

# Northumbria Research Link

Citation: Bello, Abdullahi and Harvey, Jackie (2017) From a risk-based to an uncertainty-based approach to anti-money laundering compliance. *Security Journal*, 30 (1). pp. 24-38. ISSN 0955-1662

Published by: Springer

URL: <http://dx.doi.org/10.1057/s41284-016-0002-0> <<http://dx.doi.org/10.1057/s41284-016-0002-0>>

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/26933/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



**Northumbria  
University**  
NEWCASTLE



**UniversityLibrary**

**From a Risk-Based to an Uncertainty-Based Approach  
to Anti-Money Laundering Compliance**

**Abdullahi Usman Bello, PhD, MSc, BSc, BTech, ACCA, CAMS (First and  
corresponding author)**

Ag. Head, Forensic Accounting and Financial Investigation

Economic and Financial Crimes Commission

Abuja, Nigeria

abdubel@hotmail.com

**Jackie Harvey, BSc (Hons), PCAP, PhD, ILTHE (Second author)**

Professor of Financial Management and Director of Business Research

Newcastle Business School, Northumbria University

Newcastle upon Tyne, United Kingdom

**Acknowledgement**

The Authors thank Newcastle Business School, Northumbria University and The Intergovernmental Action Group against Money Laundering in West Africa (GIABA) for providing a studentship and a grant respectively to Abdullahi Bello for the research.

Word count (5586: excluding references, notes and figures)

## **Abstract**

The prescriptive nature of the rule-based approach to anti-money laundering (AML) compliance and the exponential growth of suspicious activity reports (SAR) resulting from the use of 'tick-box' method led to the adoption of the risk-based approach (RBA) to AML. However, the RBA, suffers from a number of difficulties and this has resulted in its ineffective implementation. The difficulty in implementing the approach can mainly be traced back to the inappropriateness of the risk theoretical framework for AML. We argue that an uncertainty based approach will provide a more fruitful basis for an effective AML regime. The paper, therefore, outlines how an uncertainty-based approach could be considered as an alternative to the existing risk-based approach in order to improve the effectiveness of the AML compliance regime.

## **Keywords**

Risk- based approach, Uncertainty-based approach, Risk, Uncertainty, Anti-money laundering

## **1. Introduction**

Most jurisdictions have implemented the risk-based approach to anti-money laundering (AML) compliance. In the UK, for example, it followed the bringing into force of the 2007 Money Laundering Regulations in response to the revised Financial Action Task Force (FATF) 40 + 9 Recommendations in 2003 and the 3<sup>rd</sup> European Union (EU) Directive. Several scholars have examined the problems arising from the risk-based approach (Anna, 2011; Demetis & Angell, 2007) with a number examining through application of game theory (Araujo, 2010; Arnone & Borlini, 2010); or agency theory (Araujo, 2008; Masciandaro, 1999, 2005; Masciandaro & Filotto, 2001; Pellegrina & Masciandaro, 2009; Takats, 2011) the conditions under which the approach would be effective. We follow a different line of reasoning arguing that the risk-based approach is proving to be difficult to implement because the traditional theories of risk are not easily transferable to the arena of AML.

The purpose of this paper is to outline a possible alternative proposition that could be used to assist in improving the effectiveness of AML compliance through the application of an uncertainty-based approach. We argue that this provides a better representation of the decision making process followed by financial institutions.

The uncertainty-based approach in this context is, therefore, another way of describing decision making under conditions of uncertainty (Gilboa, 2009; Holloway, 1979). Within the AML literature and indeed regulatory environment, however, the terms risk and uncertainty are sometimes used interchangeably (Guerron-Quintana, 2012) despite the fact that they are defined very differently. Although some writers consciously ignore this division (Friedman, 1976), as will be discussed, the distinction is generally in the degree of uncertainty of the

consequences of an outcome. For the purpose of this work, we separately define the two constructs as follows: risk is when *'for practical purposes, you can know the consequences of each alternative before deciding...'* while in the case of uncertainty, it is a situation *'in which no matter how much time and thought you expend, you won't know what the consequences will be until after deciding'* (Hammond, Keeney, & Raiffa, 1999, p. 109). This definition of risk and uncertainty is similar to the early definition given by Knight (1921) where risk is measurable while uncertainty is unmeasurable.

The paper begins with a short review of the evolution of AML regulation in order to place the current framework within an appropriate historical context. The concept of risk and uncertainty will be discussed in detail to provide a basis for discussion of the risk-based approach and to identify problems arising from its adoption for AML compliance. The paper concludes by proposing an alternative uncertainty-based model.

## **2. Historical Context**

### **a. Rule Based Approach**

The history of significant global AML regulations can be traced back to 1988 with the adoption of the UN Convention against the Illicit Traffic in Narcotic Drugs and Psychotropic Substances in Vienna (Shehu, 2005). Although money laundering was not explicitly mentioned or defined within the Convention, it provided the basis of subsequent regulations for preventing money laundering (Stessens, 2000). 1989 saw the institutionalisation of anti-money laundering regulations through the creation by the group of seven industrialised nations (G-7) of the FATF with the specific remit to combat the 'menace' of money laundering (Favarel-Garrigues, Godefroy, & Lascoumes, 2008). The following year, the FATF issued its 40 Recommendations<sup>1</sup> as a comprehensive plan of action to accomplish its mandate and later in 2001 issued 9 additional Recommendations to tackle the growing

concern over terrorism (Bergstrom, Helgesson, & Morth, 2011). Member countries, in compliance with the Recommendations, were expected to enact laws and regulations specifying in detail how the money laundering threat would be handled within their respective jurisdictions. These Recommendations gave birth to the rule-based approach (Ai, Broome, & Yan, 2010). Under this approach, the regulators established the principles and underlying regulations that they believe should assist in detecting and preventing money laundering. Each member country was required to implement the requisite measures that were enforced through a process of mutual evaluation.

