

Lund University

School of Economics and Management



**LUND**  
UNIVERSITY

Money Laundering  
In Light of The Panama Papers Leak

Master's Thesis (1<sup>st</sup> year), spring semester 2018

Author: Christian Barsoum

Supervisor: Åsa Hansson

## Abstract

In this paper we investigate whether a modern approach to identifying the desirable locations to launder money, the *Walker Attractiveness Index*, is suitable, and compare its projected results with those revealed by the Panama Papers leak. We find that the model does a poor job at predicting the real-world results, and propose that it be revised. To this we provide some policy recommendations that may aid in future efforts to detect money laundering.

*Keywords: Money Laundering, Tax Evasion, Panama Papers, Walker Model.*

# Table of Contents

1. Introduction.....	4
2. Money laundering & Tax evasion.....	5
2.1 The history of money laundering regulation .....	5
2.2 The Process of Laundering Money.....	7
2.2.1 The phases of money laundering .....	8
2.2.2 Modern money laundering techniques .....	11
2.3 Does tax evasion incentivize money laundering? .....	12
2.4 The incentive to minimize loss of tax .....	12
3. Quantifying Money Laundering.....	14
3.1 The Walker Model .....	15
3.2 Revised Walker Attractiveness Index.....	18
3.3 Quantifying the Attractiveness of various regions.....	20
4. Discussion .....	22
5. Policy Recommendations .....	24
Bibliography.....	26
In Memoriam.....	30

# 1. Introduction

The *Panama Papers* (or *Mossack Fonseca Papers*, dubbed after the law firm from which they leaked, released in May 2016), crowned the biggest data leak in history with its 11.5 million documents (2.6 TB), rallied a global movement for the discussion of tax evasion, fraud, money laundering, and the moral and ethical aspects of legally viable offshoring (Garside, 2017 [a]). Followed by the *Paradise Papers* leak in 2017, containing 13.4 million documents (1.4 TB), governments and financial institutions alike have become keen on mapping and subverting both the legal and illegal offshoring activities of corporations and private individuals – of which the latest attempt, spawned by the European Union committee, consisting of 45 MEPs, *TAXE 3*, will investigate the instances of financial crimes committed by companies and individuals within the EU, as revealed in the *Paradise Papers* (*EU Committee to Investigate Paradise Papers*, 2018).

However, unlike the *TAXE 3* inquiry, this paper finds it necessary to also improve on the means of identifying tax havens around the world in order to facilitate any ongoing or future investigations. We consider the issue of *money laundering* to be central in this aspect, as any avenues of tax avoidance (legal) will inevitably attract efforts of tax evasion (illegal) (see 2.3) – a serious structural problem in the financial system that needs to be dealt with, to crack down on criminal organizations and minimize the loss of tax. Some of the questions we ask are: what means of money laundering are made available today, is it possible to predict regions where high amounts of laundering takes place, and are the results reliable?

In the following sections we will introduce the case of money laundering, its history, issues, and the process by which it operates in tax havens and around the world. Following this, we introduce the *Walker Attractiveness Index*, derived from the *Walker Model* and used in predicting and evaluating the attractiveness of any region for the use of laundering money. We will look into recent attempts at further developing the model, according to modern standards and requirements, and the results will be compared to those in the *Panama Papers* leak to see how well the revised model predicts the top five tax havens of the world. Our aim is to identify potential

improvements for both global transparency regulation as well as policy-making in order to limit the potential of illicit activity, thereby preventing the organization of crime, funding of terrorism and loss of tax revenue.

## **2. Money laundering & Tax evasion**

### **2.1 The history of money laundering regulation**

The following record of money laundering legislation through history is inspired by the timeline produced at the European Parliament's PANA Committee, which was created to inquire into the Panama Papers leak in 2016 (Unger, 2017):

The *United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances*, published in 1988, defines money laundering in *article 3.1(b)* as "The concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of property, knowing that such property is derived from an offence or offences [...]" (UNODC, 1988).

The efforts to fight money laundering began in the early 1970's with the Bank Secrecy Act (BSA) implemented by the United States government to demand of financial institutions that they record and file any transactions made by individuals exceeding a daily aggregate of \$10.000 (Meltzer, 1991). After the BSA's implementation the need for higher regulation within the financial sector regarding the suppression of the identification of monetary sources grew, which led to the Money Laundering Control Act in the mid 1980's (H.R. 5484, 1986). This act marks an important stepping-stone in the movement towards counteracting money laundering, as the United States identified the need for global cooperation regarding the mapping of organized crime and the means by which they move money across various instances around the globe. The U.S. thus pushed for the governments of the world to implement a cohesive strategy in order to counteract the vast networks of laundering, which led the U.N. to draft the previously mentioned convention, in 1988. This was further expanded by the G7 coalition (France, Canada, United States, UK, Germany, Japan, Italy) and the European Union through the Financial Action Task Force (FATF) one year later, whose mission is to develop policies aimed at combating money laundering (FATF, 2018).

Until the late 1990's, FATF was exclusive only to OECD-countries, but the ever-increasing complexity of the global arena garnered enough reason to include – and the desire to be included of – non-OECD states, thus resulting in FATF to be amongst the most influential organizations in the world engaged in questions of money laundering, fraud and tax evasion.

In 1990, the EU took stark measures against criminal activity involving money laundering, and sought the need to expand on its domestic legislation. As a result, the European Council enacted the treaty of *Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime*, with the aim of developing methods for the European Union member-states to efficiently counteract money laundering, and increase the availability to share information regarding criminal networks associated with such affairs, with foreign law-enforcing and judicial instances (Council of Europe, 1990). Later on, following the prevailing sentiment of a post-9/11 world and geo-political concerns, the treaty was expanded in 2005 to include the finance of terrorism in addition to criminal activity – thus the case for money laundering became a much broader issue, and paradise islands used for tax evasion came under scrutiny not only for housing money garnered from criminal networks, but also terrorist acts around the world. The new treaty became the *Council of Europe Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime and on the Financing of Terrorism* (Council of Europe, 2005). In 1990, FATF published a set of rules dubbed “40 Recommendations”, which outlined the procedures by which a state most efficiently can combat money laundering – by accounting for banking customer’s due diligence, and gather information from lawyers, accountants and other parties that may hold key information regarding transactions between accounts – and outlined the legislative processes by which money laundering can be regarded as a criminal act, and provided policy suggestions to break down on the methods used to commit the crime. These “recommendations” were later updated first in 2004, and again in 2012, to include financing of terrorist activities, as a reflective statement of the modern attitude concerning money laundering and the illegal transaction of funds (FATF, 2012). Among the latest policy counter-acts by the EU is the directive from the European Parliament, which seeks to implement the updates on FATF’s recommendations, from 2012,

published in the *Official Journal of the European Union* in 2015 (Council of the European Union & European Parliament, 2015).

