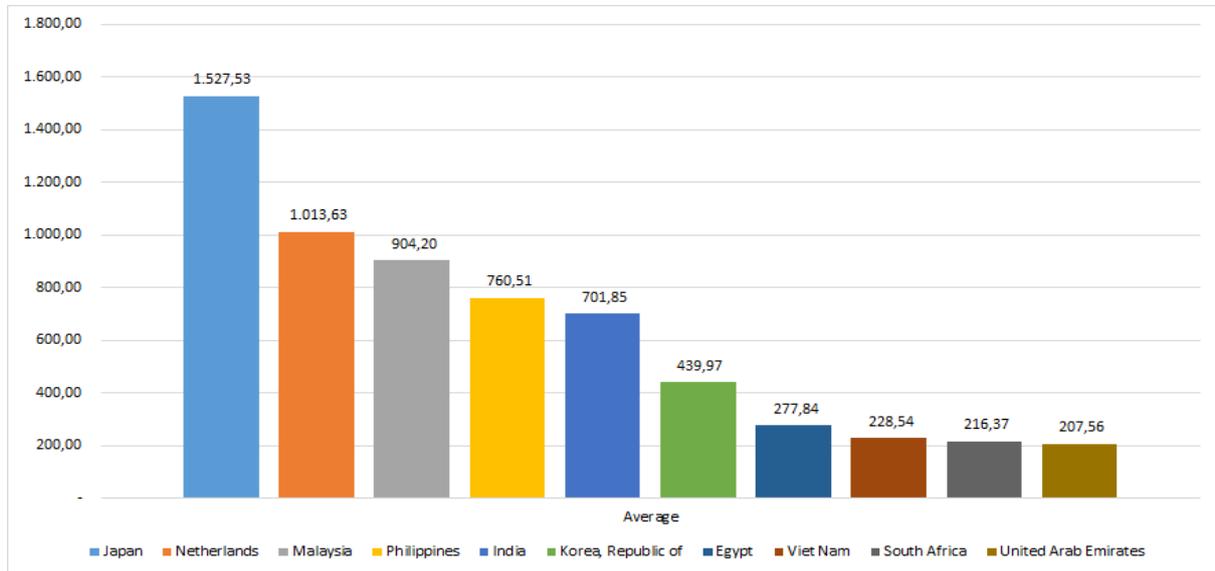
Japan is the main largest export country destination country of Indonesia, with share of export is 13 percent of total Indonesian export. Malaysia is one of the top ten export destination of Indonesia, with the share 4.2 percent and including commodities such as palm oil, chemical goods, copper, vehicles, electronic equipments, etc. Netherlands' share of export is only 1.7 percent of the total Indonesian export, and mainly are palm oil, chemical goods, electronic equipments, organic chemicals, animal fodder etc.

4.2.2. GER Import Analysis

a)   Positive GER Import Analysis

A positive GER Import value occurs when Indonesia's import value record from a country is higher than the export value record from the said country. The over invoicing condition indicates the existence of an *illicit financial outflow*.

As shown in Figure 11 during 2001-2014 an average of USD 2.03 billion annually flows from Indonesia to Saudi Arabia, without clear sources. The GER import value is positive because the record of Indonesia's import is higher in Indonesia than the export records in Saudi Arabia.

Saudi Arabia is one of the top ten Indonesia's import origin countries, with the import share is 3.3 percent of the total import value. In 2014, the value of import from Saudi Arabia is USD 5.93 billion[8]. The main commodities imported from Saudi Arabia are oil, chemicals, plastics, other chemical goods, iron and steel products, woodpulp, etc.

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[8] http://atlas.media.mit.edu/en/profile/country/idn/

Figure 12 Top Ten Destination Countries of Illicit Financial Outflow from Indonesia 2001-2014 Based on Import Data

(Annual Average, Million Dollars)
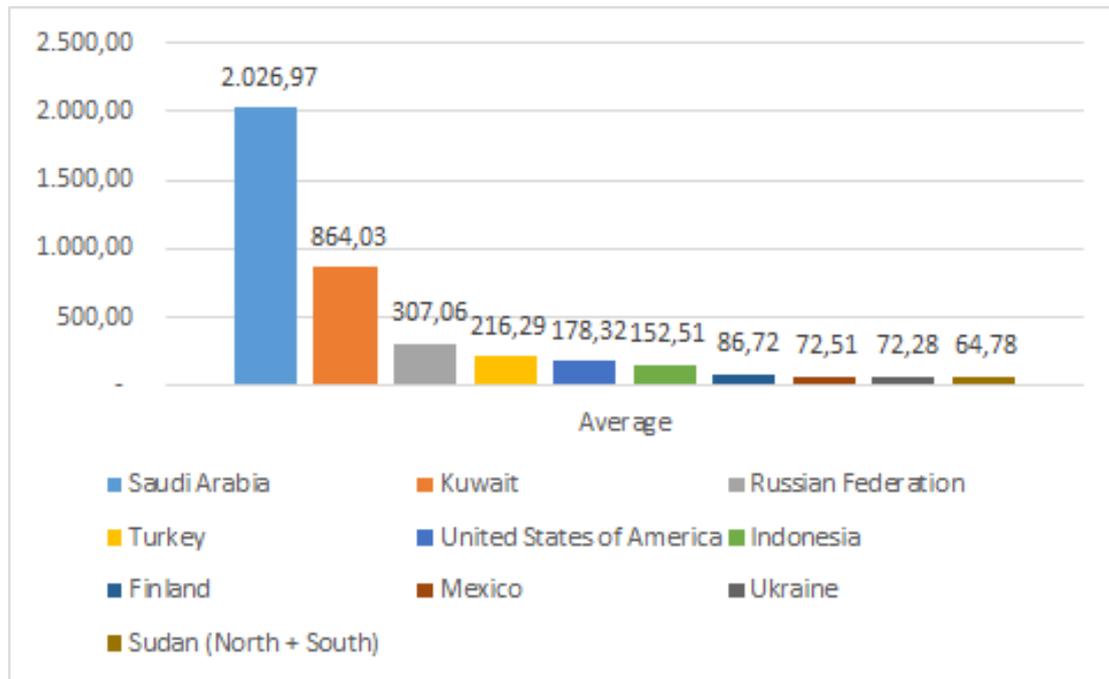
Other than Saudi Arabia, countries with high annual illicit financial outflow average are Kuwait in second place, and Rusia in the third. The average annual outflow from Indonesia to Kuwait is USD 864.03 million, while Rusia is at USD 307.06 million. This is interesting, because the shares of import from these countries are relatively small. Kuwait's share to total Indonesian import value is only 0.78 percent (USD 1.39 billion) and Russia's share is 0.65 percent (USD 1.16 billion), yet the overinvoicing of the imports is high[9].

b) NegativeGER Import analysis

GER Import is valued at negative when the import recorded in Indonesia is smaller than what is recorded in the exporting country. This under invoicing of import indicates the presence of an illicit financial inflow in the form of import transaction.

As shown in Figure 12, the average value of illicit financial inflow from Singapore to Indonesia is USD 14.17 billion annually, from import transactions. The funds are recorded as import transaction in Indonesia, but with a significant smaller value than the export value recorded in Singapore. Singapore is the 2nd largest importer country of Indonesia, which share is 14 percent of Indonesian total import in 2014.[10] Most import from Singapore includes commodities and products such as oil, electronic equipments, machine and engines, organic chemicals, plastics, iron and steel products, etc. Since the

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[9] http://atlas.media.mit.edu/en/profile/country/idn/
[10] http://atlas.media.mit.edu/en/profile/country/idn/

share of oil is much bigger than other commodities and products and might indicate the magnitude of illicit activities involved in oil import from Singapore to Indonesia.

Figure 13 Top Ten Origin Countries of Illicit Financial Inflow into Indonesia in 2001-2014 Based on Import Data

(Annual Average, Million Dollars)
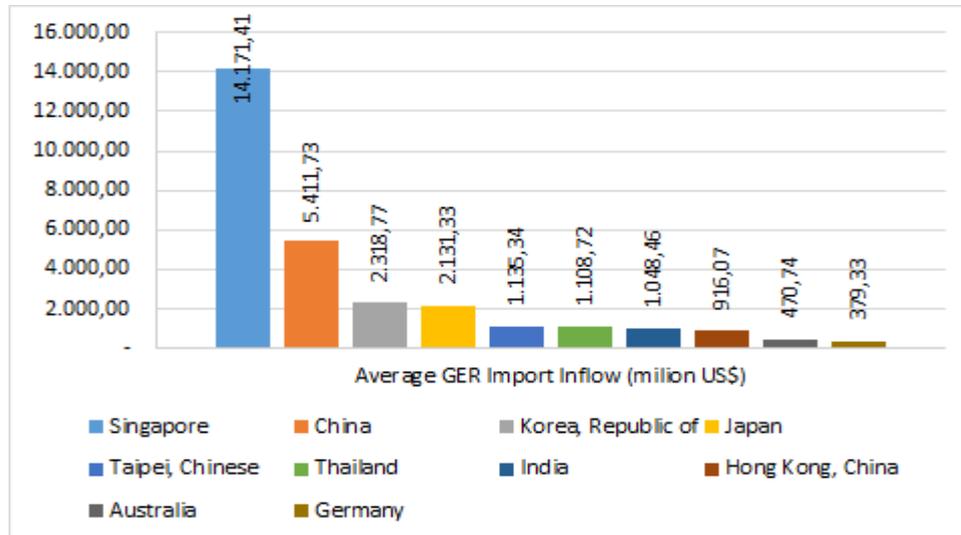
Other countries with the biggest illicit financial inflow into Indonesia through import transactions are China and Korea. Inflow from China is recorded at USD 5.41 billions, while from South Korea are USD 2.32 billion. Singapore's illicit financial flow is 3 times bigger than China, and 7 times that of South Korea. Singapore and China are countries with the biggest import transactions for Indonesia.

Indonesia mainly imported machines, electronic equipments, iron and steel, organic chemicals, plastics etc from China. From South Korea, Indonesia import oil, iron and steelm machine and engines, electronic equipments, plastics etc. South Korea is also one of Indonesian importer country with share around 6.5 percent of the Indonesian total import.

4.3 Illicit Financial FlowsAnalysis

4.3.1 Illicit Financial Inflow Analysis

Illicit financial inflow does not always have positive impacts on receiving country. Consumption might increase due to influx of funds into a country, but in most cases, this flow of funds can be used to finance criminal activities, such as terrorism, drug investment, prostitution, wild animal trade, etc. The assumption is, if the perpetrator of this fund acquires funds through hidden transactions, the money acquired is usually spent for or being 'laundered' in invisible activities as well, to avoid suspicion from authorities, such as the tax authority. That's why much of illicit funds are invested in underground, criminal activities.

Formulas

$$Illicit\ Financial\ Inflow\ =\ Under\ Invoicing\ of\ Import\ +\ Over\ Invoicing\ of\ Export$$

During the period of 2001-2014, most of the illicit financial inflow to Indonesia is originated from Singapore, China, and Japan, as shown in Figure 13. As might have widely known, many rich Indonesians have companies, in trade and financial services, and also invest heavily in properties in Singapore. Trading activities between their companies and production activities in Indonesia could possibly drive this funds inflow to Indonesia. A Merryl Lynch's surveyeven concludes that a third of rich people in Singapore are Indonesians.[11]

Figure 14 Ten Countries with Largest Average IFF Inflow 2001-2014

(Million Dollar)
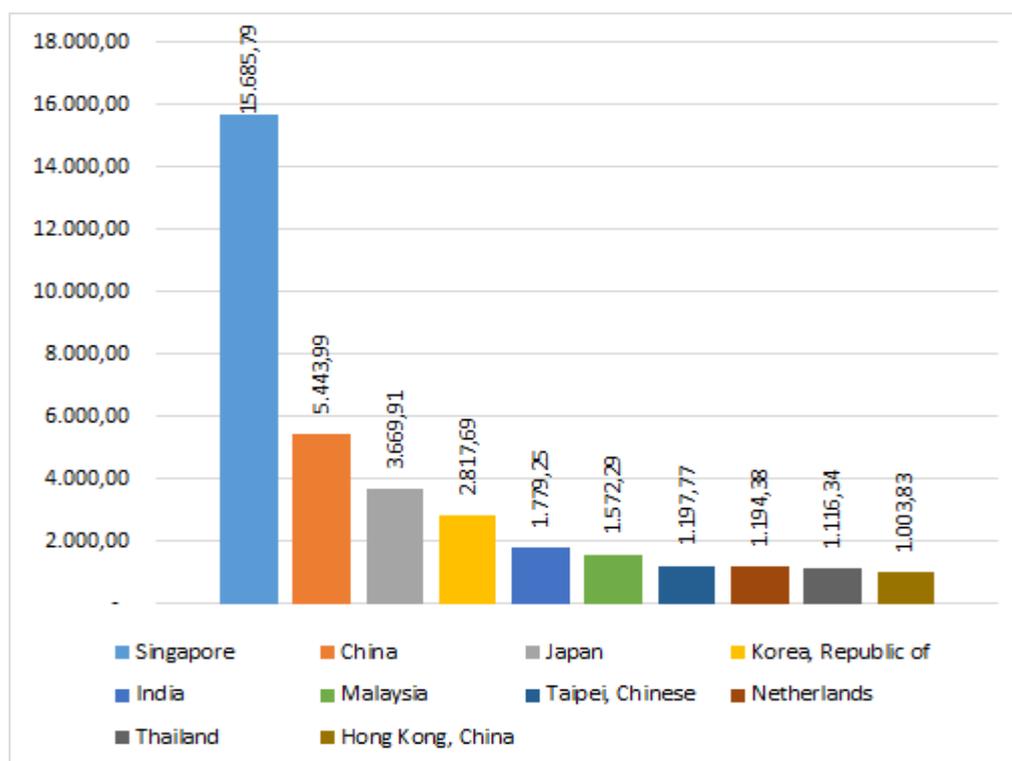
Singapore is also the 2nd largest Indonesia's importer country after China at the 1st place. The value of China's import to Indonesia is USD 30.6 billion (December 2014)[12]. They are followed by Japan as the 3rd largest Indonesia's import country of origin. It appears that the value of illicit financial inflow is in line with the size of import from these top importer countries.

4.3.2 Illicit Financial Outflow Analysis

Illicit financial outflow only have negative impact, because the funds outflow from Indonesia is not being taxed, according to law and regulation. The kinds of funds are usually sent offshore in tax haven countries therefore it is difficult to trace by the origin government. A full list of *tax haven* jurisdictions in the world based on the Financial Secrecy Index (FSI) developed by the Tax Justice Network can be seen in Annex 2.

11http://bisnis.news.viva.co.id/news/read/103458-lagi_lagi_singapura__surga_koruptor_indonesia

[12] http://www.tradingeconomics.com/indonesia/imports

Calculation Formula

$$Illicit\ Financial\ Outflow\ =\ Under\ Invoicing\ of\ Export\ +\ Over\ Invoicing\ of\ Import$$

Figure 15 Top Ten Countries with Highest IFF Outflow Average 2001-2014

(Million Dollars)
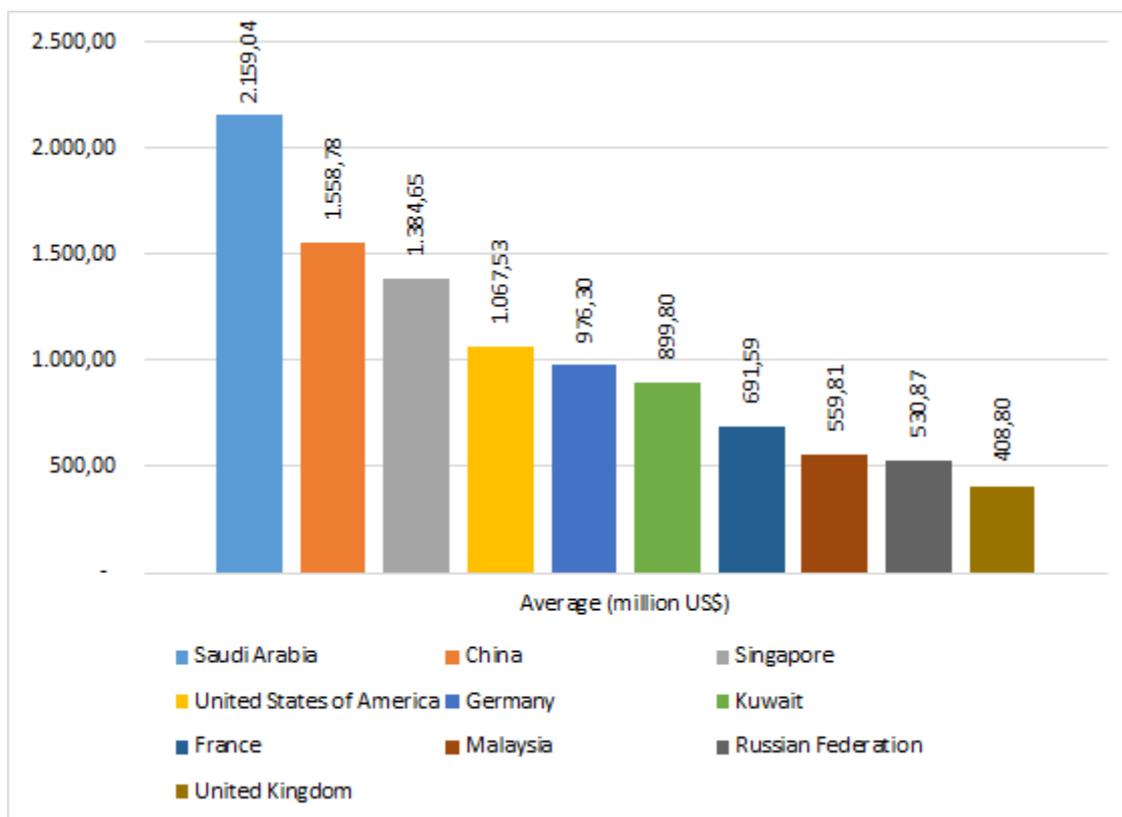
Figure 14 shows the top ten countries of destination of illicit funds from Indonesia in the period of 2001-2014 (based on annual average). Saudi Arabia, China, and Singapore are the three biggest country destination of illicit financial outflow from Indonesia. The amount of illicit funds outflow from Indonesia to Saudi Arabia is USD 2.16 billion annually, followed by China with USD 1.56 billion and Singapore with USD 1.38 billion.

Indonesia's main export commodities to Saudi Arabia are motorcycle, spare parts, tires, textiles and palm oil, while Saudi Arabia exports oil, petrochemical products and plastic to Indonesia[13]. With China, Indonesia mainly export oil, palm oil, chemicals, woodpulp, woods etc. and import machines and engines, electronics, iron and steels, chemicals etc. from China. With Singapore, Indonesia's export commodities are oil, electronic equipments, tin, machines and engines, gems and precious

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[13] http://www.antaranews.com/en/news/93122/indonesia-saudi-arabias-relation-not-just-about-migrant-workers-ambassador

metals etc. and Indonesia imports oil, electronic equipments, machines and engines, chemicals, plastics etc[14].

This calculation indicates under invoicing of exports in those export commodities and over invoicing of those imported commodities to the aforementioned countries as Indonesia's largest trading partners.

4.3.3 Total Illicit Financial Flows

Illicit Financial Flow from Trade Transactions

Total Illicit Financial Flow is calculated by adding the inflow and outflow funds so it shows the value of illicitfund transactions.

$$IFF(Trading) = Illicit\ Financial\ Inflow\ + Illicit\ Financial\ Outflow$$

Figure 16 Top Ten Countries with the Highest IFF in 2001-2014

(Million Dollar)
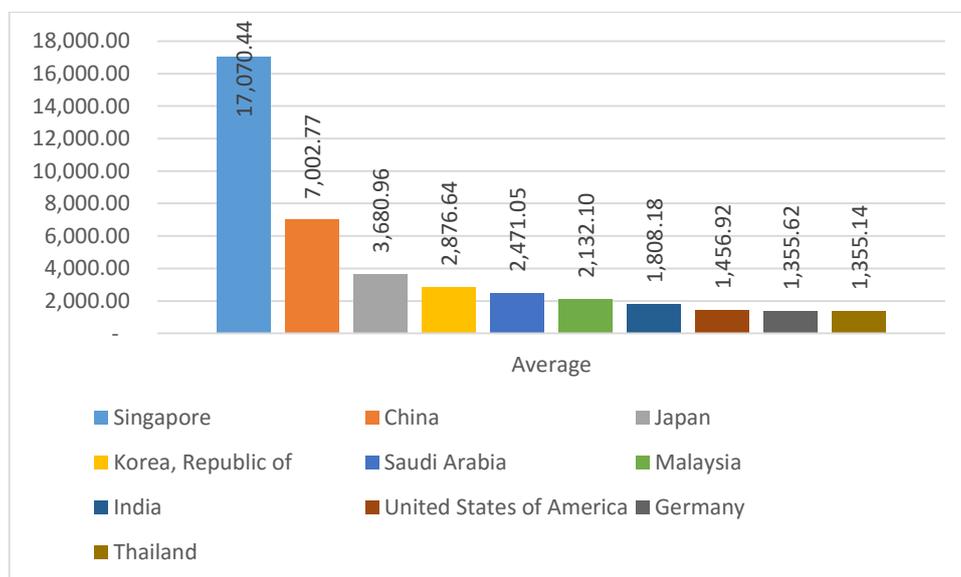
Figure 15 shows that Singapore is the country with the biggest illicit funds, both inflow and outflow, with an average of USD 17 billion annually. This number is almost 2.5 times more than China, and almost 6 times that of Japan.

