UNIVERSITY OF GHANA

THE DETERMINANTS OF ANTI-MONEY LAUNDERING COMPLIANCE AMONG FINANCIAL ACTION TASK FORCE (FATF) MEMBER STATES

BY

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THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MPHIL FINANCE DEGREE

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DECLARATION

I hereby declare that, this study is my original work and that it has not been submitted for award in the University of Ghana or any other tertiary institution.

I bear sole responsibility for any shortcomings.

…….. ……..

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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with the procedures laid down by the University.

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DEDICATION

I dedicate this work to the Almighty God, my parents who have been of great support throughout my schooling. Also to my siblings and friends (Baah Kusi, Edem Agbenyega and Curtis Quarcoo) for their support, especially Mr. & Mrs. Benjamin Mekpor of Charismata Editorial Services who helped to edit this research work. God bless you all.

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LIST OF ABBREVAITIONS

ACAMS	Association of Certified Anti-Money Laundering Specialists
AML	Anti-Money Laundering
APA	American Psychology Association
APG	Asia-Pacific Group on Money Laundering
ATMs	Automated Teller Machines
CAS	Casualty Actuarial Society
CDD	Customer Due Diligence
CFATF	Caribbean Financial Action Task Force
CFT	Counter-Financing of Terrorism
COSO	Committee of Sponsoring Organizations
DNBPs	Designated Non-Financial Businesses and Professions
EAG	Euroasian Anti-Money Laundering Group
ERM	Enterprise Risk Management
ESAAMLG	Eastern and Southern Africa Anti-Money Laundering Group
FATF	Financial Action Task Force
FDI	Foreign Direct Investment
FIC	Financial Intelligence Center
FINCEN	Financial Crimes Enforcement Network (United States Department of Treasury)
FINTRAC	Financial Transactions and Reports Analysis Centre of Canada
FIU	Financial Intelligence Unit
FSRBs	FATF-Style Regional Bodies
GAFISUD	Financial Action Task Force on Money Laundering in South America
GIABA	Inter-Governmental Action Group against Money Laundering in West Africa

IMF	International Monetary Fund
INCSR	International Narcotics Control Strategy Report
INTERPOL	International Police Organization
KYC	Know Your Customer
MENAFATF	Middle East & North Africa Financial Action Task Force
MER	Mutual Evaluation Reports
ML	Money Laundering
MONEYVAL	Council of Europe Committee of Experts on the Evaluation of Anti-Money Laundering Measures
NCCT	Non Cooperative Countries and Territories
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PCA	Principal Component Analysis
PWC	PricewaterhouseCoopers
TF	Terrorist Financing
TBML	Trade-Based Money Laundering
UNODC	United Nations Office on Drugs and Crime
UNICEF	United Nations International Children's Education Fund
UN	United Nation
VIF	Variance Inflation Inflator
WEO	World Economic Outlook
WDI	World Development Indicators
WGI	World Governance Indicators

ABSTRACT

The purpose of this research is to identify the determinants of AML compliance among member countries of FATF. This study measured the AML/CFT compliance levels of 165 member states of FATF from the year 2004 to 2016 by composing an AML.CFT Compliance Index. The Ordinary Least Squares technique of estimation was used to run multiple regressions of the data. The OLS technique was employed due to the low frequency, and quality of Money Laundering data. The results of the study suggest that although AML/CFT compliance levels have shown some improvement, compliance levels still remain low. The study also found that country-specific factors like Regulatory Quality, Technology and Trade Openness determine the AML/CFT compliance levels of countries. This study, to the author's best knowledge, is the first to measure country-level AML/CFT compliance with an index that merges both 2004 and 2012 FATF Recommendations from the year 2004 to 2016. This study is also the first of its kind to test whether factors like technology and education impact the AML/CFT compliance levels of countries. In this current AML regime where there are several calls for migration from the rule-based, "one-size-fits-all" approach to the risk-based approach, policy makers can glean some knowledge from the findings of this research in order to formulate and implement better AML policies to ensure effectiveness in the fight against Money Laundering and Terrorist Financing.

CHAPTER ONE
INTRODUCTION

1.1 Background to the study

A new era of globalization has emerged, and it is consolidating the continents and re-engineering local politics and international relationships. Globalization demands the international amalgamation of information, capital, and technology in a means leading to a sole global market and, to a large extent, a global village (Schroeder, 2001). This consolidation allows people and organizations to reach the rest of the world farther, faster, deeper, and cheaper than ever before. Notwithstanding the numerous benefits of globalization the same aspects of globalization that have expanded opportunities from free-market capitalism also have resulted in new risks (Schroeder, 2001).

Many authors in literature have presented money in diverse forms and typologies. The main typologies of money discussed in extant literature are Commodity Money (Von Mises, 1981), Representative Money (Jevons, 1875) and Fiat Money (Selgrin, 2003). More recent studies classify money into currency, bank deposits and central bank reserves (McLeay et al, 2014), high-powered money (Brunner, 1989), etc. However, a classification of money, which is not discussed much in extant literature, is 'Clean Money' and 'Dirty Money'. As controversial as this classification of money may sound, the world has ignored it to its own detriment over the years. This study is focused on the dire consequences posed by the latter. 'Dirty Money' or Illicit Funds can be described as money obtained from illegal business or illicit activities. When criminals obtain 'Dirty Money', they face the difficult task of being unable to use such funds without being caught, due to the large volumes of cash usually associated with illicit business (Drug Trafficking, Prostitution, Human Trafficking, Corruption, etc). The difficulty in using illicit funds without being detected leads criminals to a practice popularly known as

Money Laundering. Money Laundering is the process used to disguise the origin of ill-gotten money to make it seem as though such funds were obtained from legitimate sources or businesses (FATF, 2012). Simply put, Money Laundering is the process of washing 'Dirty Money' in order to make it look 'Clean'.

Money laundering activities do not only affect the criminal justice systems, but they also have the capacity to destabilize financial institutions and financial systems. Money laundering, which is also known as a 'crime of concealment', usually involves large sums of illegal money being mobilized in many economies through the financial system (Omar et al, 2015). Money laundering poses several threats to the global financial system (FATF, 2012). The activities of launderers undermine the integrity of the global financial system. Other dangers are that money laundering poses severe threat to life and property, since the funds of launderers are obtained from criminal activities (Sandler & Enders 2008; De Goede, 2008).
In addition to the main threats mentioned above, Money laundering also undermines the integrity of the Private sector (Unger & Den Hertog, 2012), democracy and the rule of law (Diamond, 2016) and leads to reputational damages (Unger, 2014).

These threats motivated the G-7 (formerly G-8) to commission the Financial Action Task Force (FATF) in the year 1989. The FATF is the international body responsible for fighting the menace of Money Laundering (ML) and Terrorist Financing (TF) across the globe. The FATF combats ML/TF across the globe through its action plan known as the FATF Recommendations. These Recommendations are also referred to as Standards and Guidelines which countries are required to comply with. The idea is that when countries adopt and comply fully with these FATF Recommendations, ML/TF will be eradicated or at least reduced to the barest minimum. These FATF Recommendations are, therefore, critical to the global fight against money laundering and so is compliance with them. Close to three decades

after the FATF Recommendations were enacted, there is no clear indication that the fight against ML and TF is being won. There is the need for a holistic analysis of how well countries have fared in relation to their compliance with these FATF Recommendations.

1.2 Research Problem

The past two decades have seen a significant increase in compliance by countries, partly due to fear of being blacklisted or fined by FATF (Doyle, 2001, Sharman, 2008).

AML fines account for the highest percentage of the punitive fines charged to financial institutions annually (FINCEN, 2013). These fines that are usually monetary, mostly amount to billions of dollars, ridding financial institutions off their limited financial resources. Studies show that the compound annual growth rate of these fines from 2007 to 2014 stood at a staggering 187% (CEB, 2014). Since 2007, banks have paid out $21b in cumulative fines, and $12.4b of these fines was paid in 2014. These fines have injurious effects on the financial performance of the financial institutions found culpable, in addition to the reputational damages suffered. The dire nature of the repercussions on financial institutions as a result of AML fines usually leads to the winding up of most of these financial institutions. This affects the financial sectors of many economies as well as the entire global financial system (CEB: UNODC, IMF, WEO, 2014). Appendix F contains a table that details some AML-related fines charged to some major banks in the US and UK.

Given all these policies and fines, there is still evidence to prove that the rate of growth of laundered funds keeps increasing at an alarming rate (Masciandaro 1999). It is not petrifying to accede to the fact that the amount of funds laundered on an annual basis is equivalent to the GDP of some developed countries (International Monetary Fund [IMF], 1998).

Because of the clandestine nature of crimes relating to money laundering, experts have faced a difficult task over the years in measuring the exact volume of money laundered globally on

an annual basis (Schott, 2006; Walker and Unger, 2009). The UNODC in a study conducted in 2009 to assess the volume of laundered funds estimated that in 2009, criminal proceeds amounted to 3.6% of global GDP, and 2.7% (or $1.6 trillion) was laundered. Current global GDP stands at $77.83 trillion, this means that if ML were an economy, it would be the fifth largest in the world.

Anti-Money Laundering (AML) dates as far back as the 1980s when governments and private actors saw the need to combat the cancer of money laundering (Verhage, 2011).

The Financial Action Task Force (FATF) is the main body tasked by the G-7 with the mandate of fighting Money Laundering and Terrorist Financing across the globe. Other international bodies like the International Monetary Fund (IMF), the World Bank and United Nations Office on Drugs and Crime (UNODC) and all the FATF-Style Regional Bodies (FSRBs) are partners with the FATF in this global crusade. However, in recent times, the continuous rise of Money Laundering and the Financing of Terrorism have become a major source of concern to all nations across the globe. There has been a significant increase in the number of predicate crimes directly resulting in ML with new techniques and methods of money laundering being discovered. Moreover, the porous nature of the national boarders, especially those of developing countries makes them attractive transit points for drug traffickers (FATF 2013).

It is interesting to know that given the increase in the scale of Money Laundering, the cost of Anti-Money Laundering compliance also keeps increasing at a high rate. In the year 2014 alone, compliance cost increased by a rate of 53% globally for just banking institutions and shows no signs of slowing down (PWC, 2014). The biennium budgetary allocation by the UNODC alone for AML activities in 2014-2015 is $760.1m, and this includes about $88.9m (11.7%) from the UN's regular budget (UNODC 2012).

In the past decade, the IMF has also made significant contributions to aid the international community in the fight against ML/TF with majority of such contributions channeled into assessments of countries' compliance with the AML/CFT standard established by the Financial Action Task Force, and capacity development (CD) activities (IMF, 2014).

It is very obvious that on 11th September 2001, the world changed. The horrifying events that plagued the United States completely altered existing approaches to combatting ML/TF. Nearly every country introduced, revised or strengthened its Anti-money Laundering regime, with reports being churned out by various countries annually to reveal the level of progress being made in the fight against the global menace. However, with the continuous and persistent increase in funds laundered across the globe fuelled by increase in technology, the increase in terrorist activities across the globe (most recently, in some West African countries) there still exists a lot of pessimism as far as AML/CFT is concerned (Demetis, 2010). The statistics provided above indicate that millions of dollars and a great deal of effort are committed to AML activities. However, amidst all the efforts and funds invested in AML/CFT activities, there still remains a lot of work to be done in the area, especially where compliance is concerned (Yepes, 2011). This study seeks to investigate how well countries comply with the international AML/CFT Recommendations and whether there exist country-specific factors that enhance or inhibit compliance with the FATF Recommendations enacted to combat global Money Laundering and Terrorist Financing.

1.3 Research Questions

The study seeks to provide answers to the following questions:

1. What are the key determinants of AML compliance among countries?
2. How well do countries comply with the FATF Recommendations?

1.4 Research Objectives

The objectives of the study are to:

1. Assess the key determinants of AML/CFT compliance among 165 FATF member states.
2. Assess how well countries comply with the FATF Recommendations.