We thus observe a gradual shift, starting with the relatively light inquiry into high-amount transactions in the early 1970's, and accelerated into a global force of institutional measures in the 2000's and 2010's. Throughout history, the most prevalent and important factor to undertake measures against money laundering has been recognizing the dilemmas any venue for tax havens pose – be it tax evasion or laundering, which carries with it the possibility of financing terrorist activities and other criminal entities. Thus, the moral dilemma of tax havens that meet the needs of the powerful and wealthy stretch far beyond the question of whether everyone ought to partake in the collective welfare of a nation. Instead we find an issue which, at its core, lays the foundation for international organized crime terrorism, all of which can scar a country and obstruct its development just as much as lost tax revenue.

## **2.2 The Process of Laundering Money**

Following the trail of dirty money around the world is a highly demanding, and in some instances impossible, task. Many methods exist to process cash from the black market into for example digital assets, and vice versa. One of the latest methods involves digital currency – cryptocurrency – and makes it near impossible to track the source of transactions (see 2.2.2). The funds can have numerous sources, and can be categorized into either domestic or foreign flows. Cash is by far the most common asset fuelling the black market in the case of domestic criminal activity, used to purchase narcotics, weapons and other illegal possessions. The World Bank reports of a common way to “transfer” cash across borders, inspired by something called “The Dutch Surinam Corridor” (Unger & Siegel, 2006). The study cites the case of an individual who brings cash to the equivalent of a black market ‘banker’ in the Netherlands, whom with a simple phone call to his accomplice in Surinam “deposits” the cash in the Netherlands, and allows for the withdrawal of said amount in Surinam – thus having made an immediate transfer of funds across the Atlantic in a relatively anonymous fashion. Unless specified during questioning, neither the depositors nor withdrawers can necessarily be known by authority, nor the ‘bankers’ for that matter –

making The Dutch Surinam Corridor one of the simplest and most effective ways of transferring cash across the globe. In the following section, we state some of the more advanced, and far more untraceable, techniques of money laundering.

### **2.2.1 The phases of money laundering**

The United Nations Office on Drugs and Crime have identified a cycle by which the typical money laundering scheme is set up. They cite the following “three-stage process” of money laundering, requiring:

- Placement, moving the funds from direct association with the crime.
- Layering, disguising the trail to foil pursuit.
- Integration, making the money available to the criminal, once again, with its occupational and geographical origins hidden from view. (UNODC, 2018)

From these three instances – placement, layering and integration – we find countless of methods to launder money; some admirably clever. The following list, drawn from the European Parliament’s *PANA Committee* report (Unger, 2017), presents a few.

## **PLACEMENT**

### **Structuring**

The act of dividing large amounts of money bound for transaction into smaller deposits, *Structuring* focuses on minimizing the risk of triggering the automatic reporting-threshold of financial institutions, which are required by law to investigate when a transaction of a certain size appears (Linn, 2010).

### **Smuggling**

Transporting cash across borders and thereby obscuring its origins. A typical scheme involves transporting the money to a country with laxer rules concerning customer due diligence, and later depositing the sum in yet another foreign account, before moving them back (likely by means of structuring) to their own accounts. Mariano-Florentino Cuellar reports of an interesting dilemma for the smuggler when they “must transport and distribute about twenty-two pounds of heroin, [but] the sale of \$1 million can produce over 250 pounds (113 kg) of currency” (Cuellar, 2003).



## **Casinos**

At the cash-register of a Casino or gambling institution, the perpetrator will trade their cash for in-house chips which they will use on the floor. After a relatively short amount of time they will return to the register and cash out their chips, perhaps recording them as a profit, and receive a receipt or check for a sum that can be legitimately withdrawn (MLTA Group, 2005).

## **LAYERING**

### **Nostro and Vostro accounts**

A bank may sometimes employ a foreign bank to operate the financial service needs of a customer on its behalf due to a variety of reasons (not owning a specific product, not operating in a specific region, etc.). This foreign bank may in some instances be located in a country where the tax laws are known to be slack, such as Panama, Bahrain or Trinidad and Tobago. These types of setups are prone to exploitation by criminals and terrorists, as the multi-layer dimensions of agents and actors can make it difficult to discern all the information to determine whether it truly is a case of money laundering. A famous case is when Al Qaeda used this type of arrangement to assemble a series of transactions through European banks – Credit Lyonnais from France, and Germany's Commerzbank – via a bank situated in Sudan (Busuioc, 2006).

### **The domestic bank guarantee**

A person interested in laundering a significant amount of cash may want to do it through the purchase of real estate. If the law demands that a domestic bank vouch for the buyer's financial situation, the person will have to make a deposit into the bank by means of exploitation of foreign conditions. They may travel to a country with negligent attention towards income sources, such as Paraguay, and open a bank account there. This bank then wires the deposit to the relevant domestic bank and can henceforth vouch for the perpetrator's liquidity and allow for the purchase of the real estate.

## **Insurance Fraud**

A compliant insurance broker can, knowing or unknowingly, sign an insurance contract on non-existent or illegitimate assets, from which the perpetrator can lay claims on at any time.

## **Shell companies**

Shell companies/corporations are so-called “on-paper” companies that serve no other purpose than to circulate money, giving it the appearance of legitimacy (US Government, 1934). They further serve to disguise the owner of the company/-ies, and have a prominent presence in countries where there are no requirements to disclose the owner (FATF, 2011). The way money is being laundered is by employing dishonest means of accounting in the books, by either over- or undercharging for certain services, transactions or other movements of capital.

# **INTEGRATION**

## **Investments in the financial market**

If illicit money is already stored on an account, there are a number of ways to ‘legitimize’ it, e.g. by investing it into different financial instruments. Low-risk investments such as bonds or mutual funds are favoured as they do not risk the same rate of depreciation as a regular stock would, whether the person would like to withdraw the amount after a short, or long, period of time. By slowly diffusing it with legitimate money, it is easy to write off any extra withdrawn amount as the result of market fluctuations – profit or losses.

## **Financial Securities – Derivatives**

The speculation on future movements in the price of an asset, involving several parties, can provide a number of opportunities to move money under the guise of legitimacy. Assuming the illegal funds are stored on a broker’s account, the perpetrator can enter into a derivatives contract which they know they will lose. After that, they open up a new trade and enter into the opposing side of the previous trade, thus betting on the loss. When it does, the construction of a derivative contract will cause the illicit money to be transferred into the ‘winning’ account – in this case the same individual.