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[14]http://www.worldsrichestcountries.com/top_indonesia_imports.html

4.4 Econometric Analysis

4.4.1 Stationary Test Results

When a variable is tested at a variance level[15], the result shows that all variables are non-stationer, both in Intercept + trend levels, or without the trend or intercept (for detail, see Appendix 6). Variables will be stationer when using first difference, especially in the *intercept* and *intercept + trend* levels. When testing on a non-stationer level, what can be done is to test on the *first difference* or to do a Co-integration (Further explanation on appendix 6). From there it can be seen that if they do a *first difference* test, it will result in fine data, but on the other hand it rasies issues since the resulting numbers will be short term and will be less fine when used in related estimations.

Therefore the researcher performs a co-integration to see if they can do estimation at the variance level. After the estimation, it was found that the equation fits for an analysis using the VECM model (see Appendix 7 for detailed information). Before testing with the VECM, a stability test for the model using the *Johannsen Cointegration Test* (refer to appendix 11) is needed. Based on that test, using the *Aikake Information Criteria* as basis, a fine model to estimate a calculation of the VECM is by using the *lag* 3 data. This is because the *lag* is the most stable.

4.4.2 Granger Casuality

Granger Casuality test shows the relationships between variables. In the following sub-section, we will only present the variables that show significant results, be they the determinants of GER Outflow (e.g. Third Party Funds or DPK, Money Supply or M2, and Total Trade) or the variables that are affected by GER Outflow (e.g. IPI or Industrial Production Index). Table 8 presents a summary of both determinant and impact variables of GER Outflow.

Table 8 Granger Casuality Relationship

	GER Outflow	CPI	DPK	IHSG	IPI	M2	Total Trade	WPI *Export*	WPI Import	Xrate
GER Outflow		No	No	No	Yes	No	No	No	No	No
CPI	No									
DPK	Yes									
IHSG	No									
IPI	No									
M2	Yes									
Total Trade	Yes									
WPI *Export*	No									
WPI Import	No									
Xrate	No									

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[15] Variance level is variance that shows the effects of dependent variables towards the independent by looking at the long term value, so it is possible to analyze, such as trade increase of 10 points increases the GER outflow by 20 points. Meanwhile in the first difference variance with an assumption of the same value, it can be said that an increase of difference at 10 points will increase the GER outflow difference by 20 points. Therefore, it can be said that variance level is a long term analysis, while first difference variance is short term.

4.4.3 Determinats of GER outflow

- **The Effect of *Money Supply* on GER *Outflow***

From the first to the second month after a change in money supply, the GER Outflow does not respondor disrupted, as can be seen in Figure 16. However, in the second to third month, there are disturbances because of the GER Outflow, for instance, due to a decreasing amount of money in circulation. In the third month the effect will diminish. In the fifth month, it will rebound and again fluctuate. It will take about 8 months before the GER Outflow is stabilized again. This shows that money supply may be a determinant factor of GER outflow. If the amount of money in circulation is changed significantly in a certain period, GER outflow activities will also be affected in the following months.

Figure 17 Response of GER Outflow to M2 (Cholesky One S.D. Innovations)
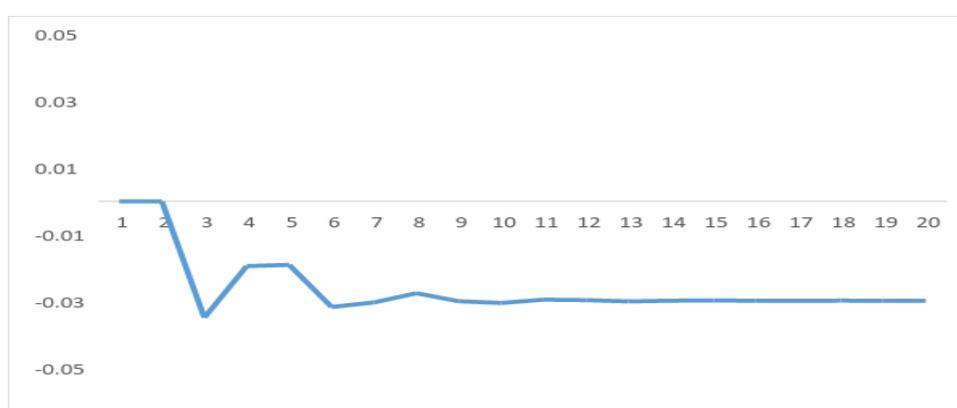
- **The Effects of Third Party Funds on GER outflow**

Just as the GER *Outflow* responds to *money supply*, there is no significant response on the GER outflow in the first month. A significant response to the GER takes place in the second month. Figure 16 shows that in the second to third month there will be disturbances due to third party funds on the GER outflow, such as fewer saving in the banks. On the third month the effects are decreased only to rebound and fluctuate again on the fifth month. There are no more fluctuations on the months after that. It will take about 7 months for the GER outflow to stabilize. This shows that third party funds may be a determinant factor of GER outflow. If the amount of third party funds is changed significantly in a certain period, GER outflow activities will also be affected in the following months.
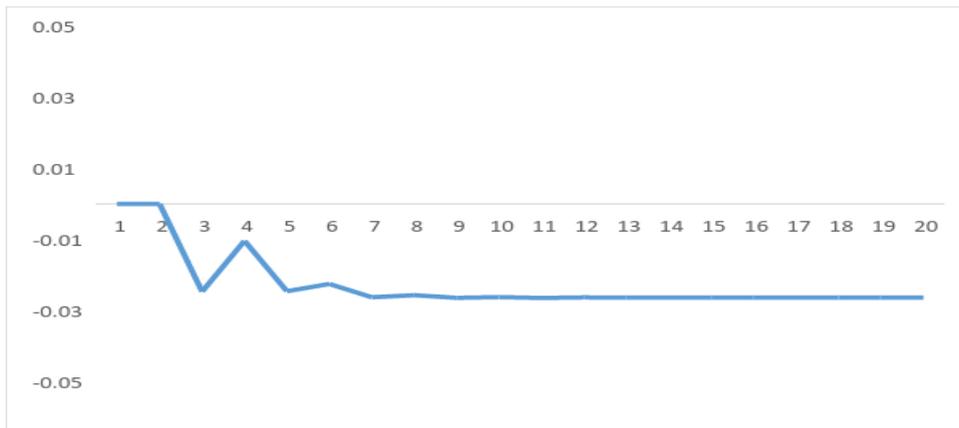
- **The Effects of Trade on GER Outflow**

On the first to second month, the GER outflow response does not go through any significant changes. However, on thesecond to third month there will be disturbances due to the effects of trade on the GER outflow, such as diminishing value of trade from export/import. On the third month the effects wanes and rebounds and fluctuates on the 5th month, but it no longer fluctuates on the coming months. On the 7th month onwards the GER outflow stabilizes. This shows that trade may be a determinant factor of GER outflow. If the value of trade is changed significantly in a certain period, GER outflow activities will also be affected in the following months.

Figure 19 Response of GER Outflow to Trade (Cholesky One S.D. Innovations)
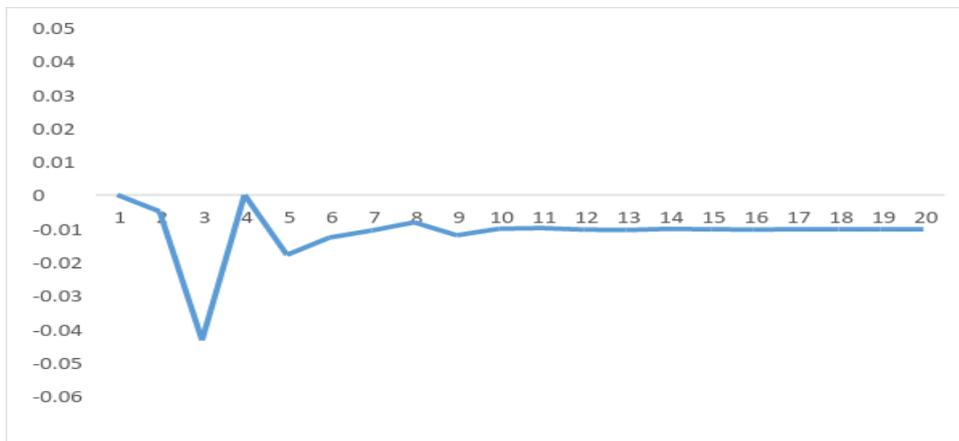
4.4.4 Impacts of GER Outflow

- **The Effects of GER *Outflow* on Industrial Production Index**

GER Ouflow will cause disturbance on the *Industrial Production Index (IPI)* for one month, but after that returns to normal and becomes very stable, so that by the 8th month it has returned to the equilibrium line. This shows that GER outflow has an impact on IPI. If the value of GER Outflow is changed significantly in a certain period, IPI will also be affected in the following month, and will only become stable again in the eighth month.

Figure 20 Response of IPI to GER Outflow (Cholesky One S.D. Innovations)
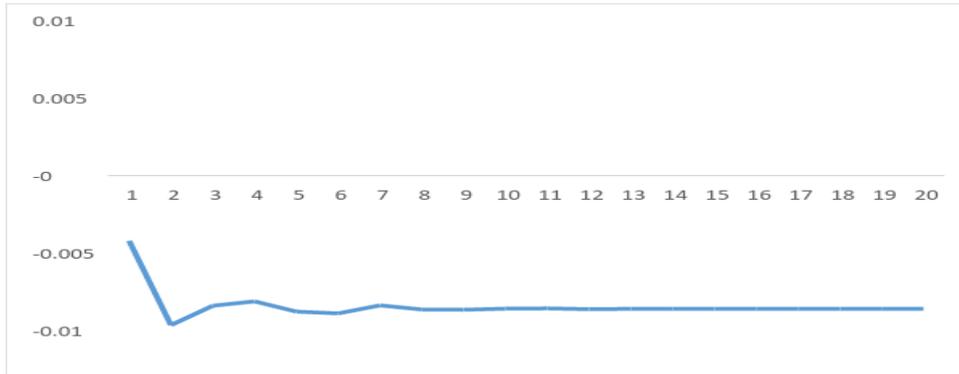
Chapter 5 Conclusion and Recommendation

5.1 Conclusions

5.1.1 Illicit Financial Flows Values

Illicit Financial Flowscan be distinguished into two types, Illicit Financial Flowing into the country (inflow) and illicit financial flowing put of the country (outflow). Illicit Financial outflow is clearly harmful for a country's economy as it means large amount of money going out of a country and the country lost significant tax revenues potential. However, illicit financial inflows, although may look profitable, most probably is spent on underground economy, which in turn harms the country by reducing tax revenues potential too.

During the period of 2001-2014, **the value ofillicit financial inflow is always bigger than illicit financial outflow**. The total accumulated funds inflow is USD 628.9 billion dollar while the total accumulated outflow is USD 217.3 billion. The total illicit financial flows are USD 846.3 billion within the period.

The average of annual inflow at 44.92 billions dollar and outflow is USD 15.52 billions during the period of 2001–2014. Based on the annual analysis from 2001-2014, the largest illicit financial outflow from Indonesia took place in 2012 with an estimated value of USD 24.5 billion.

5.1.2 Largest Illicit Financial Flows Partner Countries

The top three countries with the **largest financial inflow** values (sum of under invoicing of import and over invoicing of export) are Singapore, China, and Japan. Illicit financial inflow from Singapore to Indonesia is USD 15.6 billion a year in average in 2001-2014. Therefore, Singapore is Indonesia's trade partner with the largest indication of illicit financial inflow, followed by China at USD 5.4 billion, and Japan at USD 3.6 billion.

The top three countries with the **largest financial outflow** values (sum of over invoicing of import and under invoicing of export) are Saudi Arabia, China, and Singapore. Illicit financial outflows from Indonesia to Saudi Arabia are USD 2.1 billion in average per year for the period of 2001-2014. Therefore, Saudi Arabia is Indonesia's trade partner the largest indication of illicit financial outflow, followed by China at USD 1.55 billion, and Singapore at USD 1.4 billion per year.

5.1.3 Determinant Factors and GER Outflow Impact

Third Party Funds, M2 (money supply), and *Total Trade* has a determinant relationship that can cause changes on the GER Outflow, while GER outflow influences the *Industrial Production Index* (IPI).

Determinant causes, which are Third Party Funds, M2, and *Total Trade,* will make changes to the GER Outflow. These changes will happen one month after the occurance of the GER *Outflow*. The effects should be as follows: M2 will be affected after the first month and will be stabilized on the eighth month. Third Party Funds will be affected after the first month and stabilze on the seventh. *Total Trade* will be effected after the first month and stabilize on the tenth.

GER Outflow will affect IPI. GER *Outflow* will cause distrubances on IPI even since the first month and it will stabilize on the tenth.

5.1.4. Potential Tax Revenues Lost due to IFF

There is a huge potential to increase existing tax income if Indonesia would tigthtened their trade transaction recordings. A 10% tax of the annual illicit financial outflow, which is USD 15.52 billions, would give Indonesia an additional income of USD 1.56 billion or IDR 20.28 trillion[16]. This is more than sixfold of the total foreign aid to Indonesia in 2015, which was only IDR 3.3 trillion[17].

Meanwhile, if the USD 44.93 billion illicit financial inflow comes from commodities that can be sold, and they are charged with a 5% tax, both for over invoicing of import or under invoicing of export, then the value could reach USD 2.25 billion or equals to Rp 29.21 trillion. This amount is IDR 3 trillion bigger than state revenues from property tax which is IDR 26.7 trillion in 2015[18].

5.2 Recommendation
5.2.1 Recommendation for Government

This huge taxation potential needs to be explored further by Indonesian government, to improve its sources of revenues. Since the data used are recorded import/export trading, our recommendation is that there needs to be an improved trade management (import/export) because these mistakes in recordings, both intended or unintended took place out of poor accountability and transparency of state agencies responsible for collecting revenues i.e. Directorate General of Taxation (DGT) and General Customs.

Oversight agencies such as KPK, PPATK, Police, and the attorney general, must to put a tighter monitoring toward the customs as there is huge potentials for state revenue loss from trade activities, such as captured in this research paper. The DGT and the General Customs must also closely coordinate with the Ministry of Trade as the principal trade authority in the government.

Indonesia is also known for its regulatory mess, between central government and local governments, as well as between different state bodies and ministries. Therefore, gaps and loopholes in these regulations must be improved and enforced, in order to reduce practices such trade mis-invoicing.

Not just improving their performance and management, a more fundamental reform in taxation and customs regime in Indonesia should be accelerated by the government. The current institutional

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[16]Exchange rate assumption: IDR. 13,000

[17] 2014 data from https://www.bps.go.id/linkTabelStatis/view/id/1286

[18] http://www.kemenkeu.go.id/wide/apbn2015

arrangement, for instance, separating tax and customs offices and have made it more difficult to optimize state revenues. Therefore, there is a need for a semi-autonomous state body responsible for state revenues as an umbrella body for those two agencies, with extended power and reporting responsibility direct to the president.

In the recent years, Indonesian economy heavily depends on the commodities trading. Raw materials produced in remote areas usually are transported offshore through ports or harbors that are less monitored by the oversight bodies. Economic policy that emphasizes infrastructure development that supports trade, such as ports, harbors and airports must also be in parallel with the development of good trade management, especially an improved custom, to ensure optimum state revenues.

The result of this research also shows that Indonesia's largest trading partners are also the largest origin and destination of illicit financial flows to and from Indonesia. Therefore, Indonesian government must improve soft diplomacy to negotiate with those countries about how to tackle the problem of illicit financial flows which is disadvantageous for both countries.

5.2.2 Recommendation for Future Research

Although an early indication of products and commodities involved in illicit activities can be seen from this research, in related to country of origin and destination of Indonesian imports and exports, to analyze illicit financial flows in reference to certain sectors or commodities might be difficult as commodities are identified based on a long standard coding system. For example, for a 2-digit code of products, there will be 99 data. Therefore, to have a more precised analysis of sector-based illicit financial flows, a larger amount of data is required. A monthly-based data is required to establish a causality link using econometric method, which is a bit more difficult to find to date, than the usual annual-based data.

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Annexes

Annex 1 Calculation Comparison of GER Outflow Between GFI and Prakarsa
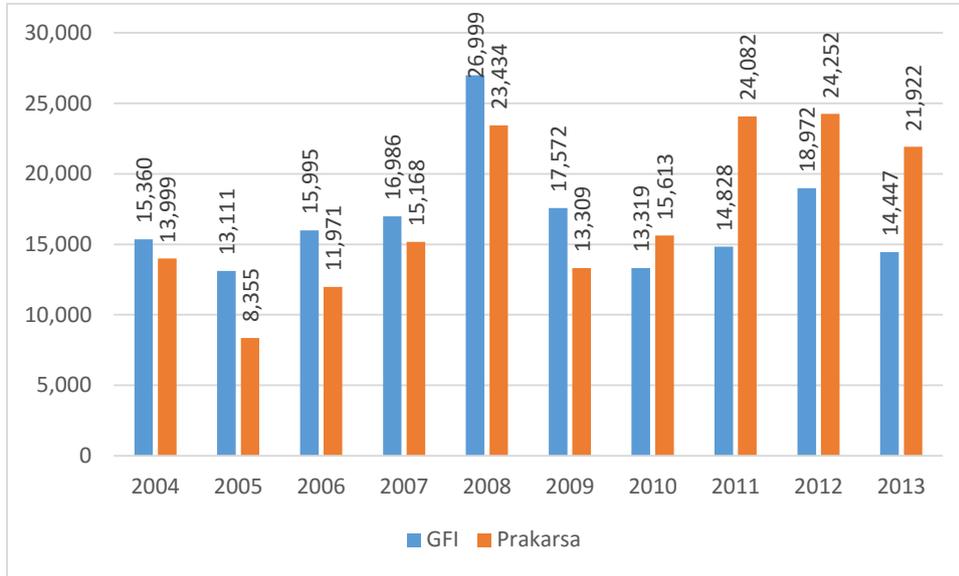
Annex 2 Tax Haven Countries according to Financial Secrecy Index of Tax Justice Network

	FSI 2015 - FINAL RESULTS			
RANK	Jurisdiction	FSI Value[4]	Secrecy Score[5]	Global Scale Weight[6]
1	Switzerland[2]	1,466.1	73	5.625
2	Hong Kong[2]	1,259.4	72	3.842
3	USA[2]	1,254.8	60	19.603
4	Singapore[2]	1,147.1	69	4.280
5	Cayman Islands[1,2]	1,013.2	65	4.857
6	Luxembourg[2]	817.0	55	11.630
7	Lebanon[2]	760.2	79	0.377
8	Germany[2]	701.9	56	6.026
9	Bahrain[2]	471.4	74	0.164
10	United Arab Emirates (Dubai)[2,3]	440.8	77	0.085
11	Macao	420.2	70	0.188
12	Japan[2]	418.4	58	1.062
13	Panama[2]	415.7	72	0.132
14	Marshall Islands	405.6	79	0.053
15	United Kingdom[1,2]	380.2	41	17.394
16	Jersey[2]	354.0	65	0.216
17	Guernsey	339.4	64	0.231

18	Malaysia (Labuan)[3]	338.7	75	0.050
19	Turkey	320.9	64	0.182
20	China	312.2	54	0.743
21	British Virgin Islands[1,2]	307.7	60	0.281
22	Barbados	298.3	78	0.024
23	Mauritius[1]	297.0	72	0.049
24	Austria[2]	295.3	54	0.692
25	Bahamas[1]	273.1	79	0.017
26	Brazil[2]	263.7	52	0.678
27	Malta	260.9	50	0.990
28	Uruguay[2]	255.6	71	0.037
29	Canada[2]	251.8	46	1.785
30	Russia	243.3	54	0.397
31	France	241.9	43	3.104
32	Isle of Man[1]	228.6	64	0.068
33	Liberia[2]	218.2	83	0.006
34	Bermuda[1]	217.7	66	0.042
35	Cyprus	213.9	50	0.518
36	Liechtenstein	202.4	76	0.010
37	Ireland[2]	187.4	40	2.313
38	Belgium[2]	181.2	41	1.863
39	Guatemala[2]	177.2	76	0.007
40	Israel[2]	173.8	53	0.166
41	Netherlands[2]	168.4	48	0.322
42	Chile	166.7	54	0.120
43	Saudi Arabia	163.9	61	0.037
44	Australia[2]	148.1	43	0.586
45	India	148.0	39	1.487
46	Philippines	146.1	63	0.020
47	Vanuatu	142.8	87	0.001
48	Ghana[2]	139.2	67	0.010
49	Korea	124.3	44	0.302
50	US Virgin Islands	118.2	69	0.004
51	Samoa	117.5	86	0.001
52	Mexico	117.1	45	0.211
53	Norway[2]	110.7	38	0.731
54	New Zealand	109.4	46	0.129
55	Gibraltar[1]	109.3	67	0.005
56	Sweden	100.9	36	1.006
57	Aruba[2]	99.5	68	0.003
58	Italy	98.7	35	1.218