It had been argued that the rule based approach was too prescriptive and did not allow for regulated entities to use their initiative (Ai et al., 2010). Even regulators acknowledged it had proved costly to implement (FSA, 2003) and it was simple for money launderers to manipulate the system to their advantage by, for example, depositing sums just below the threshold to avoid triggering a suspicious transaction report (Takats, 2011). However, more damning, was that it encouraged banks to do just enough to satisfy the requirement of the law by following what has been labelled as a *'tick-box'* approach to compliance (Harvey & Lau, 2009; Killick & Parody, 2007).

#### **b. The Risk Based Approach**

The risk-based approach was subsequently introduced in 2003 by the FATF following its revision of the 40 Recommendations (de Koker, 2009), which had to be quickly followed by the development of Guidance on how the Risk-Based Approach to combating money laundering and terrorist financing was to be operationalised (FATF, 2007). The guidance, as far as it went, was developed following a meeting in 2005 between the FATF and representatives of the banking and securities sectors, where a group<sup>2</sup> was formed to look at and advise on developing the risk-based approach (FATF, 2007). Although the main purpose

of the Guidance was to foster a common understanding and interpretation of what was implied by the approach, in the words of the FATF, a risk-based approach ‘... encompasses recognising the existence of the risk(s), undertaking an assessment of the risk(s) and developing strategies to manage and mitigate the identified risks’(FATF, 2007 p.2). From this it is apparent that the AML risk is not clearly defined (de Koker, 2009; Ross & Hannan, 2007). Further within AML regulation risk is seen as a situation of ‘being in risk’ rather than of ‘taking risks’. This is evident from reading guidance from such bodies as the FATF (2007), Basel (2004), Financial Conduct Authority (2013), JMLSG (2011) amongst others. The difference between ‘being at risk’ and ‘taking risks’ was highlighted by Demetis and Angell (2007 p.4) where taking a risk is ‘*where an action is taken in search of opportunities, but with the possibility of facing hazards*’ as distinct from being at risk ‘*where outside forces threaten*’

In consequence, the risk-based approach raised more questions than it answered and revealed ‘... *intrinsic (and very real) difficulties in handling the relationship between risk and AML*’ (Demetis and Angell, 2007 p.424). While the embracing of a risk-based terminology might have simply reflected the general movement to such within broader regulation of financial markets, the fact that risk itself is defined so differently has meant that within AML the inability of banks to apply normal risk measurement techniques has resulted in an inability to distinguish what is truly criminal leading to the generation of “*an overflow of useless AML information*” (Pellegrina & Masciandaro, 2009 p.3). Clearly if banks report everything as suspicious they effectively report nothing (Takats, 2011). While there was the expectation that the approach would address the excess reporting problem (Ross & Hannan, 2007), this paper argues that little has improved and to explain it is useful to further explore our understanding of the concepts of risk and uncertainty.

### **3. Risk and uncertainty**

The concept of risk (and uncertainty) is difficult to define because risk is *'multidimensional and nuanced'* (Haimes, 2009 p. 1647) mainly because it is perceived differently within different disciplines. An initial consideration of the definition of risk and uncertainty in the literature may imply that the two terms are distinct concepts. Further reading will, however, reveal that the two concepts are not mutually exclusive, but can be subsumed under the general meaning of uncertainty, thus Miller, Kurunmäki, & O'Leary (2007, p.944) used *'the term uncertainty to refer to a wider range of phenomena than risk, while the term risk is used to refer to those forms of uncertainty which have been defined and constituted as risk'*. In other words risk is considered as a subset of uncertainty and it is this definition that is adopted within this paper.

To the extent that risk is definable and measurable<sup>3</sup>, the difference between the two terms is therefore that of degree; in risk, the degree of uncertainty is low while it is high in the case of uncertainty. This is also the position of Knight, (1921), though not explicitly promoted. Knight (1921) argued that risk is also uncertainty, but defines risk as a determinate uncertainty while uncertainty is indeterminate. Demetis and Angell (2007, p. 413) are also of the view that risk is subset of uncertainty by arguing that *'risk is something that is capable of being represented; uncertainty on the other hand is a state of mind that is unknown and unknowable'*. As humans are infinitely uncomfortable with uncertainty we do everything possible to box it up and remove it from our everyday life. Thus risk is the residual outcome of the processing of making uncertainty more manageable (Demetis and Angell, 2007; Holzer and Millo, 2005), or as Glimcher (2009, p. 132) puts it, *'rational-economic analysis assumes that uncertainty can be reduced to risky situations'*. Thus the two concepts, though not mutually exclusive are different, hence it is important to bring out the subtle difference between the two. Risk is, therefore, defined as a situation where the probability of occurrence of an event is known and the resulting consequences are measurable. In



uncertainty the probability may be known but the consequences in the event of occurrence remain unknown.