The derivatives market, estimated at a value of \$544 trillion, as of June 2016 (ISDA, 2016), is so giant that there is little to no reason to expect being scrutinized concerning making such a trade as this.

### **Cash heavy businesses**

Perhaps the oldest market, the industry for jewellery, precious metals, tipping at restaurants and betting are all, like casinos, intensely cash-focused. This makes it ideal for a perpetrator to make the money 'vanish' in the industries and cashing out whenever they feel the time is right.

### **2.2.2 Modern money laundering techniques**

The incomprehensibly fast development of the internet and online technology has made it easier for criminals and terrorists alike to find a constant stream of new venues to send and receive illegal funds. The popular rise of online-banking has made it easier for them to circumvent the bureaucratic problems of regular banks (who in many instances are under heavier regulatory supervision) and can thus easier get away with not identifying themselves. Another modern invention that has flooded the black market is cryptocurrencies, particularly Bitcoin (Knapp, 2015). Together with other variations of e-cash, cryptocurrencies have been identified as near impossible to track, making them the perfect means of value transfers between criminal and terrorist organizations across the globe. Now-a-days, the virtual currencies can be used to buy practically anything, from common Amazon items (to be launched soon), to drugs, weapons, and illegal pornography from the dark web (Floyd, 2018; Van Voris & Strohm, 2017).

### **2.3 Does tax evasion incentivize money laundering?**

Tax evasion – the conscious choice to evade taxes – is a criminal act, but does not necessarily involve money laundering. All laundered money requires tax evasion but not vice versa. The question of whether they are the same ought to be considered from a legal point of view. When discussing tax havens such as Panama or The Bahamas, we need to take into consideration their governments' view on tax offences; many of the hot-spots for money laundering do not “raise tax revenue through income tax; hence evasion of income tax cannot be a crime” (*Money Laundering in the EU*, viewed 2018). Tax laws are not interchangeable between countries, and thus pose a problem when trying to enforce another country's laws on the country of the culprit. Hence money laundering, which is the act of re-introducing the proceeds of crime into the economy, necessarily involves tax evasion as neither its sources nor channels are known. Tax evasion however does not re-introduce its capital (unless laundered) and remains illicit (until it is caught and taxed, or laundered), due to differences in jurisdictional offences, which does not force it to become laundered.

### **2.4 The incentive to minimize loss of tax**

EU-member states suffered severely following the global financial crisis of 2008, experiencing significant reduction in GDP and an increase in the debt-to-GDP ratio, from which many have yet to recover, such as Greece and Italy (Eurostat, 2017). As a result, the agenda of the European Parliament, and numerous other countries around the world, leaned heavily on the discussion of tax revenue and its prospects of financing increased public debt. This however brought into light the bizarre state of the offshore industry, and numerous studies began investigating how much tax revenue was lost each year to tax havens for both legal and illegal purposes. For example, the Tax Justice Network (TJN) reported in 2011 that an estimated \$3.1 Trillion were moved to tax havens each year by major corporations, due to tax avoidance/evasion, or reasons concerning property rights (TJN, 2011).

By 2015, the well-recognized book *The Hidden Wealth of Nations: The scourge of tax havens* revealed that an estimated \$7.6 Trillion out of global GDP of \$95.5 Trillion (8%) were 'lost' (Zucman et al. 2015). The authors argued that such an inexplicable amount of wealth was missing – held by offshore institutions to an estimated loss in tax

revenue of around \$190 Billion – feels “as if planet earth were in part held by Mars” (see *Table 1* for further details.). These allegations were further confirmed with the Panama Papers, leaked on April 15<sup>th</sup>, 2016, linking the flock of individuals revealed by Zucman et al. with international celebrities, politicians, royalty, and a number of other prominent figures from the world stage. There is little to no distinction between the avenues that this group uses, and those utilized by international organized crime, drug- and human trafficking circles, when laundering dirty money or evading tax. The discussion of whether tax havens and tax avoidance is feasible in a legal sense thus takes on a more prominent dilemma as any policy actions against these types of financial routes will directly affect those who use them for criminal purposes (as argued in 2.3).

**Table 1: Share of global wealth held offshore in 2014**

<b>Region</b>	<b>Offshore Wealth in billion USD</b>	<b>Share of Financial Wealth held Offshore</b>	<b>Tax Revenue Loss in billion USD</b>
<b>Europe</b>	2,600	10%	78
<b>United States</b>	1,200	4%	35
<b>Asia</b>	1,300	4%	34
<b>Latin America</b>	700	22%	21
<b>Africa</b>	500	30%	14
<b>Canada</b>	300	9%	6
<b>Russia</b>	200	52%	1
<b>Gulf countries</b>	800	57%	0
<b>Total</b>	7,600	8%	190

**Source: Zucman et al. 2015**

It is thus of major importance that we are able to map which tax havens attracts the criminals and how they both operate; this is where the Panama Papers and other leaks enter as invaluable sources of information. Through these, the investigator is able to uncover the means by which money is transported across the globe, and gets hidden in various layers and dimensions in different geographical locations, through shell and

offshore corporations. Starting with the factors of attraction of tax avoidance, we can map what makes money move to certain geographical regions, to what purpose it ends up there and why the scheme hasn't been apparent prior to a leak (more on this in 4.1). From this, we can get an estimated sense of the money laundering activities of every nation, and by how much private citizens and corporations around the world make use of the lax regulatory laws made available in said country; a result which is important when uncovering the sources of terrorist organizations run by state-funded capital (as is the case of many gulf countries, who have been repeatedly accused of funding and supporting global acts of terrorism, and the United States during the cold war). Secondly, we are able to discern the techniques by which dirty money is being laundered and shuffled around the world, and implement new strategies in our policy-drafting, thus producing more effective results in the crackdown of organized crime and international syndicates. In the following sections, we will explore these matters and investigate *how* money is being laundered, *where* it ends up and *what* policy actions we may take in response to this – all in light of the Panama Papers leak.

### **3. Quantifying Money Laundering**

Accurate policy responses to any issue will tend to be preceded by heavy data aggregation, thus making estimates and quantifications a central part of any such process. This is a key issue with regards to mapping and quantifying money laundering, a shadow market, which by definition is untraceable. In their text on the measurement of the global drug markets, Greenfield and Reuter (2001) solidify this point by stating that "[...] knowing the value of drug exports from Mexico to the US is US\$1–3 billion rather than US\$10–20 billion may be very important for purposes of allocating resources for money laundering investigations or even passing money laundering regulations [...]."