59	Latvia	92.8	45	0.113
60	Belize	92.5	79	0.001
61	South Africa	90.9	42	0.203
62	Botswana[2]	90.6	71	0.002
63	Anguilla[1]	89.4	69	0.002
64	St Vincent & the Grenadines[1]	79.7	78	0.000
65	Antigua & Barbuda[1]	79.6	81	0.000
66	Spain	77.5	33	1.090
67	Costa Rica	74.9	55	0.010
68	Turks & Caicos Islands[1]	72.5	71	0.001
69	St Kitts & Nevis[1]	68.4	78	0.000
70	Curacao[2]	67.8	68	0.001
71	Iceland	67.1	46	0.035
72	Seychelles	60.8	71	0.000
73	Slovakia	60.1	50	0.011
74	Macedonia	59.5	66	0.001
75	Poland	57.2	36	0.172
76	Monaco	53.7	74	0.000
77	Estonia	52.9	44	0.023
78	Portugal (Madeira)[3]	52.5	39	0.063
79	St Lucia[1]	51.7	83	0.000
80	Brunei Darussalam[1]	47.4	83	0.000
81	Czech Republic	44.2	35	0.105
82	Grenada[1]	42.2	76	0.000
83	Denmark	38.2	31	0.219
84	Hungary	37.3	36	0.052
85	Greece	37.2	36	0.046
86	San Marino	33.3	70	0.000
87	Andorra	27.3	77	0.000
88	Slovenia	22.5	34	0.019
89	Dominica[1]	21.3	76	0.000
90	Finland	19.4	31	0.025
91	Cook Islands[1]	17.8	76	0.000
92	Montserrat[1]	10.9	67	0.000
NA[7]	Bolivia	-	(72-80)	0.001
NA[7]	Dominican Republic	-	(65-73)	0.007
NA[7]	Gambia	-	(73-81)	0.000
NA[7]	Maldives	-	(76-84)	0.000
NA[7]	Montenegro	-	(60-68)	0.001
NA[7]	Paraguay	-	(75-83)	0.001
NA[7]	Taiwan	-	(67-75)	0.513

NA[7]	Tanzania	-	(73-81)	0.006
NA[7]	Venezuela	-	(64-72)	0.230
NA[7]	Nauru	-	78.91	

Annex 3 Indonesia's Net Error and Ommisions 1981-2015

Tahun	Sum of Errors and Omissions (USD Million)	Tahun	Sum of Errors and Omissions (USD Million)
1981	-1130	1999	2079
1982	-2229	2000	3822
1983	494	2001	714
1984	-709	2002	-2633
1985	238	2003	-2817
1986	-810	2004	-3106.59
1987	-173	2005	-178.01
1988	-741	2006	624.87
1989	-1439	2007	-1368.43
1990	593	2008	-238.43
1991	-230	2009	-2977.12
1992	-1606	2010	-1327.16
1993	-2923	2011	-3464.68
1994	-242	2012	-275.37
1995	-2313	2013	-186.15
1996	1264	2014	-2240.84
1997	-1985	2015	-473.87
1998	2122		

Annex 4 The values of GER Export, GER Import, and NEO

	GER Ekspor	GER Impor	NEO
2001	-21,636,839,624	121,599,476	714,000,000
2002	-21,427,969,679	4,482,405,675	-2,633,000,000
2003	-13,733,402,324	-20,744,975,933	-2,817,000,000
2004	-10,548,624,039	-13,098,348,726	-3,106,590,000
2005	-17,865,286,276	-17,341,882,734	-178,010,000
2006	-22,657,146,252	-23,379,819,884	624,870,000

2007	-25,031,949,864	-12,086,735,645	-1,368,430,000
2008	-31,550,683,016	-9,562,470,430	-238,430,000
2009	-27,715,131,074	8,263,256,981	-2,977,120,000
2010	-41,704,703,406	10,442,559,632	-1,327,160,000
2011	-49,323,829,912	31,483,177,225	-3,464,680,000
2012	-41,696,802,975	19,225,595,330	-275,370,000
2013	-35,573,081,155	21,779,289,662	-186,150,000
2014	-57,562,023,470	11,932,179,065	-2,240,840,000

Annex 5 Illicit Financial Inflow to Indonesia (US$ million)

Countries and Territories	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Average
Singapore	-5363.8	-5349.1	-12318.0	-13952.2	-14210.6	-16518.9	-21236.7	-17519.6	-13159.4	-16188.1	-23510.9	-21892.0	-19899.3	-18482.3	-15685.8
China	-1300.1	-1403.6	-2017.3	-2838.6	-3481.3	-4257.8	-5564.1	-4485.4	-3165.0	-4933.4	-7377.5	-9796.0	-12055.9	-13539.7	-5444.0
Japan	-3117.9	-2787.6	-3661.6	-4388.8	-4160.7	-4395.5	-5156.6	-557.1	-1495.5	-4000.7	-6830.7	-4551.6	-3979.0	-2295.4	-3669.9
Korea, Republic of	-1483.2	-1943.5	-2104.4	-2058.9	-2919.9	-2795.5	-3106.7	-2162.1	-2473.0	-3397.9	-4773.2	-5966.0	-2338.5	-1924.8	-2817.7
India	-319.8	-487.4	-661.0	-434.4	-875.8	-1079.0	-1447.1	-2042.0	-2261.7	-3647.0	-4497.1	-3206.6	-2799.2	-1151.4	-1779.2
Malaysia	-725.2	-925.9	-1179.5	-1661.3	-1521.6	-1408.1	0.0	-391.2	-1527.5	-1736.3	-1437.5	-2896.1	-3275.4	-3326.2	-1572.3
Taipei, Chinese	-664.7	-620.0	-779.3	-827.6	-1217.8	-1396.0	-1649.4	-1185.5	-1222.7	-1791.1	-1661.2	-1394.4	-1384.0	-975.3	-1197.8
Netherlands	-349.3	-579.3	-287.2	-430.0	-808.6	-922.0	-1346.9	-2056.0	-1202.2	-1688.3	-2562.8	-1699.9	-1437.7	-1351.2	-1194.4
Thailand	-540.5	-686.2	-857.2	-939.9	-1087.8	-849.0	-1286.2	-972.5	-890.2	-1121.0	-1407.1	-1678.4	-1953.3	-1359.4	-1116.3
Hong Kong, China	-665.7	-661.7	-814.8	-885.5	-1022.3	-1234.1	-1443.7	-208.2	-823.7	-1272.4	-1364.3	-1438.7	-940.3	-1278.1	-1003.8
Philippines	-184.3	-208.1	-345.4	-590.8	-716.3	-641.7	-947.3	-718.4	-810.0	-1122.9	-1579.2	-1443.7	-1518.1	-1409.1	-873.9
Australia	-191.3	-342.5	-440.6	-531.8	-610.0	-834.7	-757.3	-457.6	-605.7	-715.5	-1751.9	-538.1	0.0	-386.3	-583.1
Viet Nam	-202.9	-206.9	-129.5	-154.6	-198.1	-460.3	-551.6	-385.3	-375.1	-836.8	-854.3	-596.0	-661.4	-419.7	-430.9

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Country														
United States of America	0.0	-377.2	-267.9	0.0	0.0	0.0	-236.6	0.0	0.0	-569.9	-571.9	0.0	-1541.7	-1886.3	-389.4
Germany	-197.6	-394.6	-439.4	-655.5	-313.6	-701.8	-529.4	-59.6	-99.5	-126.3	-140.8	-649.7	-475.3	-527.5	-379.3
Nigeria	-359.1	-224.1	-197.3	-208.9	-187.0	-66.7	-56.7	-366.7	-390.3	-484.8	-466.0	-389.6	-240.4	-1370.5	-357.7
Saudi Arabia	-169.3	-173.5	-470.3	-75.9	-260.2	-394.6	-162.5	-236.2	-213.5	-230.3	-254.6	-179.6	-102.1	-1445.4	-312.0
United Arab Emirates	-155.1	-139.1	-145.5	-180.8	-268.8	-235.6	-31.5	-232.9	-258.8	-327.1	-422.0	-558.3	-566.4	-709.6	-302.2
Egypt	-64.7	-69.0	-92.1	-68.1	-138.2	-181.0	-387.9	-157.6	-282.2	-435.5	-644.5	-368.3	-338.6	-696.8	-280.3
Azerbaijan	0.0	0.0	0.0	0.0	0.0	-0.3	-308.2	-1327.7	-30.4	-35.2	0.0	-729.4	-1323.1	0.0	-268.2
South Africa	-31.5	-13.4	-55.2	-2.8	-36.9	-34.1	-41.8	-82.5	-90.1	-227.7	-788.2	-974.2	-543.7	-673.7	-256.8
Iran, Islamic Republic of	-54.1	-42.7	-87.2	-73.8	-168.5	-312.9	-92.2	-162.6	-143.9	-458.6	-860.1	-209.4	-94.7	-328.6	-220.7
Brazil	-77.8	-91.1	-46.5	-36.2	-142.3	-136.8	-162.5	-68.0	-310.3	-493.8	-271.8	-399.2	-329.8	-120.5	-191.9
France	-111.7	-149.9	-182.4	-64.4	0.0	0.0	0.0	0.0	0.0	-65.5	0.0	-112.9	-805.2	-1093.0	-184.6
Italy	-101.5	-115.2	-168.3	-184.2	-116.4	-269.1	-200.4	-66.6	-81.3	-170.5	-160.6	-356.1	-99.4	-224.3	-165.3
Belgium	-74.3	-53.7	-123.4	-65.3	-143.9	-225.0	-183.7	0.0	-77.0	-243.2	-434.6	-233.1	-120.8	-120.0	-149.9
Pakistan	-61.9	-58.3	-52.0	-38.4	-93.9	-92.2	-231.1	-9.2	-124.0	-125.1	-177.9	-264.3	-412.3	-294.6	-145.4
Brunei Darussalam	-11.8	-2.9	-11.1	-76.4	-187.8	-176.6	-318.0	-412.7	-275.6	-90.7	-34.5	-123.9	-1.1	-155.1	-134.1
Ukraine	-21.8	-46.6	-96.5	-12.5	-62.6	-68.0	-44.7	-128.9	-137.8	-146.2	-127.4	-205.3	-268.3	-133.0	-107.1
Sri Lanka	-40.3	-33.5	-54.1	-95.5	-160.2	-245.2	-222.5	-118.3	-82.7	-150.7	-105.4	-35.9	-23.6	-4.4	-98.0
New Zealand	-55.5	-81.7	-94.9	-85.7	-108.5	-119.1	-153.0	-128.1	-141.5	-68.1	-66.7	-98.8	-55.4	-77.4	-95.3
Spain	-23.5	-42.2	-112.7	-43.3	-99.4	-27.7	-35.2	-83.9	-64.9	-322.2	-92.9	-122.8	-104.1	-136.4	-93.7
United Kingdom	0.0	0.0	-353.2	-145.5	-142.4	-123.7	-35.9	0.0	0.0	0.0	-33.4	0.0	-181.5	-282.5	-92.7
Switzerland	-15.7	-28.1	-38.6	-63.4	-25.8	-141.5	-224.6	-271.1	-50.0	-78.8	0.0	-9.2	-27.3	-149.6	-80.3

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Canada	-4.4	0.0	-57.2	-54.8	0.0	-147.6	-43.2	0.0	-25.7	-107.5	0.0	-173.9	-131.3	-283.6	-73.5
Benin	-10.6	-20.6	-26.2	-27.0	-38.4	-45.3	-56.7	-78.5	-65.5	-67.4	-163.0	-59.2	-82.0	-205.5	-67.6
Jordan	-25.6	-32.6	-22.1	-181.2	-34.6	-67.0	-21.8	-185.7	-41.1	-90.4	-57.7	-69.0	-59.1	-49.0	-66.9
Libya, State of	-1.1	-1.0	-10.2	-3.3	-15.4	-76.1	-327.5	-60.0	-52.2	-180.7	-3.3	-96.1	-73.0	-15.7	-65.4
Argentina	-18.2	-3.7	-13.5	0.0	-84.7	-24.3	-32.7	0.0	-60.5	-82.5	-264.6	-195.3	-81.6	-17.9	-62.8
Cambodia	-9.2	-4.5	-11.8	-6.9	-25.6	-33.2	-47.7	-96.7	-81.1	-71.9	-118.4	-112.5	-106.6	-72.4	-57.0
Algeria	0.0	-11.0	-72.2	-51.8	-17.4	-87.3	-30.4	-1.3	-119.0	0.0	-175.4	-9.1	-30.0	-180.4	-56.1
Panama	-146.4	-77.1	-41.6	-12.0	-75.5	-3.5	-8.9	-10.5	-6.9	-14.5	-9.1	-145.9	-141.2	-86.2	-55.7
Sweden	-93.2	-156.7	-100.7	-49.0	-24.6	-117.1	0.0	-26.5	-31.0	-1.3	-31.7	-19.8	-29.3	-40.5	-51.5
Myanmar	-15.0	-14.3	-10.1	-13.0	-15.4	-26.2	-48.8	-46.7	-34.0	-126.4	-71.8	-77.5	-104.9	-114.8	-51.4
Bangladesh	-1.7	-5.2	-2.7	-11.5	-10.8	-7.8	-12.4	-1.0	-1.6	-10.2	0.0	-194.8	-193.1	-241.5	-49.6
Austria	-30.0	-36.4	-46.0	-69.3	-76.2	-76.2	-154.5	-36.0	-1.3	0.0	0.0	-63.1	-45.2	0.0	-45.3
Togo	-20.2	-21.5	-14.6	-21.4	-26.3	-6.4	-28.9	-51.8	-47.9	-53.4	-69.1	-50.7	-61.9	-115.9	-42.1
Sudan (North + South)	-24.7	-54.0	-14.6	-12.2	-47.1	-30.0	-60.8	-88.3	-41.2	-62.2	-54.6	-14.1	-14.5	-12.5	-37.9
Oman	-0.7	-1.6	-14.2	-0.5	-1.9	-7.0	0.0	-60.8	-64.5	-32.1	-77.4	-142.5	-30.5	-50.3	-34.6
Israel	-24.3	-9.9	-10.0	-11.3	-14.1	-13.0	-17.6	0.0	-3.6	-24.0	-68.3	-99.7	-81.4	-97.1	-33.9
Qatar	-1.3	-4.3	0.0	-14.8	-1.9	-4.4	-23.2	0.0	0.0	-191.8	-5.3	-169.5	0.0	0.0	-29.7
Ghana	0.0	-5.5	-12.5	-15.3	-11.4	-14.5	0.0	-5.8	-31.7	-49.6	-75.5	-50.4	-101.1	-40.2	-29.5
Mozambique	-3.5	-6.6	-17.7	-26.9	-12.4	-17.4	-5.9	-11.8	-14.0	-16.8	-69.2	-70.0	-60.8	-73.3	-29.0
Angola	-2.7	-2.0	-18.1	0.0	-17.0	-31.1	-7.3	-10.7	-17.6	-25.4	-37.3	-107.5	-62.8	-66.5	-29.0
Tanzania, United Republic of	0.0	-5.0	-6.7	-7.7	-8.4	-0.8	-2.3	0.0	-24.9	-38.2	-83.2	-38.7	-62.6	-124.5	-28.8
Chile	-13.2	-20.8	-24.8	-75.4	-66.0	-33.7	-68.6	0.0	-18.7	-10.9	-6.4	-2.9	-44.7	-9.8	-28.3

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Yemen	-14.9	-22.9	-13.6	-30.3	-50.1	-52.6	-0.1	-23.8	-36.2	-32.5	-37.7	-54.8	-16.1	-9.1	-28.2
Greece	-5.4	-4.7	-5.5	-5.8	-2.9	-27.8	-68.0	-29.2	-19.5	-29.5	-32.5	-61.7	-38.1	-62.2	-28.1
Finland	-0.1	-43.0	-3.7	-25.6	-12.5	-25.8	0.0	0.0	0.0	-14.5	-139.8	-78.0	-24.7	0.0	-26.3
Côte d'Ivoire	-13.2	-25.8	-23.6	-30.8	-6.8	-11.4	-22.4	-36.0	-25.2	-7.0	-10.2	-49.2	-47.0	-58.7	-26.2
Mauritania	-14.1	-13.1	-8.0	-12.9	-11.7	-1.8	-5.3	-7.2	-13.4	-11.9	-23.3	-63.0	-85.1	-89.2	-25.7
Papua New Guinea	-5.2	-9.8	-12.0	-15.3	-16.5	-41.6	-14.0	-16.8	-21.4	-29.8	-90.5	0.0	-42.3	-34.4	-25.0
Timor-Leste	-9.1	-6.7	-7.4	-2.1	0.0	-5.1	-1.3	-14.8	-27.3	-29.3	-36.9	-43.1	-117.8	-37.8	-24.2
Georgia	-3.1	-5.0	-6.1	-4.3	-6.9	-13.0	-17.6	-26.6	-16.5	-31.3	-29.4	-43.1	-49.2	-63.9	-22.6
Djibouti	-2.5	-2.1	-2.7	-3.8	-7.1	-7.6	-7.4	-9.8	-49.4	-11.9	-31.2	-45.3	-47.8	-51.2	-20.0
Congo	-2.5	-6.9	-2.0	-1.7	-1.9	-2.2	0.0	0.0	0.0	0.0	-139.5	-45.0	-19.2	-20.4	-17.2
Poland	0.0	0.0	-5.7	-38.0	-19.8	-2.5	-12.7	0.0	-23.6	-28.2	-36.9	-15.9	-15.0	-29.1	-16.2
Kuwait	0.0	0.0	0.0	0.0	-226.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-16.2
Syrian Arab Republic	-4.0	-10.2	-7.7	-11.7	-15.0	-27.8	-34.5	-38.8	-14.7	-15.5	-12.9	-10.0	-5.8	-7.9	-15.5
Guinea	-9.7	-11.6	-2.7	-11.5	-5.3	-0.2	-10.2	-20.5	-6.3	-17.9	-10.8	-36.3	-41.1	-30.1	-15.3
Belarus	-9.5	-6.3	-12.8	-15.8	-16.7	-24.6	-5.0	0.0	-12.4	-23.4	-27.9	-18.5	0.0	-36.4	-14.9
Czech Republic	-3.0	-1.1	0.0	-12.9	-25.0	-17.9	-19.3	-11.3	-11.8	-0.8	-9.0	-58.9	-8.4	-26.3	-14.7
Iraq	-13.8	-27.5	-2.1	-19.1	-14.3	-11.0	-2.0	-44.3	-6.9	-8.8	-25.8	-7.5	-7.6	-12.1	-14.5
Gambia	-5.6	-6.0	-5.1	-5.2	-2.3	-1.9	-3.1	-7.4	-17.3	-20.3	-31.8	-26.7	-29.4	-35.2	-14.1
Bulgaria	0.0	-10.4	-18.4	-6.7	-1.7	-0.3	-6.0	-26.8	-7.0	-20.2	-23.2	-20.6	-13.0	-41.0	-13.9
Latvia	-0.3	0.0	-0.2	-2.2	-8.3	-3.7	-4.5	-3.7	-4.9	-14.4	-29.0	-36.6	-41.6	-42.4	-13.7
Ecuador	-8.4	-1.4	-0.2	0.0	-10.6	-26.7	-15.6	-18.0	-18.5	-35.4	-12.2	-23.1	-15.0	0.0	-13.2
Peru	-1.2	-1.8	-6.4	-0.4	-5.2	-4.1	-2.7	-6.1	-12.4	-10.9	-18.7	-40.6	-68.8	0.0	-12.8
Colombia	-0.3	0.0	-0.8	-18.6	-1.0	-1.9	0.0	-7.4	-5.1	-17.7	-3.3	-113.8	-1.5	0.0	-12.2
Senegal	-13.2	-5.7	-9.6	-2.2	-5.3	-2.3	0.0	-1.1	-0.2	-7.0	-22.2	-24.9	-22.6	-39.5	-11.1