1.5 Research Hypotheses

The above research questions are motivated by the following hypotheses:

H_0: There are some country-specific factors that determine AML/CFT compliance levels among 165 FATF member states.

H_1: There are no country-specific factors that determine AML/CFT compliance levels among the 165 FATF member states.

H_0: All countries comply fully with FATF recommendations.

H_1: Not all countries comply fully with the FATF recommendations.

1.6 Significance of Research

This study, will without a shadow of doubt, be a valuable addition to Anti-money Laundering or Financial Crime literature. Considering the unit of analysis, this study will serve as an eye-opener to the factors that promote or inhibit AML/CFT compliance. Financial institutions will be well informed about the current AML/CFT risks inherent in their various countries and continents in order to be well equipped to mitigate such risks or threats. Policy makers can now make informed decisions and conduct meaningful and useful National Risk Assessments programs and policies. This research also comes as good news to members of Academia and students of finance who will now have access to AML compliance data and methodology for use in AML-related research.

1.7 Scope of Study

This study analyzed the AML/CFT compliance levels of 165 member and affiliate countries of FATF. Since no sampling technique was used, only countries that have submitted at least one mutual evaluation report to the FATF were included in the study. Compliance levels of countries will be assessed from the year 2004 to 2016. This period is used because mutual evaluation reports of countries are available just for this period. These 165 countries are therefore a good representation of the global AML/CFT regime. The countries cut across all continents as well as income brackets. The individual country level compliance was analyzed as well as the continental level compliance through the various FATF-Style Regional Bodies (FSRBs).

1.8 Limitations of study

The main limitation of this research was the unavailability of high frequency and quality data. Data on Money Laundering was very difficult to obtain, mainly due to the clandestine nature of activities of launderers. Not even advanced databases like the World Bank and the IMF databases could provide data on Money Laundering. It is interesting to know that not even the Financial Action Task Force had a global database on Money Laundering or Terrorist Financing activities.

If high frequency data were available, a panel regression technique would have been used since it presents more robust findings than the Ordinary Least Squares (OLS) estimation technique. Another limitation was the lack of literature on the topic of Money Laundering and Terrorist Financing. Money Laundering and Terrorist financing are without a doubt one of the under-researched topics in extant literature. The scanty amount of publications on the topic is evidence of the fact that the Money Laundering is a green area in research. Therefore conducting a good literature review proved to be a difficult task.

1.9 Chapter Outline

This study is laid out in five chapters.

Chapter one is designed to introduce the subject matter and summarize what the research is all about. It details the research background, the research objectives and questions, significance of the research, the scope and limitations of the research and concludes with the organization or structure of the research.

Chapter two provides a review and synthesis of relevant literature related to Anti-Money Laundering compliance the Counter-Financing of Terrorism. It highlights parts of extant literature that define ML/TF as well as other related concepts like Enterprise Risk Management, the different typologies of AML policy and some factors in literature that have been found share a correlation with AML.

Chapter three explains the Methodology of the study. It discusses the various econometric techniques used to arrive at the results and the tests used to confirm the robustness of the results.

In chapter four the results and findings of the research are discussed. Chapter four also discusses whether the findings of the research address the objectives drawn by the researcher.

Chapter five brings down the curtains on the research by presenting the conclusion, summary and recommendations of the research. The author also presents the significance of the research and proposes areas for further study in light of the findings of this research.

All other authors whose works were used in this study were cited both in text and in the reference section using the American Psychology Association (APA) referencing style to avoid the academic crime of plagiarism.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter is divided into two: Theoretical Literature and Empirical Literature, that discusses Anti Money Laundering and the different types of Anti-Money Laundering Policies. The final sections of the chapter review some studies relating to the factors that determine Anti-Money Laundering compliance.

THEORETICAL LITERATURE

2.1 Definitions in literature

Over the years, many authors and organizations have carved out several definitions for Money Laundering; however, most of the definitions are not significantly different from each other. The Financial Action Task Force (FATF) defined ML as the processing of criminal proceeds to disguise their illegal origin (FATF, 2007). The United Nations Office on Drugs and Crime also defined the term as the method by which criminals disguise the illegal origins of their wealth and protect their assets bases, so as to avoid the suspicion of law enforcement agencies and prevent leaving a trail of incriminating evidence (UNODC, 2014). In a recent paper published by the IMF (2004), Money Laundering was defined as the process by which the illicit source of assets obtained or generated by criminal activity is concealed to obscure the link between the funds and the original criminal activity. Unger (2014) also defined ML as the process of disguising the illicit origins of proceeds of financial manipulation, drug trade, fraud, corrupt enrichment, or other crimes, bringing back money into the financial circuit of the legal economy. Savona (1997) puts it simply by positing that ML is any activity aimed at concealing the unlawful source of sums of money. Given all the definitions of money laundering rendered by these various authors and more, we can deduce the common theme that Money Laundering is primarily the conversion of dirty money or illegally

obtained funds through several methods and procedures to make such funds seem legitimate or clean. One key part of all the definitions is that laundered funds are obtained from illegal or criminal proceeds. In fact, the term 'Money Laundering' cannot be applied in any case, unless the funds in question were obtained illegally (Unger & Busuioc, 2007).

2.2 Terrorist Financing

Terrorist financing on the other hand comprises, both legitimate and/or illegally acquired funds (Simser, 2011). The subject of terrorism has over the years risen to become a global phenomenon. In the aftermath of the 9/11 tragedy, funding terrorist activities has come into focus as another, and currently the most important predicate offense of money laundering. Though delicate and controversial, the topic of Terrorism is shrouded in legal ambiguity (Sorel, 2003). This is evident in the fact that although a number of international conventions exist to address various aspects of terrorism, not a single universal definition exists for the concept. The reason being that different legal systems interpret Terrorism differently based on unique circumstances like the type of action committed, the nature of the victims or the method of the terrorist action (Sorel, 2003). However, Sandler and Enders (2011) defined terrorism as, "the premeditated use or threat of use of violence by individuals or subnational groups to obtain a political or social objective through the intimidation of a large audience, beyond that of the immediate victim". Terrorist financing therefore encapsulates any activity that provides financial support or funding either in part or whole to terrorists or terrorist organization to perpetuate acts of terrorism (Zdanowicz, 2004; Weintraub, 2002;). The process of terrorist finance is sometimes referred to as "reverse money laundering" since funds committed to terrorist financing activities are sometimes sourced from legitimate businesses or activities (Graham *et al.*, 2003; Cassella, 2003; Aufhauser, 2003). Thus 'clean' money can sometimes be used for 'dirty' or illegitimate activities. Therefore it is difficult task for a financial institution to identify terrorist money laundering, it is even

more difficult to trace or prove the proceeds of crime before the crime is committed (Leong, 2007).

However, for the purpose of this research, terrorist financing will be considered as a typology of Money Laundering. The justification being that most AML/CFT legislations conflate the two concepts (AML/CFT Act 2009 (New Zealand); AML/CFT Act 2006 (Australia)). Also in terms of techniques and methods, there is enough evidence to support the fact that the techniques employed to launder money are essentially similar to those used in financing terrorist activities (Schott, 2006). More so, the various international organizations usually design similar or in most cases the same set of regulations to deal with both crimes (see 40 FATF Recommendations, 2012; also see Lin, 2016).

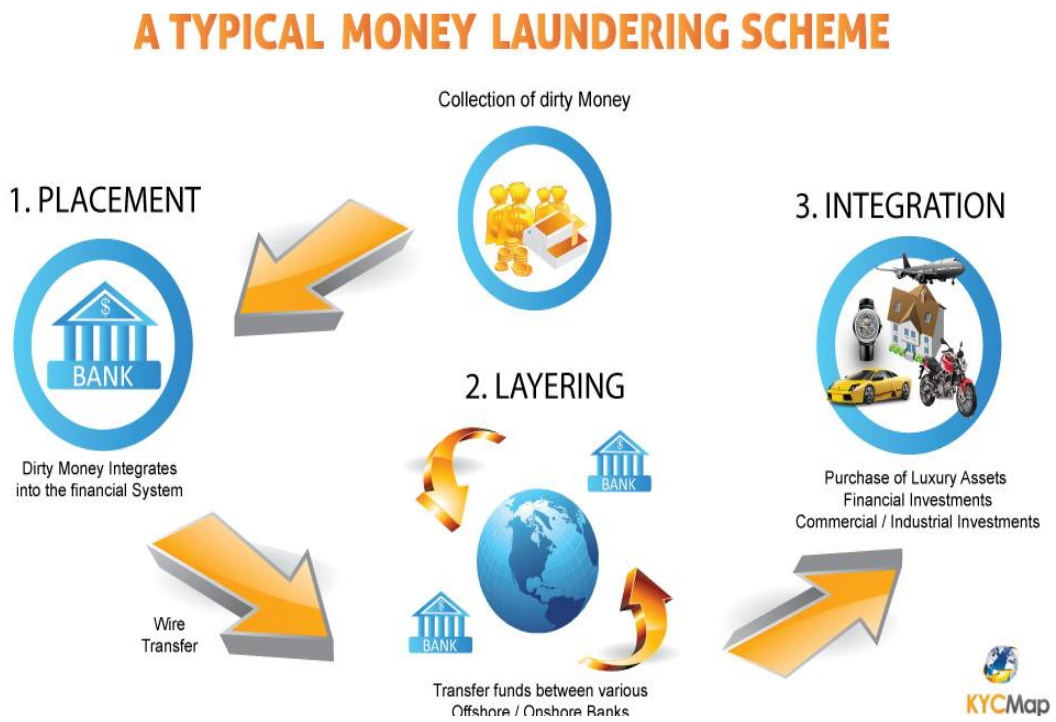
2.3 The Three Stages of Money Laundering

Money laundering in itself is a complicated process, which usually involves tons of transactions and several financial institutions from many countries (Buchanan, 2006, Williams, 2001). Therefore, the process of Money Laundering is generally categorized into three main stages, namely Placement, Layering, and Integration. (Schneider & Windischbauer, 2008; Madinger, 2012).

The First Stage, the Placement Stage, is the stage where the illegally obtained funds are moved physically to a place or into a form which disguises the origin of the funds, thereby making it difficult for funds to be traced by authorities (Madinger & Zalopany, 1999). This stage is arguably the most crucial among all other stages because the success of the entire laundering process in hinged on the Placement Stage. It is also at the Placement stage that financial institutions are introduced into the laundering process (Watkins et al., 2003).

The next stage is the Layering stage. At the layering stage the source and sometimes ownership of their funds are concealed or disguised, through banks and other financial institutions, bank cheques, collective accounts, payable-through accounts, loans at low or no interest rates, back-to-back loans, fake invoices and insurances, fictitious sales and purchases, shell companies, trust offices or special purposes entities, wire transfers and monetary instruments (Welbeck, 2015). The Layering stage is probably the most complex of all the stages, because it involves multiple movements of laundered funds from one financial institution to the other and the conversion of illegally obtained funds from one class of financial instrument to the other (Watkins et al., 2003).

The last and final stage is the Integration stage; it is during this final phase that criminals attempt to integrate illegally obtained proceeds into legitimate businesses. At this stage, the 'washed funds' are now invested in various legal businesses or commercial activities completing the Money Laundering process. This three-stage process provides a useful and comprehensive breakdown of what is hitherto a complex and sometimes overlapping process of Money Laundering. The graph below paints a clear picture of how money laundering is achieved through Placement, Layering and Integration.