A prominent and widely used formula for quantifying money laundering in a country or region is *The Walker Model*, formulated by a pioneer in money laundering research, John Walker (Walker, 1995; 1999) (Walker & Unger, 2009). For this inquiry, we will focus on *Walker's Attractiveness Index* (W.A.I.) and its way of predicting regions with

heavy activity in money laundering. In the following segment we will introduce the model and its components as they were originally presented by Walker in 1995. We follow up on this by further developing the model according to more recent standards and requirements, which we will finally use to compare with the real world results revealed in the Panama Papers. A discussion will be held in the next section (5) on the effects the leak had on the public, regulatory and academic perception of illicit activity, and investigate the validity of the model.

### **3.1 The Walker Model**

The notable difficulty of estimating the volume, location and method of money laundering (or any illicit black market activity) demands of the researcher to approximate the desired value as closely as possible. In the case of laundered volume, the investigator has to use a known variable to act as a proxy for the generated amount. The following step-by-step guide reveals Walker's procedure for approximating this value:

1. The model uses the revenue generated by crime to provide a measure of how much any given region may be laundering. This can be estimated by reviewing the crime data, and using values such as the price of a kilogram of cannabis or cocaine, or that of a firearm, and multiplying it by the estimated sell rate of that region. Through this one could obtain a figure for the illicit money in circulation, thus providing an adequate source to base the research on.
2. Each crime generates different kinds of profits – some do, others don't, and some could even generate a legally legitimate profit (killing one's spouse for the inheritance). However, activities with a cash-heavy focus, such as the drug or human trafficking business, will, and in most cases there will be a desire to launder that income. One way to estimate what proportion of crime proceeds are being laundered is to look into known criminal cases that present those values and map the various revenues generated from different acts of crime. Multiplying this by the amount of total revenue generated in a region by crime(s) (from point 1), one can get an estimate of the regional generation of laundered money.

3. Repeating this for all countries will provide a figure for the global estimate of money laundering.

4. Some countries will attract these activities to a higher degree, due to laxer regulatory laws, bigger markets, etc. This will spur a higher influx of illicit capital, which will establish channels to get in, spurring more cash flow into the country or region. To measure this movement of attraction, Walker develops two sets of indices – the first is *Walker's Attractiveness Index*, where a high value indicates an attractive region for ML:

$$W.A.I. = (GNP/Capita) * (3 * BS + GA + SWIFFT - (3 * CF) - CR + 15) \quad (1)$$

The following is a list of explanations to the variables in W.A.I.:

- *GNP/Capita*: Is the country's/regions Gross National Product per person living there.
- *BS*: Is the level of "Bank Secrecy" that governs the operational approach to customers by the banks in that region.
- *GA*: Is "Government Attitude" towards money laundering.
- *SWIFT*: Is whether or not the country's banks are members of the Society for Worldwide Interbank Financial Telecommunication.
- *CF*: Is the level of conflict in that region.
- *CR*: Is the level of corruption in that region.

At first glance, the formulation may seem somewhat esoteric, if not random, which according to the book *The Scale and Impacts of Money Laundering* is an approximation on Walker's behalf, based on what appears to be a trial-and-error methodology (Unger, 2007). The indexed value produced will give a score for the region and help predict whether it is an attractive location to launder money in – one which provides the least amount of risk for obstruction.

5. The second index is the *Distance Deterrence Index* which calculates the square distances between all country pairs and determines whether it is desirable or cost-efficient to be physically present in a country, or establish contacts there. This may be one of the explanations as for why Switzerland has been a historical haven for e.g.



secret bank accounts, as it is geographically central in Europe. This approach mimics that of earlier formulations regarding objects' attraction to each other at some measured distance, a phenomenon that can originally be found in Isaac Newton's *law of universal gravitation* as well as Tinbergen's formulation of international trade flow (Head, 2003),

$$F_{ij} = G * M_i^\alpha * M_j^\beta / (D_{ij})^\theta, \quad (2)$$

in which the flows of exports between country (i) and (j) depend on each country's GDP, as well as the distance between them.

6. The percentage of illicit money flowing from country (i) into country (j) can be determined with Walker's two indices by the following relationship:

$$\begin{aligned} & \textit{Proportion of money laundering flowing} \rightarrow \\ & \textit{from country (i) to country (j)} = \frac{\textit{Attractiveness of (j)}}{(\textit{distance between i and j})^2} \quad (3) \end{aligned}$$

Repeating this process for all countries, one can theoretically determine what proportion of globally laundered money flows through a specific region.

7. Total amount of money laundered in a country will be the sum of the previously mentioned results:

$$\begin{aligned} & \textit{money generated in the country for laundering} + \\ & \textit{money flowing into the country from abroad} = \\ & \textit{total amount of money laundering} \quad (4) \end{aligned}$$

Following these steps in his 1995 report, Walker estimated that the total combined amount of money being laundered in the whole world sums up to US\$2.85 trillion. This was the first global figure ever given.

### **3.2 Revised Walker Attractiveness Index**

Walker's formulas can theoretically be revised in any number of ways, but our primary focus – *where* laundering takes place – directs our focus towards the W.A.I., instead of Walker's other points. For example, the *Distance Deterrence Index* has already shown itself to be a fruitful formulation in its various other fields of use, such as physics and international trade theory, and will thus be excluded in our analysis (Salvatici, 2013). As will the other points, as they are not immediately linked to our questions, and will thus be left aside for future research.

The original W.A.I. is in certain regards very limited. The first being the choice of variables that may not always be relevant or up-to-date, thus limiting its use through time. A second point is that the sources from which to draw one's data from can be extremely varied, and Walker's use of criminal proceeds may be contested by the next reader to attempt an estimation. A final point to raise is that the model is linear, which rarely suits to explain the natural world (of economics). It's difficult to place *attractiveness* on a linear scale of bad-good-better, as some one needs to consider the marginal utility of the criminal in search of a country. Perhaps GDP/Capita displays a diminishing marginal utility as a certain market-size may be enough for laundering, or is the only one within reach of their criminal network. There have been attempts however at improving the model, one of which we will now present, but it must be noted that further improvement from a broader research-base could prove highly fruitful.