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Madagascar	-15.4	-4.4	0.0	-0.7	-4.1	-0.1	-9.6	-0.7	-0.2	-5.9	-19.8	-32.8	-35.4	-24.9	-11.0
Russian Federation	0.0	0.0	-152.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.9
Portugal	-4.8	-2.9	-2.9	-8.0	-3.8	-2.3	-18.8	0.0	-12.3	-22.7	0.0	0.0	-43.9	-29.6	-10.9
Ireland	-36.0	-15.1	-15.6	-29.2	-50.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.9	0.0	-10.7
Kazakhstan	0.0	-3.7	0.0	0.0	0.0	-1.8	0.0	0.0	-27.3	0.0	0.0	0.0	-116.2	0.0	-10.6
Lithuania	0.0	0.0	0.0	-6.9	0.0	0.0	0.0	-25.0	-19.7	-16.7	-26.9	-23.1	-15.4	-6.7	-10.0
Netherlands Antilles	-13.1	-9.4	-5.5	-8.9	-11.1	-6.1	-7.8	-9.9	-7.6	-20.4	-18.2	-7.5	-5.5	-4.1	-9.7
Malta	0.0	-0.9	0.0	-1.8	-9.0	-1.8	-19.3	-27.8	-0.2	0.0	0.0	-16.2	-17.6	-29.9	-8.9
Norway	0.0	-7.2	0.0	0.0	-9.7	-32.9	-65.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.2
Guatemala	-3.9	-5.4	-5.4	-5.4	-6.1	-2.3	-1.8	-4.1	-0.3	-27.0	-5.1	-5.5	-4.5	-23.1	-7.1
Mali	-8.8	-7.0	-7.6	-9.3	-3.3	-12.9	-16.9	-8.6	-2.1	0.0	-0.8	-2.3	-8.4	-10.5	-7.0
Gabon	-1.3	-1.9	-1.3	-1.7	-1.6	-1.0	-41.7	-28.1	-3.9	-1.6	-3.4	-3.2	-2.8	-3.5	-6.9
Kenya	0.0	0.0	0.0	0.0	-1.9	0.0	0.0	0.0	0.0	0.0	-7.7	-47.1	-2.8	-34.3	-6.7
Croatia	-0.1	-0.1	-1.1	0.0	-1.3	-0.9	0.0	-3.2	-3.9	-12.1	-33.6	-0.4	-14.9	-12.9	-6.0
Turkey	-16.5	-9.4	-6.5	-9.5	-23.4	-19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.0
Zimbabwe	-6.7	-7.1	-1.4	-31.8	-3.2	-0.4	-3.5	-2.8	-2.1	-4.4	-12.2	-3.7	-1.0	-1.1	-5.8
Morocco	0.0	-6.4	-13.8	0.0	-3.1	0.0	0.0	0.0	0.0	-41.1	-13.2	0.0	0.0	0.0	-5.5
Venezuela, Bolivarian Republic of	-2.7	-3.4	-7.6	-13.3	-4.7	0.0	0.0	-4.8	0.0	-13.9	-9.4	0.0	-8.9	-6.6	-5.4
Paraguay	0.0	0.0	-1.8	0.0	-0.6	0.0	-2.0	-4.3	-3.0	-9.3	-6.9	-11.1	-31.3	-2.8	-5.2
Fiji	-2.6	-2.4	0.0	-1.5	-1.0	-2.1	-2.7	-6.6	-28.0	-4.4	-7.4	-7.7	-5.0	0.0	-5.1
Slovenia	0.0	0.0	-1.6	-1.8	-8.3	-28.0	-1.3	-0.1	-3.6	0.0	0.0	-13.6	-2.5	-8.4	-4.9
Cameroon	-2.1	-1.0	-0.5	-6.3	-3.7	-0.5	-0.6	-3.0	0.0	-9.3	-1.6	-20.5	-8.9	-9.6	-4.8
Hungary	-3.7	-6.9	-6.3	-0.9	0.0	-2.4	0.0	0.0	-10.5	-11.8	-7.5	-5.4	-11.3	0.0	-4.8
Costa Rica	-0.6	-6.1	-10.9	-2.7	-1.3	-6.0	-7.0	-15.5	-5.6	-2.9	-1.8	0.0	-2.1	0.0	-4.5

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Liberia	-21.5	-1.0	-0.5	-1.0	-0.9	-2.7	-6.0	-1.0	-2.0	-3.5	-5.2	-6.6	-4.6	-3.9	-4.3
Denmark	-5.7	-14.3	-14.6	-2.0	-6.5	-1.3	0.0	0.0	0.0	0.0	-15.3	0.0	0.0	0.0	-4.3
Niger	-6.5	-1.8	-7.5	-10.8	-6.7	-6.1	-2.1	-0.5	-1.2	0.0	-0.4	-0.9	-1.5	-12.4	-4.2
Haiti	-0.7	-1.2	-0.7	-0.9	-0.8	-1.1	-1.5	-1.5	-2.3	-2.7	-4.9	-8.6	-12.1	-14.2	-3.8
Ethiopia	-1.0	-1.2	0.0	-0.6	-0.7	0.0	-0.4	0.0	0.0	-4.5	-6.7	-8.3	-12.7	-16.8	-3.8
Uruguay	-15.9	-2.2	-1.5	-1.1	-1.9	-0.3	-1.4	-2.7	-2.9	-7.5	-3.8	-4.2	-5.9	0.0	-3.7
Sierra Leone	-0.8	-2.2	-0.7	-1.3	-1.1	-2.0	-3.1	-1.7	-1.4	-2.4	-4.7	-4.2	-3.6	-21.7	-3.6
Romania	0.0	-1.7	0.0	0.0	0.0	0.0	0.0	-5.6	0.0	-5.7	0.0	-2.5	-14.5	-20.2	-3.6
Samoa	-4.9	-4.7	-1.7	0.0	-0.2	-5.9	-10.8	-3.7	-5.5	-5.9	-4.4	0.0	-1.7	-0.5	-3.6
United States Minor Outlying Islands	-2.2	-4.6	-3.7	-1.8	-1.7	-1.9	-2.8	-3.2	-1.4	-2.4	-6.2	-4.9	-7.7	-3.0	-3.4
Maldives	0.0	-0.2	-4.6	-5.0	-2.2	-4.2	-1.9	-4.6	-3.5	-4.9	-6.0	-4.1	-3.0	-2.7	-3.3
Bahrain	-30.9	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	0.0	0.0	-12.8	0.0	0.0	0.0	-3.2
Nicaragua	-3.3	-2.6	0.0	0.0	-2.0	0.0	0.0	-2.6	-1.0	-1.9	-1.2	-11.5	-14.2	-2.4	-3.1
Marshall Islands	0.0	0.0	0.0	-0.1	-2.1	-2.2	-1.7	-2.8	-22.5	-4.5	-1.9	-3.6	-0.5	-0.7	-3.1
Bolivia, Plurinational State of	-0.5	-0.3	-0.1	-3.8	-0.6	-0.2	0.0	-34.5	0.0	-0.1	-0.1	0.0	0.0	0.0	-2.9
Korea, Democratic People's Republic of	-0.9	-0.7	-0.4	-1.7	-2.6	-2.3	-0.5	-2.5	-2.6	-3.3	-6.4	-10.4	-2.8	-0.5	-2.7
Dominican Republic	-7.2	-5.8	-0.8	-4.4	-5.4	-1.9	0.0	-2.3	0.0	-1.6	-2.7	-0.4	-1.5	-2.5	-2.6

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Luxembourg	-0.2	-1.5	-1.9	-2.0	-6.6	0.0	0.0	0.0	-0.4	-13.6	-8.0	0.0	0.0	-1.6	-2.6
Trinidad and Tobago	-1.8	-2.4	-8.2	-0.8	0.0	-2.3	0.0	0.0	-1.5	0.0	-7.0	-5.6	-2.6	-2.6	-2.5
Honduras	-3.0	-2.6	-2.5	-3.0	-3.6	-3.6	-1.3	-3.8	-2.2	-0.7	-6.5	0.0	-0.3	-1.3	-2.5
Jamaica	0.0	0.0	0.0	0.0	0.0	0.0	-7.7	-4.1	-3.9	-5.7	-3.2	-1.1	-1.8	-6.1	-2.4
Mexico	-0.5	0.0	0.0	0.0	-27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0
Congo, Democratic Republic of the	-0.8	-1.2	-0.6	-0.5	-0.1	-0.1	0.0	0.0	0.0	0.0	-7.9	-5.6	-5.5	-5.0	-2.0
Uzbekistan	-0.6	-0.5	-0.7	-0.6	-1.9	-1.8	-4.7	-2.3	-0.5	-1.6	-2.5	-1.5	-5.6	-2.3	-1.9
Slovakia	0.0	0.0	-0.2	0.0	-1.7	-1.4	0.0	0.0	-3.1	-7.0	-4.5	-8.4	0.0	0.0	-1.9
Lao People's Democratic Republic	-0.3	-0.1	-0.6	-0.3	-0.3	-0.8	-1.1	-0.7	-0.9	-1.0	-1.6	-4.5	-2.2	-9.3	-1.7
Suriname	-0.3	-0.3	-0.4	-1.8	-0.3	-0.4	-0.2	-0.8	-2.0	-2.1	-2.0	-4.1	-2.7	-5.2	-1.6
New Caledonia	-0.1	0.0	-2.9	0.0	0.0	0.0	0.0	0.0	-5.3	0.0	-7.4	0.0	-6.6	0.0	-1.6
Somalia	-2.1	-0.6	-0.2	-0.2	-1.5	-1.0	-1.3	-0.5	-0.4	-0.7	-1.1	-1.9	-3.7	-6.1	-1.5
Cuba	0.0	0.0	0.0	0.0	0.0	-5.3	-1.1	-2.1	-1.3	-1.7	-2.8	-2.3	-2.3	-0.8	-1.4
Zambia	0.0	-1.5	-5.6	-3.7	-0.4	-8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4
Solomon Islands	0.0	-0.5	-3.5	0.0	-0.3	-0.5	-0.4	-1.3	-2.1	-1.4	-2.4	-2.6	-2.1	-1.9	-1.4
British Virgin Islands	-0.2	-0.1	-0.2	-0.4	-1.7	-0.2	-0.6	-1.6	-1.1	-2.8	-5.3	-0.6	-2.5	-0.9	-1.3
Vanuatu	-0.1	-1.0	-1.8	-0.3	-0.3	0.0	-1.3	-1.3	-0.5	-7.6	-1.8	-0.7	-0.7	-0.7	-1.3
Namibia	-4.0	-2.0	-0.5	-0.8	-0.8	0.0	-0.7	0.0	0.0	0.0	-0.9	-2.9	-1.5	-2.4	-1.2

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Serbia	0.0	0.0	0.0	0.0	0.0	-1.0	-1.8	-1.4	-2.4	-0.7	0.0	-7.0	-2.2	0.0	-1.2
Swaziland	0.0	0.0	0.0	-0.3	-2.7	-0.9	0.0	-1.9	-1.5	-1.4	-1.0	-0.9	-4.9	-0.8	-1.2
Estonia	0.0	-1.1	-2.7	0.0	-2.9	0.0	-1.3	0.0	-1.5	-1.9	-4.0	0.0	0.0	-0.1	-1.1
El Salvador	-2.9	-0.8	-4.7	-1.0	-0.3	-2.2	-0.9	-0.1	0.0	0.0	-0.5	0.0	0.0	0.0	-1.0
Dominica	-0.6	-0.9	-0.5	-0.9	-0.9	-1.1	-1.7	-1.3	-1.2	-0.3	-0.8	-0.4	-1.9	-0.4	-0.9
Cyprus	0.0	0.0	-0.1	0.0	-3.8	0.0	-0.1	-0.1	0.0	0.0	0.0	-1.8	-5.0	-1.9	-0.9
Mongolia	-0.5	-0.6	-1.6	-0.3	0.0	0.0	-2.9	-0.6	-0.6	-2.4	0.0	0.0	-3.2	0.0	-0.9
Lesotho	-0.1	0.0	0.0	-0.4	-0.5	-0.3	-4.2	-4.4	-1.4	0.0	-0.6	-0.4	0.0	-0.2	-0.9
Central African Republic	-0.8	0.0	-0.7	-1.6	-1.5	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-7.5	0.0	-0.9
Nepal	-1.4	-1.1	0.0	-1.0	-2.4	-1.5	-2.1	-2.6	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.9
Comoros	-1.2	-1.2	-0.1	-0.3	0.0	-0.1	-1.2	-0.9	0.0	-0.8	-2.0	-1.8	-2.3	-0.5	-0.9
Tunisia	-1.0	-4.4	0.0	-0.4	-2.0	0.0	-0.6	0.0	0.0	0.0	-3.7	0.0	0.0	0.0	-0.9
Bahamas	-0.5	-0.8	-0.5	-0.4	-0.8	-1.0	-1.2	-0.9	-0.5	-1.2	-1.0	-1.0	-0.5	-0.8	-0.8
Bermuda	-0.1	-0.2	-0.1	-0.2	-0.3	-0.2	-1.1	-0.5	-0.3	-5.9	-0.8	-0.6	-0.6	0.0	-0.8
Burkina Faso	0.0	-0.1	-1.5	-0.3	-2.7	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-0.7
Eritrea	-0.6	-0.7	0.0	-1.0	-0.2	-0.2	-0.4	-0.9	-0.4	-0.6	-0.9	-0.8	-1.0	-1.6	-0.7
French Polynesia	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.2	-0.2	-7.8	0.0	-0.1	0.0	-0.6
Cayman Islands	-2.8	-2.1	-0.8	-0.4	-0.1	0.0	0.0	0.0	-1.1	-1.0	0.0	-0.2	0.0	-0.1	-0.6
Aruba	-0.1	-0.1	-0.1	-0.1	0.0	-0.7	-1.0	-1.2	-0.7	-0.6	-1.2	-0.8	-1.0	-0.7	-0.6
Seychelles	-0.4	-0.3	0.0	-0.3	0.0	0.0	-0.5	0.0	-1.0	-1.1	-1.1	-0.9	-1.2	-1.2	-0.6
Albania	-0.8	-1.7	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	0.0	-1.7	-0.6
Barbados	0.0	0.0	0.0	0.0	-0.9	-4.1	-2.7	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.6
Lebanon	-0.2	0.0	0.0	0.0	0.0	-0.1	-0.3	-1.1	0.0	0.0	-0.6	-5.0	-0.2	0.0	-0.5

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Country															
Christmas Islands	-0.3	-0.5	-0.7	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.1	-0.9	-1.0	-1.1	-2.2	-0.5
Chad	-0.1	0.0	-0.2	0.0	-0.3	-0.3	-1.2	-0.5	-0.2	-0.5	-0.8	-1.1	-1.1	-1.3	-0.5
Micronesia, Federated States of	0.0	-0.3	-0.3	-0.4	-0.9	-0.8	-1.5	-0.6	-0.1	-0.1	-0.8	-0.7	-0.8	-0.1	-0.5
Kyrgyzstan	-0.7	-0.5	-0.5	0.0	0.0	0.0	-0.8	-0.4	-0.7	-0.6	-1.1	-1.2	0.0	-0.3	-0.5
Faroe Islands	-2.0	-0.8	-1.9	-2.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.5
Guyana	-0.1	-0.1	-0.2	-0.4	-0.4	-1.0	-0.4	-0.8	-0.6	-0.5	-0.5	-0.8	-0.6	-0.5	-0.5
Montserrat	-2.4	-2.3	-1.1	-0.7	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5
Mauritius	0.0	-0.9	-0.4	0.0	-0.3	-0.9	0.0	0.0	0.0	-3.7	0.0	0.0	0.0	0.0	-0.4
Equatorial Guinea	-0.1	-0.1	-0.1	-0.2	-0.3	-0.6	-0.4	-0.3	-0.6	-0.7	-0.5	-0.8	-0.8	-0.7	-0.4
Tonga	0.0	-0.4	0.0	-0.4	-0.3	-0.4	-0.4	-0.8	-1.0	-0.8	-0.6	-0.2	-0.1	-0.4	-0.4
Macedonia, The Former Yugoslav Republic of	-0.7	-1.4	-1.3	-1.2	0.0	0.0	0.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4
Belize	-2.8	-0.6	-0.2	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0.0	0.0	0.0	-0.4
Sao Tome and Principe	-0.7	-0.7	-0.5	-0.4	-0.3	-0.2	-0.2	-0.5	-0.1	-0.3	-0.8	0.0	0.0	-0.3	-0.4
Norfolk Island	-1.1	-0.4	-0.2	0.0	0.0	-0.2	-0.2	-0.1	-0.1	-1.8	-0.2	-0.1	-0.2	-0.2	-0.3
Burundi	-0.3	-1.5	-0.2	-0.6	0.0	0.0	0.0	-0.2	-1.1	0.0	-0.9	0.0	0.0	0.0	-0.3
Turkmenistan	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	-0.3	-0.1	-0.3	-0.4	-0.9	-0.9	-0.6	-0.3
Tajikistan	0.0	0.0	-0.2	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.9	-0.8	-1.5	-0.3	-0.1	-0.3

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Guinea-Bissau	0.0	0.0	0.0	0.0	0.0	-0.2	-0.6	-0.7	-0.3	-0.2	-0.2	-0.3	-0.8	-0.8	-0.3
Kiribati	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.3	-0.3	-0.6	-0.8	-1.2	-0.3	-0.3
Botswana	-0.4	0.0	0.0	-0.8	-0.6	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.0	-1.3	-0.1	-0.3
Falkland Islands (Malvinas)	-0.3	-1.6	-1.1	-0.5	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
Cook Islands	-0.1	-0.4	-0.2	-0.1	0.0	-0.6	-0.2	-0.2	-0.6	-0.2	-0.3	-0.1	-0.3	-0.2	-0.3
Cocos (Keeling) Islands	-0.3	-0.5	-0.7	-0.1	0.0	0.0	0.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
Antigua and Barbuda	-0.2	-0.3	-0.4	-0.4	-0.8	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.9	-0.2
Andorra	0.0	0.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	0.0	0.0	0.0	0.0	-0.2
Turks and Caicos Islands	-0.5	-0.8	-0.4	-0.4	-0.2	-0.2	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.2
Macao, China	-0.2	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-2.3	0.0	-0.2
Gibraltar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-2.1	-0.2
Saint Lucia	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.5	-0.1	-0.2	-0.1	-0.1	-0.1	-0.4	-0.1
Anguilla	0.0	-0.4	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.8	-0.1
Tuvalu	0.0	0.0	0.0	0.0	-0.1	-0.4	-0.2	-0.1	-0.1	-0.3	-0.1	-0.5	0.0	-0.1	-0.1
Malawi	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	-0.3	-0.1
Nauru	-0.6	-0.1	-0.5	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
Saint Helena	-0.1	-0.2	-0.5	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.1	0.0	0.0	-0.1
Cabo Verde	-0.6	-0.4	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	-0.1

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Serbia and Montenegro	0.0	0.0	-0.5	-0.3	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Afghanistan	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Saint Kitts and Nevis	-0.4	-0.4	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1
Tokelau	-0.2	-0.1	-0.5	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	-0.1
Northern Mariana Islands	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Palestine, State of	-0.3	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-0.1
Grenada	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.2	-0.1	-0.1
Bhutan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	-0.1	-0.1
Iceland	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	0.0	-0.1
Mayotte	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	0.0	0.0	-0.1	-0.2	0.0	-0.1
British Indian Ocean Territories	0.0	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Bosnia and Herzegovina	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Moldova, Republic of	0.0	0.0	0.0	-0.2	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palau	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Wallis and Futuna Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Niue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Western Sahara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greenland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rwanda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Vincent and the Grenadines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
American Samoa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bouvet Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
British Antarctic Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
French South Antarctic Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indonesia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Montenegro	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pitcairn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
St. Pierre and Miquelon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Annex 6 Illicit Financial Outflow from Indonesia (US$ million)