Source: www.kycmap.com

2.4 The Scale of Money Laundering

The irony about Money Laundering is that though much research has been conducted on the topic and large amounts of dollars committed to fighting the menace, the question of the scale of funds laundered globally on an annual basis still remains unanswered. It was the IMF that estimated in the year 1996 that 2-5% of global gross domestic product (GDP) is laundered on an annual basis (FATF, 2012). Since then, it has been a difficult task for organizations or individual researchers to quantify the amount of funds laundered on an annual basis. Buchanan (2004) argues that the actual quantum of monies laundered globally has been underestimated in existing literature. This, he argued, was because most estimates are based on actual data collected on reported crime and reported crimes are just a percentage of all crimes. Buchanan (2004) also explained that the size of underground economies across the globe are different and usually ignored since only crime data collected by the formal law enforcement agencies are considered. Quirk (1996) in his paper titled," Macroeconomic implications of Money Laundering", churned out some approximations of underground

economies as a fraction of GDP. Notable amongst these figures were United States (4-33%), Italy (10-33%), Japan (4-15%), Germany (2-11%), Australia (4-12%) just to mention a few. Another study conducted by Schneider and Enste (2000) produced an estimate of 5-28% and 8-63% of GDP for OECD (Organisation for Economic Co-operation and Development) countries and transition economies respectively. Despite all these estimates, John Walker (1999) was the first researcher to make a significant bid to ascertain the scale of money laundering (April et al, 2006). The initial results churned out from Walker's model known as Walker's Gravity Model, suggests that $2.85 trillion dollars is laundered globally. The study used triangulation to prove that the original Walker model estimates are congruent with current findings on Money Laundering (Walker & Unger, 2009).

A study conducted by the UNODC in 2009 revealed that the most accurate approximation of the quantum of funds laundered through the financial system emanated from a meta-examination of existing approximations, which is equivalent to 3.6% of global GDP with 2.7% being laundered amounting to $1.6 trillion which still falls within the widely quoted estimate churned out by the IMF in 1998 (UNODC, 2012). The difficulty in estimating the scale of money laundering over the years is mainly due to the fact that predicate offences of Money laundering are usually very clandestine in nature making them hard to detect and report. Nevertheless, the scale of Money laundering, no matter how illusive or complex the estimation process may be, must be figured out eventually and soon enough. If we are to wage a war against money laundering, we will stand a better chance of winning if we know the volume of the canker we are up against.

2.5 Typologies and Predicate offenses of Money Laundering

There are several activities or businesses (both legal and illegal) which serve as sources, conduits or destinations of washed money. These activities are referred to by FATF as typologies of money laundering. Details of these typologies are provided in about 46 Reports

put together by FATF. The main emphasis of this study is Anti-money Laundering compliance (AML) and not on the Typologies of Money Laundering, therefore this study will not go into the details of the typologies (also referred to as Methods and Trends of Money Laundering). However a list of some of the main typologies of money laundering is provided in the Appendix section as Appendix A.

2.5.1 Trade-Based Money Laundering

Though money laundering is a three-stage process as discussed earlier, it also employs a number of techniques to facilitate the laundering process. Some of the typologies of Money Laundering are discussed extensively in literature, notable amongst them is Trade-based Money Laundering (TBML), which is named as one of the oldest techniques in laundering money. Trade-based Money Laundering usually happens in the process of export and import of products (international trade), where funds are moved in unsuspicious way in-between countries with the help of forged invoices (Zdanowicz, 2009). A typical example of TBML is when an invoice is created for consignment of a high value, meanwhile goods of a lower value are actually shipped (or the reverse procedure) in order to disguise dirty money (Unger & Hertog, 2012). Cassara (2015) defines TBML as the technique of using international trade to conceal huge sums of ill-gotten money into less obvious assets or commodities to circumvent financial transparency laws and regulations. TBML represents a quintessential funding instrument for jihadist organizations. This method of laundering money has attracted a significant amount of attention from stakeholders mainly due to increases in scale and spread (Cassara, 2015).

2.5.2 Payment Systems

Another popular means through which money is laundered is through Payment Systems. The new age of the Internet has, without a doubt, offered new opportunities and opened up businesses to new and limitless markets. Financial institutions are among the numerous

corporations that have taken advantage of the Internet, making the benefits of this powerful tool obvious to all, especially the advantage of ubiquity (Chou et al., 2004). This is evident through e-banking services like, online banking, credit and debit cards, wire transfers, Automated Teller Machines (ATMs) just to mentions but a few (Chou et al., 2004; FATF, 2006b). In recent times, Mobile Money has also gained a lot of prominence especially in the developing economies (Mas & Morawczynski, 2009). Solin and Zerzan, (2010) as well as Merritt (2011) are among several authors who have assessed the green area of Mobile Money and some of the opportunities and risks that accompany it. However, these opportunities are escorted by their own threats, which are mostly in the areas of security (Chou et al, 2004) and reliability (Neuman & Medvinsky, 1995). These security threats have made payment systems more susceptible to money laundering activities due to non-face-to-face interactions, anonymity of customers, speed and high volume of transactions, etc. (FATF, 2006b). Over the last few years, the new payment systems of financial institutions powered by technology (mostly Internet) have been the secret behind the success stories of many money launderers across the globe.

2.5.3 Physical Transportation of Cash

A third typology or technique used to launder money is the physical transportation of cash. This is probably one of the oldest and prominent techniques of money laundering. The Italian mafia who were involved in money laundering in the early 19th century made use of this technique (Egmont Group, 2000). Although electronic payment systems are widespread in recent times, there is still a large amount of cash in circulation globally, with an estimated USD 4 trillion in circulation and about 46%-82% of all transactions in all countries being conducted in cash (FATF & MENAFATF, 2015). Also not forgetting that cash is the raw material of most criminal activities, hence a high demand for it. The technique of Physical Transportation of Cash is hinged on a decision-making process that starts with setting an end

or purpose for transporting the cash and the final landing point or destination of the cash. After the launderers settle on a final destination, the strategy to be used and the coarse or path through which the money will be passed through is also established. As soon as the money is transported to the final destination, it is placed into many legal businesses and investments and finally ends up being deposited into the financial system as clean money (FATF & MENAFATF, 2015)

2.6 Anti-Money Laundering

Over the past two decades, Money Laundering regulations have grown more and more stringent, especially after the horrifying events of September 11, 2001 in the United States. The international community has remarkably stepped up its endeavor to prevent, detect and deter money flows related to criminal activities and terrorist financing (Yikona et al., 2011). However, as more rigorous regulations are put in place to check Money Laundering, criminals also adopt several techniques and methods to circumvent these regulations. It is rather unfortunate to accede to the notion that in most cases, launderers are in the lead when it comes to techniques and methods, outwitting most of the regulations put in place to combat their activities and bring them to justice (Moulette, 2000). This could probably be the main reason why the UNODC in a study conducted in 2011, found that less than 1% (about 0.2%) of global illicit financial flows are currently seized by authorities (UNODC, 2011).

It is fascinating to know that Money Laundering was only declared to be a separate criminal offense for the first time by any country in the year 1986 (Noble, 1997). The Money Laundering Control Act was passed in the United State in the year 1986. The Money Laundering Control Act of 1986 (Title 18, US Code Section 1956) sought to establish Enhanced Enforcement Capabilities, establish what constituted Knowledge and Intent, the consequences of money laundering and what constituted private actions of money laundering

(Harmon, 1988). Above all, the most important declaration made under the Money Laundering Control Act is the declaration of Money Laundering as a separate criminal offence, which criminalized activities of Money Launderers (Noble, 1997). Afterwards, Money Laundering grew to become an important issue globally, with several other jurisdictions like the United Kingdom (UK), Australia, China, France, Italy and India also passing legislations to criminalize and prevent Money Laundering. In response to the heightening concerns over Money laundering globally, the members of the G-7 instituted the Financial Action Task Force.

2.7 Anti-Money Laundering Policy

The inception of anti-money laundering policy can be traced to the 1980s, where the council of Europe strongly advocated that the governments of its member states ratify the measures set to combat money laundering especially through banks (Gill & Taylor, 2004). In 1988, the United Nations and the Basel Committee also sanctioned measures to combat money laundering, with the former doing so through a convention held in Vienna and the latter commissioning a Basel Committee on Banking Supervision (BCBS) with the purpose of protecting the Banking system from being used as a conduit for money launderers (Viritha et al., 2015).

Extant literature usually defines Anti-Money Laundering in three dimensions first at the global level, then at the national and finally at the organizational level. The Financial Action Task Force provides a global definition of what AML entails when it posited that AML refers to all activities that involve setting standards and promoting the effective implementation of legal, regulatory and operational measures for fighting money laundering and terrorist financing (FATF, 2011). The IMF also rendered a more national dimension definition to AML when it defined AML as “controls that are implemented to mitigate the adverse effects

of criminal economic activity and promote integrity and stability in financial markets (IMF, 2011). This definition was further expanded by Min Zhu, Deputy Managing Director of the IMF when he said in a speech

"Effective anti-money laundering and combating the financing of terrorism regimes are essential to protect the integrity of markets and of the global financial framework as they help mitigate the factors that facilitate financial abuse." The Association of Certified Anti-Money Laundering Specialists (ACAMS, 2014) also define AML as, "the system designed to assist institutions in their fight against money laundering and terrorist financing". In many jurisdictions, government regulations require financial institutions, including banks, securities dealers and money services businesses, to establish such programs. At a minimum, the anti-money laundering program should include well-written internal policies, procedures and controls and a designated AML compliance officer, on-going employee training; and independent review to test the program on a periodic basis.

2.7.1 Rule-Based Approach versus Risk-Based Approach

Aside the 40 FATF recommendations, most countries also have enacted stringent laws to combat Money laundering; a notable example is the US Patriot Act (Abel, 2002). In their book titled, "Research Handbook on Money Laundering", Unger and Van Der Linde (2013) made reference to a work done by well-known Italian lawyer named Paolo Constanzo who has worked extensively with the European Union in the area of money laundering. Contanzo (2013) gave a detailed account of a shift in Money laundering policy from a Rule-based approach to a Risk-based approach. In the early days of AML policy, reporting agencies like financial institutions were tasked with reporting ML activities through a Rule-based system. This system was characterized by strict regulations under which responsible agencies are to report ML activities to the corresponding Financial Intelligence Units.

A typical example of a Rule-based approach is when financial institutions are required to report cash transactions exceeding a certain threshold, say $1000. The major downside with the Rule-based approach is the countless tons of transactions that FIs had to deal with. The Rule-based approach was also circumvented by launderers through a process known as Smurfing, where criminals send cash transactions just below the threshold, say $990 in order to avoid such transactions being scrutinized. This necessitated a shift from the Rule-based approach to another method of AML policy known as the Risk-based approach. The Risk-based approach puts an obligation on not only financial institutions but also Designated Non-Financial Businesses and Professions (DNBPs) like real estate agencies, law firms, notaries, etc. to document the transactions or activities they deem as high risk relating to their unique professions. According to Constanzo (2013), a major disadvantage with the Risk-based method is the high cost associated with the transfiguration of AML policy from Rule-based to Risk-based method. However, Costanzo (2013) exhibited a high degree of optimism about the prospects of AML policy and indicated that the rewards from a more suitable identification of ML risks will recompense for these high costs associated with the Risk-based method in the long term.

2.7.2 Criminal Law versus Administrative Law

Unger and Van Der Linde (2013) posited that AML policy was double faceted; with one part focusing on Criminal Law and the other on Administrative law. The former focuses on the predicate offences of money laundering and the punishments that accrue to culprits whereas the latter takes a more proactive approach to preventing money laundering by ensuring that the various reporting agencies and financial institutions identify and report laundering activities (Unger & Van Der Linde, 2013).

Van den Broek and Addink (2013) established a link between AML and good governance by delving deeper into the Administrative Law component of AML policy highlighting a quartet

of Administrative law related elements namely: the reporting obligation of institutions, customer due diligence (CDD), the record-keeping obligation of accountable institutions and the enforcement element by supervisory institutions. The authors explained that the CDD component refers to all laws that task reporting institutions to make a conscious effort to know their customers and in some cases, their customers' customers (KYC). Reporting obligations task institutions to report suspicious transactions to their corresponding Financial Intelligence Centers (FICs) while record-keeping laws stress on financial institutions keeping detailed records of their transactions for future reference purposes. Finally, the enforcement element of AML Administrative law contains laws that relate to supervision of financial institutions and the sanctions that should be meted out to culpable institutions. Van den Broek and Addink (2013) posited that these four elements are in concomitance with the principles of good governance, which stress on the principles of transparency, all-inclusive governance, accountability and respect for fundamental human rights. The World Bank has also promoted these principles in recent years as sound principles for good governance. However, Tsingou (2005) presents a more global picture on the relationship between AML and Governance when he argued that good global governance regimes relieve offshore financial institutions of competitive pressures and produce advanced marketing methods in private financial institutions.