By way of illustration, in the case of money laundering, analysts (usually money laundering reporting officers – MLROs) can calculate the probability that a single transaction from the population of all transactions is suspicious but they remain uncertain in two dimensions: Firstly, with regards to the response of regulators; and secondly, by their customers in the event that they report or, indeed, fail to report the identified transaction. Are the regulators going to penalise them for not reporting a transaction that eventually turned out to be a money laundering transaction? Or will their customer be unhappy if a legitimate transaction is reported as suspicious with all the attendant consequences in term of delay.

Decisions within an uncertainty-based approach to AML provide a more accurate reflection of the uncertainty of outcome of a transaction being associated with or not associated with a money laundering transaction. This is because, at the time of decision making over whether or not to report, the analyst lacks information as to all possible consequences associated with that decision. Accordingly, in the condition where *‘either the probability of exposure to the hazard is unknown and/or the precise consequences of exposure to the hazard are not clear’* (Gibbs, Gore, McGarrell, & Rivers, 2010 p.135), theories of decision making under uncertainty are more useful. This is in stark contrast with decision-making under conditions of risk where it is expected that the consequences of a particular decision are known with some degree of certainty in advance of making the decision (Glimcher, 2009).

#### **4. The Problem with the Risk-based Approach and its Conceptualisation**

The main problem with the risk based approach is that of conceptualisation. How is risk defined? And how is it categorised? This problem is more pronounced in AML where the

concept is not well defined and the definitions remain blurred rendering the categorisation of AML risk difficult.

Those operating within a risk controlling environment in FIs are well versed with the positive relationship between risk and return. Here the focus is on setting appropriate risk limits to control exposure within defined parameters. Similarly, those working within FI legal departments will monitor contracts to ensure institutions operate within the boundaries of the law. So it was perhaps not unusual that a risk based approach was promulgated whereby the higher the 'suspicion' in AML, the higher the perceived risk.

The problem, well identified in the literature, is that it is difficult to distinguish that which is suspicious and from that which is not. If 'suspicious' is distinguished by a lack of legality, MLROs would be immediately able to identify all activity that is criminal in nature. The reality is that activity that is criminal in nature does not come with a convenient red flag as it is completely indistinguishable from all other legitimate financial transactions (Mitsilegas, 2003). The inability to identify a clear dividing line between legal and illegal is further compounded by the fact that risk is not well defined within the field of regulation such that *'regulatory agencies provide few explicit criteria that can be used to differentiate high risk from low risk'* (Ross & Hannan, 2007, p.108; de Koker, 2009; Killick and Parody, 2007; Sathye & Islam, 2011) . This lack of definition underpins the poor implementation of the approach (Killick & Parody, 2007; de Koker, 2009).

This difficulty of conceptualisation might be attributed to the multiple tasks that AML is called upon to perform. For example, it is used both to protect the safety and soundness of banks (Basel, 2004), and to combat money laundering (FATF, 2013b). In the first case, the main concern, at least for financial institutions, is that if the reputation and integrity of banks are at stake, they may suffer the consequences through regulatory and clients' actions which

will negatively affect profit. In the second case, the main concern is that money launderers will use the financial system for money laundering and terrorist financing (FATF, 2012). In the latter case there is little immediate impact upon the banks themselves, aligning the benefit to the regulators (Harvey & Lau, 2009; van den Broek, 2011).

This alignment of benefit or interest is important. If the true purpose of AML is to protect the safety and soundness of banks there will be greater alignment of interest between the regulators and the regulated sector. Although this objective was made more explicit in the FATF's 2013 methodology, there is little evidence to support the assertion that increase safety and soundness of the system will prevent money laundering (Halliday, Levi, & Reuter, 2014). It is, however, hoped that the FATF's revised methodology that places greater emphasis on outcome effectiveness may be more successful in linking AML/CFT measures to safety and soundness of the banking system (Halliday et al., 2014).

To the extent that there is conflict between commercial and regulatory goals (Favarel-Garrigues et al., 2008; Masciandaro, 1999; Takats, 2011; Araujo, 2008), may in part explain the initial reluctance of banks to cooperate fully in the implementation of the various regulations toward preventing money laundering (Favarel-Garrigues et al., 2011). Essentially, the objectives of the regulator (social gain) do not align with those of the financial institutions as the latter retain private information in relation to the amount of effort they are prepared to expend upon AML activity (which is a cost to their institution).

Apart from the reputational and legal risk associated with failure to comply, banks initially do not accept the rationale behind the burden placed on them to 'police' money laundering activities (Marshall, 2004). While since the events of 9-11, banks are perhaps more accepting of their role in AML (Bergstrom et al., 2011), *'yet, the tension inherent in the anti- money laundering fight between the commercial ethos and regulatory injunctions can, on the*

*practical level, create dilemmas*' (Favarel-Garrigues et al., 2008 p.9) as *'ultimately, AML runs against the traditional ethos as well as the strategic objectives of banks'* (Canhoto, 2008 p.167)