Countries and Territories	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Mean
Saudi Arabia	995.9	919.6	0.0	1639.0	0.0	0.0	2127.1	4004.1	2613.2	3634.0	4522.2	4332.8	5438.7	0.0	2159.0
China	1039.2	854.0	986.6	1408.3	368.4	0.0	711.3	299.3	0.0	1636.7	3173.2	4953.8	3585.4	2806.5	1558.8
Singapore	2622.5	3416.4	1541.0	2109.6	869.5	3368.2	1720.0	1811.3	1613.4	313.2	0.0	0.0	0.0	0.0	1384.7
United States of America	1503.7	1084.0	1172.4	973.9	1092.7	1003.1	1029.4	1515.9	1292.3	898.8	1607.0	1772.2	0.0	0.0	1067.5
Germany	485.3	494.8	577.5	692.2	742.0	914.2	1276.4	1375.5	806.9	988.1	1611.4	1267.1	1142.5	1294.5	976.3
Kuwait	496.6	444.9	469.0	743.6	0.0	1089.7	1246.3	1371.7	1092.2	961.5	1064.3	1505.2	1049.3	1062.8	899.8
France	308.6	308.3	469.9	528.6	581.4	859.6	1083.9	1324.0	726.0	524.4	967.0	707.6	647.6	645.3	691.6
Malaysia	89.2	93.5	86.9	484.9	211.7	18.8	309.3	1231.0	0.0	1578.4	1866.0	1265.7	601.9	0.0	559.8
Russian Federation	107.5	164.4	42.3	107.9	207.5	236.9	331.4	807.3	316.9	493.7	1232.7	1220.0	1436.9	726.7	530.9
United Kingdom	569.9	539.3	518.0	544.9	387.0	449.3	523.4	805.6	469.6	349.1	326.5	178.0	62.4	0.0	408.8
Turkey	0.0	34.3	111.6	163.1	59.3	135.3	527.3	1032.7	407.9	160.0	330.9	137.1	986.6	920.1	357.6
Mexico	151.1	177.7	135.7	242.3	267.6	362.6	391.1	432.3	366.5	374.2	585.2	669.6	487.0	312.9	354.0
Indonesia	441.3	380.2	500.8	319.2	482.6	680.9	0.0	39.8	34.0	209.4	318.8	268.6	299.4	295.3	305.0
Canada	127.6	163.2	170.9	160.7	202.1	145.1	223.1	375.7	226.8	291.2	261.8	303.4	329.4	389.9	240.8

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Thailand	71.9	71.4	88.4	0.0	360.5	184.5	267.4	840.5	0.0	163.3	244.9	104.3	665.5	280.8	238.8
Australia	0.0	93.3	542.2	534.4	265.0	233.1	0.0	0.0	0.0	1.9	0.0	556.8	423.5	172.4	201.6
Spain	159.3	95.1	325.2	358.0	266.6	142.4	313.2	473.7	205.9	0.0	215.1	0.0	0.0	0.0	182.5
Poland	69.3	69.3	118.7	178.1	150.2	155.4	153.0	180.8	145.3	193.1	226.3	173.8	229.1	258.5	164.4
Nigeria	0.0	0.0	0.0	0.0	0.0	3.8	500.9	0.0	0.0	0.0	419.7	800.7	491.3	0.0	158.3
Austria	101.3	90.5	122.0	133.7	139.7	148.1	161.4	192.3	149.0	197.4	208.2	155.1	165.4	222.9	156.2
Bangladesh	59.9	29.3	55.7	83.3	19.8	98.0	113.9	345.7	293.9	249.6	692.3	0.0	0.0	0.0	145.8
Italy	94.6	62.1	160.4	305.1	263.4	271.0	264.1	278.2	207.5	0.0	0.0	0.0	0.0	0.0	136.2
Czech Republic	52.9	72.3	73.8	94.1	105.3	127.9	104.3	75.5	38.7	103.8	251.6	191.9	162.8	148.4	114.5
Finland	6.1	0.0	35.9	25.0	37.1	76.8	62.5	169.6	91.9	165.9	244.1	118.4	197.3	261.1	106.5
Kenya	64.0	106.8	103.5	53.5	66.6	125.9	179.2	216.4	138.2	43.5	144.9	0.0	202.6	0.0	103.2
Sweden	0.0	0.0	12.2	0.0	21.2	9.8	11.4	102.4	68.3	123.4	107.7	520.9	258.1	129.1	97.5
Norway	39.9	41.2	49.0	100.5	51.7	47.3	47.6	143.3	85.1	163.7	179.9	117.5	135.6	118.5	94.3
Ethiopia	17.1	10.0	15.1	7.2	4.8	28.8	40.5	60.8	52.2	58.7	140.9	260.3	263.1	335.6	92.5
Ukraine	6.5	4.5	0.0	67.2	74.9	42.5	30.4	309.9	45.2	139.4	44.4	172.8	142.4	80.8	82.9
Sudan (North + South)	11.4	0.0	0.0	0.0	0.0	52.5	0.0	457.6	413.2	42.9	0.0	0.0	0.0	0.0	69.8
Slovakia	36.8	35.9	57.6	65.7	35.6	46.7	66.7	114.2	49.0	79.0	114.5	89.0	84.3	91.3	69.0
Uganda	3.6	1.9	4.1	7.3	13.5	10.6	11.3	19.4	33.1	93.4	192.1	205.5	149.0	184.8	66.4
Bahrain	4.2	13.1	27.6	75.6	95.1	22.0	15.5	192.9	68.5	75.0	12.2	61.9	62.7	131.8	61.3
Luxembourg	11.9	12.8	20.9	31.1	26.6	44.3	34.8	4.3	33.4	0.0	235.7	144.1	141.0	114.4	61.1
Hungary	63.3	63.6	69.6	0.4	30.2	9.4	41.9	47.3	34.8	58.4	212.8	111.2	53.1	30.3	59.0
Korea, Republic of	0.0	0.0	19.8	476.6	0.0	0.0	12.1	316.8	0.0	0.0	0.0	0.0	0.0	0.0	59.0
New Zealand	4.6	16.8	27.4	46.4	68.3	44.7	87.2	139.4	31.8	0.0	98.7	4.2	125.3	104.5	57.1
Switzerland	11.8	35.6	0.0	0.0	4.2	0.0	0.0	92.6	24.7	0.0	53.8	177.5	183.8	150.2	52.4
Azerbaijan	0.1	0.1	12.8	12.0	0.0	54.6	2.4	3.1	2.1	3.3	561.2	26.5	19.5	27.2	51.8

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Ireland	19.9	41.3	14.5	26.3	17.5	53.5	117.8	81.9	153.8	32.2	36.2	34.7	38.4	52.7	51.5
Algeria	121.0	20.2	23.5	23.2	0.0	23.7	0.0	90.7	32.0	160.2	54.3	108.5	4.1	12.4	48.1
Panama	46.8	17.0	15.6	0.0	31.5	15.9	0.0	27.1	142.5	39.4	61.7	186.2	9.0	31.3	44.6
Qatar	10.1	11.5	17.3	0.6	25.7	7.0	40.5	228.7	63.7	19.5	27.1	39.4	58.6	39.4	42.1
Nepal	0.0	0.0	43.9	0.0	0.0	0.0	0.0	0.0	76.3	72.9	75.0	68.5	135.1	113.7	41.8
Hong Kong, China	0.0	3.8	114.5	68.0	111.1	0.0	71.1	168.7	0.0	34.1	0.0	0.0	0.0	0.0	40.8
United Arab Emirates	0.0	0.0	0.0	0.0	174.8	0.0	89.7	266.2	0.0	0.0	0.0	0.0	0.0	0.0	37.9
Israel	46.8	47.0	27.2	22.9	36.4	72.6	74.3	152.9	0.0	0.0	0.0	0.0	0.0	0.0	34.3
Macedonia, The Former Yugoslav Republic of	0.6	0.8	1.2	1.8	13.0	33.2	110.6	0.0	37.0	44.8	52.5	82.7	54.0	28.7	32.9
Egypt	4.1	2.1	0.0	0.0	14.3	17.8	28.6	112.1	0.0	65.0	56.1	88.6	11.3	59.8	32.8
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	405.1	28.9
Denmark	19.9	13.1	37.0	30.7	9.1	0.0	35.6	33.6	30.0	23.2	54.3	20.8	53.0	38.5	28.5
Morocco	11.4	6.5	18.6	13.3	9.1	36.7	30.1	26.8	30.5	10.9	38.2	62.9	49.7	18.8	26.0
Kazakhstan	3.2	0.0	61.2	10.6	20.4	17.1	28.6	26.7	12.9	31.3	27.4	48.3	27.1	40.4	25.4
Rwanda	1.1	50.8	56.1	227.4	0.9	0.9	1.0	2.2	1.3	1.1	2.2	3.0	2.4	1.7	25.2
Belgium	0.0	27.1	0.0	3.7	0.0	0.0	0.0	59.8	0.0	0.0	0.0	0.0	244.0	12.6	24.8
Philippines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	70.7	139.3	104.4	0.0	0.0	0.0	24.4
Belarus	3.4	3.7	4.4	5.6	9.6	13.2	25.2	67.2	36.0	38.0	45.2	31.3	45.4	0.0	23.4
Papua New Guinea	8.6	53.5	78.9	58.6	0.0	0.0	0.0	0.0	0.0	0.0	97.2	30.0	0.0	0.0	23.3
Madagascar	0.0	0.3	5.3	9.7	0.0	11.7	0.0	28.9	0.9	0.0	207.8	55.1	5.9	0.4	23.3
Bermuda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.9	222.9	1.0	20.3
Oman	15.1	10.9	2.0	4.9	0.0	7.3	25.5	0.0	0.0	14.5	0.0	0.0	110.5	92.0	20.2
Angola	0.0	0.0	0.0	278.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Chile	4.7	5.7	2.1	27.5	17.6	6.6	49.5	64.5	11.9	34.0	14.1	8.0	0.0	23.5	19.2
Serbia	0.0	0.0	0.0	0.0	0.0	17.7	30.9	37.9	23.4	28.5	37.5	27.0	31.8	34.6	19.2
Burkina Faso	3.0	3.6	3.2	9.0	7.0	0.0	13.6	12.6	12.4	51.4	53.5	29.1	19.1	30.2	17.7
Romania	21.5	17.7	16.9	23.2	31.2	25.8	7.0	5.1	6.7	1.2	24.0	41.8	19.1	0.0	17.2
Macao, China	5.4	9.1	2.9	4.2	11.5	2.5	17.2	31.3	24.0	40.0	33.5	22.1	0.0	30.2	16.7
Tanzania, United Republic of	11.2	1.8	3.0	4.5	0.6	37.3	44.6	28.1	0.0	15.8	54.2	12.3	9.7	9.7	16.6
Croatia	13.7	22.1	27.7	51.6	21.2	23.9	34.3	9.8	4.7	0.0	0.0	18.3	0.0	0.6	16.3
Portugal	0.0	28.6	28.0	16.3	15.3	0.0	3.3	9.1	2.6	0.9	59.4	25.5	17.5	15.5	15.9
South Africa	17.5	0.7	0.0	27.7	0.0	0.0	0.0	19.4	90.0	0.0	0.0	0.0	17.6	43.7	15.5
Peru	8.4	3.9	11.0	17.7	18.1	15.1	13.3	20.6	2.9	6.8	22.3	44.4	0.0	24.3	14.9
Colombia	17.9	13.9	2.7	0.0	1.9	0.0	4.1	0.0	4.5	0.0	25.8	45.0	51.3	41.7	14.9
Argentina	15.3	7.1	1.2	46.5	0.0	0.0	0.0	118.0	0.0	0.0	0.0	0.0	0.0	12.5	14.3
Lebanon	19.8	41.1	30.1	14.7	15.4	11.2	0.0	1.2	1.8	46.7	4.2	0.1	1.1	9.3	14.0
Slovenia	6.4	12.0	16.5	23.4	0.0	0.0	18.5	27.9	0.0	25.4	12.0	41.2	5.3	0.0	13.5
Armenia	0.0	3.7	0.4	0.3	0.4	11.9	13.7	28.9	21.0	21.1	18.7	20.0	21.7	18.6	12.9
Zambia	0.6	0.3	0.4	4.9	5.3	0.0	7.9	4.0	6.1	8.0	8.5	30.2	63.2	16.1	11.1
Japan	0.0	0.0	119.9	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	11.1
Zimbabwe	0.0	6.4	0.0	1.4	1.8	8.2	9.5	19.6	7.5	4.9	0.0	39.2	24.6	23.9	10.5
Estonia	12.8	11.3	11.4	9.0	9.3	7.6	0.0	4.6	0.4	0.0	0.8	75.1	2.2	0.3	10.3
Sri Lanka	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0	7.0	5.9	106.0	9.3
Mauritius	3.1	1.3	1.7	12.2	17.4	8.0	10.3	32.2	11.2	0.0	2.2	8.3	12.0	8.1	9.1
Tunisia	5.5	1.0	2.5	0.2	0.0	24.3	11.4	21.2	11.1	9.4	3.0	7.5	10.1	3.1	7.9
Congo	0.0	0.0	0.0	0.0	0.0	0.0	6.2	29.0	8.5	2.2	0.0	0.0	0.2	63.0	7.8
Central African Republic	3.0	3.5	7.5	0.0	0.0	7.1	22.1	12.8	5.1	6.5	7.0	8.2	10.7	13.9	7.7

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Bolivia, Plurinational State of	2.7	2.1	1.2	0.0	2.1	3.4	3.7	0.4	4.7	7.6	15.1	18.5	24.3	19.9	7.5
Malawi	2.2	1.9	2.9	2.3	2.4	6.9	5.3	2.3	6.6	12.4	11.2	7.6	19.1	19.1	7.3
Iran, Islamic Republic of	82.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
Bosnia and Herzegovina	0.0	0.0	1.3	4.1	5.5	4.2	5.0	2.3	5.8	6.2	8.9	9.3	18.3	22.1	6.6
Trinidad and Tobago	0.8	1.3	1.9	12.6	9.4	1.3	8.1	26.7	7.5	15.6	0.0	0.0	0.0	0.0	6.1
Lithuania	3.7	1.9	7.7	0.2	0.9	17.0	3.1	4.1	1.8	14.8	10.7	10.1	0.0	2.5	5.6
Yemen	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	1.8	0.0	0.8	1.4	70.6	5.6
Bulgaria	13.8	2.6	0.0	1.9	2.4	9.0	0.0	0.0	8.9	12.6	11.8	0.0	8.7	0.9	5.2
Afghanistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.9	0.0	0.0	12.3	53.2	2.0	5.2
Ghana	4.3	0.0	2.3	3.0	0.1	1.2	7.1	3.3	8.8	22.4	8.7	1.2	10.0	0.0	5.2
Pakistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.4	0.0	8.8	0.0	0.0	0.0	0.0	5.2
Netherlands Antilles	8.3	11.1	7.6	4.5	3.2	7.7	0.4	15.3	1.0	1.2	4.4	1.7	4.1	0.6	5.1
Venezuela, Bolivarian Republic of	2.1	0.0	0.0	3.3	5.9	3.1	17.8	0.0	32.5	0.0	0.3	5.2	0.5	0.0	5.1
Andorra	1.2	0.6	0.1	2.7	0.0	4.8	2.6	2.2	2.7	0.1	12.4	19.9	1.2	17.7	4.9
Swaziland	3.4	3.3	7.2	4.4	10.9	8.7	17.1	0.0	0.0	0.0	3.2	3.9	3.2	1.8	4.8
Namibia	0.0	0.0	0.1	1.3	1.0	18.9	4.1	12.7	16.1	5.2	6.0	1.3	0.0	0.1	4.8
Bhutan	0.0	0.0	0.0	0.0	3.5	23.9	23.3	5.0	0.2	5.4	0.6	2.0	0.0	0.0	4.6
New Caledonia	0.1	1.5	0.0	1.8	0.3	6.3	1.9	10.6	3.8	1.3	0.0	7.4	0.0	28.1	4.5
Cuba	5.5	3.2	8.4	4.4	5.2	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Moldova, Republic of	0.1	0.1	0.3	0.9	1.3	2.3	3.6	5.9	3.9	3.7	5.7	7.4	10.6	12.0	4.1
Mozambique	0.1	0.0	1.4	0.0	2.1	0.0	2.9	14.9	2.6	1.9	1.8	13.7	15.6	0.0	4.1
French Polynesia	1.0	3.2	3.5	5.6	6.0	6.0	2.8	7.0	3.9	4.5	2.7	3.1	3.3	2.9	4.0
Iceland	2.0	2.6	2.8	4.1	3.4	4.7	5.1	6.3	2.9	4.7	4.1	3.9	3.8	4.6	3.9
Cameroon	6.3	2.7	1.8	0.0	0.0	3.5	1.0	10.6	13.2	4.0	1.5	2.7	0.0	3.5	3.6
Jordan	0.0	0.0	0.0	0.0	3.8	0.0	0.0	2.8	0.0	0.0	0.0	1.5	34.4	5.8	3.4
Malta	1.3	0.2	5.1	0.0	0.8	0.6	0.1	0.7	0.0	7.5	11.8	0.0	18.5	0.0	3.3
Mongolia	0.3	0.0	0.0	0.1	0.3	0.6	0.3	0.0	0.0	0.0	7.8	10.5	2.4	21.4	3.1
Côte d'Ivoire	0.9	0.0	10.7	6.3	15.8	0.2	0.0	2.3	0.0	3.4	3.9	0.0	0.0	0.0	3.1
Guatemala	0.0	0.0	0.0	0.6	2.0	3.4	3.6	0.5	2.8	0.0	29.5	0.1	0.2	0.0	3.1
Ecuador	1.0	0.0	7.2	6.0	0.6	0.3	0.0	1.8	1.1	0.6	0.9	1.5	0.0	21.6	3.0
Cyprus	0.5	6.4	4.4	1.9	0.4	1.0	1.0	2.6	2.5	11.3	8.0	1.0	0.0	0.0	2.9
Bahamas	0.0	11.8	0.0	0.2	4.8	0.0	0.2	1.6	0.3	14.3	0.7	0.1	5.4	0.0	2.8
Uruguay	0.0	0.0	0.4	0.8	0.0	0.0	0.0	1.1	1.1	0.0	1.2	7.6	10.9	15.5	2.8
Mali	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.4	0.0	5.6	9.1	19.1	0.0	0.0	2.6
Serbia and Montenegro	6.9	10.1	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Benin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	23.1	8.4	0.0	0.0	2.6
Mayotte	2.0	1.5	2.0	3.3	5.1	5.4	3.5	6.7	4.4	0.0	0.0	0.0	0.0	0.0	2.4
Nicaragua	21.7	0.1	5.1	2.0	0.0	1.3	1.1	0.2	0.0	0.1	0.1	0.4	0.7	0.1	2.4
Costa Rica	0.0	0.6	0.2	0.3	0.6	1.1	0.6	0.0	1.9	4.4	6.3	5.6	3.1	7.3	2.3
El Salvador	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.8	1.5	2.2	4.5	5.8	10.6	3.6	2.1
Timor-Leste	0.0	0.0	0.0	23.1	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Paraguay	1.3	1.2	0.3	1.3	2.0	0.4	0.6	0.0	0.0	0.0	3.6	0.0	0.0	17.5	2.0
Togo	11.9	1.5	0.0	2.9	6.6	0.0	2.6	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.0
Greece	1.1	0.0	6.4	13.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Georgia	0.3	0.2	1.3	0.0	0.5	0.3	0.0	1.5	5.7	1.4	2.6	3.4	3.5	5.4	1.9
Belize	0.1	0.6	0.3	0.0	0.0	0.1	0.0	6.7	5.0	0.2	3.3	3.6	1.5	3.5	1.8
Brazil	0.0	0.0	21.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Montenegro	0.0	0.0	0.0	0.0	0.0	1.2	3.1	4.3	3.0	2.8	2.3	3.4	1.8	1.8	1.7
Antigua and Barbuda	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.1	0.4	12.3	5.1	3.9	0.2	1.7
Latvia	0.0	2.8	0.5	0.0	0.4	0.0	0.0	0.0	0.3	0.0	14.2	2.6	1.2	0.3	1.6
Senegal	0.1	0.0	0.0	0.2	0.0	1.1	1.8	0.7	0.9	1.9	9.3	1.6	0.8	2.0	1.5
Saint Vincent and the Grenadines	0.1	6.8	2.1	0.5	0.4	2.6	0.3	0.3	0.2	0.7	0.9	1.5	1.5	0.5	1.3
Syrian Arab Republic	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	3.2	0.0	0.0	0.0	0.0	1.3
Kyrgyzstan	0.2	0.1	1.4	2.0	3.2	1.7	0.8	0.7	1.2	2.5	1.0	1.2	1.9	0.0	1.3
Dominican Republic	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.3	3.5	0.0	4.9	1.8	1.2	1.1	1.2
Palestine, State of	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.3	1.4	3.6	1.5	3.0	2.1	4.4	1.2
Albania	0.0	0.0	0.0	0.8	1.0	1.5	3.2	2.7	1.3	0.4	0.7	0.1	3.3	0.3	1.1
Solomon Islands	0.2	0.0	1.0	0.0	0.0	0.0	0.1	2.5	3.3	1.8	1.0	0.0	1.1	0.4	0.8
Niger	0.3	4.4	0.5	0.1	0.1	0.2	0.1	0.0	0.0	1.9	1.9	1.9	0.0	0.0	0.8
Seychelles	1.7	0.2	1.8	0.1	0.9	2.6	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Brunei Darussalam	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.7
Barbados	0.1	1.1	0.9	0.6	0.0	0.0	0.0	1.0	1.5	1.0	1.1	0.7	0.3	1.3	0.7
Guinea	0.1	0.4	0.0	0.4	0.1	0.2	0.2	1.2	0.1	0.2	4.9	0.7	0.0	0.7	0.7
Gambia	0.0	0.0	0.0	0.0	2.1	0.0	0.1	0.6	0.0	0.9	4.3	0.6	0.0	0.0	0.6