2.7.3 Effectiveness of AML Policy

Another controversial question that has attracted a lot of deliberation from scholars is the question about the effectiveness of AML Policy. While compliance may constitute a necessary condition for effectiveness of AML policy, it cannot be considered a sufficient condition (Simmons, 1998). Young (1980) argued that a successful or effective AML policy is tantamount to compliance achieved. However, according to Reuter and Truman (2004), the success of AML is not only dependent on how well the systems put in place minimize money

laundering, but also on how much AML systems curtail the predicate offences (drug trafficking, corruption, prostitution, terrorism, etc) linked to money laundering.

Choo et al. (2014) pointed out that AML regulations attract substantial costs mainly because of the wide scope of implementation. Choo et al. (2014) also highlighted the fact that criminals were always devising new means of laundering funds even in the face of AML policy. This coupled with the difficulty that comes with the continuous update and review of AML policy and the numerous transactions that reporting agencies have to deal with makes assessment of AML policy a very laborious task rendering AML policy less effective. Choo et al.'s (2014) paper was centered on the AML regime of Malaysia and therefore, may not be able address certain issues in a global argument. Much has not been done in the area of Global AML Policy Effectiveness, however, Unger et al. (2014) evaluates the Effectiveness of AML policy in the 27 European Union member states. Unger et al. (2014) identified two perspectives of Effectiveness of AML policy namely, Legal Effectiveness and Economic Effectiveness of AML Policy. The authors defined Economic Effectiveness as the achievement of the main goals of AML policy, thus reduction and prevention of Money Laundering by producing results; however when these goals are reached with the lowest possible cost, it is referred to as Economic Efficiency of AML policy. Legal Effectiveness was defined by the Authors as follows," first, a policy is legally effective when the norms are applied and obeyed. Legal effectiveness is understood narrowly and as a functionality: if a rule is in force (and applied/obeyed) it functions and therefore a norm is effective".

Amidst all the optimism showed by Constanzo (2013) with regards to the Risk-based approach of AML Policy, Unger and Van Waarden (2009) had a different story to tell as far as the future of implementation and effectiveness of AML Policy is concerned. They argued that the Risk-based approach even though it comes with some advantages would end up as a

book of rules- rules set by courts, not politicians (Unger & Van Waarden, 2009). They explain further that the risk-based approach will lead to a lot of court cases, hence many court decisions which will pose diverse effects to different jurisdictions across the globe. For example in a jurisdiction like the United States where fines are very huge, banks are usually afraid to fall prey to AML laws, hence the 'over-report' and sometimes even provide useless information to authorities. However, in a slightly different jurisdiction like the Netherlands where AML policy is more consensual (involving private actors in policy formulation) and where fines are comparatively low, the amount of transactions reported is low, but the quality information provided to relatively high (Unger & Van Waarden, 2009). The availability and quality of information, especially crime data is a major impediment to measuring the effectiveness of AML policy (Choo et al., 2014). Once the effectiveness of existing policies cannot be adequately measured, implementation cost becomes difficult to ascertain, hence resource allocation to AML programs is also affected (Choo et al., 2014). The importance of quality information to the success or effectiveness of AML policy cannot be overemphasized because without adequate quality information or data, money laundering becomes an invincible enemy making the curtailing of it a daunting task.

2.8 The Financial Action Task Force (FATF)

The Financial Action Task Force (FATF) was inaugurated by the member states of the G-7 (United States, United Kingdom, France, Germany, Italy, Canada and Japan) at a summit held in the year 1989 in Paris (FATF, 2007). The FATF was established because of growing concerns over the risks faced by the Financial System, especially banks (FATF, 2007). After its inception, the FATF was tasked with analyzing money-laundering trends and techniques; studying financial, legislative and law enforcement programs sanctioned at national and international levels. The global AML institution was also tasked with assessing and monitoring country-level compliance and giving technical assistance where necessary

(FATF, 2010). As an inter-governmental decision-making body, FATF comprises of 35 member states, 2 Regional organizations, 9 Associate Members and several observer organizations (e.g. World Bank, International Monetary Fund, INTERPOL, United Nations, etc.) affiliated to it, which are known as the FATF-Style Regional Bodies (FSRBs) (FATF, 2010). The members of FATF and the FSRBs all sum up to over 180 jurisdictions across the globe. A list of all the 9 FATF-Style Regional Bodies is provided as Appendix B in the Appendix section.

2.8.1 The FATF Recommendations

The FATF combats global money laundering through Recommendations or Standards it enacts (Terry, 2010). In its maiden year, FATF presented a report bearing forty Recommendations to facilitate the fight against money laundering. In the year 2003, the forty Recommendations were reviewed to cater for the changing trends and methods adopted by launderers mainly due to globalization (FATF, 2003). The revision was also necessitated by the petrifying events of 9/11 in 2001, which caused the expansion of the Recommendations to include 9 extra recommendations to address terrorist financing activities, making it the 40+9 FATF Recommendations. The most recent review of the Recommendations took place in 2012, this time the Recommendations were consolidated instead of expanded where the 40 Recommendations absorbed the extra 9 recommendations bringing it back to 40 FATF Recommendations to date (FATF, 2012). These Recommendations are well drawn since FATF has a responsibility to protect civil liberties, respect individual state sovereignty and adhere to the norm of deliberative equality in its quest to fight Money Laundering and Terrorist Financing (Wessel, 2006).

EMPIRICAL LITERATURE

2.9 Anti-Money Laundering Compliance

Although limited studies on AML compliance exist in extant literature, most of the few authors on the topic assert that Anti-money Laundering and Combating the financing of Terrorism are overrated topics. With Savona (2005) positing that "the economic cost of controls based on obligations and prohibitions is often underestimated, while the benefits they produce tend to be overrated". Geiger and Wuensch (2007) also argued that AML regulation could lead to distortion of competition among firms, which poses danger to firms worldwide since it could retard the progress of society towards wealth creation, and also diminish the annual productivity of firms. They added that AML costs are unnecessary transaction costs that burden most banks, with smaller banks suffering the most since they feel the burden twice as much as bigger banks feel it. To some others, it is not AML in its generic sense that is unnecessary, but the current strategies adopted in AML programs that bear the problems (Turner, 2004; Beekarry, 2011). Given all these arguments against the importance of AML/CFT policies why all the massive financial investments in AML/CFT?

Among many other advantages of AML Compliance, the most important of all is that AML Compliance safeguards integrity of the global financial system. Young (1979) defined Compliance as "the actual behavior of a given subject conforming to prescribed behavior". Young (1979) also argued that non-compliance occurs when actual behavior departs significantly from prescribed behavior. Therefore AML compliance can be defined as all actions by reporting institutions that conform to standards, rules, objectives, laws and regulations set by authorities put in place to check against money laundering (Choo et al., 2014). As the techniques deployed by money launderers evolve, so do the FATF Recommendations evolve to be able to address modern trends and vice versa. According to Putnam (1988), the efficacy of a global AML/CFT framework mainly hinges on the efficacy

of its components and vice versa. Putnam (1988) argues further that Global collaboration should be seen as a "two-level game", where compliance of local governments to AML Policy is considered the first step to a successful global AML Policy.

To the best of the author's knowledge, Yepes (2011) is the only author who has conducted a study in the area of AML compliance. He asserts that although there has been progress across the various categories of the 40+9 FATF Recommendations, compliance with the AML/CFT Standards is generally low among countries. This conclusion was reached in a study that conducted a cross-country analysis of countries' compliance with the FATF recommendations. The 87-country study conducted by Yepes (2011) churned out results that suggest that institutional factors are very influential in AML compliance. Yepes (2011) further explained that Institutional factors play a key role in AML compliance because they provide the conditions under which policy reforms or amendments are defined and therefore, accommodate, restrain, or digress their implementation. Extant literature provides some key factors that either enhance or impede AML Compliance. Some of these factors are discussed in the subsequent paragraphs. Countries have individual structural differences.

2.10 AML Compliance and Enterprise Risk Management

Enterprise risk management (ERM) is a system that measures and manages all complex risks regardless of sources and nature while ensuring the protection of the firm from imminent dangers or crisis (Acharyya, 2009). The main essence of ERM is to create value to the firm (Acharyya, 2009; Hoyt & Liebenberg, 2011). The Casualty Actuarial Society (CAS, 2003) defines enterprise risk management as the combination of hazard, financial, operational and strategic risks. The Committee of Sponsoring Organizations, COSO (2004) indicate that enterprise risk management if well managed should help achieve the four main objectives in an organization thus, strategy, reporting, operations and compliance. Although the individual advantages of different risk management activities are clear, there are disadvantages to the

traditional “silo” approach to risk management. Managing each risk class in a separate silo creates inefficiencies due to lack of coordination between the various risk management departments. Proponents argue that firms that engage in ERM should be able to better understand the aggregate risk inherent in different business activities. Welbeck (2015) stated that the relationship between AML and ERM has suffered many arguments. However, compliance to anti-money laundering policy will lead to effective risk management.

Welbeck (2015) conducted a study on the importance of anti-money laundering compliance to overall risk management framework (ERM) of banking institutions in Ghana. He found that anti-money laundering compliance leads to an improvement in enterprise risk management adoption by Ghanaian banks, and an improvement in profit levels influence a bank’s decision to adopt ERM. The study, therefore, concludes that banking institutions in Ghana should espouse AML Compliance as a protective shield and not a regulatory burden.

2.11 FATF Mutual Evaluation Reports

FATF oversees the mutual evaluation of member states for the purpose of observing the implementation of the FATF Recommendations and also to test the efficacy of the AML frameworks in its affiliate countries. Member states are required to submit mutual evaluations to FATF on a triennial (three-year) basis. The third round of mutual evaluations was started in 2005 which for the first time focuses on the nine recommendations that were added to the existing forty to address the emerging issue of terrorist financing. FATF is currently conducting the fourth round of mutual evaluations based on the revised recommendations in 2012 and the new Methodology for Assessing Compliance with the FATF Recommendations and the Effectiveness of AML/CFT Systems (2013). However, FATF conducts evaluations using some 25 tests points based on the 49 Recommendations for some countries without their consent. These countries are tagged as Non-Cooperative Countries and Territories (NCCT).

2.12 Index

An index can be loosely defined as a mathematical construct that is used to describe or measure a variable. Indexes are very useful tools in quantitative research mainly because they enable researchers to develop composite scales that abridge responses for several rank-ordered related questions or statements (Crossman, 2017).

Although many indices exist in literature to measure various concepts, composing AML indices proves to be a challenging task mainly due to lack of data. Money Laundering data is either difficult to come by or at best of low quality or frequency mostly due to the secretive nature of the crime. However, a few authors have attempted to beat the odds to compose AML indices, howbeit with different analysis of study. Welbeck (2015) is one of such few authors to compose an AML compliance index to measure firm-level compliance. He constructed an index from four sub indexes: ML Risk Assessment Index, Record Management Index, Compliance Program Index and Corporate Governance Index. Individual firms were ranked on a scale of weak, fair, good and strong for the 5^{th}, 50^{th}, 75^{th} and 95^{th} percentile respectively. Welbeck's (2015) AML compliance index represents a robust index given the fact that it covers four of the key aspects of firms that present serious threats where firm-level money laundering is concerned. However, because Welbeck's (2015) index was created to measure firm-level compliance, it cannot be applied in a country-level analysis because of the structural differences between firms and countries.