Another problem of conceptualisation is that the effect of money laundering remains difficult to quantify (Harvey, 2008; Alldridge, 2003; van Duyne 1998; McCarthy et al. 2014). Although several studies have tried to measure its impact, the result *'is pure speculation, or it is based on figures that are either wrongly cited, misinterpreted or just invented'*(Barone & Masciandaro, 2011 p.116 see also Schneider and Windischbauer, 2008; Walker and Unger, 2009; Blickman, 2009; Van Duyne and De Miranda, 1999; Reuter and Truman, 2005; and Reuter and Greenfield, 2001). It is this difficulty in measurement that is the main challenge to implementing the risk-based approach to AML, rendering most traditional risk management models inappropriate (Harvey & Lau, 2009). While the FATF completely failed to define risk in its guidance on the risk based approach (FATF, 2007), somewhat ironically instead providing *'key elements of an effective risk-based approach'* (FATF, 2007 p.1). This is evident when one of the models used in anti-money laundering risk assessment, as reported in Sathye and Islam (2011), is examined. The model, shown in Figure 1 (See appendix 1), which was based on empirical research specifically conducted to develop an AML risk assessment model, categorises the risk of money laundering into business and regulatory risk and further subdivided business risk into 'inherent' and 'residual' risk. The problem with this categorisation as illustrated by Ross and Hannan (2007), is that inherent risks are determined according to what regulators *think* are risks rather than following any more objective criteria. For example, a customer, is automatically considered a high risk if he is a politically exposed person (PEP), by virtue of being a top government official or a relative of such a person and applies to both domestic, foreign and international organisation PEPs (FATF, 2013a). This determination by regulators introduces the *'risk that the distinction*

*between suspicious and non-suspicious will become a bureaucratic decision... the AML system is reduced to ticking boxes once again'* (Demetis & Angell, 2007 p.423).

The classification of countries may also be arbitrary (Sharman, 2008). What are the criteria for designating a country as being at a high risk of money laundering? Should it be based on evidence of a lack of 'political will' by those in government or because a country has a weak regulatory framework for dealing with money laundering? There again, should it be based on the amount and frequency of money laundering activity? The US, for example, has the highest level of money laundering in the world (Dolar & Shughart II, 2011) but is considered a low risk country, while countries with fewer incidents of money laundering, in both value and frequency, are considered high risk countries because of lax control and lack of 'political will'. This arbitrary designation clearly contradicts the essence of an approach that is truly risk based. An example is provided by the case of Habib Bank, fined for not listing Pakistan and Kenya in a High Risk Country List (Financial Services Authority, 2012). Whilst it might be appropriate that they be penalised for such failure; what is open to debate is the ownership of the criteria that had been adopted for the designation of countries. Consider, for example, that within the 'low risk' US, California has the dubious honour of being designated as a *'high-risk money laundering and related financial crime area'* (Dolar & Shughart II, 2011 p.19). In consequence, a transaction from California may not be considered a high risk even when it may be more risky than an equivalent transaction emanating from, say, Kenya.

It is then easy to see why many researchers have concluded that the implementation of the risk-based approach is difficult and complex (Ai et al., 2010; Bergstrom et al., 2011; de Koker, 2009; Ross & Hannan, 2007). Demetis and Angell (2007 p.427) captured the essence of the problem by saying that *'regulators are confused on how to enforce and test compliance against such a risk-based approach, and financial institutions remain nervous whether their own perception of risk will match regulatory expectations'*.

## **5. The Uncertainty Based Approach**

In light of the above, the authors propose an alternative uncertainty based approach for dealing with money laundering. An uncertainty-based approach is appropriate, because the literature is replete with examples of how uncertainty plays a dominant role in AML (see for example, Ross and Hannan, 2007; Araujo, 2008; Favarel-Garrigues et al., 2011; Takats, 2011). According to Ross and Hannan (2007 p.108) there is uncertainty '*... about how risk should be defined and measured*', while Favarel-Garrigues et al. (2011 p. 183) argued that the concept of AML risk is more related '*to decision making in a situation of uncertainty*'. Similarly, Takats (2011 p.34) stated that '*... the bank is always uncertain about the transaction's true nature, that is, every transaction can be potential money laundering*'.

### **Conceptualisation of the Uncertainty Based Approach**

One of the methods we found useful in dealing with decision making under uncertainty is the risk profile provided by Hammond et al. (1999) and discussed in the next section. Even though there are other similar methods such as payoff tables (Holloway, 1979), risk profiling is considered a simpler way to support the argument that the theories of uncertainty may be better at dealing with decisions within the area of AML. Consider Figure 2 (See appendix 1) that illustrates the typical decision making process within the current AML system.

In this arrangement, it is the analyst (or MLRO) that ultimately makes the decision on whether to report an activity to the Financial Intelligence Unit (FIU). He has two choices: to report, or not to report. From the regulators' point of view, the problem arises with the decision not to report rather than with the reporting (Levi & Reuter, 2006; Takats, 2011). If an analyst fails to report an activity as suspicious based on his own sound judgement, the regulators would not excuse the decision, but instead would seek to penalise him for failure to report a suspicious activity that subsequently became a money laundering activity. AML is,

however, an uncertain territory, the analyst cannot ordinarily be certain that the outcome of the activity he is considering is going to result in money laundering, nor will he be certain of the impact of the money laundering activity in the event that it happens or as stated by Takats (2011 p.34) *'the bank is always uncertain about the transaction's true nature, that is, every transaction can be potential money laundering'*. This may be because although *'financial institutions are readily able to make assessments about credit and fraud risk, assessing the money laundering risk in financial terms is notoriously difficult'* (Ross and Hannan, 2007 p. 111).