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Jamaica	1.8	2.2	1.4	0.0	1.5	0.8	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.6
Honduras	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.5	4.0	0.4	2.3	0.6
Greenland	0.1	0.0	0.3	0.0	0.0	0.3	0.0	0.1	0.2	0.2	1.4	2.9	1.1	0.5	0.5
Fiji	0.0	0.4	1.5	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.0	0.5
Samoa	0.0	0.0	0.1	0.3	0.0	0.0	0.0	2.3	0.5	0.2	0.0	1.3	0.4	1.8	0.5
Cambodia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.5	3.5	0.0	0.4
Aruba	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	4.8	0.2	0.0	0.4
Mauritania	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.8	0.1	0.5	0.9	2.0	0.5	0.2	0.4
Suriname	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	1.5	0.0	0.0	0.3
Faroe Islands	0.1	0.0	0.0	0.0	0.4	1.0	0.9	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.3
Maldives	0.7	0.0	0.1	0.0	0.3	0.2	1.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Dominica	0.6	0.0	0.1	0.1	0.3	0.9	0.2	0.0	0.1	0.2	0.5	0.5	0.1	0.0	0.3
Kiribati	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	2.5	0.0	0.0	0.0	0.0	0.2
Burundi	0.0	0.2	0.4	0.0	0.2	0.1	0.1	0.2	0.0	0.8	0.0	0.1	0.5	0.3	0.2
Comoros	0.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.0	0.0	0.2
Lesotho	0.0	0.4	0.2	0.0	0.0	0.0	0.0	1.1	0.0	0.2	0.0	0.0	0.2	0.0	0.2
Cabo Verde	0.0	0.0	0.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4	0.0	0.1
Saint Kitts and Nevis	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.3	0.1	0.2	0.0	0.0	0.0	0.1
Guyana	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.8	0.1	0.0	0.1
Botswana	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.6	0.0	0.0	0.0	0.1
Saint Lucia	0.1	0.1	0.1	0.3	0.5	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Montserrat	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.1
Sao Tome and Principe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.1
Gabon	0.0	0.1	0.0	0.5	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Palau	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Eritrea	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Grenada	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cook Islands	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sierra Leone	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Micronesia, Federated States of	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tonga	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Anguilla	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Djibouti	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Vanuatu	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turks and Caicos Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guinea-Bissau	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tuvalu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
American Samoa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bouvet Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
British Antarctic Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
British Indian Ocean Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
British Virgin Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cayman Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Christmas Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocos (Keeling) Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Congo, Democratic Republic of the	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equatorial Guinea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Falkland Islands (Malvinas)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
French South Antarctic Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gibraltar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haiti	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iraq	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Korea, Democratic People's Republic of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lao People's Democratic Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liberia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Libya, State of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Marshall Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Myanmar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nauru	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Niue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Norfolk Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Northern Mariana Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pitcairn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Helena	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Somalia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
St. Pierre and Miquelon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taipei, Chinese	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tajikistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tokelau	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turkmenistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United States Minor Outlying Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uzbekistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viet Nam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Wallis and Futuna Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Western Sahara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Annex 7 The Result of Stationery Test

Variable	Level			1st Differenece		
	Intercept+ Trend	Intercept	None	Intercept+ trend	Intercept	None
1. GER Outflow	No	No	No	Yes	Yes	Yes
2. CPI	No	No	No	Yes	Yes	No
3. DPK	No	No	No	Yes	Yes	No
4. IHSG	No	No	No	Yes	Yes	Yes
5. IPI	Yes	No	No	Yes	Yes	Yes
6. M2	No	No	No	Yes	Yes	No
7. Total Trade	No	No	No	Yes	Yes	Yes
8. WPI *Export*	No	No	No	Yes	Yes	Yes
9. WPI Import	No	No	No	Yes	Yes	Yes
10. Xrate	No	No	No	Yes	Yes	Yes

Annex 8 The Result of Cointegration Equation Estimation

LN_GER_OUTFLOW = 1.928292 LN_CPI + 24.24998 LN_DPK + 0.456284 LN_IHSG − 1.442067 LN_IPI − 25.38009 LN_M2 − 3.583592 LN_TRADE + 5.737473 LN_WPI_EXPORT

(1.43637)   (2.69943)   (0.18098)   (0.91565)   (3.15470)   (0.54746)   (0.81299)

[1.34248]   [−8.98338]   [−2.52123]   [1.57491]   [8.04516   [6.54583]   [−7.05728]

+ 1.326833 LN_WPI_IMPORT − 4.382383 LN_XRATE

(0.87490)   (0.80801)

[−1.51655]   [5.42368]

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

Null Hypothesis: LN_GER_OUTFLOW has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.401098	0.3770
Test critical values:	1% level	-4.044415	
	5% level	-3.451568	
	10% level	-3.151211	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LN_GER_OUTFLOW)
Method: Least Squares
Date: 04/05/16   Time: 06:05
Sample (adjusted): 2006M04 2015M04
Included observations: 109 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_GER_OUTFLOW(-1)	-0.272007	0.113284	-2.401098	0.0181
D(LN_GER_OUTFLOW(-1))	-0.515795	0.122091	-4.224687	0.0001
D(LN_GER_OUTFLOW(-2))	-0.252773	0.099686	-2.535687	0.0127
C	3.902243	1.615459	2.415563	0.0175
@TREND(2006M01)	0.000287	0.000854	0.336010	0.7375

R-squared	0.399447	Mean dependent var	-0.002283
Adjusted R-squared	0.376348	S.D. dependent var	0.322535
S.E. of regression	0.254711	Akaike info criterion	0.147414
Sum squared resid	6.747297	Schwarz criterion	0.270871
Log likelihood	-3.034078	Hannan-Quinn criter.	0.197480
F-statistic	17.29341	Durbin-Watson stat	2.001992
Prob(F-statistic)	0.000000		

Roots of Characteristic Polynomial
Endogenous variables: D(LN_GER_OUTFLOW)
D(LN_CPI) D(LN_DPK) D(LN_IHSG) D(LN_IPI)
D(LN_M2) D(LN_TRADE) D(LN_WPI_*EXPORT*)
D(LN_WPI_IMPORT) D(LN_XRATE)

Exogenous variables: C
Lag specification: 1 8
Date: 04/05/16   Time: 06:18

Root	Modulus
-0.682759 + 0.730134i	0.999627
-0.682759 - 0.730134i	0.999627
0.485211 + 0.858004i	0.985698
0.485211 - 0.858004i	0.985698
-0.022264 - 0.975640i	0.975894
-0.022264 + 0.975640i	0.975894
-0.973581 - 0.028562i	0.974000
-0.973581 + 0.028562i	0.974000
-0.814791 + 0.531731i	0.972945
-0.814791 - 0.531731i	0.972945
0.905491 + 0.349747i	0.970689
0.905491 - 0.349747i	0.970689
0.955407 + 0.169879i	0.970392
0.955407 - 0.169879i	0.970392
-0.877451 + 0.407202i	0.967333
-0.877451 - 0.407202i	0.967333
-0.939731 + 0.221842i	0.965561
-0.939731 - 0.221842i	0.965561
-0.467986 + 0.842419i	0.963680
-0.467986 - 0.842419i	0.963680
0.958876 + 0.056036i	0.960512
0.958876 - 0.056036i	0.960512
0.855363 + 0.436892i	0.960480
0.855363 - 0.436892i	0.960480
0.315425 + 0.905748i	0.959100
0.315425 - 0.905748i	0.959100
-0.916019 - 0.283860i	0.958993
-0.916019 + 0.283860i	0.958993
0.683271 + 0.670290i	0.957156
0.683271 - 0.670290i	0.957156
0.149401 + 0.939062i	0.950873
0.149401 - 0.939062i	0.950873
0.552007 - 0.767190i	0.945141
0.552007 + 0.767190i	0.945141
-0.295742 + 0.897489i	0.944961
-0.295742 - 0.897489i	0.944961
-0.112437 + 0.936766i	0.943490
-0.112437 - 0.936766i	0.943490
0.604207 - 0.719571i	0.939600
0.604207 + 0.719571i	0.939600
-0.539098 - 0.767537i	0.937944
-0.539098 + 0.767537i	0.937944
-0.707639 + 0.610059i	0.934305
-0.707639 - 0.610059i	0.934305
-0.614029 - 0.699285i	0.930608
-0.614029 + 0.699285i	0.930608
0.786093 + 0.496798i	0.929920
0.786093 - 0.496798i	0.929920
0.881345 - 0.263423i	0.919870
0.881345 + 0.263423i	0.919870
-0.371537 - 0.833793i	0.912826
-0.371537 + 0.833793i	0.912826
0.112201 - 0.904371i	0.911304

0.112201 + 0.904371i	0.911304
0.736906 + 0.530788i	0.908167
0.736906 - 0.530788i	0.908167
-0.796422 - 0.430218i	0.905193
-0.796422 + 0.430218i	0.905193
0.062719 + 0.893279i	0.895478
0.062719 - 0.893279i	0.895478
-0.127282 - 0.870803i	0.880056
-0.127282 + 0.870803i	0.880056
0.423034 + 0.766812i	0.875762
0.423034 - 0.766812i	0.875762
-0.863635	0.863635
-0.256019 + 0.808503i	0.848070
-0.256019 - 0.808503i	0.848070
0.621896 + 0.479208i	0.785109
0.621896 - 0.479208i	0.785109
-0.752394 - 0.218145i	0.783380
-0.752394 + 0.218145i	0.783380
-0.543986 - 0.546486i	0.771083
-0.543986 + 0.546486i	0.771083
0.316504 + 0.671069i	0.741963
0.316504 - 0.671069i	0.741963
-0.265261 - 0.558906i	0.618660
-0.265261 + 0.558906i	0.618660
0.403187 + 0.225126i	0.461780
0.403187 - 0.225126i	0.461780
-0.398606	0.398606

No root lies outside the unit circle.
VAR satisfies the stability condition.

Annex 11 Lag Length Selection

VAR Lag Order Selection Criteria
Endogenous variables: D(LN_GER_OUTFLOW) D(LN_CPI) D(LN_DPK) D(LN_IHSG) D(LN_IPI) D(LN_M2) D(LN_TRADE) D(LN_WPI_*EXPORT*) D(LN_WPI_IMPORT) D(LN_XRATE)

Exogenous variables: C

Date: 04/05/16   Time: 06:19

Sample: 2006M01 2015M04

Included observations: 103

Lag	LogL	LR	FPE	AIC	SC	HQ
0	2274.943	NA	3.76e-32	-43.97948	-43.72368*	-43.87587
1	2460.572	331.6093	7.19e-33	-45.64218	-42.82839	-44.50250*
2	2555.380	150.9560	8.36e-33	-45.54136	-40.16958	-43.36560
3	2654.459	138.5185	9.73e-33	-45.52348	-37.59371	-42.31165
4	2764.158	132.0650	1.06e-32	-45.71181	-35.22406	-41.46391
5	2875.901	112.8278	1.37e-32	-45.93983	-32.89408	-40.65585
6	3010.358	109.6544	1.60e-32	-46.60890	-31.00517	-40.28885
7	3210.647	124.4510*	9.00e-33	-48.55625	-30.39452	-41.20013
8	3453.378	103.6912	5.99e-33*	-51.32774*	-30.60802	-42.93554

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Annex 12 Cointegration Test Model 3, Number of CE = 1

Date: 04/05/16   Time: 06:20

Sample: 2006M01 2015M04

Included observations: 110

Series: LN_GER_OUTFLOW LN_CPI LN_DPK LN_IHSG LN_IPI LN_M2 LN_TRADE LN_WPI_*EXPORT* LN_WPI_IMPORT LN_XRATE

Exogenous series: DMY_POL

Warning: Rank Test critical values derived assuming no exogenous series

Lags interval: 1 to 1

Selected
(0.05 level*)
Number of
Cointegrati
ng
Relations
by Model

Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	4	6	2	2	3
Max-Eig	2	3	2	2	2

*Critical values based on MacKinnon-Haug-Michelis (1999)

Information
Criteria by
Rank and
Model

Data Trend:	None	None	Linear	Linear	Quadratic
Rank or	No Intercept	Intercept	Intercept	Intercept	Intercept
No. of CEs	No Trend	No Trend	No Trend	Trend	Trend

Log Likelihood by Rank (rows) and Model (columns)

Rank	No Intercept No Trend	Intercept No Trend	Intercept No Trend	Intercept Trend	Intercept Trend
0	2608.031	2608.031	2645.584	2645.584	2651.089
1	2652.952	2660.979	2697.438	2698.148	2703.307
2	2684.801	2702.614	2728.767	2730.023	2735.181
3	2708.650	2732.798	2749.521	2751.316	2756.321
4	2725.175	2750.950	2764.825	2769.682	2774.557

5	2739.299	2766.134	2779.140	2784.981	2789.792
6	2749.476	2780.257	2789.231	2797.615	2802.275
7	2757.878	2789.760	2797.974	2807.361	2811.593
8	2764.088	2798.088	2804.139	2815.510	2819.649
9	2766.186	2804.252	2805.947	2821.666	2823.045
10	2766.196	2805.957	2805.957	2823.449	2823.449

Akaike Information Criteria by Rank (rows) and Model (columns)					
0	-45.60057	-45.60057	-46.10153	-46.10153	-46.01980
1	-46.05367	-46.18144	-46.68069	-46.67541	-46.60558
2	-46.26911	-46.55662	-46.88666	-46.87314	-46.82148
3	-46.33909	-46.72360	-46.90037*	-46.87847	-46.84220
4	-46.27592	-46.67183	-46.81500	-46.83058	-46.81012
5	-46.16908	-46.56607	-46.71164	-46.72693	-46.72348
6	-45.99048	-46.44104	-46.53148	-46.57482	-46.58681
7	-45.77960	-46.23200	-46.32681	-46.37020	-46.39259
8	-45.52888	-46.00160	-46.07526	-46.13654	-46.17543
9	-45.20339	-45.73186	-45.74450	-45.86666	-45.87354
10	-44.83992	-45.38103	-45.38103	-45.51725	-45.51725

Schwarz Criteria by Rank (rows) and Model (columns)					
0	-43.14559	-43.14559	-43.40105	-43.40105	-43.07382
1	-43.10769	-43.21091	-43.48921*	-43.45939	-43.16861
2	-42.83213	-43.07055	-43.20419	-43.14157	-42.89350
3	-42.41111	-42.72198	-42.72690	-42.63135	-42.42324
4	-41.85695	-42.15466	-42.15054	-42.06791	-41.90016
5	-41.25911	-41.53336	-41.55618	-41.44871	-41.32252
6	-40.58952	-40.89278	-40.88502	-40.78106	-40.69485
7	-39.88765	-40.16819	-40.18935	-40.06090	-40.00964
8	-39.14593	-39.42225	-39.44681	-39.31169	-39.30148
9	-38.32944	-38.63696	-38.62505	-38.52627	-38.50860
10	-37.47498	-37.77059	-37.77059	-37.66131	-37.66131

Vector Error Correction Estimates

Date: 04/05/16   Time: 06:21

Sample (adjusted): 2006M03 2015M04

Included observations: 110 after adjustments

Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
LN_GER_OUTFLOW(-1)	1.000000
LN_CPI(-1)	1.928292
	(1.43637)
	[1.34248]
LN_DPK(-1)	-24.24998
	(2.69943)
	[-8.98338]
LN_IHSG(-1)	-0.456284
	(0.18098)
	[-2.52123]
LN_IPI(-1)	1.442067
	(0.91565)
	[1.57491]
LN_M2(-1)	25.38009
	(3.15470)

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	[8.04516]
LN_TRADE(-1)	3.583592
	(0.54746)
	[6.54583]
LN_WPI_*EXPORT*(-1)	-5.737473
	(0.81299)
	[-7.05728]
LN_WPI_IMPORT(-1)	-1.326833
	(0.87490)
	[-1.51655]
LN_XRATE(-1)	4.382383
	(0.80801)
	[5.42368]
C	-112.4818

Error Correction:	D(LN_GER_OUTFLOW)	D(LN_CPI)	D(LN_DPK)	D(LN_IHSG)	D(LN_IPI)	D(LN_M2)	D(LN_TRADE)	D(LN_WPI_*EXPORT*)	D(LN_WPI_IMPORT)	D(LN_XRATE)
CointEq1	-0.390889	0.001056	0.005589	-0.017616	-0.050997	-0.000398	-0.182572	0.013728	0.009957	0.026201
	(0.10154)	(0.00214)	(0.00593)	(0.02643)	(0.01243)	(0.00649)	(0.02282)	(0.00941)	(0.00911)	(0.00781)
	[-3.84956]	[0.49422]	[0.94258]	[-0.66645]	[-4.10159]	[-0.06131]	[-8.00213]	[1.45868]	[1.09273]	[3.35651]
D(LN_GER_OUTFLOW(-1))	-0.270842	-0.000687	-0.003671	0.024671	0.013396	-0.001451	0.087305	-0.001136	-0.005565	-0.012677

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	(0.09241)	(0.00194)	(0.00540)	(0.02406)	(0.01132)	(0.00591)	(0.02076)	(0.00856)	(0.00829)	(0.00710)
	[-2.93081]	[-0.35339]	[-0.68035]	[1.02560]	[1.18386]	[-0.24563]	[4.20458]	[-0.13266]	[-0.67105]	[-1.78441]
D(LN_CPI(-1))	4.990143	0.381992	-0.911478	-2.256865	-0.028715	-0.773603	-0.653460	-0.130783	-0.214002	-0.540814
	(4.92986)	(0.10375)	(0.28787)	(1.28327)	(0.60365)	(0.31520)	(1.10770)	(0.45691)	(0.44238)	(0.37899)
	[1.01223]	[3.68174]	[-3.16627]	[-1.75868]	[-0.04757]	[-2.45429]	[-0.58993]	[-0.28624]	[-0.48375]	[-1.42698]
D(LN_DPK(-1))	-11.23408	-0.046170	-0.426868	1.360211	0.254798	0.250417	-1.625262	0.488182	0.339303	0.793626
	(3.95137)	(0.08316)	(0.23073)	(1.02856)	(0.48384)	(0.25264)	(0.88784)	(0.36622)	(0.35457)	(0.30377)
	[-2.84309]	[-0.55520]	[-1.85005]	[1.32244]	[0.52662]	[-0.99120]	[-1.83058]	[1.33303]	[0.95693]	[2.61261]
D(LN_IHSG(-1))	-0.438646	0.006688	-0.073973	0.266830	-0.073498	-0.059117	-0.005839	-0.029376	-0.081020	-0.210412
	(0.45664)	(0.00961)	(0.02666)	(0.11887)	(0.05592)	(0.02920)	(0.10260)	(0.04232)	(0.04098)	(0.03511)
	[-0.96059]	[0.69588]	[-2.77417]	[2.24479]	[-1.31446]	[-2.02480]	[-0.05690]	[-0.69409]	[-1.97721]	[-5.99376]
D(LN_IPI(-1))	-0.078422	0.010468	-0.041212	-0.102882	-0.391471	0.004478	-0.072335	-0.112883	-0.081479	0.022186
	(0.84519)	(0.01779)	(0.04935)	(0.22001)	(0.10349)	(0.05404)	(0.18991)	(0.07833)	(0.07584)	(0.06498)
	[-0.09279]	[0.58847]	[-0.83505]	[-0.46763]	[-3.78261]	[0.08286]	[-0.38090]	[-1.44106]	[-1.07431]	[0.34146]
D(LN_M2(-1))	15.34353	0.123178	0.228247	-1.539487	-0.024057	-0.008904	1.947093	-0.414181	-0.221846	-0.478633
	(3.68659)	(0.07759)	(0.21527)	(0.95964)	(0.45142)	(0.23571)	(0.82835)	(0.34168)	(0.33082)	(0.28341)
	[4.16198]	[1.58760]	[1.06027]	[-1.60423]	[-0.05329]	[-0.03777]	[2.35058]	[-1.21219]	[-0.67060]	[-1.68882]