The modern approach to the W.A.I., mainly developed by Prof. Brigitte Unger, draws its inspiration from modern regulations that concern money laundering (Unger, 2006; 2007) (Walker & Unger 2009). Unger's novel approach takes into account the size of the financial market in said region, as it may be of greater interest for criminals to have an amplitude of channels and contacts to transport their money through. Unger further suggest taking into account whether or not the country is a member of the Egmont Group, a coalition of countries who "devote themselves to money laundering" issues and prevention. Her modified formula is as follows:

*Revised Attractiveness =*

$$\left(\frac{GPD}{capita}\right) * (3BS + GA + SWIFT + FD - 3CF - CR - EG + 10) \quad (5)$$

The variables she's defined draw from the same inspiration as Walker. However, Walker himself never explained what scoring method to use when estimating for example "bank secrecy" or even "conflict". Instead, Unger has over the years formulated an approach to the scoring, which allows for standardized testing, whose values will be explain here:

- *GDP/Capita*: measured in US\$ and taken from the CIA World Factbook. A high measure is attractive to launderers.
- *BS*: is a scale from 1 (no secrecy laws) to 4 (bank secrecy laws enforced). Countries that are given a score of 1 are from civil law countries, such as Sweden. A high score is attractive to launderers.
- *GA*: ranges from 0 (no tolerance against money laundering) to 4 (tolerant). A high score is attractive to launderers.
- *SWIFT*: a binary value, of either 0 (not a member) or 1 (a member). Membership eases the transaction process, and is thus attractive to the launderers.
- *FD*: the amount of financial systems deposits in an economy relative to GDP. A high value is attractive to launderers, as it assures them of the country's financial stability.
- *EG*: a binary value, of either 0 (not a member) or 1 (a member). The Egmont Group is an international co-operation between Financial Intelligence Units. Membership is an unattractive trait as it makes it harder to circumvent the system.
- *CF*: is a scale from 0 (no conflict since 1989) to 4 (ongoing war situation), and is taken from the Uppsala University Conflict Data Project. A high value is unattractive to launderers as they risk placing their assets in an unstable region.

- *CR*: is the level of corruption gathered from the Transparency International Index, and is on a scale of 1 (low) to 5 (high). A high value is unattractive to launderers, as it ensures the predictability of contracts and lax regulation.

These variables are used to provide estimates, fitting of the modern age, according to Unger, for evaluating which countries are the most attractive to launder money in.

As we will see, the results gathered from the Panama Papers give much needed insight into the limitations of this formula. In addition, they will also provide us with relevant questions to ask ourselves when formulating new policies and research methods that deal with money laundering.

### **3.3 Quantifying the Attractiveness of various regions**

To estimate a score for any country, we need to peg the output of the revised W.A.I. (RWAI) against a standard, which should serve as a reference point. This report will take the approach of devising a hypothetical, 'optimal', country which would attract all the laundering in the world. The values we then procure from each country will be put in relation to it, thus providing us with a score of how attractive said country is. The following procedure describes how we obtain this hypothetical country.

As we are primarily interested in how the Panama Papers leak changed the perception of tax havens and locations of illicit financial activity, we choose to look through a global frame preceding the leak, i.e. use data from 2015. In that year, Qatar had the highest GDP/Capita (PPP) at US\$132,000/Capita (though this is a crude way of measuring the size of the financial market, Unger made no objection towards using it in the RWAI) (CIA World Factbook, 2018). This would be the ideal country for money launderers, given the right conditions, as a financial market of substantial size also means vast prospects of tapping into sources of wealth. The other variables will be defined according to the following, in order to maximize the attractiveness value of *Qatar-15*: BS=4, GA=4, SWIFT=1, FD=1.0, CF=0, CR=0, EG=0.

Combining these figures, the formula will yield us a value of 3,564,000, which we standardize to a score of 100. Thus, all further results will be a relative measure towards the 'ideal' *Qatar-15*. *Table 2* presents the values for our countries of choice:

**Table 2: RWAI values in 2015**

	<i>GDP/Capita (PPP) \$USD</i>	<i>Bank Secrecy</i>	<i>Government Attitude</i>	<i>SWIFT mem.</i>	<i>Financial Deposits</i>	<i>Conflict (since -89)</i>	<i>Corruption</i>	<i>Egmont Group mem.</i>	<b>INDEX</b>
<i>Luxembourg</i>	105100	2	0	1	3.7765	0	1	1	1973410
<i>Switzerland</i>	61200	3	0	1	1.7298	0	1	1	1207464
<i>Cayman Islands</i>	62264	3	0	1	0.607	1	3	1	847226
<i>Sweden</i>	49000	2	0	1	0.6301	0	1	1	765875
<i>Bahamas</i>	32800	4	0	1	0.7031	0	3	1	646262
<i>British Virgin Islands</i>	31698	3	0	1	0.6421	0	3	1	527521
<i>Seychelles</i>	26600	3	0	1	0.6251	0	3	1	442228
<i>Barbados</i>	18300	3	0	1	0.6152	0	3	1	304058
<i>Panama</i>	23500	4	0	1	0.6641	2	4	1	297606
<i>Niue</i>	12945	3	0	1	0.6231	0	4	1	202241
<b>Qatar-15</b>	132000	4	4	1	1	0	1	0	3564000

**Sources:** CIA World Factbook (2018), The Financial Secrecy Index (2018), FATF (2015), SWIFT (2018), DataMarket (2018), Uppsala Conflict Data Program (2018), Transparency International (2015), Egmont Group (2018).

Setting the *Index* values in proportion to the Qatar-15 value, we produce the following scores,

**Table 3: RWAI Score for various countries, 2015**

<b>Country</b>	<b>RWAI Score</b>	<b>Country</b>	<b>RWAI Score</b>
Luxembourg	55.4	British Virgin Islands	14.8
Switzerland	33.9	Seychelles	12.4
Cayman Islands	23.8	Barbados	8.5
Sweden	21.5	Panama	8.4
Bahamas	18.1	Niue	5.7

The countries shown in *Table 3* are a select sample, and not necessarily those that yield the highest score in the RWAI. Instead, this selection serves to give our inquiry a broader spectrum, to see how theory might differ from actual data (see section 5).

According to the RWAI, Luxembourg scored the highest in the world, and beat some of the more famous tax havens by a significant score – as did Switzerland and,

surprisingly, Sweden. Among the top we also find The Cayman Islands, a historically popular tax haven. Panama's low score in 2015 may be a reflection of the structural and regulatory changes its financial system went through during that period. For a short time, Panama was removed from the FATF black-list, in February 2016, citing that "The FATF welcomes Panama's significant progress in improving its AML/CFT regime and notes that Panama has established the legal and regulatory framework to meet its commitments in its action plan regarding the strategic deficiencies that the FATF had identified in June 2014."

That report was written three months before the Panama Papers leaked in May 2016.