It, therefore, seems unfair to penalise him in the face of these uncertainties in the event that he makes an incorrect decision. The risk based approach assumes implicitly that the analyst should know the outcome of his decision, and as such, he should be liable for that decision given that *'sanctions or fines are levied for false negatives, that is, for not reporting transactions which are later prosecuted as money laundering or judged to be suspicious ex post'* Takats (2011 p.34). In contrast, however, if we were to follow the uncertainty based approach, the judgement as to the quality of the analyst's decision should not be based on the outcome of the decision, but on the process leading to the decision (Hammond et al., 1999; Holzer & Millo, 2004).

#### **a. Risk Profile**

Since the probability of an activity being money laundering is not known with certainty, decisions should be evaluated based on the process of identifying the nature of the transaction and not on whether a transaction turned out to be money laundering activity. This is because *'whenever uncertainty exists, there can be no guarantee that a smart choice will lead to good consequences'* (Hammond et al., 1999 p. 110). Rather than focusing on risk categorisation that is unworkable since *'uncertainty cannot easily be broken down into*

*categories of risk, and even when this is attempted, ..., the uncertainty is merely transferred to these categories'* (Demetis and Angell,2007 p.415). This study applies the risk profile steps outlined by Hammond et al. (1999), illustrating how it can be used to improve money laundering detection and protection.

In line with their analysis, there are four key uncertainty questions when faced with a decision over whether to report or not to report an activity to the FIU:

1. What are the uncertainties?
2. What are the possible outcomes of these uncertainties?
3. What are the chances of occurrences of each possible outcome?
4. What are the consequences of each outcome?

The most important starting point is to identify the objective of each decision. Ordinary decisions made by individuals are generally governed by utility theory, which states that individuals make decisions to maximise their gain (Geiger & Wuensch, 2007, although this view has been challenged see for example He & Huang, 2007). In AML, however, we have seen that there is a problem of alignment of interest between the regulators and the regulated sector. For the purpose of this paper, it is assumed that the objective of each decision is to prevent money laundering.

The risk profile starts with deciding on the available alternatives. In this case, the decision for the banks is how to identify and report suspicious activity transactions. Having decided on one alternative, it is possible to identify the uncertainties related with this particular decision. For an analyst in AML, there are two significant uncertainties: the activity is either a money laundering activity or it is not. Once the significant uncertainties are identified, the possible outcome of each uncertainty is then defined. In defining the outcome of each uncertainty, it is not necessary or even feasible to be specific; what the approach requires is broad



categorisation that would capture the possible outcomes only having to be sure that each identified category is unique in light of all other possible outcomes.

An analyst may decide that there is high possibility that an activity is a money laundering activity while there is a low possibility that it is not. The chance or likelihood of occurrence is then assigned which is the most difficult part of the whole process (Hammond et al., 1999) because it involves significant use of judgment. The analyst can, however, minimise this error of judgment by collecting new data, asking experts and consulting existing information (Hammond et al., 1999).

Having decided that the chance of money laundering is high, the analyst could, because the automated system is excellent and the internal reporting in the bank is of high quality, assign a 90% (for illustration) chance that the activity is a money laundering activity. Assigning probabilities is essentially a subjective exercise, but it is vital that outcomes are expressed in a quantitative manner to assist in determining the consequence of each outcome (Hammond et al., 1999). Similarly, the consequences of each outcome should also be defined and clearly stated to aid decision making. This process is similar to the process of assigning probabilities in a risk-based system. The difference, as illustrated in Figure 3 (see appendix 1), however, is that in risk, the probability is objective while in uncertainty, the probability is subjective (Knight, 1921).

There are various methods of expressing consequence and, again as pointed out by Hammond et al. (1999), this might involve a written description of the possible consequence, but in other situations, a quantitative outcome may be more appropriate. A qualitative expression of consequence may state, for example, that for a 'false negative', regulators may impose a significant fine on banks, but a quantitative expression may try to estimate a numeric value for the penalty. Similarly, for a 'false positive', the bank may state that the consequences

might be that a customer will stop banking with them, or they can perform a profitability analysis on the customer's account and estimate an amount for the risk of the 'false positive'.

The consequence of an action, for example, might be that a report leads to the prosecution of a money launderer for which the bank should be rewarded. Araujo (2008); Pellegrina and Masciandaro (2009); and Takats (2011) have all argued that an incentive system for banks would achieve an improvement in the effectiveness of AML compliance. The concepts of reward and punishment used in this paper are similar to the concepts of reward and punishment used by Becker, (1968) to explain compliance behaviour, but modified to include non-tangible in addition to tangible motivations (Sutinen & Kuperan, 1999).