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D(LN_TRADE(-1))	1.287169	-0.000149	-0.007983	0.026169	0.076478	-0.003312	-0.198236	0.035355	0.057289	-0.088431
	(0.38324)	(0.00807)	(0.02238)	(0.09976)	(0.04693)	(0.02450)	(0.08611)	(0.03552)	(0.03439)	(0.02946)
	[3.35862]	[-0.01852]	[-0.35670]	[0.26232]	[1.62970]	[-0.13518]	[-2.30209]	[0.99536]	[1.66586]	[-3.00149]
D(LN_WPI_*EXPORT*(-1))	-1.340422	-0.026717	0.122719	0.763925	0.009584	0.059541	0.277747	0.444965	0.440059	0.164254
	(1.84152)	(0.03876)	(0.10753)	(0.47936)	(0.22549)	(0.11774)	(0.41377)	(0.17068)	(0.16525)	(0.14157)
	[-0.72789]	[-0.68935]	[1.14122]	[1.59364]	[0.04250]	[0.50568]	[0.67125]	[2.60708]	[2.66301]	[1.16023]
D(LN_WPI_IMPORT(-1))	-0.980948	0.043112	-0.034798	-0.391089	-0.203683	-0.003366	-0.642686	-0.038278	0.007159	0.145152
	(1.81897)	(0.03828)	(0.10622)	(0.47349)	(0.22273)	(0.11630)	(0.40871)	(0.16859)	(0.16322)	(0.13984)
	[-0.53929]	[1.12617]	[-0.32761]	[-0.82597]	[-0.91448]	[-0.02894]	[-1.57249]	[-0.22706]	[0.04386]	[1.03801]
D(LN_XRATE(-1))	2.352103	-0.008227	-0.079515	0.462399	0.176840	-0.002221	0.275735	-0.454880	-0.637151	-0.301223
	(1.30842)	(0.02754)	(0.07640)	(0.34059)	(0.16021)	(0.08366)	(0.29399)	(0.12127)	(0.11741)	(0.10059)
	[1.79766]	[-0.29875]	[-1.04073]	[1.35764]	[1.10377]	[-0.02655]	[0.93790]	[-3.75106]	[-5.42667]	[-2.99465]
C	-0.062772	0.001948	0.020120	0.018247	0.003933	0.018999	0.009691	0.004783	0.005012	0.004182
	(0.04073)	(0.00086)	(0.00238)	(0.01060)	(0.00499)	(0.00260)	(0.00915)	(0.00377)	(0.00365)	(0.00313)
	[-1.54118]	[2.27242]	[8.45977]	[1.72104]	[0.78856]	[7.29563]	[1.05888]	[1.26706]	[1.37128]	[1.33550]
R-squared	0.491097	0.243203	0.186045	0.222029	0.344310	0.147352	0.607279	0.249568	0.376738	0.518720
Adj. R-squared	0.433975	0.158257	0.094682	0.134706	0.270712	0.051647	0.563198	0.165336	0.306780	0.464699
Sum sq. resids	5.723557	0.002535	0.019516	0.387822	0.085817	0.023398	0.288961	0.049165	0.046088	0.033826

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S.E. equation	0.241668	0.005086	0.014112	0.062908	0.029592	0.015452	0.054301	0.022398	0.021686	0.018579
F-statistic	8.597357	2.863017	2.036340	2.542612	4.678268	1.539646	13.77647	2.962864	5.385214	9.602145
Log likelihood	6.490703	431.2064	318.9516	154.5396	237.4980	308.9738	170.7238	268.1348	271.6895	288.7015
Akaike AIC	0.100169	-7.621934	-5.580939	-2.591629	-4.099963	-5.399523	-2.885887	-4.656997	-4.721626	-5.030936
Schwarz SC	0.394767	-7.327336	-5.286341	-2.297031	-3.805365	-5.104925	-2.591289	-4.362399	-4.427029	-4.736338
Mean dependent	-0.001295	0.004851	0.012144	0.012900	0.004123	0.011568	0.006577	0.005541	0.005004	0.003040
S.D. dependent	0.321220	0.005544	0.014831	0.067627	0.034652	0.015867	0.082161	0.024517	0.026046	0.025393

Determinant resid covariance (dof adj.)	8.71E-34
Determinant resid covariance	2.74E-34
Log likelihood	2689.466
Akaike information criterion	-46.53575
Schwarz criterion	-43.34428

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Annex 14 The Result of Granger Casuality Output

Pairwise Granger Causality Tests
Date: 04/05/16   Time: 06:31
Sample: 2006M01 2015M04
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
D_LN_CPI does not Granger Cause D_LN_GER_OUTFLOW	110	0.01144	0.9150
D_LN_GER_OUTFLOW does not Granger Cause D_LN_CPI		0.09156	0.7628
D_LN_DPK does not Granger Cause D_LN_GER_OUTFLOW	110	5.21384	0.0244
D_LN_GER_OUTFLOW does not Granger Cause D_LN_DPK		0.28899	0.5920
D_LN_IHSG does not Granger Cause D_LN_GER_OUTFLOW	110	0.17906	0.6730
D_LN_GER_OUTFLOW does not Granger Cause D_LN_IHSG		0.02383	0.8776
D_LN_IPI does not Granger Cause D_LN_GER_OUTFLOW	110	1.98988	0.1613
D_LN_GER_OUTFLOW does not Granger Cause D_LN_IPI		3.18620	0.0771
D_LN_M2 does not Granger Cause D_LN_GER_OUTFLOW	110	11.7488	0.0009
D_LN_GER_OUTFLOW does not Granger Cause D_LN_M2		0.42423	0.5162
D_LN_TRADE does not Granger Cause D_LN_GER_OUTFLOW	110	12.5738	0.0006
D_LN_GER_OUTFLOW does not Granger Cause D_LN_TRADE		0.88369	0.3493
D_LN_WPI_*EXPORT* does not Granger Cause D_LN_GER_OUTFLOW	110	1.04343	0.3093
D_LN_GER_OUTFLOW does not Granger Cause D_LN_WPI_*EXPORT*		1.21834	0.2722
D_LN_WPI_IMPORT does not Granger Cause D_LN_GER_OUTFLOW	110	1.95449	0.1650
D_LN_GER_OUTFLOW does not Granger Cause D_LN_WPI_IMPORT		0.07941	0.7786
D_LN_XRATE does not Granger Cause D_LN_GER_OUTFLOW	110	0.00311	0.9556
D_LN_GER_OUTFLOW does not Granger Cause D_LN_XRATE		0.52644	0.4697
D_LN_DPK does not Granger Cause D_LN_CPI	110	5.90269	0.0168
D_LN_CPI does not Granger Cause D_LN_DPK		3.76914	0.0548
D_LN_IHSG does not Granger Cause D_LN_CPI	110	0.12668	0.7226
D_LN_CPI does not Granger Cause D_LN_IHSG		4.46004	0.0370

D_LN_IPI does not Granger Cause D_LN_CPI	110	1.77055	0.1861
D_LN_CPI does not Granger Cause D_LN_IPI		3.87428	0.0516

D_LN_M2 does not Granger Cause D_LN_CPI	110	9.49411	0.0026
D_LN_CPI does not Granger Cause D_LN_M2		4.56488	0.0349

D_LN_TRADE does not Granger Cause D_LN_CPI	110	2.03775	0.1563
D_LN_CPI does not Granger Cause D_LN_TRADE		7.65088	0.0067

D_LN_WPI_EXPORT does not Granger Cause D_LN_CPI	110	0.00612	0.9378
D_LN_CPI does not Granger Cause D_LN_WPI_EXPORT		0.19967	0.6559

D_LN_WPI_IMPORT does not Granger Cause D_LN_CPI	110	0.33801	0.5622
D_LN_CPI does not Granger Cause D_LN_WPI_IMPORT		0.01149	0.9148

D_LN_XRATE does not Granger Cause D_LN_CPI	110	0.08963	0.7652
D_LN_CPI does not Granger Cause D_LN_XRATE		1.05495	0.3067

D_LN_IHSG does not Granger Cause D_LN_DPK	110	6.11880	0.0149
D_LN_DPK does not Granger Cause D_LN_IHSG		0.00620	0.9374

D_LN_IPI does not Granger Cause D_LN_DPK	110	0.96325	0.3286
D_LN_DPK does not Granger Cause D_LN_IPI		0.68077	0.4112

D_LN_M2 does not Granger Cause D_LN_DPK	110	0.20297	0.6532
D_LN_DPK does not Granger Cause D_LN_M2		0.00127	0.9717

D_LN_TRADE does not Granger Cause D_LN_DPK	110	0.51650	0.4739
D_LN_DPK does not Granger Cause D_LN_TRADE		1.71259	0.1935

D_LN_WPI_EXPORT does not Granger Cause D_LN_DPK	110	0.03785	0.8461
D_LN_DPK does not Granger Cause D_LN_WPI_EXPORT		0.35660	0.5517

D_LN_WPI_IMPORT does not Granger Cause D_LN_DPK	110	0.11711	0.7329
D_LN_DPK does not Granger Cause D_LN_WPI_IMPORT		0.47089	0.4941

D_LN_XRATE does not Granger Cause D_LN_DPK	110	0.34733	0.5569
D_LN_DPK does not Granger Cause D_LN_XRATE		2.51120	0.1160

D_LN_IPI does not Granger Cause D_LN_IHSG	110	0.00076	0.9780
D_LN_IHSG does not Granger Cause D_LN_IPI		0.05688	0.8120

D_LN_M2 does not Granger Cause D_LN_IHSG	110	1.34061	0.2495
D_LN_IHSG does not Granger Cause D_LN_M2		3.27170	0.0733

D_LN_TRADE does not Granger Cause D_LN_IHSG	110	0.06452	0.8000
D_LN_IHSG does not Granger Cause D_LN_TRADE		10.5520	0.0016

D_LN_WPI_*EXPORT* does not Granger Cause D_LN_IHSG	110	5.99023	0.0160
D_LN_IHSG does not Granger Cause D_LN_WPI_*EXPORT*		0.39316	0.5320

D_LN_WPI_IMPORT does not Granger Cause D_LN_IHSG	110	2.96655	0.0879
D_LN_IHSG does not Granger Cause D_LN_WPI_IMPORT		0.84380	0.3604

D_LN_XRATE does not Granger Cause D_LN_IHSG	110	2.83260	0.0953
D_LN_IHSG does not Granger Cause D_LN_XRATE		60.6950	5.E-12

D_LN_M2 does not Granger Cause D_LN_IPI	110	0.00076	0.9780
D_LN_IPI does not Granger Cause D_LN_M2		0.03488	0.8522

D_LN_TRADE does not Granger Cause D_LN_IPI	110	1.41034	0.2376
D_LN_IPI does not Granger Cause D_LN_TRADE		0.97243	0.3263

D_LN_WPI_*EXPORT* does not Granger Cause D_LN_IPI	110	3.54620	0.0624
D_LN_IPI does not Granger Cause D_LN_WPI_*EXPORT*		0.71165	0.4008

D_LN_WPI_IMPORT does not Granger Cause D_LN_IPI	110	3.10502	0.0809
D_LN_IPI does not Granger Cause D_LN_WPI_IMPORT		0.12838	0.7208

D_LN_XRATE does not Granger Cause D_LN_IPI	110	0.05265	0.8189
D_LN_IPI does not Granger Cause D_LN_XRATE		0.87827	0.3508

D_LN_TRADE does not Granger Cause D_LN_M2	110	0.02822	0.8669
D_LN_M2 does not Granger Cause D_LN_TRADE		1.94122	0.1664

D_LN_WPI_*EXPORT* does not Granger Cause D_LN_M2	110	0.37496	0.5416
D_LN_M2 does not Granger Cause D_LN_WPI_*EXPORT*		0.47482	0.4923

D_LN_WPI_IMPORT does not Granger Cause D_LN_M2	110	0.93006	0.3370
D_LN_M2 does not Granger Cause D_LN_WPI_IMPORT		0.34605	0.5576

D_LN_XRATE does not Granger Cause D_LN_M2	110	0.94634	0.3328

D_LN_M2 does not Granger Cause D_LN_XRATE									0.60277	0.4392

D_LN_WPI_*EXPORT* does not Granger Cause D_LN_TRADE			110						10.4332	0.0016
D_LN_TRADE does not Granger Cause D_LN_WPI_*EXPORT*									2.42357	0.1225

D_LN_WPI_IMPORT does not Granger Cause D_LN_TRADE			110						4.86213	0.0296
D_LN_TRADE does not Granger Cause D_LN_WPI_IMPORT									7.41064	0.0076

D_LN_XRATE does not Granger Cause D_LN_TRADE			110						6.97295	0.0095
D_LN_TRADE does not Granger Cause D_LN_XRATE									2.73285	0.1012

D_LN_WPI_IMPORT does not Granger Cause D_LN_WPI_*EXPORT*			110						0.34954	0.5556
D_LN_WPI_*EXPORT* does not Granger Cause D_LN_WPI_IMPORT									2.15782	0.1448

D_LN_XRATE does not Granger Cause D_LN_WPI_*EXPORT*			110						16.4524	0.0001
D_LN_WPI_*EXPORT* does not Granger Cause D_LN_XRATE									0.08694	0.7687

D_LN_XRATE does not Granger Cause D_LN_WPI_IMPORT			110						33.7653	6.E-08
D_LN_WPI_IMPORT does not Granger Cause D_LN_XRATE									1.09942	0.2968

Annex 15 The Result of Granger Casuality Test

	GER Outflow	CPI	DPK	IHSG	IPI	M2	Total Trade	WPI *Export*	WPI Import	Xrate
GER Outflow		No	No	No	Yes	No	No	No	No	No
CPI	No									
DPK	Yes									
IHSG	No									
IPI	No									
M2	Yes									
Total Trade	Yes									
WPI *Export*	No									
WPI Import	No									
Xrate	No									

Period	Response of LN_GER_OUTFLOW:									
	LN_GER_O UTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRAD E	LN_WPI_ *EXPORT*	LN_WPI_I MPORT	LN_XRATE
1	0.241668	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.086240	0.042129	0.050648	-0.016396	-0.024208	0.032621	-0.004981	0.016066	-0.004199	0.009091
3	0.122734	-0.011611	-0.024642	-0.011167	-0.031321	-0.034795	-0.043444	0.051022	0.006710	-0.023452
4	0.109481	0.015956	-0.010362	0.013750	-0.033320	-0.019363	0.006976	0.042153	0.000312	-0.035781
5	0.117844	0.007280	-0.024536	0.036334	-0.038253	-0.018989	-0.017960	0.050398	-0.004509	-0.027394
6	0.106316	0.002429	-0.022480	0.035071	-0.038237	-0.031602	-0.012786	0.058847	-0.002374	-0.028185
7	0.113887	-0.000290	-0.026229	0.036240	-0.041370	-0.030232	-0.010670	0.061265	-0.004628	-0.033505
8	0.112117	0.001604	-0.025648	0.040023	-0.039981	-0.027478	-0.008212	0.059234	-0.005599	-0.031414
9	0.111852	-0.000464	-0.026391	0.040509	-0.040966	-0.029884	-0.012096	0.061084	-0.005484	-0.030416
10	0.111576	-0.000770	-0.026186	0.039390	-0.040868	-0.030388	-0.010143	0.061588	-0.005303	-0.031558
11	0.112504	-0.000462	-0.026421	0.040030	-0.040925	-0.029400	-0.009941	0.061040	-0.005699	-0.031574
12	0.111934	-0.000452	-0.026263	0.040258	-0.040817	-0.029545	-0.010397	0.061031	-0.005640	-0.031045
13	0.111987	-0.000737	-0.026336	0.039949	-0.040924	-0.029925	-0.010523	0.061315	-0.005554	-0.031232
14	0.112096	-0.000602	-0.026302	0.039934	-0.040880	-0.029702	-0.010170	0.061179	-0.005601	-0.031358
15	0.112099	-0.000568	-0.026311	0.040060	-0.040873	-0.029631	-0.010319	0.061117	-0.005627	-0.031233
16	0.112021	-0.000618	-0.026297	0.040002	-0.040876	-0.029740	-0.010372	0.061180	-0.005591	-0.031222
17	0.112068	-0.000620	-0.026306	0.039968	-0.040884	-0.029728	-0.010313	0.061182	-0.005595	-0.031277
18	0.112073	-0.000592	-0.026301	0.039999	-0.040874	-0.029685	-0.010303	0.061150	-0.005606	-0.031260
19	0.112057	-0.000603	-0.026301	0.040001	-0.040876	-0.029706	-0.010337	0.061161	-0.005600	-0.031244
20	0.112058	-0.000608	-0.026301	0.039986	-0.040878	-0.029715	-0.010325	0.061169	-0.005597	-0.031257

Response
of LN_CPI:

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Period	LN_GER_O UTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRAD E	LN_WPI_ EXPORT	LN_WPI_I MPORT	LN_XRATE
1	0.001075	0.004971	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.001185	0.007293	0.001106	0.000170	0.000396	0.000823	0.000212	-7.64E-05	0.000492	-5.12E-05
3	0.001130	0.007779	0.001234	1.74E-06	0.000432	0.000919	0.000279	0.000148	0.000638	-0.000114
4	0.001061	0.007894	0.001156	2.99E-05	0.000377	0.000837	0.000292	0.000276	0.000668	-0.000275
5	0.001039	0.007941	0.001061	0.000184	0.000341	0.000805	0.000341	0.000331	0.000660	-0.000351
6	0.001019	0.007935	0.001010	0.000312	0.000315	0.000763	0.000330	0.000392	0.000647	-0.000362
7	0.001006	0.007907	0.000982	0.000365	0.000294	0.000723	0.000336	0.000447	0.000638	-0.000378
8	0.001012	0.007892	0.000964	0.000395	0.000283	0.000714	0.000352	0.000470	0.000628	-0.000392
9	0.001012	0.007885	0.000957	0.000417	0.000278	0.000712	0.000355	0.000479	0.000621	-0.000390
10	0.001010	0.007877	0.000953	0.000424	0.000275	0.000705	0.000352	0.000487	0.000619	-0.000390
11	0.001011	0.007874	0.000951	0.000426	0.000274	0.000703	0.000355	0.000490	0.000618	-0.000392
12	0.001012	0.007874	0.000951	0.000428	0.000274	0.000705	0.000356	0.000490	0.000616	-0.000392
13	0.001011	0.007873	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391
14	0.001011	0.007872	0.000951	0.000428	0.000273	0.000704	0.000355	0.000491	0.000616	-0.000391
15	0.001012	0.007872	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391
16	0.001012	0.007872	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391
17	0.001012	0.007872	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391
18	0.001012	0.007872	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391
19	0.001012	0.007872	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391
20	0.001012	0.007872	0.000951	0.000428	0.000274	0.000704	0.000355	0.000490	0.000616	-0.000391

Response of LN_DPK:

Period	LN_GER_O UTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRAD E	LN_WPI_ EXPORT	LN_WPI_I MPORT	LN_XRATE
1	-0.002384	0.001395	0.013839	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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Period										
2	-0.001819	-0.001886	0.011445	-0.004033	-0.001170	0.002030	0.000828	0.000983	-0.000621	-0.000783
3	-0.001464	-0.001929	0.011158	-0.003694	-0.000107	0.001804	0.000842	-0.000561	-0.000647	-0.000445
4	-0.001916	-0.001759	0.011609	-0.003762	-0.000502	0.001838	0.000135	-0.000686	-0.000595	-1.73E-05
5	-0.001814	-0.001952	0.011537	-0.004212	-0.000278	0.001677	0.000214	-0.000618	-0.000433	-0.000172
6	-0.001694	-0.001751	0.011670	-0.004261	-0.000281	0.001911	0.000437	-0.000831	-0.000481	-0.000198
7	-0.001738	-0.001723	0.011682	-0.004241	-0.000248	0.001969	0.000268	-0.000884	-0.000470	-8.54E-05
8	-0.001779	-0.001751	0.011697	-0.004327	-0.000243	0.001878	0.000252	-0.000853	-0.000431	-9.63E-05
9	-0.001740	-0.001728	0.011701	-0.004350	-0.000246	0.001917	0.000301	-0.000873	-0.000436	-0.000135
10	-0.001743	-0.001707	0.011704	-0.004328	-0.000235	0.001943	0.000295	-0.000897	-0.000440	-0.000113
11	-0.001756	-0.001717	0.011705	-0.004334	-0.000238	0.001922	0.000270	-0.000885	-0.000433	-0.000106
12	-0.001752	-0.001717	0.011705	-0.004344	-0.000239	0.001920	0.000284	-0.000882	-0.000432	-0.000118
13	-0.001748	-0.001712	0.011705	-0.004338	-0.000238	0.001930	0.000287	-0.000889	-0.000435	-0.000117
14	-0.001752	-0.001713	0.011705	-0.004336	-0.000237	0.001927	0.000281	-0.000888	-0.000434	-0.000112
15	-0.001752	-0.001715	0.011705	-0.004339	-0.000238	0.001924	0.000282	-0.000885	-0.000433	-0.000115
16	-0.001750	-0.001713	0.011705	-0.004339	-0.000238	0.001926	0.000284	-0.000887	-0.000434	-0.000116
17	-0.001751	-0.001713	0.011705	-0.004338	-0.000238	0.001926	0.000283	-0.000887	-0.000434	-0.000114
18	-0.001751	-0.001714	0.011705	-0.004338	-0.000238	0.001925	0.000282	-0.000886	-0.000434	-0.000114
19	-0.001751	-0.001714	0.011705	-0.004338	-0.000238	0.001926	0.000283	-0.000886	-0.000434	-0.000115
20	-0.001751	-0.001714	0.011705	-0.004338	-0.000238	0.001926	0.000283	-0.000887	-0.000434	-0.000115