Yepes (2011) proposed an index that was used in a country-level analysis of AML compliance. The index covered the seven components of the FATF Recommendations. This index was based on AML data from 2004 to 2011. The AML data available during the period that Yepes (2011) conducted the study were also based on the old set of AML Recommendations by FATF in 2004. The currently available revised version of the FATF Recommendations renders Yepes' (2011) AML compliance index impractical in measuring

compliance levels of countries from the year 2004 to 2012. This necessitated the construction of the new AML/CFT compliance index proposed by this study that measured country-level compliance from 2004 to 2016 based on the 2004 FATF Recommendations as well as the revised Recommendations in 2012.

2.13 Determinants of AML/CFT Compliance

2.13.1 Regulatory Quality

Regulatory Quality measures how well the leadership a country is able to develop laws and execute sound policies that create an enabling environment for the private sector to thrive. Geiger and Wuensch (2007) assert that states have the responsibility to formulate, implement and enforce both criminal and civil laws of which AML regulations are part. The quality of International AML Policy is to a large extent dependent on the quality of domestic regulatory frameworks (Sharman, 2008). Thus, no matter how good the FATF recommendations are, they tend to be ineffective when applied to a local jurisdiction with a weak regulatory framework. In a paper published by Sharman's (2008), he found that the differences in regulatory quality among developing and developed countries who are required to adopt the same international AML policy is a determinant of the low level of compliance among developing countries. One of the main causes of low compliance levels as pointed out by Yepes (2011) is the poor quality of domestic governance. Thus, the quality of the regulatory framework of a country determines to a large extent the level of AML/CFT compliance of that particular country.

2.13.2 Technology (Internet)

Technology has been the driving force behind the evolution of a segregated world to a global village (Schroeder, 2001). It is also a widely accepted fact that the Internet has provided new, faster and better means for criminals to operate, particularly those involved in organized

crime (Stokes, 2012; Lavorgna, 2015). Although international efforts against money laundering have increased, compliance levels have remained low, with evidence of scare prosecutions and convictions for ML-related offences (Demetis, 2010). More so, due to an increase in regulatory initiatives, many more institutions have joined in the fight against money laundering, creating new challenges for regulators and other AML agencies tasked with ensuring compliance with AML regulations. Given the difficulties posed as a result of the increase in the number of AML stakeholders, the proliferation of new technology presents AML agencies fresh opportunities in the fight against ML (Demetis, 2010). Lavorgna (2015), in her paper, found that a common problem among all the countries she studied is that the law enforcement and regulatory agencies lacked the capacity to curb internet-based crimes. Consequently, one could assert that the internet has been a major influencer of money laundering. It is interesting to know that although launderers have taken advantage of the internet to enhance their activities, in most cases at both national and regional levels, online investigation of money launderers' activities is not common among many regulatory agencies tasked with fighting money laundering (Wall & Williams. 2013). Building the online or Internet capacity of reporting agencies, regulatory agencies and law enforcement agencies could give a major boost to country compliance with AML laws.

2.13.3 Foreign Direct Investment (FDI)

The IMF defines FDI as investment made to acquire a lasting interest in a foreign business with the aim of having an effective stake in management (IMF, 2010). Global FDI flow in 2014 rose to a record-high of $1.23 trillion while FDI flows to Africa alone averaged $50m in 2012 (Osuji, 2015). The term "investment laundering" was coined by Naheem (2015) to define money laundering activities that are facilitated by investment companies. Naheem (2015) likened investment laundering to the layering and integration stages of money laundering which were discussed in earlier paragraphs. Using a case study from the Canadian

Financial Analysis Center (FINTRAC) the author explained how money launderers disguise the proceeds of crime through investments across different countries. Yepes (2011) had a contrasting view on the effect of FDI on AML Compliance. He found that FDI net inflows have a positive impact on compliance, particularly compliance with DNFBPs prevention and entity transparency components of the FATF Recommendations.

2.13.4 Trade Openness

One of the oldest methods or techniques used by money launderers to outmaneuver AML agencies or government scrutiny is laundering through international trade. This typology of money laundering is known as Trade-based Money Laundering (TBML). Launderers have achieved a great deal of success over the years with this method of money laundering mainly because law enforcement agencies of countries generally pay little attention to international trade (Zdanowicz, 2009). The main trick used in TBML is false invoicing that under or over-value international trade. A typical example as discussed in section 2.6.1 of TBML is when an invoice is created for consignment of a high value, meanwhile goods of a lower value are actually shipped (or the reverse procedure) in order to disguise dirty money (Unger & Hertog, 2012).

In the year 2005, Baker (2005) estimated that a staggering $540b of illicit funds flowed from developing countries through international trade and other predicate offences of money laundering. Walker (1995) was the first author to establish a model to estimate the volume of money laundered across the globe. The model, which later became popular in trade economics, is known as “the Gravity Model”. The gravity model sought to establish a link between geographical distance and money laundering. Thus, for every dollar laundered, there is a required geographical distance that should be covered to make laundering successful. Walker (1995) postulated that the amount of money that is laundered from country A to country B is contingent on the perceived attractiveness of the destination country (country B)

as well as the geographical distance between country A and B. This model was confirmed by Walker and Unger (2009); Brakman and van Bergeijk, (2010) and Ferwada et al. (2013). Ferwada et al. (2013) found that TBML is very prominent between the United States and countries that have low levels of compliance with AML regulations. Ferwada's study borrowed the data set of 199 countries used by Zdanowicz (2009) and still found a correlation between countries' AML compliance levels and TBML.

2.13.5 Bank Concentration

The concentration of financial institutions, especially banks, has instigated a lot of public discourse on the impact of concentration on the global financial system and the individual financial systems of countries. The variable used to measure Bank concentration in this study is also used as an indicator for Bank Competition. Although some economic theories suggest conflicting views about how the two concepts predict variables in the banking industry, there exist several other theories that establish a positive correlation between the two concepts (see Beck, Demirgüç-Kunt Levine, 2006; Berger, Demirguc-Kunt & Haubrich, 2004).

Rawlings and Unger (2005) postulated that a high level of bank competition exists for laundered funds. They added that banks compete for laundered funds through the implementation of high-grade bank secrecy policies, in a bid to attract illicit funds. Rawlings and Unger (2005) pointed out the threats that bank concentration presents to the global AML framework and called for the intervention of the Financial Action Task Force. Picard and Pieretti (2011) found that offshore banks are usually more susceptible to Bank competition for the purpose of money laundering than onshore banks. Because of the threats that offshore banks present, there are a lot of pressure policies directed towards them to implement Know-Your-Customer (KYC) policies in order to prevent them from being used as conduits to launder money. Picard and Pieretti (2011) also found that these pressure policies have a positive impact on not only offshore, but onshore AML compliance levels.

2.13.6 Education

Education is without a doubt one of the most important factors that determines the social and economic wellbeing of countries across the globe. International organizations like the International Monetary Fund, the World Bank and United Nations specifically the United Nations International Children's Education Fund (UNICEF) are among several organizations that champion the cause of education globally. Aside socio-economic development, education is also a determinant of many of the social problems that plague countries. Evidence exists in literature that establish a relationship between education and crime (Heineman & Heimann, 2006; Ksenia, 2008; Watters et al., 2012), education and health (Rowe, 2012), education and economic development (De Meulemeester & Rochat, [1995]; Kruss et al, [2015]; Drucker, [2016]) and many other relationships. Although there is no known work cited in extant literature establishing a relationship between education and AML compliance, the determinants of Anti-corruption compliance can be used to explain compliance with AML standards, since there is evidence in extant literature establishing a relationship between the two concepts (Sharman & Chaikin, 2009). Sharman & Chaikin (2009) argue further that richer countries with well established social welfare systems and educational systems tend to have a higher level of AML compliance as compared to poorer countries. It will be interesting to discover what the finding of this research suggest in terms of the relationship between countries expenditure on education and AML compliance levels.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter discusses the analytical framework of the study. The sections covered in this chapter include Research Design, the Population of the study, composition of the AML/CFT Index, Sources of the Data used, the Model specification and other statistical techniques used in the study. This Chapter therefore captures all the tools, techniques and procedural framework used to achieve the set research objectives in chapter 1. A successful completion of this chapter, therefore, moves this study from the objectives stage to the result and findings stages.

3.1 Research Design

The research design explains the overall strategy that a researcher chooses to combine the various components of the research in a systematic and logical way, which will ensure the achievement of the goal of the study (De Vaus, 2001; Trochim, 2006)

According to Boateng (2014), a Qualitative research is used to describe variation, explain relationships, describe individual experiences and describe group norms whereas a Quantitative research is used to quantify variation, predict causal relationship and describe characteristics of a relationship. This study adopts a Quantitative approach, using an econometric model to explain the relationship between the factors that drive AML Compliance.

3.2 Population of Study

The study analyzes the domestic, socio-cultural and economic factors that influence countries' compliance to AML Recommendations. No sampling technique was needed, since all the countries used in this research are those that have successfully participated in at least

one round of Mutual Evaluation and have submitted a Mutual Evaluation Report (MER) to FATF. Consequently, the countries not represented are those who have no record of MER with the FATF. A total number of 155 countries provided 207 MERs between the period of 2004 and 2016 for our analysis.

3.3 Data

Two sets of data were used in the study, both of which are secondary data; one for the composition of the index and the other, used to assess the determinants of AML/CFT Compliance. For the AML/CFT compliance index, data ratings were extracted from the 207 Mutual Evaluation Reports provided by the FATF. The ratings assigned to the individual recommendations ranged from Compliant, Largely Compliant, Partially Compliant, Non-Compliant to Not Applicable. Data for the country-specific determinants of AML Compliance was sourced from The World Bank Database, specifically World Development Indicators (WDI) and World Governance Indicators (WGI) as well as data from International Narcotics Control Strategy Report (INCSR).

3.4 Construction of AML/CFT Index

In order to measure the level of compliance of individual countries to AML/CFT Recommendations set by FATF, there was the need for an index to be constructed to measure the compliance level of countries from the year 2004 to 2016. The AML/CFT Compliance index covers the seven (7) components of the 2004 FATF Recommendations (Legal Factors, Institutional Measures, Financial Institution Prevention Measures, DNFBPs Prevention, Informal Sector Prevention, Entity Transparency and International Cooperation) and seven (7) components of the 2012 FATF Recommendations (AML/CFT Policies and Coordination, Money Laundering and Confiscation, Terrorist Financing and Financing of Proliferation, Preventive Measures, Transparency and Beneficial Ownership of Legal Persons, Powers and Responsibilities of Competent Authorities and International Cooperation) . To provide a

quantitative basis for the ratings for calculation purposes, numerical values were assigned to each rating. A value of “1 “ was assigned to recommendations where countries were ‘Compliant, “0.66” to Largely Compliant, “0.33” to Partially Compliant, “0.00” to Non-compliant.

The numeric values for the individual recommendation under a component are summed up to determine the total score for that particular component. The aggregate of the seven (7) components constituted the AML/CFT Compliance index or score for a particular country, for a particular year.

3.5 Data Split

As stated earlier, the AML/CFT compliance index was composed using compliance ratings of FATF Recommendations sourced from the MERs of the countries under investigation. However, the FATF Recommendations and their categorizations have undergone a number of revisions and alterations over the past two decades. The timeline of the evolution of the FATF Recommendations started from 1990 with 40 recommendations through to 2003 when FATF added 9 new recommendations to address the issues of terrorist financing following the tragic events of 9/11 to 2012 when the recommendations were consolidated back to 40 (FATF, 2003; Wessel, 2006; FATF, 2012). The table in Appendix C details how the FATF Recommendations have evolved over the years.

As a result of the changes that have occurred to the FATF Recommendations over the years in terms of the number of recommendations and the categorizations, the data set between 2004-2011 differ from that of 2012-2016. Therefore different indexes are composed for the two data sets since the first and second set will have a score of 49 and 40 respectively. This setback was addressed by converting the scores from indexes to percentages, to enhance the ease and possibility of comparison.