If, however, the transaction turns out to be a normal transaction, then the consequences of receiving 'punishment' from the customer whose transaction is reported incorrectly will be high as they may, if they find this out, subsequently decide to close their account or seek legal redress for delay or denial of the client's transaction (Yeoh, 2014). This is vividly illustrated by the case of Shah V HSBC where the bank faced the cost of litigation, public exposure and the negative effect on officers involved with the litigation. In the case, Shah sued HSBC for breach of contract for delaying their transaction and for not providing an explanation for the delay (Medcroft, 2012). Even though the customer had argued that the action of the bank had caused them substantial loss for which they claimed damages in excess of \$300million, the court held, in paragraph 207, that Shah '*could have obtained from information in the public domain the identity of the relevant authorities to whom authorised disclosures were made*' (Shah V HSBC Private Bank Limited, 2012). The process can be mapped into a simple decision tree as shown in Figure 4 (See appendix 1). From this, it can be seen that the analyst has two alternatives: he can either consider the transaction suspicious and report it to the authorities or consider it non-suspicious and document his position. If it is suspicious, then there are two further uncertainties. His suspicion might subsequently be

confirmed by the regulators in which case he is 'rewarded' for preventing money laundering. If, however, it happens that it is not a money laundering activity, the bank may face some negative outcome associated with loss of the customer.

On the other hand, he may decide that the activity is not suspicious and if it turns out to be a non-money laundering activity, it is then expected that the customer will continue their relationship with the bank as they will be unaware of the events. There is, however, a chance that it may be wrongly decided that an activity is non-suspicious, that will subsequently be found to have been a money laundering activity. This is the grey area where the difference between the concepts of risk and uncertainty becomes more pronounced. In the risk-based approach to AML with its imperfections, the regulators would normally reprimand or fine the bank for failing to report a suspicious activity (Levi and Reuter, 2006; Takats, 2011). Under the uncertainty-based approach, however, the regulators should assess the bank not on the outcome but on the decision making process followed. At the end of the day, we would propose that a bank that employs a sound decision making process would, more likely than not, see better outcomes in terms of detecting money laundering activities than the bank that does not.

## **6. Conclusion**

The risk based approach is a better approach to dealing with the AML concerns raised by the regulated sector than the earlier rule based one, there remains however, difficulty in its implementation. Part of the problem stems from the conceptualisation of risk; the wholesale importation of the concept from other disciplines without proper realignment; and the lack of agreement on the objectives of AML within the banking industry. If it is assumed that the objective of AML is to prevent money laundering, then it is necessary to acknowledge that the concept of a risk based approach, though desirable, is inadequate as a means of increasing

the effectiveness and efficiency of anti-money laundering compliance. It is only when the efficiency and effectiveness of compliance is assured that banks will be willing to wholeheartedly support the desire of regulators to prevent money laundering.

This paper argues that utilisation of an uncertainty-based approach would solve two of the major problems of the risk based approach. The first is that it would provide a better conceptualisation of the problem of risk within the AML domain; and secondly, AML compliance would be more effective in preventing money laundering, be achieved in a more cost effective manner and provide more productive outcomes for regulators. This is because the approach will help to align the interest of banks with those of regulators without the need for fines and other pressures.

## **Notes**

1. The most recent update (following completion of the third round of mutual evaluation reports) was in 2012 and launched in February 2013 which basically has resulted in the incorporation into the core list of the additional 9 Special Recommendations on terrorist financing that had been formulated in 2001
2. Membership of the Group consisted of FATF members and observers, as well as representatives from the banking and securities sectors (FATF, 2007a)
3. This application of risk has its roots within the insurance industry whereby it is possible to identify an event, assign a probability to that event taking place and consequently being able to measure the cost should it occur.

## References

- Ai, L., Broome, J., & Yan, H. (2010). Carrying out a risk-based approach to AML in China: partial or full implementation? *Journal of Money Laundering Control*, 13(4), 394-404.
- Alldrige, P. (2003). *Money Laundering Law*. Oxford-Portland Oregon: Hart publishing.
- Araujo, R. A. (2008). Assessing the efficiency of the anti-money laundering regulation: an incentive-based approach. *Journal of Money Laundering Control*, 11(1), 67-75.
- Araujo, R. A. (2010). An evolutionary game theory approach to combat money laundering. *Journal of Money Laundering Control*, 13(1), 70-78.
- Arnone, M., & Borlini, L. (2010). International anti-money laundering programs. Empirical assessment and issues in criminal regulation. *Journal of Money Laundering Control*, 13(3), 226-271.
- Barone, R., & Masciandaro, D. (2011). Organized crime, money laundering and legal economy: theory and simulations. *European Journal of Law and Economics*, 32(1), 115-142.
- Bank for international Settlements (2004). *Sound management of risks related to money laundering and financing of terrorism*. Basel
- BBC. (2015). HSBC considers moving HQ out of UK. Retrieved from <http://www.bbc.co.uk/news/uk-32443930>
- Becker, G. S. (1968). Crime and punishment: an economic approach. *The Journal of Political Economy*, 76(2), 169-217.
- Bergstrom, M., Helgesson, K. S., & Morth, U. (2011). A New Role for For Profit Actors? The Case of Anti Money Laundering and Risk Management. *JCMS: Journal of Common Market Studies*, 49(5), 1043-1064.
- Blickman, T. (2009). *Countering Illicit and Unregulated Money Flows: Money Laundering, Tax Evasion and Financial Regulation*. Crime and Globalisation Debate Papers, TNI Briefing Series.
- Broek, van den M. (2011). The EU's preventive AML/CFT policy: asymmetrical harmonisation. *Journal of Money Laundering Control*, 14(2), 170-182.
- Canhoto, A. I. (2008). Barriers to segmentation implementation in money laundering detection. *The Marketing Review*, 8(2), 163-163.
- Demetis, D. S., & Angell, I. O. (2007). The risk-based approach to AML: representation, paradox, and the 3rd directive. *Journal of Money Laundering Control*, 10(4), 412-428.
- Dolar, B., & Shughart II, W. F. (2011). Enforcement of the USA Patriot Act's anti-money laundering provisions: Have regulators followed a risk-based approach? *Global Finance Journal*, 22(1), 19-31.
- Duyne, van. P.C. (1998). Money-laundering, Pavlov's dog and beyond. *The Howard Journal*, 37(4), 395-374.
- Duyne, van. P. C., & Miranda, de H. (1999). The emperor's cloths of disclosure: Hot money and suspect disclosures. *Crime, Law and Social Change*, 31(3), 245-271
- European Union. (2005). *Directive 2005/60/EC of the European Parliament and of the Council of 26 October 2005 on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:309:0015:0036:EN:PDF>.
- FATF. (2007). *Guidance on the risk-based approach to combating money laundering and terrorist financing: High level principles and procedures*. Paris: Financial Action Task Force.
- FATF. (2012). *FATF Recommendations*. Paris: Financial Action task Force