Response of LN_IHSG:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_EXPORT	LN_WPI_IMPORT	LN_XRATE
1	-0.008325	-0.003994	-0.010691	0.061301	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	-0.007646	-0.019518	-0.015709	0.076535	-0.003396	-0.012011	-0.000742	0.015258	-0.003599	0.005480
3	-0.006882	-0.027052	-0.016354	0.076776	-0.006971	-0.014692	0.002449	0.022558	-0.006673	0.002369
4	-0.004632	-0.028953	-0.018123	0.078769	-0.006947	-0.012815	0.005080	0.022097	-0.008529	0.002109
5	-0.005248	-0.029693	-0.017906	0.080116	-0.007051	-0.012973	0.003448	0.021940	-0.008984	0.003831

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6	-0.005499	-0.030711	-0.017853	0.079131	-0.007177	-0.013985	0.003067	0.022658	-0.008758	0.003731
7	-0.004971	-0.030589	-0.017755	0.078753	-0.007086	-0.013491	0.003895	0.022312	-0.008872	0.003356
8	-0.004956	-0.030375	-0.017646	0.078950	-0.006987	-0.013093	0.003686	0.021955	-0.008950	0.003705
9	-0.005137	-0.030499	-0.017591	0.078759	-0.006976	-0.013345	0.003402	0.022052	-0.008845	0.003820
10	-0.005057	-0.030495	-0.017571	0.078579	-0.006976	-0.013342	0.003561	0.022046	-0.008822	0.003676
11	-0.005010	-0.030406	-0.017556	0.078629	-0.006948	-0.013203	0.003604	0.021940	-0.008849	0.003702
12	-0.005059	-0.030413	-0.017546	0.078636	-0.006944	-0.013237	0.003513	0.021946	-0.008833	0.003759
13	-0.005061	-0.030431	-0.017545	0.078590	-0.006949	-0.013272	0.003525	0.021970	-0.008820	0.003730
14	-0.005041	-0.030413	-0.017545	0.078594	-0.006945	-0.013241	0.003556	0.021951	-0.008827	0.003718
15	-0.005048	-0.030408	-0.017543	0.078608	-0.006943	-0.013236	0.003539	0.021945	-0.008828	0.003734
16	-0.005054	-0.030416	-0.017543	0.078600	-0.006945	-0.013250	0.003532	0.021954	-0.008824	0.003733
17	-0.005049	-0.030414	-0.017544	0.078597	-0.006945	-0.013247	0.003542	0.021953	-0.008825	0.003726
18	-0.005048	-0.030411	-0.017544	0.078601	-0.006944	-0.013242	0.003541	0.021950	-0.008826	0.003729
19	-0.005051	-0.030413	-0.017544	0.078601	-0.006945	-0.013245	0.003537	0.021951	-0.008825	0.003731
20	-0.005050	-0.030413	-0.017544	0.078599	-0.006945	-0.013246	0.003539	0.021952	-0.008825	0.003729

Response of LN_IPI:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_*EXPORT*	LN_WPI_IMPORT	LN_XRATE
1	-0.004209	-0.003259	0.003929	-0.000858	0.028830	0.000000	0.000000	0.000000	0.000000	0.000000
2	-0.009651	-0.005062	0.003144	-0.002722	0.013773	-0.007219	-0.004204	0.004150	-0.001728	-0.000664
3	-0.008397	-0.007028	-0.001679	-0.001150	0.017173	-0.007487	-0.002985	0.005441	-0.000870	-0.004870
4	-0.008117	-0.005367	-0.001224	0.002388	0.016265	-0.007049	-0.000725	0.004434	-0.001796	-0.004020
5	-0.008776	-0.006398	-0.001682	0.003350	0.015862	-0.007620	-0.003106	0.005870	-0.001892	-0.003439
6	-0.008891	-0.006984	-0.001895	0.002887	0.015847	-0.008579	-0.002063	0.006488	-0.001767	-0.004045
7	-0.008373	-0.006815	-0.001991	0.003323	0.015689	-0.007970	-0.001800	0.006299	-0.002067	-0.004225
8	-0.008639	-0.006841	-0.001995	0.003586	0.015774	-0.008008	-0.002025	0.006285	-0.002072	-0.003900
9	-0.008655	-0.007031	-0.002026	0.003456	0.015692	-0.008275	-0.002152	0.006484	-0.002030	-0.003968
10	-0.008586	-0.006988	-0.002021	0.003427	0.015707	-0.008175	-0.001939	0.006440	-0.002055	-0.004067

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

11	-0.008569	-0.006960	-0.002027	0.003510	0.015714	-0.008113	-0.001996	0.006392	-0.002079	-0.004001
12	-0.008619	-0.006990	-0.002018	0.003488	0.015712	-0.008174	-0.002043	0.006426	-0.002061	-0.003982
13	-0.008597	-0.006998	-0.002023	0.003462	0.015707	-0.008177	-0.002012	0.006434	-0.002060	-0.004015
14	-0.008589	-0.006981	-0.002021	0.003478	0.015712	-0.008149	-0.001999	0.006415	-0.002067	-0.004009
15	-0.008598	-0.006985	-0.002021	0.003481	0.015711	-0.008158	-0.002020	0.006418	-0.002065	-0.003997
16	-0.008599	-0.006989	-0.002020	0.003472	0.015710	-0.008166	-0.002016	0.006424	-0.002062	-0.004004
17	-0.008594	-0.006986	-0.002021	0.003474	0.015711	-0.008159	-0.002010	0.006420	-0.002064	-0.004006
18	-0.008596	-0.006985	-0.002020	0.003477	0.015711	-0.008158	-0.002013	0.006419	-0.002064	-0.004003
19	-0.008597	-0.006987	-0.002020	0.003475	0.015711	-0.008161	-0.002015	0.006421	-0.002064	-0.004003
20	-0.008596	-0.006987	-0.002020	0.003474	0.015711	-0.008161	-0.002013	0.006421	-0.002064	-0.004004

Response of LN_M2:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_*EXPORT*	LN_WPI_IMPORT	LN_XRATE
1	-0.002447	0.003635	0.013566	0.000236	-0.000648	0.005919	0.000000	0.000000	0.000000	0.000000
2	-0.002479	-0.000265	0.010443	-0.003412	-0.000653	0.005746	1.36E-06	0.001275	-4.23E-05	-5.64E-05
3	-0.002380	-0.000258	0.010400	-0.003331	-0.000529	0.005142	0.000120	0.000393	-0.000122	-0.000472
4	-0.002515	-1.92E-05	0.010428	-0.003018	-0.000672	0.005537	-6.96E-05	0.000154	-0.000153	-0.000282
5	-0.002548	-0.000158	0.010390	-0.003058	-0.000539	0.005308	-0.000220	0.000236	-6.10E-05	-0.000191
6	-0.002522	-0.000135	0.010464	-0.003165	-0.000596	0.005323	-0.000103	0.000251	-7.06E-05	-0.000272
7	-0.002481	-0.000108	0.010446	-0.003143	-0.000567	0.005411	-9.10E-05	0.000198	-8.61E-05	-0.000262
8	-0.002514	-0.000107	0.010459	-0.003138	-0.000564	0.005386	-0.000132	0.000195	-7.80E-05	-0.000226
9	-0.002513	-0.000119	0.010458	-0.003164	-0.000570	0.005369	-0.000134	0.000210	-7.09E-05	-0.000242
10	-0.002503	-0.000109	0.010459	-0.003163	-0.000566	0.005385	-0.000112	0.000198	-7.39E-05	-0.000249
11	-0.002506	-0.000106	0.010460	-0.003155	-0.000565	0.005389	-0.000124	0.000195	-7.50E-05	-0.000240
12	-0.002510	-0.000110	0.010460	-0.003160	-0.000566	0.005381	-0.000127	0.000200	-7.24E-05	-0.000240
13	-0.002507	-0.000109	0.010460	-0.003162	-0.000566	0.005382	-0.000122	0.000199	-7.28E-05	-0.000244
14	-0.002507	-0.000107	0.010460	-0.003160	-0.000566	0.005385	-0.000122	0.000197	-7.36E-05	-0.000242
15	-0.002508	-0.000108	0.010460	-0.003160	-0.000566	0.005383	-0.000124	0.000198	-7.31E-05	-0.000241

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Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_EXPORT	LN_WPI_IMPORT	LN_XRATE
16	-0.002508	-0.000108	0.010460	-0.003161	-0.000566	0.005383	-0.000123	0.000198	-7.30E-05	-0.000242
17	-0.002507	-0.000108	0.010460	-0.003160	-0.000566	0.005384	-0.000123	0.000198	-7.32E-05	-0.000242
18	-0.002507	-0.000108	0.010460	-0.003160	-0.000566	0.005384	-0.000123	0.000198	-7.32E-05	-0.000242
19	-0.002507	-0.000108	0.010460	-0.003160	-0.000566	0.005383	-0.000123	0.000198	-7.31E-05	-0.000242
20	-0.002507	-0.000108	0.010460	-0.003160	-0.000566	0.005384	-0.000123	0.000198	-7.31E-05	-0.000242

Response of LN_TRADE:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_EXPORT	LN_WPI_IMPORT	LN_XRATE
1	-0.013065	0.006371	0.014066	-0.002292	0.019455	-0.007482	0.045823	0.000000	0.000000	0.000000
2	-0.024465	-0.006486	-0.003049	0.008827	-0.007242	-0.018433	0.011050	0.019417	-0.005900	-0.007459
3	-0.029964	-0.012448	-0.015886	0.017371	-0.002720	-0.032349	0.025241	0.026317	-0.003024	-0.017361
4	-0.024472	-0.011378	-0.018633	0.030923	-0.008142	-0.030140	0.026543	0.028404	-0.007459	-0.019119
5	-0.028315	-0.013603	-0.020027	0.036033	-0.008022	-0.031910	0.025139	0.031893	-0.008072	-0.016877
6	-0.027599	-0.016643	-0.021491	0.036353	-0.009444	-0.035270	0.024835	0.035025	-0.008357	-0.018217
7	-0.027123	-0.016494	-0.021643	0.037207	-0.009560	-0.034175	0.027018	0.034963	-0.009020	-0.019027
8	-0.027005	-0.016753	-0.021983	0.038314	-0.009618	-0.034023	0.026204	0.034937	-0.009324	-0.018314
9	-0.027453	-0.017179	-0.021916	0.038117	-0.009708	-0.034684	0.025972	0.035403	-0.009210	-0.018254
10	-0.027150	-0.017274	-0.022003	0.037970	-0.009762	-0.034618	0.026303	0.035447	-0.009266	-0.018555
11	-0.027130	-0.017142	-0.021969	0.038147	-0.009708	-0.034383	0.026370	0.035273	-0.009336	-0.018441
12	-0.027208	-0.017219	-0.021970	0.038145	-0.009724	-0.034499	0.026167	0.035336	-0.009310	-0.018348
13	-0.027203	-0.017247	-0.021964	0.038054	-0.009728	-0.034546	0.026240	0.035370	-0.009292	-0.018418
14	-0.027158	-0.017213	-0.021965	0.038078	-0.009722	-0.034476	0.026280	0.035326	-0.009311	-0.018426
15	-0.027183	-0.017209	-0.021959	0.038096	-0.009717	-0.034479	0.026242	0.035321	-0.009309	-0.018391
16	-0.027188	-0.017224	-0.021960	0.038075	-0.009721	-0.034505	0.026234	0.035338	-0.009301	-0.018400
17	-0.027178	-0.017218	-0.021960	0.038072	-0.009720	-0.034492	0.026255	0.035331	-0.009304	-0.018410
18	-0.027179	-0.017214	-0.021960	0.038081	-0.009718	-0.034486	0.026248	0.035326	-0.009306	-0.018403

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

| 19 | -0.027183 | -0.017217 | -0.021959 | 0.038078 | -0.009719 | -0.034493 | 0.026243 | 0.035330 | -0.009303 | -0.018401 |
| 20 | -0.027181 | -0.017217 | -0.021960 | 0.038075 | -0.009719 | -0.034493 | 0.026247 | 0.035331 | -0.009303 | -0.018405 |

Response of LN_WPI_*EXPORT*:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_*EXPORT*	LN_WPI_IMPORT	LN_XRATE
1	0.001622	0.002723	-0.001402	-0.001412	-0.000416	-0.001641	0.003578	0.021726	0.000000	0.000000
2	0.003664	0.004015	-0.001991	-0.001009	-0.002381	-0.003234	0.009339	0.026481	-0.001506	-0.005615
3	0.003454	0.005235	-0.004022	0.003753	-0.003481	-0.001341	0.009942	0.026925	-0.002850	-0.006054
4	0.002247	0.004030	-0.005318	0.006236	-0.003828	-0.003699	0.008320	0.028746	-0.002809	-0.005505
5	0.002228	0.003257	-0.005753	0.006618	-0.004477	-0.004761	0.009051	0.030113	-0.002943	-0.006479
6	0.002673	0.003243	-0.006120	0.007448	-0.004554	-0.004287	0.009726	0.030166	-0.003314	-0.006732
7	0.002474	0.003089	-0.006212	0.007994	-0.004623	-0.004411	0.009383	0.030315	-0.003427	-0.006399
8	0.002390	0.002814	-0.006281	0.007923	-0.004713	-0.004741	0.009307	0.030610	-0.003400	-0.006480
9	0.002509	0.002811	-0.006312	0.007935	-0.004723	-0.004658	0.009531	0.030598	-0.003451	-0.006600
10	0.002513	0.002836	-0.006315	0.008044	-0.004716	-0.004584	0.009488	0.030551	-0.003485	-0.006523
11	0.002467	0.002789	-0.006314	0.008025	-0.004723	-0.004658	0.009423	0.030596	-0.003469	-0.006499
12	0.002487	0.002779	-0.006316	0.007994	-0.004727	-0.004663	0.009465	0.030605	-0.003468	-0.006536
13	0.002499	0.002796	-0.006315	0.008012	-0.004722	-0.004631	0.009477	0.030583	-0.003477	-0.006530
14	0.002488	0.002792	-0.006313	0.008016	-0.004722	-0.004640	0.009455	0.030587	-0.003475	-0.006516
15	0.002487	0.002786	-0.006313	0.008005	-0.004724	-0.004649	0.009458	0.030593	-0.003472	-0.006523
16	0.002493	0.002790	-0.006313	0.008006	-0.004723	-0.004641	0.009466	0.030588	-0.003474	-0.006526
17	0.002491	0.002792	-0.006313	0.008009	-0.004722	-0.004640	0.009462	0.030587	-0.003474	-0.006522
18	0.002489	0.002790	-0.006313	0.008007	-0.004723	-0.004643	0.009460	0.030589	-0.003473	-0.006522
19	0.002491	0.002790	-0.006313	0.008006	-0.004723	-0.004643	0.009462	0.030589	-0.003473	-0.006523
20	0.002491	0.002791	-0.006313	0.008007	-0.004722	-0.004642	0.009462	0.030588	-0.003474	-0.006523

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Response of LN_WPI_IMPORT:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_*EXPORT*	LN_WPI_IMPORT	LN_XRATE
1	0.000327	0.002349	0.000244	-0.007184	0.001661	-0.002174	0.003738	0.015745	0.011985	0.000000
2	8.34E-06	0.003786	-0.000357	-0.008820	0.000258	-0.003442	0.010530	0.020494	0.010667	-0.008443
3	-0.000558	0.004818	-0.004656	-0.002071	-0.001859	-0.002460	0.010476	0.020971	0.009178	-0.009494
4	-0.002408	0.003491	-0.006529	0.001998	-0.002310	-0.005708	0.008669	0.023477	0.009276	-0.009138
5	-0.002330	0.002406	-0.007312	0.003025	-0.003287	-0.007171	0.009633	0.025492	0.009002	-0.010406
6	-0.001849	0.002278	-0.007838	0.004285	-0.003440	-0.006679	0.010513	0.025758	0.008478	-0.010740
7	-0.002071	0.001986	-0.008031	0.005059	-0.003580	-0.006902	0.010102	0.026051	0.008298	-0.010363
8	-0.002175	0.001617	-0.008138	0.005030	-0.003704	-0.007316	0.010042	0.026446	0.008307	-0.010472
9	-0.002024	0.001590	-0.008190	0.005076	-0.003726	-0.007223	0.010308	0.026449	0.008233	-0.010613
10	-0.002023	0.001609	-0.008196	0.005215	-0.003720	-0.007142	0.010259	0.026401	0.008188	-0.010520
11	-0.002075	0.001546	-0.008197	0.005194	-0.003731	-0.007232	0.010182	0.026459	0.008205	-0.010492
12	-0.002050	0.001534	-0.008199	0.005157	-0.003736	-0.007236	0.010234	0.026469	0.008205	-0.010536
13	-0.002035	0.001554	-0.008197	0.005178	-0.003730	-0.007197	0.010247	0.026443	0.008194	-0.010527
14	-0.002050	0.001548	-0.008195	0.005182	-0.003729	-0.007209	0.010220	0.026447	0.008197	-0.010510
15	-0.002050	0.001542	-0.008195	0.005169	-0.003731	-0.007219	0.010225	0.026454	0.008201	-0.010519
16	-0.002044	0.001547	-0.008195	0.005170	-0.003730	-0.007210	0.010234	0.026448	0.008198	-0.010522
17	-0.002046	0.001548	-0.008195	0.005174	-0.003729	-0.007208	0.010228	0.026446	0.008198	-0.010517
18	-0.002047	0.001546	-0.008194	0.005171	-0.003730	-0.007212	0.010227	0.026449	0.008199	-0.010517
19	-0.002046	0.001546	-0.008195	0.005170	-0.003730	-0.007211	0.010229	0.026448	0.008199	-0.010519
20	-0.002046	0.001547	-0.008194	0.005172	-0.003729	-0.007210	0.010229	0.026447	0.008199	-0.010518

Response of

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

LN_XRATE:

Period	LN_GER_OUTFLOW	LN_CPI	LN_DPK	LN_IHSG	LN_IPI	LN_M2	LN_TRADE	LN_WPI_EXPORT	LN_WPI_IMPORT	LN_XRATE
1	0.002125	4.07E-05	0.006392	-0.007167	0.001831	0.000235	-0.001995	0.005855	0.002099	0.014225
2	0.005223	-0.000481	0.012616	-0.020295	0.003382	0.000991	-0.000910	0.006804	0.003031	0.011574
3	0.007003	0.003070	0.014300	-0.024269	0.004610	0.006775	0.002806	0.001686	0.002775	0.011406
4	0.006380	0.004230	0.014969	-0.024596	0.005545	0.007515	-0.000604	-0.000329	0.003356	0.013638
5	0.005456	0.004197	0.015625	-0.026607	0.005649	0.006263	-0.000993	-5.82E-05	0.004222	0.013440
6	0.006243	0.004721	0.015675	-0.027210	0.005767	0.006988	-0.000119	-0.000565	0.004239	0.012741
7	0.006130	0.005230	0.015830	-0.026861	0.005949	0.007515	-0.000241	-0.001071	0.004197	0.013150
8	0.005903	0.005074	0.015834	-0.027000	0.005907	0.007134	-0.000712	-0.000866	0.004332	0.013272
9	0.005964	0.005078	0.015838	-0.027189	0.005901	0.007096	-0.000449	-0.000823	0.004365	0.013051
10	0.006049	0.005182	0.015827	-0.027073	0.005917	0.007272	-0.000393	-0.000935	0.004316	0.013069
11	0.005971	0.005168	0.015834	-0.027036	0.005921	0.007221	-0.000504	-0.000914	0.004330	0.013146
12	0.005971	0.005132	0.015827	-0.027087	0.005907	0.007163	-0.000494	-0.000869	0.004345	0.013105
13	0.005997	0.005154	0.015826	-0.027076	0.005911	0.007204	-0.000446	-0.000891	0.004334	0.013086
14	0.005989	0.005158	0.015825	-0.027054	0.005913	0.007210	-0.000470	-0.000897	0.004331	0.013109
15	0.005980	0.005147	0.015826	-0.027064	0.005910	0.007190	-0.000479	-0.000884	0.004336	0.013107
16	0.005987	0.005148	0.015824	-0.027068	0.005910	0.007194	-0.000466	-0.000885	0.004335	0.013098
17	0.005988	0.005152	0.015825	-0.027062	0.005911	0.007201	-0.000467	-0.000890	0.004333	0.013102
18	0.005985	0.005150	0.015825	-0.027062	0.005910	0.007196	-0.000472	-0.000888	0.004334	0.013105
19	0.005986	0.005149	0.015825	-0.027065	0.005910	0.007195	-0.000470	-0.000887	0.004334	0.013102
20	0.005987	0.005150	0.015825	-0.027064	0.005910	0.007197	-0.000469	-0.000888	0.004334	0.013102

Cholesky Ordering: LN_GER_OUTFLOW LN_CPI LN_DPK LN_IHSG

Calculating Illicit Financial Flows to and from Indonesia: a Trade Data Analysis, 2001 – 2014

LN_IPI
LN_M2
LN_TRAD
E
LN_WPI_
EXPORT
LN_WPI_I
MPORT
LN_XRAT
E