## **4. Discussion**

When the Panama Papers leaked, much of the established world-view got turned upside-down, an example being the RWAI. As it turned out, models and established political notions could not have predicted the reality which was revealed by the leak. So far, heavy regulatory attention had been placed on the popular tax haven countries such as Luxembourg or Switzerland, and even some of the paradise resorts such as Barbados and the Cayman Islands. Unger's report, which predicted that the top destinations for money laundering are Luxembourg, Bermuda, Switzerland, the Cayman Islands and Norway (of whom none turned out in the top five of the leak) got contested in an instant.

As it turned out, Mossack Fonseca had off-shored companies to their clients in the British Virgin Island more than 113,000 times (almost one out of every two cases of off-shoring) (ICIJ, 2017). Panama, where the law firm's HQ is situated, came in at second place. These were followed by Bahamas, the Seychelles and Niue, with a combined figure of 202,716 incorporated offshore companies in these five countries. As we can see, the RWAI did a poor job at predicting this outcome, and the reasons could be many: incomplete formula or missing variable, dishonest methods of reporting data, faulty conduct of supposed regulatory supervision, etc. The index even predicted that Sweden would be a more attractive place to launder money than all of the top five results of the leak.

Hence the leak showed us that our understating of what may go on in the black market is still obfuscate, and rendered an established approach useless. This calls for more research in the field, focused on an improved theoretical framework. Also, where the theory meets its limitations (lack of data), alternative approaches should be consulted. Perhaps a hybridization between theory and field work would do good for the study of money laundering, in the sense that physical presence in a country may adjust one's perception on the difference between how a country is regulated on paper, versus how it actually operates in real life (bribery, cultural stigmas, abundant gang criminality, etc.).

Mossack Fonseca worked together with more than 14,000 banks, law firms, company incorporators and other middle men to set up companies, foundations and trusts for customers, and still manages to only count up to one law firm; spurring the question as to how many similar, undiscovered networks there are. An important lesson to take away is also that cover of the book rarely tells the whole story, as is evident by the British Virgin Islands having been part of the Caribbean Financial Action Task Force (CFATF) prior to the leak – an indication that it ought to have dealt with its issue of providing a tax haven (FATF, 2016).

These results will inevitably depend on how we formulate the W.A.I., something which Unger did not succeed in. Future revisions should pay greater respect to the researcher's inability to gather data on something which by definition is unobservable. Perhaps this could be amended by introducing field studies into the topic of money laundering – this could bridge the gap between what the world *seems* like versus how it *really is*. Is Panama part of the FATF, yet is a country that is culturally prone to bribes? Are there some black-market alternatives to regular off-shoring activities that the institutions do not recognize or observe in their documentation? A critical approach with a new way of combating the issue of money laundering should prove fruitful in any future endeavours; because as it stands now, not much seems to have been done in terms of the academic approach.

## 5. Policy Recommendations

The value of improving and imposing adequate policies to combat tax havens and money laundering finds ground on a number of arguments. The first concerns the loss of tax revenue, as the European Parliament's Panama Inquiry Committee reports, 2–5% of the global GDP is connected to money laundering, which should be an unacceptable amount, calling for urgent action (Unger, 2017). They conclude that the lost global tax revenue amounts to 10% of GDP in the EU-28. Another is the ethical dilemma of allowing a certain group of the population to be exempt from contributing to the welfare of a nation – aren't we all assigned the social contract? Another argument is that properly conducted regulation will inhibit criminal activity and organization, increasing our standard of living, and the safety of the population.

There are a number of ways one could combat tax evasion in. A higher degree of sanctions towards the countries that allow it may yield the desired results – a method which the United States favours. Alternatively, one could approach the issue from a compliance perspective and target the middlemen and institutions that make illicit processes possible – these could be governments, banks, law firms or any other agent that is potentially subject to bribery or corruption. Though these actors need to be approached separately, the benefits of this approach far exceed any other in the long run. The approach will try and formulate ways of rewarding compliance, consequently rewarding the institution with prestige, an approach that has been documented by Verbeeten (2015). Another way is to send a signal that all actions are being supervised and monitored, as can be seen in Sweden whose tax filings come pre-filled with everything ranging from salary to capital gains (companies and corporations are exempt from this feature). In this regard, it would also be beneficial to create a Union wide system of tax declaration, to avoid any possibility of using foreign means to cheat the system.

A novel approach to organizing the European Union against money laundering must take act, as the cultural and financial barricades between us only serves to alienate each other from approaching the problem in the same way. Heavier focus should be placed on making sure that Eastern European countries comply to the established



regulations and aim to co-operate with the other major economies, in their search to crackdown illicit activity.

An international institution should be established to specifically gather information on any and all money laundering activities, thus increasing transparency and global coordination in the matter (Van Koningsveld, 2015).

## Bibliography

Busuioc, M. (2006), 'How Money is Being Laundered', in Unger B. (ed.), *The Scale and Impacts of Money Laundering*, Edward Elgar, Cheltenham, pp. 89-109.

Caruana Galizia, D. (2017), *US\$1.017 million in single transaction from Azerbaijan-owned company to Egrant Inc*, Running Commentary, viewed 20 April 2018, <<https://daphnecaruanaGalizia.com/2017/04/us1-017-million-single-transaction-azerbaijan-owned-company-egrant-inc/>>

CIA World Factbook (2018), *The World Factbook*, Central Intelligence Agency, viewed 17 August 2018, <<https://www.cia.gov/library/publications/the-world-factbook/>>, For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland*.

Council of the European Union & European Parliament (2015), 'Directive (EU) 2015/849 of The European Parliament and of The Council of 20 May 2015', *Official Journal of the European Union*, viewed 16 April 2018, <<https://publications.europa.eu/en/publication-detail/-/publication/0bff31ef-0b49-11e5-8817-01aa75ed71a1/language-en>>

Council of Europe (1990), *Council of Europe Convention on Laundering, Search, Seizure and Confiscation of the Proceeds of Crime*, European Treaty Series No. 141, Strasbourg, viewed 16 April 2018, <<https://rm.coe.int/168007bd23>>

Council of Europe (2005), *Council of Europe Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime and on the Financing of Terrorism*, European Treaty Series No. 198, Warsaw, viewed 16 April 2018, <<https://rm.coe.int/168008371f>>

Cuellar, M-F. (2003), 'The Tenuous Relationship between the Fight against Money Laundering and the Disruption of Criminal Finance', *Journal of Criminal Law and Criminology*, volume 93 (2).