- FATF. (2013a). *Guidance on Politically Exposed Persons*. Paris: Financial Action Task Force.
- FATF. (2013b). *What do we do*. Retrieved from <http://www.fatf-gafi.org/pages/aboutus/whatwedo/>
- Favarel-Garrigues, G., Godefroy, T., & Lascoumes, P. (2008). Sentinels in the banking industry: Private actors and the fight against money laundering in France. *British Journal of Criminology*, 48(1), 1-19.
- Favarel-Garrigues, G., Godefroy, T., & Lascoumes, P. (2011). Reluctant partners? Banks in the fight against money laundering and terrorism financing in France. *Security Dialogue*, 42(2), 179-196.
- Financial Conduct Authority. (2013). *Handbook: SYSC*. Retrieved from <http://fshandbook.info/FS/html/FCA/>.
- Financial Services Authority (2003) "DP22: Reducing money laundering risk: know your customer and AML monitoring"
- Financial Services Authority. (2012). *Final Notice: Habib b Bank AG Zurich*. Retrieved from <http://www.fsa.gov.uk/static/pubs/final/habib-bank.pdf>.
- Friedman, M. (1976). *Price Theory*: Aldine Publishing Company.
- Geiger, H., & Wuensch, O. (2007). The fight against money laundering: An economic analysis of a cost-benefit paradoxon. *Journal of Money Laundering Control*, 10(1), 91-105.
- Gibbs, C., Gore, M. L., McGarrell, E. F., & Rivers, L., III. (2010). Introducing conservation criminology: towards interdisciplinary scholarship on environmental crimes and risks.(Author abstract). *British Journal of Criminology*, 50(1), 124.
- Gilboa, I. (2009). *Theory of decision under uncertainty*. Cambridge ; New York: Cambridge University Press.
- Glimcher, P. W. (2009). *Neuroeconomics : decision making and the brain*. Amsterdam ; London: Elsevier Academic Press.
- Guerron-Quintana, P. A. (2012). Risk and uncertainty. *Business Review (Federal Reserve Bank of Philadelphia)*, 10. Retrieved from [http://northumbria.summon.serialssolutions.com/2.0.0/link/0/eLvHCXMwVZ0xDsIwDEUjdhYkEGMvUKmOnaSZERUH4AKOY7N14v7CrRjgAt7s7yf72yEMWXbp6EIsls-OGGSfzzCrOzjgb\\_Y0Kfqr5cgoHXc\\_hudyft8f4fQYwvjjBmDGjJSjISZSLQ0WdpBu01miVmqY69-18lbc7U58asULILDFbM-wll3DkbWd8fe\\_esn4Ng9QCUVzgeIm0ScvNYwLPEXgzlH4AyBQyUA](http://northumbria.summon.serialssolutions.com/2.0.0/link/0/eLvHCXMwVZ0xDsIwDEUjdhYkEGMvUKmOnaSZERUH4AKOY7N14v7CrRjgAt7s7yf72yEMWXbp6EIsls-OGGSfzzCrOzjgb_Y0Kfqr5cgoHXc_hudyft8f4fQYwvjjBmDGjJSjISZSLQ0WdpBu01miVmqY69-18lbc7U58asULILDFbM-wll3DkbWd8fe_esn4Ng9QCUVzgeIm0ScvNYwLPEXgzlH4AyBQyUA)
- Haimes, Y. Y. (2009). On the Complex Definition of Risk: A Systems-Based Approach. *Risk Analysis*, 29(12), 1647-1654. doi:10.1111/j.1539-6924.2009.01310.x
- Halliday, T. C., Levi, M., & Reuter, P. (2014). Global Surveillance of Dirty Money: Assessing Assessments of Regimes to Control Money Laundering and Combat the Financing of Terrorism. *Center on Law and Globalization*, 24.
- Hammond, J. S., Keeney, R. L., & Raiffa, H. (1999). *Smart choices : a practical guide to making better decisions*. Boston, Mass.: Harvard Business School.
- Harvey, J. (2008). Just How Effective is Money Laundering Legislation? *Security Journal*, 21(3), 189-211.
- Harvey, J., & Lau, S. F. (2009). Crime-money, reputation and reporting. *Crime Law and Social Change* 52(1), 57-72.
- He, Y., & Huang, R.-H. (2007). Risk attributes theory: Decision making under risk. *European Journal of Operational Research*, 186(1), 243-260.
- Holloway, C. A. (1979). *Decision making under uncertainty: models and choices*: Prentice-Hall.