3.6 Data Sources

As pointed in section 3 of this chapter, two data sets are used in this study, one used to compute the AML/CFT Compliance index and the next set to assess the determinants of compliance among countries. The table below summarizes the variables used, their proxies, the sources of the data and justifications for the variables chosen.

Table 3.1: List of Dependent and Independent Variables and their Sources

Variable	Abbreviation	Proxy	Source	Justification
AML/CFT Compliance Index	AML/CFTCI	-	MERs	FATF
Legal		-	MERs	FATF
Institutional		-	MERs	FATF
Fin. Institutions Prevention		-	MERs	FATF
DNFBPs Prevention		-	MERs	FATF
Informal Sector Prevention		-	MERs	FATF
Entity Transparency		-	MERs	FATF
International Cooperation		-	MERs	FATF
Foreign Direct Investment	FDI	FDI Net Inflows (% of GDP)	International Monetary Fund, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates	Yepes, 2011
Trade Openness	TradeOp	Trade (% of GDP)	World Bank national accounts data, and OECD National Accounts data files.	Unger & Hertog, 2012
Corruption	CO	Control of Corruption	World Governance Indicators	Yepes 2011
Quality of Domestic Regulation	RQ	Regulatory Quality	World Governance Indicators	Yepes, 2011
Bank Concentration	BC	Commercial bank branches (per 100,000 adults)	International Monetary Fund, Financial Access Survey.	Pieretti, 2011
GDP Per Capita	gdppercap	Natural log of GDP Per Capita	International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.	Yepes,2011

Technology	Tech	Fixed Broadband Subscription	International Telecommunication Union, World Telecommunication/ICT Development Report and database	Lavorgna, 2015
Criminalization of Money Laundering	CrimDrugML		International Narcotics Control Strategy Report INCSR	Yepes, 2011
Existence of Financial Intelligence Unit/Center	FIC		INCSR	
Government Expenditure on Education		Government Expenditure on Education as a percentage of GDP	International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.	Sharman & Chaikin, 2009

3.7 The Model

The econometric model used in this study is quite similar to the model that was used by Yepes (2011) in a similar investigation. A cross-sectional model is ideal in this case due to lack of consistent AML compliance data from the period 2004 to 2016. The AML/CFT compliance index composed represented the dependent variable in the regression, while the country-specific determinants identified earlier in Chapter 2 constituted the explanatory variables. Below is the model specification and the model itself:

$$y_i = \beta_0 + \beta_1 x_i + \beta_2 x_i + \beta_3 x_i + \beta_4 x_i + \beta_5 x_i + \beta_6 x_i + \beta_7 x_i + \beta_8 x_i + \beta_9 x_i + \varepsilon_i$$

Model 1

$$AML.CFTCS_i = \beta_1 FDI_i + \beta_2 TradeOp_i + \beta_3 RQ_i + \beta_4 BC_i + \beta_5 Tech_i + \beta_6 CrimML_i + \beta_7 FIC_i + \beta_8 GovEdu_i + \varepsilon_i$$

Model 2

$$AML.CFTCS_i = \beta_1 FDI_i + \beta_2 TradeOp_i + \beta_3 CO_i + \beta_5 BC_i + \beta_7 Tech_i + \beta_8 CrimML_i + \beta_9 FIC_i + \beta_{10} GovEdu_i + \varepsilon_i$$

Model 3

$$AML.CFTCS_i = \beta_1 FDI_i + \beta_2 TradeOp_i + \beta_3 BC_i + \beta_4 gdppercap_i + \beta_5 Tech_i + \beta_6 CrimML_i + \beta_7 FIC_i + \beta_8 GovEdu_i + \varepsilon_i$$

Model 4

$$PCA.AML.CFTCS_i = \beta_1 FDI_i + \beta_2 TradeOp_i + \beta_3 RQ_i + \beta_4 BC_i + \beta_5 Tech_i + \beta_6 CrimML_i + \beta_7 FIC_i + \beta_8 GovEdu_i + \varepsilon_i$$

3.8 Principal Component Analysis (PCA)

PCA is mainly used as an econometric tool to convert highly correlated variables to a different group of orthogonal variables by the help of variance covariance matrix or correlation matrix. PCA simplifies a given set of variables and assigns individual weights that capture information unique to individual indicators (Nicoletti et al., 2000). Thus PCA is able to compress a given number of individual variables while maintaining the maximum possible proportion of the total variation in the original data set. Even though PCA possesses a good number of desirable characteristics, it is not devoid of some drawbacks. Notable amongst them is that PCA does not allow for deduction on the attributes of the general population. PCA is used in this study both as a reduction tool and also as a tool for checking robustness. The PCA index is constructed in this study to reduce the data set of the initial AML/CFT compliance index to an abridged version that still accounts for the same number of variations in the original AML/CFT dataset. The resulting PCA index will be used as the dependent variable in an alternative model. It will be quite interesting to discover the outcome of this

study after juxtaposing findings from the two regression models (the original model and the PCA model).

3.9 Descriptive Statistics and Correlation Matrix

Descriptive statistics was employed to summarize the data and to also give a better understanding of the entire data set. Specifically, the descriptive statistics featured the Standard Deviations, Maximum and Minimum values for the determinants of AML Compliance. Along came the issue of multicollinearity; the Pair wise correlation analysis as a detector of existence and degree of multicollinearity among the independent variables. The rule of thumb here is to eliminate one of two variables whose correlation coefficient (absolute value) is above 0.5.

3.10 Determinants of AML Compliance

To learn about the country-specific factors that determine the degree of AML Compliance, the dependent variable (AML.CFTCI) were regressed on the following independent variables; Foreign Direct Investment (FDI), Trade Openness (TradeOp), Control of Corruption (CO), Regulatory Quality (RG), Bank Concentration (BC), Revenue (Rev), Technology (Tech), Criminalization of Money Laundering (CrimDrugML), Existence of Financial Intelligence Center (FIC) and Criminalization of Cross Boarder Transportation of Cash (CrimTransCash).

3.10.1 AML/CFTCI

The dependent variable AML.CFTCI refers to compliance index composed to measure the various levels of country compliance with the FATF Recommendations between 2004-2016. The interpretation here is that the higher the AML.CFTCI, the higher the degree of country compliance to the FATF Recommendations therefore the expected sign is positive. However because of lack of data on the determinants of compliance in recent years, the regression considered Index scores between 2004-2012.

3.10.2 Foreign Direct Investment (FDI)

FDI is proxied by FDI Net Inflows as a percentage of GDP. The determinant of FDI Net inflows is the aggregate of equity capital, reinvestment of returns on investment, and other short and long-term capital investments. Although Net FDI could have been used as some authors have done, this study opted to use FDI Net inflows because of the keen interest in researching the existence and degree of relationship between the entry of foreign capital and AML compliance. Yepes (2011) found a positive relationship between FDI and Compliance. However, Naheem (2015) shares a contrasting opinion when his studies suggested that foreign investment which he referred to "investment laundering" has a negative relationship with compliance. Notwithstanding, the expected sign for the FDI variable is positive.

3.10.3 Trade Openness

Trade openness measures the importance of foreign markets particularly in relation to imports and exports on AML compliance. This study used Trade of good and services as a percentage of GDP to proxy Trade Openness. The assumption here is that the more a country is open to other foreign economies, the more susceptible it is to Trade-based Money laundering and the more difficult it is for such a country to effectively comply with AML/CFT standards (Unger et al, 2012). Therefore the expected sign for Trade Openness is negative.

3.10.4 Corruption

Corruption is named among the Money laundering typologies, and could also be considered a predicate offence of ML. Corruption could be defined as the abuse of public position for individual or private gain (Tupman, 2005). Tupman (2005) further asserts that corruption is mainly perpetuated by multinational companies and politicians, the two players who are major influencers of public policy. Hence there exist a relationship between corruption and AML compliance, which is confirmed in literature (Yepes, 2011). Control of Corruption

(estimate) is the indicator used to proxy Corruption. Control of Corruption indicates the degree to which people perceive that pubic power is exercised for individual gains in a particular country. The control of corruption indicator captures both small and major forms of corruption. The estimate shows a country's aggregate score, in units of a standard normal distribution ranging from approximately -2.5 to 2.5. Therefore a positive figure suggests a high corruption perception, hence a negative relationship with AML compliance. The expected sign of the CO coefficient is negative.

3.10.5 Quality of Domestic Regulation

This variable is proxied by Regulatory Quality (Estimate). Regulatory Quality captures perception of the capacity of the lawmakers of countries to enact sound policies, laws and regulations that create a favorable and conducive environment that enhance private sector development. RQ Estimate shows the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. The expected sign for Regulatory Qualty is positive.

3.10.6 National Income

GDP Per Capita was used as a proxy for National Income. GDP Per Capita is the total GDP of a country divided by the population of that country. GDP Per Capita is included in the model to test whether the income of a country determines the level of AML/CFT compliance in that country. GDP Per Capita was included as one of the explanatory variables due to the fact that AML policy requires some capital outlay. From setting up a Financial Intelligence Unit, to hiring of staff and purchasing tools and equipment to ensure the effective operation of FICs and other agencies tasked with ensuring compliance. The assumption is that wealthier countries have the capacity to provide all the resources needed to enhance compliance. Therefore the expected sign is positive in this case.

3.10.7 Technology

Technology is a very important determinant of AML compliance, as pointed out earlier in the paper authored by Lavorgna (2015). From the detection stage to the reporting stage, the investigation stage through to the prosecution, technology is a necessary resource to have. Fixed Broadband Subscription is used as a proxy for technology. The expectation here is that the higher the level of technology, the better that country is equipped to comply with AML Recommendations.

3.10.8 Criminalization of Money Laundering

Criminalization of Money Laundering is one of the variables used in the model. This variable is a dummy variable indicating whether a jurisdiction has enacted laws criminalizing all offences of money laundering or otherwise.

3.10.9 Financial Intelligence Unit/Center

Another dummy variable indicating whether a country has established an operative central, national agency responsible for receiving (and, as permitted, requesting), analyzing, and disseminating to the competent authorities disclosures of financial information concerning suspected proceeds of crime, or required by national legislation or regulation, in order to counter money laundering. These reflect those jurisdictions that are members of the Egmont Group.

3.10.10 Bank Concentration

Number of commercial bank branches per every 100,000 adults is used as a proxy for bank concentration. This proxy is chosen because it indicates the level of concentration in the financial sector of countries in terms of the number of customers served by commercial banks. The variable is also an indicator of the level of competition in the financial sector. The idea is that if the level of bank concentration is high then it indicates the likelihood of banks being overburdened with Know Your Customer (KYC) and Customer Due Diligence (CDD)

requirements and vice versa. On the other hand, one could argue that the higher the bank concentration, the easier it is for Anti-Money Laundering Agencies to monitor their activities. Therefore either a negative or positive sign was expected for this variable.

3.10.11 Government expenditure on education

Government expenditure on education as a percentage of GDP represented this variable. This variable is an indicator for the educational level of countries. The variable is included in the model to determine whether the compliance level of a country can be influenced by that country's budgetary allocation to education.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.0 Chapter Introduction

This study investigates the country-specific factors that account for AML/CFT compliance levels among 165 FATF member states. The study used an AML/CFT index composed in Chapter 3 to measure each country's level of compliance with the FATF Recommendations enacted to combat Money Laundering and the Financing of Terrorism. The specific determinants that were used to explain the compliance levels are Foreign Direct Investment, Trade Openness, Control of Corruption, Regulatory Quality, Bank Concentration, GDP Per Capita, Technology, Criminalization of Money Laundering beyond drug Money Laundering, Financial Intelligence Center and Government Expenditure on Education. The above-mentioned variables were also regressed on Principal Component Analysis Index constructed as a robustness check. This chapter discusses descriptive statistics on the entire sample of observations, the pair wise correlation matrix and the results on the regression analysis conducted to investigate the determinants of AML/CFT compliance.

4.1 Descriptive Statistics

Descriptive statistics are statistics that numerically report features of a set of information (Mann, 1995). Stata 13 for Mac was the software used to analyze the data for this research. The descriptive statistics reported in this study include: median, mean, standard deviation and the minimum and maximum values.