DataMarket (2018), *Financial system deposits to GDP (%)*, Qlik, viewed 17 August 2018, <<https://datamarket.com/data/set/28lc/financial-system-deposits-to-gdp#!ds=28lc!2rqd=o&display=line>> For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland*.

'Daphne Caruana Galizia - The blogging fury' (2018), *Politico*, viewed 30 April 2018, <<https://www.politico.eu/list/politico-28-class-of-2017-ranking/daphne-caruana-galizia/>>

'Daphne's sister says President, PM 'downplaying assassination'', (2017), *Independent*, viewed 20 April 2018, <<http://www.independent.com.mt/articles/2017-10-22/local-news/Daphne-s-sister-says-President-PM-downplaying-assassination-6736180541>>

Egmont Group (2018), *List of Members*, viewed 20 August 2018, <<https://egmontgroup.org/en/membership/list>> For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland*.

EU Committee to Investigate Paradise Papers (2018), KYC360, viewed 11 April 2018 <<https://kyc360.com/news/eu-committee-investigate-paradise-papers/>>

Eurostat (2017), *National Accounts and GDP*, European Commission, viewed 20 April 2018, <[http://ec.europa.eu/eurostat/statistics-explained/index.php/National\\_accounts\\_and\\_GDP](http://ec.europa.eu/eurostat/statistics-explained/index.php/National_accounts_and_GDP)>

FATF (2011), *Global Money Laundering & Terrorist Financing Threat Assessment*, Financial Action Task Force, viewed 20 April 2018, <<http://www.fatf-gafi.org/media/fatf/documents/reports/Global%20Threat%20assessment.pdf>>

FATF (2012–2018), *International Standards on Combating Money Laundering and the Financing of Terrorism & Proliferation*, Financial Action Task Force, Paris, France.

FATF (2015), *High-risk and other monitored jurisdictions*, Financial Action Task Force, viewed 20 August 2018, <[http://www.fatf-gafi.org/publications/high-riskandnon-cooperativejurisdictions/?hf=10&b=20&s=desc\(fatf\\_releasedate\)](http://www.fatf-gafi.org/publications/high-riskandnon-cooperativejurisdictions/?hf=10&b=20&s=desc(fatf_releasedate))> For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland.*

FATF (2016), *Caribbean Financial Action Task Force members*, Financial Action Task Force, viewed 20 April 2018, <<http://www.fatf-gafi.org/countries/#CFATF>>

'*FBI asked to help investigate Caruana Galizia murder – Muscat*' (2017), Times of Malta, viewed 20 April 2018, <<https://www.timesofmalta.com/articles/view/20171016/local/fbi-asked-to-help-investigate-caruana-galizia-murder-muscat.660582>>

FSI (2018), *Financial Secrecy Index*, Tax Justice Network, viewed 20 August 2018, <<https://www.financialsecrecyindex.com/introduction/fsi-2018-results>> For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland.*

Floyd, D. (2018), *Amazon Sees Bitcoin Use Case in Data Marketplaces*, Coindesk, viewed 20 April 2018, <<https://www.coindesk.com/amazon-sees-bitcoin-use-case-data-marketplaces/>>

Garside, J. (2017 [a]), *Paradise Papers leak reveals secrets of the elite's hidden wealth*, The Guardian, viewed 11 April 2018, <<https://www.theguardian.com/news/2017/nov/05/paradise-papers-leak-reveals-secrets-of-world-elites-hidden-wealth>>

Garside, J. (2017 [b]), *Malta car bomb kills Panama Papers journalist*, The Guardian, viewed 11 April 2018, <<https://www.theguardian.com/world/2017/oct/16/malta-car-bomb-kills-panama-papers-journalist>>

Greenfield, V. A. & Reuter, P. (2001), 'Measuring Global Drug Markets: How good are the numbers and why should we care about them?', *World Economics*, Ed. 2011 (4), pp. 159-173.

"H.R. 5484 – 99th Congress: Anti-drug Abuse Act of 1986." www.GovTrack.us. 1986. April 16, 2018 <<https://www.govtrack.us/congress/bills/99/hr5484>>

ISDA (2016), *Derivatives – Facts and Figure*, International Swaps and Derivatives Association, viewed 20 April 2018, <<https://www.isda.org/a/sviDE/derivatives-facts-and-figures-fact-sheet-final.pdf>>

Head, K. (2003), *Gravity for Beginners*, University of British Columbia, Faculty of Commerce, Vancouver, Version prepared for UBC Econ 590a student.

ICIJ (2017), *Explore the Panama Papers Key Figures*, International Consortium of Investigative Journalists, viewed 5 April 2018, <<https://www.icij.org/investigations/panama-papers/explore-panama-papers-key-figures/>>

Knapp, A. (2015), *Faking Murders and Stealing Bitcoin: Why the Silk Road is the Strangest Crime Story of the Decade*, Forbes, viewed 29 July 2018, <<https://www.forbes.com/sites/civcnation/2018/07/27/making-a-difference-for-student-parents-and-children-at-lavcs-family-resource-center/#3d04e474e802>>

Linn, C. (2010), 'Redefining the Bank Secrecy Act: Currency Reporting and the Crime of Structuring', *Santa Clara Law Review*, volume 50 (2), viewed 21 April 2018.

'Malta arrests 10 over Caruana Galizia car bomb murder' (20117), BBC, viewed 20 April 2018, <<http://www.bbc.com/news/world-europe-42221352>>

Meltzer, P. E. (1991), 'Keeping Drug Money from Reaching the Wash Cycle: A Guide to the Bank Secrecy Act', *Banking Law Journal*, volume 3, pp. 230-255.

MLTA Group (2005), *U.S. Money Laundering Threat Assessment*, U.S. Treasury, viewed 11 20 April 2016 <<https://www.treasury.gov/resource-center/terrorist-illicit-finance/Documents/mlta.pdf>>

'Money Laundering in the EU' (viewed 20 Aug 2018), University of Exeter, <<https://people.exeter.ac.uk/watupman/undergrad/ron/tax%20evasion.htm>>

Salvatici, L. (2013), 'The Gravity Model in International Trade', *AGRODEP*, viewed 20 August 2018, <[http://www.agrodep.org/sites/default/files/Technical\\_notes/AGRODEP-TN-04-2\\_1.pdf](http://www.agrodep.org/sites/default/files/Technical_notes/AGRODEP-TN-04-2_1.pdf)>

Stone, J. (2017), *Daphne Caruana Galizia murder: Three charged over killing of Maltese journalist who exposed Panama Papers corruption*, Independent, viewed 20 April 2018, <<https://www.independent.co.uk/news/world/europe/daphne-caruana-galizia-murder-three-charged-ten-arrested-video-footage-a8095166.html>>