- Holzer, B., & Millo, Y. (2004). *From risks to second-order dangers in financial markets : unintended consequences of risk management systems*. London: ESRC Centre for Analysis of Risk and Regulation, London School of Economics and Political Science.
- Holzer, B., & Millo, Y. (2005). From risks to second-order dangers in financial markets: Unintended consequences of risk management systems. *New Political Economy*, 10(2), 223-245.
- JMLSG. (2011). *Guidance for the UK Financial Sector: Part I*. Retrieved from <http://www.jmlsg.org.uk/industry-guidance/article/guidance>
- Killick, M., & Parody, D. (2007). Implementing AML/CFT measures that address the risks and not tick boxes. *Journal of Financial Regulation and Compliance*, 15(2), 210-216.
- Knight, F. H. (1921). *Risk, Uncertainty and Profit*: Houghton Mifflin.
- Koker, de L. (2009). Identifying and managing low money laundering risk. *Journal of Financial Crime*, 16(4), 334-352.
- Levi, M., & Reuter, P. (2006). Money Laundering. *Crime and Justice - a Review of Research*, Vol 34, 34, 289-375.
- Marshall, P. (2004). Part 7 of the Proceeds of Crime Act 2002: double criminality, legal certainty, proportionality and trouble ahead. *Journal of Financial Crime*, 11(2), 111-126.
- Masciandaro, D. (1999). Money Laundering: the Economics of Regulation. *European Journal of Law and Economics*, 7(3), 225-240.
- Masciandaro, D. (2005). Financial supervisory unification and financial intelligence units. *Journal of Money Laundering Control*, 8(4), 354-370.
- Masciandaro, D., & Filotto, U. (2001). Money laundering regulation and bank compliance costs: What do your customers know? Economics and the Italian experience. *Journal of Money Laundering Control*, 5(2), 133.
- McCarthy, K. J., Santen, van P., & Fiedler, I. (2014). Modeling the money launderer: Microtheoretical arguments on anti-money laundering policy. *International Review of Law and Economics*, in press (0). doi: 10.1016/j.irl.2014.04.006
- Medcroft, N. (2012). A question of attribution: Shah v HSBC Private Bank (UK) Ltd [2011] EWCA Civ 1154. *Trusts & Trustees*, 18(1), 68-73. Miller, P., Kurunmäki, L., & O'Leary, T. (2007). Accounting, hybrids and the management of risk. *Accounting Organizations and Society*, 33(7-8), 942-967.
- Mitsilegas, V. (2003). *Money laundering counter-measures in the European Union: A new paradigm of security governance versus fundamental legal principles* (Vol. 20): Kluwer Law International.
- Pellegrina, L. D., & Masciandaro, D. (2009). The risk-based approach in the New European anti-money laundering legislation: A law and economics view. *Review of Law and Economics*, 5(2), 931-952.
- Reuter, P. & Greenfield, V. (2001). "Measuring Global Drug Markets. How Good Are the Numbers and Why Should We Care About Them?" *World Economics*, 4, 159-173.
- Reuter, P. & Trueman, E. (2005). Anti-money laundering Overkill? It's time to ask how well the system is working. *The International Economy*, Winter, 56-60.
- Ross, S., & Hannan, M. (2007). Money laundering regulation and risk-based decision-making. *Journal of Money Laundering Control*, 10(1), 106-115.
- Sathye, M., & Islam, J. (2011). Adopting a risk-based approach to AMLCTF compliance: the Australian case. *Journal of Financial Crime*, 18(2), 169-182.
- Schneider, F., & Windischbauer, U. (2008). Money laundering: some facts. *European Journal of Law and Economics*, 26(3), 387-404.
- Shah V HSBC Private Bank Limited (EWHC 1283 (QB) 2012).

- Sharman, J. C. (2008). Power and Discourse in Policy Diffusion: Anti-Money Laundering in Developing States. *International Studies Quarterly*, 52(3), 635-656.
- Shehu, A. Y. (2005). International Initiatives against Corruption and Money Laundering: An Overview. *Journal of Financial Crime*, 12(3), 221-245.
- Simonova, A. (2011). The risk-based approach to anti-money laundering: problems and solutions. *Journal of Money Laundering Control*, 14(4), 346-358.
- Stessens, G. (2000). *Money laundering: a new international law enforcement model*. Cambridge: Cambridge University Press.
- Sutinen, J. G., & Kuperan, K. (1999). A socio-economic theory of regulatory compliance. *International journal of social economics*, 26(1/2/3), 174-193.
- Takats, E. (2011). A Theory of "Crying Wolf" : The Economics of Money Laundering Enforcement. *Journal of Law, Economics & Organization*, 27(1), 32-78.
- Walker, J., & Unger, B. (2009). Measuring Global Money Laundering: "The Walker Gravity Model". *Review of Law & Economics*, 5(2), 821-853.
- Yeoh, P. (2014). Enhancing effectiveness of anti-money laundering laws through whistleblowing. *Journal of Money Laundering Control*, 17(3), 327-342.