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
AML/CFT Index (%)	175	40.24	16.41	6.06	79.29
FDI	138	9.07	39.31	-43.46	451.72
TradeOp	159	92.18	64.84	0.18	439.66
RQ	170	0.11	0.99	-2.41	1.97
Baco	132	22.78	28.87	1.22	264.53
FIC	168	0.69	0.46	0	1
CrimML	168	0.93	0.24	0	1
Tech	157	12.19	3.18	4.55	18.01
GovEdu	107	4.55	1.66	1.1	10

Source: Author's calculations

The table above details descriptive statistics of the variable that explain the AML/CFT compliance levels churned out by the AMLCFT Compliance index. AML/CFT (%) has a mean of 40.24%. This means that the average percentage level of compliance among all the countries included in the study is 40.24%. The standard deviation indicates the existence of a difference between compliance levels across countries. The minimum level of compliance accounted for was 13.75, whereas the maximum level of compliance stood at 43. In other words, the lowest compliance level recorded by any country was 6.06% of total compliance level possible (which is 100%) and the highest compliance level recorded in percentage of perfect compliance level was 79.29%.

Trade Openness recorded a mean value of 92.18%, a minimum value of 0.18% and a maximum of 439.66%, signifying that on average the total amount of international trade (sum of export and import of goods and services) conducted by the countries under this study as a percentage of GDP stood at 92.18%. These figures (especially the mean and maximum figures) are very interesting because the indicate that there is a very high level of trade openness among the countries included in this study. These high figures could be due to the fact that most countries trade more externally than they do internally which poses idiosyncratic challenges to AML regimes across different countries.

Foreign Direct Investment (Net Inflows as % of GDP) had a mean value of 9.07%, while the minimum and maximum statistics were -43.46% and 451.72% respectively. These figures indicate that the average percentage of FDI (Net Inflows) to GDP across all observations is 9.07%. Whereas the country with the lowest FDI (Net Inflow) recorded -43.46% (a disinvestment level of 43%) and the highest percentage of FDI (Net Inflows) stood at a whooping 451.72%.

The next variable is the Regulatory Quality (RQ) variable, which recorded a mean value of 0.11, a minimum value of -2.41 and a maximum of 1.97. It can be gleaned from the values provided that the average perceptions people have about of the ability of the countries included in the study to formulate and implement sound policies and regulations that permit and promote private sector development is rated at 0.11, whereas the country with the lowest perception value (minimum) in terms of RQ was rated -2.41 and the country with the highest value (maximum) was assigned a rating of 1.97. The RQ variable is rated on a scale ranging from -2.5 to 2.5.

The descriptive statistics churned out for the Control of Corruption variable were 0.06, -1.63 and 2.55 for the mean, minimum and maximum values respectively. These values reveal that

on average, the corruption perception of the countries being studied was 0.06. The country with the lowest corruption perception recorded a control of corruption value of -1.63 and the country with the highest corruption perception recorded a value of 2.5. The control of corruption variable used a scale with values ranging from -2.5 to 2.5.

Government expenditure on education recorded a mean value of 4.56%, a minimum value of 1.1% and a maximum value of 10%. This is an indication that on average the lowest percent of GDP spent on education by the countries under study was 1.1% of GDP and the highest allocation of GDP to education was 10%.

The National Income variable used GDP Per Capita as a proxy for all the countries being studied. After taking the natural log (to correct for scalar bias due to relatively large figures) of per capita income levels of the countries, the mean, minimum and maximum values stood at 24.72, 18.46 and 30.26 respectively. By explanation, the mean value suggests that the average value of per capita income across all countries is 24.72, while the richest country in terms of per capita income records a value of 24.72 and the poorest country records 18.46.

The proxy used for Bank Concentration was number of commercial bank branches per 100,000 adults. The descriptive statistics showed that on average for every 100,000 adults there are 23 commercial bank branches that exist to serve their financial needs. Also for every 100,000 adults the highest number of commercial bank branches for a country was 265 and the lowest is 1.

The next variable is Technology, which was represented by number of fixed broadband subscriptions. Because of the large figures reported for the number of fixed broadband subscriptions, and the possibility occurrence of scalar bias, the natural log of this variable was also taken. According to the descriptive statistics churned out, the mean value of this

variable is 12.19 and the maximum and minimum values stood at 18.01 and 4.55 respectively.

Finally the FIC and Criminalization of money laundering variables were included in the model as dummy variables. They record a value of '1' if 'yes' and '0' otherwise.

4.2 Pairwise Correlation Matrix

The range of the correlation coefficient between any two variables should lie between negative 1 and positive 1, thus -1 and 1. The absolute value of the correlation coefficient measures the degree of correlation between the two variables in question while the positive or negative signs indicate the direction of the correlation. A negative correlation coefficient indicates that for the two variables in question, when one increases (decreases), the other variable decreases (increases). A positive correlation coefficient points to the fact that for any two variables, when one increases, the other variable also increases and vice versa. An absolute value of more than 0.7 suggests a high degree of correlation between the two variables in question; therefore one of the highly correlated variables must be dropped from the model to avoid the problem of multicollinearity. From the initial model (Appendix F), correlation matrix provided in the Appendix section it is observed that there is a high level correlation between Regulatory Quality, and GDP Per Capita (0.79), FIC and Tech (0.71). Also, Regulatory Quality and Control of Corruption were highly correlated; therefore control of corruption was dropped from the main model. GDP Per Capita was also dropped from the main model due to high correlation with most of the variables. However, results were reported for two other models which included control of corruption and GDP Per Capita. Stata 13 for Mac was the software used to analyze the data for this research.

Table 4.2: Correlation Matrix

Correlations	AML/CFT INDEX (%)	FDI	Trade Op	RQ	Baco	FIC	CrimDrugML	Tech	GovEdu
AML/CFT INDEX (%)	1.00								
FDI	0.13	1.00							
TradeOp	0.24	0.27	1.00						
RQ	0.59	0.08	0.15	1.00					
Baco	0.46	0.07	-0.09	0.47	1.00				
FIC	0.64	0.02	0.01	0.49	0.36	1.00			
CrimDrugML	0.24	0.01	-0.09	0.22	0.20	0.37	1.00		
Tech	0.56	-0.09	-0.18	0.49	0.31	0.71	0.33	1.00	
GovEdu	0.02	0.09	-0.06	0.10	0.05	-0.09	-0.01	-0.15	1.00

Source: Author's calculations

4.3 Variance Inflation Factor (VIF)

The Variance Inflation Factor is also used to measure the degree of multicollinearity in a regression. Using an index, the VIF determines the degree to which the variance of an ordinary least squares regression coefficient is inflated as a result of collinearity. VIF figures are interpreted as follows:

Table 4.3: Variance Inflation Factor

Variance Inflation Factor	Indication
1	No correlation
Between 1-5	Moderately correlated
Above 5	Highly Correlated

Source: Author's calculations

From the VIF table provided in the appendix, none of the variables recorded in the main model had a VIF above 5, therefore according to the Variance Inflation Factor, there is no autocorrelation among the variables.

4.4 Shapiro-Wilk Test of Normality

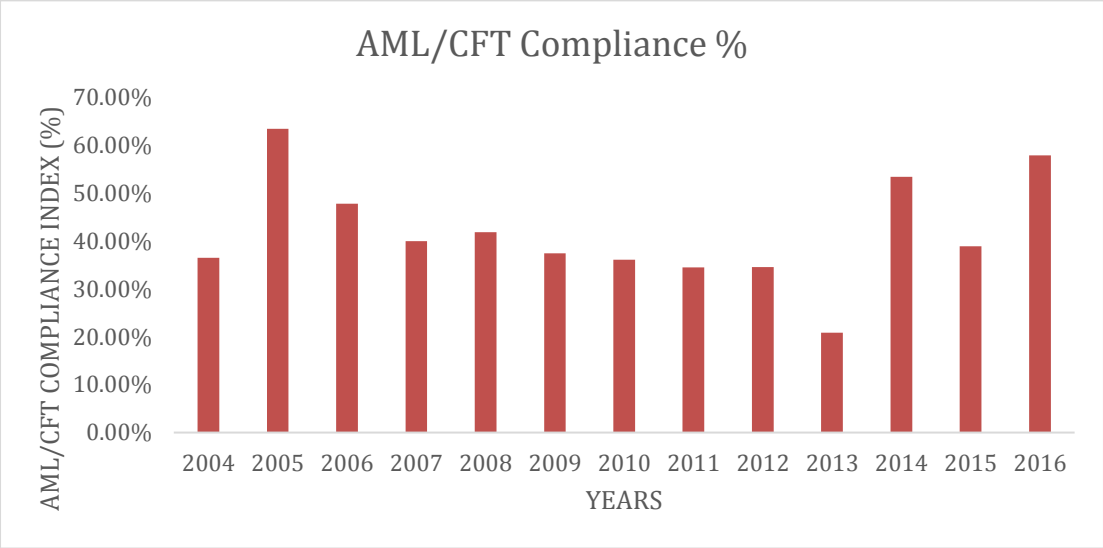
The Shapiro-Wilk Test seeks to affirm the null hypotheses that a random sample is drawn from a normally distributed population. Results obtained from the normality test run with Stata 13 suggest that the dataset used in this study is normally distributed. The table form the test is included in the Appendix section.

4.5 AML Compliance index

The primary purpose of constructing the AML/CFT Compliance index was to provide a measuring tool in order to be able to assess the level of compliance of each country to the FATF Recommendations. Chapter 3 provides a detailed procedure of how the AML/CFT Compliance index was calculated. As stated earlier, the data is in two sets due to the fact that the total number of Recommendations is 49 (in the case of MERs submitted from 2004-2012) and 40 (for MERs submitted after 2012). However, about four of the countries in the first data set (49 Recommendations) submitted MERs based on the old set of recommendations although they were submitted in 2013 (Gabon), 2014 (Chad, Azerbaijan) and 2015 (Congo). To enhance the ease of comparison and simplicity, the compliance index is scaled to 100%. The highest level of compliance was recorded by Virgin Island (79.29%), the lowest on the other hand was recorded by Tajikistan (6.06%). The index also showed that compliance levels generally improved between 2004 and 2016, howbeit a satisfactory level. The lowest level of compliance was recorded in the year 2013 (20.88%) and the highest level of compliance according to the data set was reported in 2016 (57.93%). The figures prove that although there has been an improvement in AML/CFT compliance levels across the years, this improvement is not largely significant since the highest compliance level leaves much to

be desired of. It is also important to note that compliance levels have been irregular between the periods under study. Thus, although the highest compliance level over the years was reported in 2016, there is no proof of a progressive increase in compliance levels across the years. The graph below plots the levels of AML/CFT compliance from the year2004 to 2016.