SWIFT (2018), *Members of SWIFT GPI*, Society for Worldwide Interbank Financial Telecommunication, viewed 20 August 2018, <<https://www.swift.com/our-solutions/global-financial-messaging/payments-cash-management/swift-gpi/swift-gpi-for-banks/members>> For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland.*

'Thousands attend funeral of murdered Maltese journalist' (2017), Euronews, viewed 20 April 2018, <<http://www.euronews.com/2017/11/03/thousands-attend-funeral-of-murdered-maltese-journalist>>

TJN (2011), *The Cost of Tax Abuse: A briefing paper on the cost of tax evasion worldwide*, Tax Justice Network, viewed 20 April 2018, <<https://www.taxjustice.net/wp-content/uploads/2014/04/Cost-of-Tax-Abuse-TJN-2011.pdf>>

Transparency International (2015), *Corruption Perceptions Index*, viewed 20 August 2018, <<https://www.transparency.org/cpi2015>> For the following countries:

*Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland.*

Unger, B. & Siegel, M. (2006), 'The Netherlands-Suriname Corridor for Workers' Remittances: Prospects for Remittances When Migration Ties Loosen', Study prepared for the World Bank and the Dutch Ministry of Finance, viewed 21 April 2018.

Unger, B. (2007.), *The Scale and Impacts of Money Laundering*, Edward Elgar, Cheltenham.

Unger, B. (2017), 'Offshore activities and money laundering: recent findings and challenges', Directorate General for Internal Policies, viewed 21 April 2018, <[http://www.europarl.europa.eu/RegData/etudes/STUD/2017/595371/IPOL\\_STU\(2017\)595371\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/595371/IPOL_STU(2017)595371_EN.pdf)>

UNODC (1988), *United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances*, United Nations, viewed 11 April 2018, <[https://www.unodc.org/pdf/convention\\_1988\\_en.pdf](https://www.unodc.org/pdf/convention_1988_en.pdf)>

UNODC (2018), *The Money-Laundering Cycle*, United Nations, viewed 11 April 2018, <<https://www.unodc.org/unodc/en/money-laundering/laundrycycle.html>>

UCDP (2018), *Recorded fatalities in UCDP organized violence 1989-2017*, Uppsala Conflict Data Program, viewed 20 August 2018, <<http://ucdp.uu.se/#/exploratory>>  
For the following countries: *Bahamas, Barbados, British Virgin Islands, Cayman Islands, Luxembourg, Niue, Panama, Qatar, Seychelles, Sweden, Switzerland.*

US Government (1934), *Securities Exchange Act of 1934*, Securities & Exchange Commission, viewed 20 April 2018, <<http://legcounsel.house.gov/Comps/Securities%20Exchange%20Act%20of%201934.pdf>>

Van Voris, B. & Strohm, C. (2017), *Criminals' Online Market Targeted by U.S. After Founder Dies*, Bloomberg, viewed 18 April 2018, <<https://www.bloomberg.com/news/articles/2017-07-20/u-s-looks-to-seize-assets-tied-to-dark-web-site-alphabay>>

Van Koningsveld, T. J. (2015), *De offshore wereld ontmaskerd* (The offshore unmasked), Uitgeverij Kerckebosch bv, Zeit.

Verbeeten, F. (2015), *Accounting for the Immeasurable*, Utrecht University.

Walker, J. (1995), *Estimates of the Extent of Money Laundering in and through Australia*, Australian Transaction Reports and Analysis Centre, Queanbeyan.

Walker, J. (1999), 'How Big is Global Money Laundering?', *Journal of Money Laundering Control*, MCB UO Ltd, volume 3 (1), pp. 25-37.

Walker, J. & Unger, B. (2009), 'Measuring Global Money Laundering: "The Walker Gravity Model"', University of Wollongong / Utrecht University School of Economics, viewed 24 April 2018, <[http://www.urosario.edu.co/observatorio-de-lavado-de-activos/imagenes/Walker-Unger-\(2009\).pdf](http://www.urosario.edu.co/observatorio-de-lavado-de-activos/imagenes/Walker-Unger-(2009).pdf)>

Zucman, G., Fagan, T. L. & Piketty, T. (2015), 'The Hidden Wealth of Nations: The scourge of tax havens', *University of Chicago Press*, London.

## In Memoriam

On October 16<sup>th</sup>, 2017, a car bomb denoted in Bidnija, Malta, killing the journalist and anti-corruption activist Daphne Caruana Galizia (Garside, 2017 [b]). Author of the Maltese blog *Running Commentary*, where she led the investigation into the country's affiliations with the *Panama Papers*, and described by the American news site *Politico* as a "one-woman WikiLeaks", Caruana Galizia suffered the consequences of what Maltese Nationalist Party (Partit Nazzjonalista) leader, Adrian Delia, calls "A political murder, [...] not an ordinary killing, [...] a consequence of the total collapse of the rule of law which has been going on for the past four years." (*Daphne Caruana Galizia – the blogging fury*, 2018). Her funeral, held public on November 3<sup>rd</sup>, gathered thousands of mourners who, because of their adoration of her, applauded the coffin as it was carried out of the church, and with their hands towards the sky marked a "V" for victory – amongst the gathered crowd, neither President Marie-Louise Coleiro Preca nor Prime Minister Joseph Muscat were allowed to attend (*Thousands attend funeral of murdered Maltese journalist*, 2107).

Much to their sorrowful reactions, critique by the Caruana Galizia family, especially her son, grew towards the regime, and her sister is quoted saying "the President and the Prime Minister are "downplaying" the assassination and "working to transform her into a martyr for their cause" (*Daphne's sister says President, PM 'downplaying assassination'*, 2017). Earlier that year, Caruana Galizia had uncovered proof connecting Prime Minister Muscat and two of his closest men to offshore companies selling Maltese passports – a scheme in which the Azerbaijan government was involved – by investigations into the leaked *Panama Papers* (Running Commentary, 2017). The signals of foul play and conspiracy moved the Maltese Parliament – Muscat in particular – to ask for aid in the matter from the United States' Federal Bureau of Investigation (FBI), whose collaboration with local police forces ended on December 4<sup>th</sup> with the arrest of ten individuals, of whom three got charged for the assassination (*FBI asked to help investigate Caruana Galizia murder – Muscat*, 2017) (Stone, 2017) (*Malta arrests 10 over Caruana Galizia car bomb murder*, 2017). Daphne Caruana Galizia was killed for her courage to stand up against the vile and malicious, but will always remain a beacon of justice and the incorruptible power of truth.