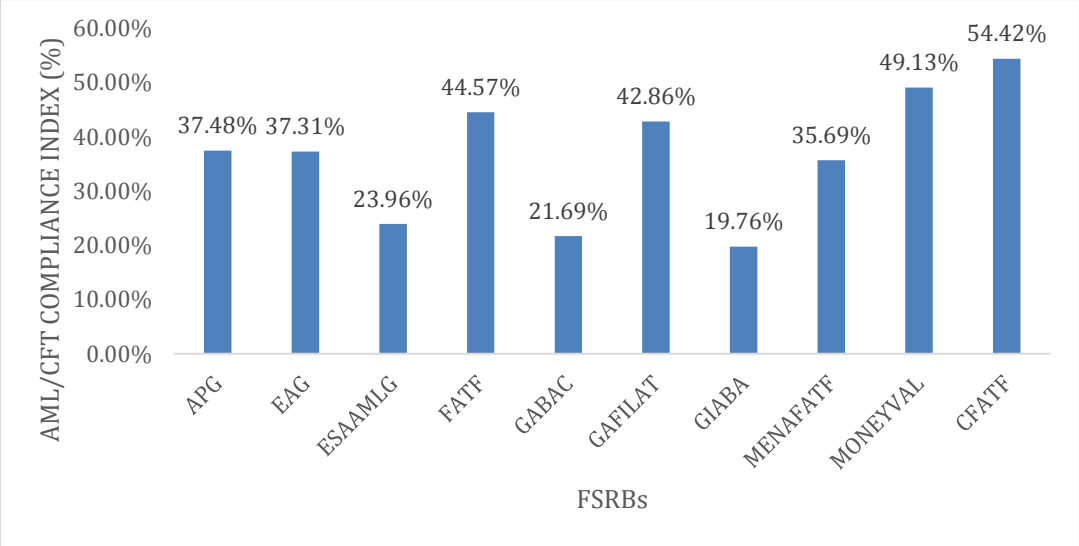
Figure 4.1: AML/CFT Compliance levels from 2004-2016



Different AML/CFT Compliance levels were also churned out for the FATF-Style Regional Bodies. Among all the continental bodies, the Caribbean Financial Action Task Force (CFATF) recorded the highest level of compliance at 54.42%, while the Inter-Governmental Action Group against Money Laundering in West Africa (GIABA) recorded the lowest level of compliance at 19.76%. Other findings were that the richest continents in the world recorded the highest level of AML/CFT Compliance. Using the IMF (2017) rankings of the richest countries in the world based on GDP Per Capita, it was found that the top 3 richest continents namely North America (GAFILAT-42.86%), Oceania (CFATF-54.42%) and Europe (MONEYVAL-49.13) recorded the highest AML/CFT compliance score. Although Member countries of FATF recorded the second highest level of compliance (53.02%), only continental FSRBs were considered since Member Countries of FATF are also joint members

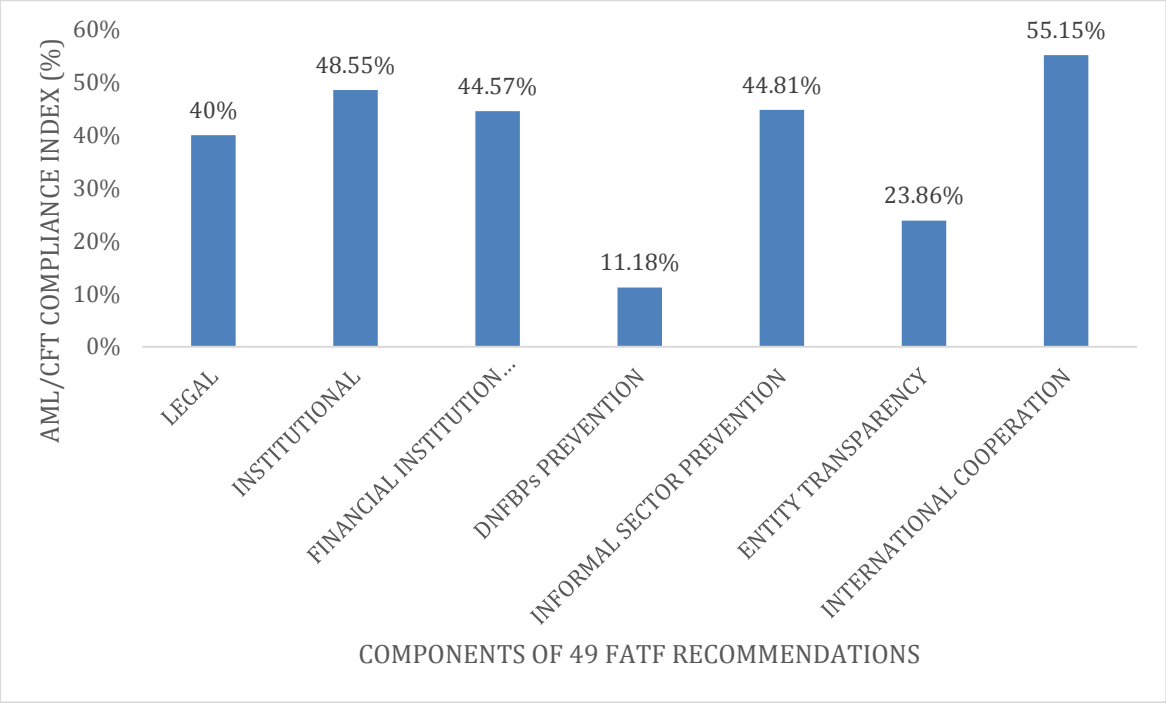
of their corresponding regional bodies. The graph below plots the various levels of AML/CFT Compliance among the FSRBs.

Figure 4.2: AML/CFT Compliance levels Among FSRBs



Also, among the 7 components of the AML/CFT Index for the first dataset (2004-2012), the findings indicate that recommendations on International Cooperation are most complied with. Whereas recommendations that make up the Designated Non-Financial Businesses and Persons (DNFBPs) Prevention recorded the lowest level of compliance as indicated in the graph below.

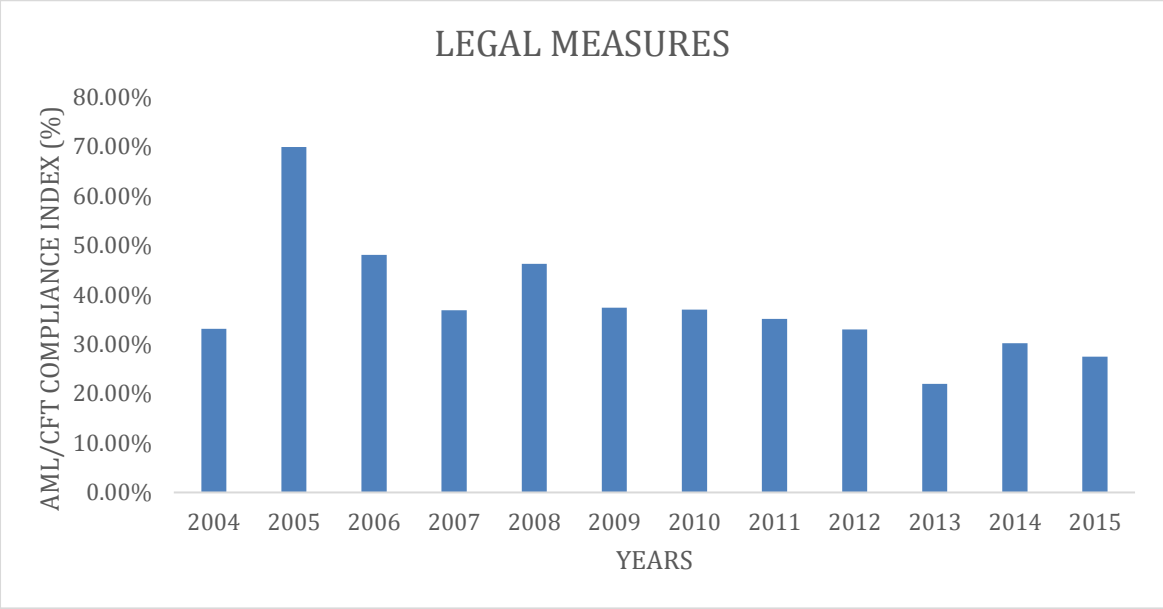
Figure 4.3: AML/CFT Compliance levels of 7 Components of FATF Recommendations



The yearly compliance levels for the seven (7) components of the forty-nine (49) FATF recommendations are also reported as follows:

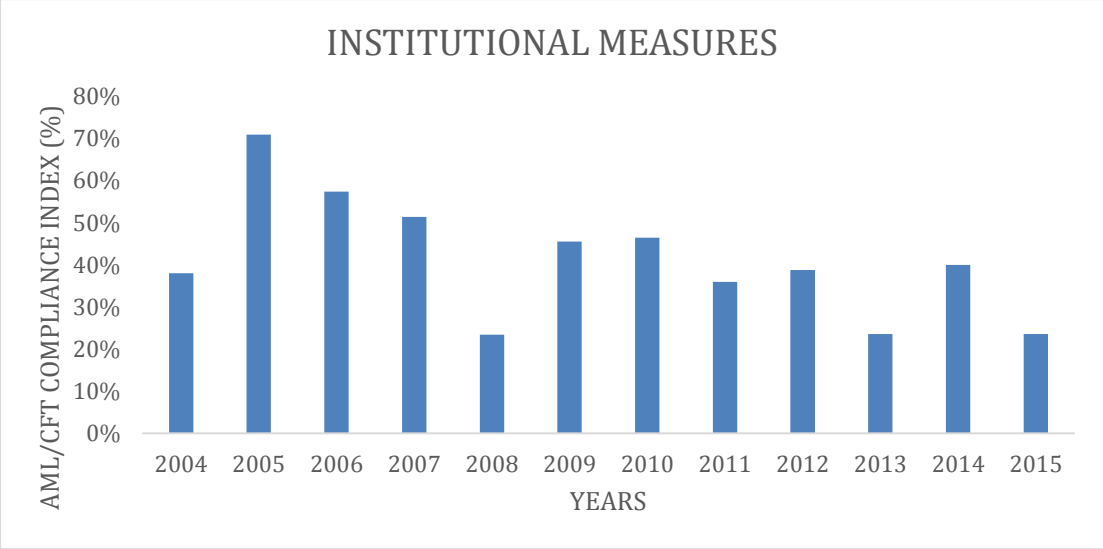
For the set of recommendations that fall under the legal factors, the annual compliance levels are relatively high compared to other components. The highest level of compliance with recommendations under Legal factors was recorded in the year 2005; the lowest level of compliance on the other hand, was recorded in 2013. The yearly compliance levels for the legal component are represented in the graph below.

Figure 4.4: Compliance with Legal Measures from 2004-2015



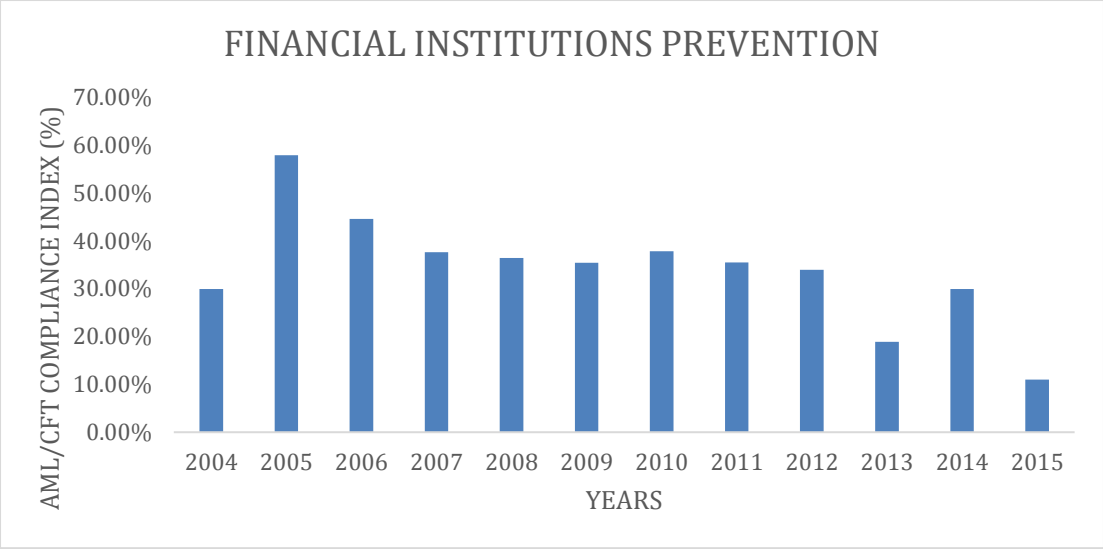
Similar computations were done for the remaining six components of the the 49 FATF Recommendations. The graph below represents the yearly Compliance levels recorded for the Institutional Factors Components. From the graph, the highest level of compliance for this component was recorded in 2005 (70%) and the lowest level of 23.4% was recorded in 2008.

Figure 4.5: Compliance with Institutional Measures from 2004-2015



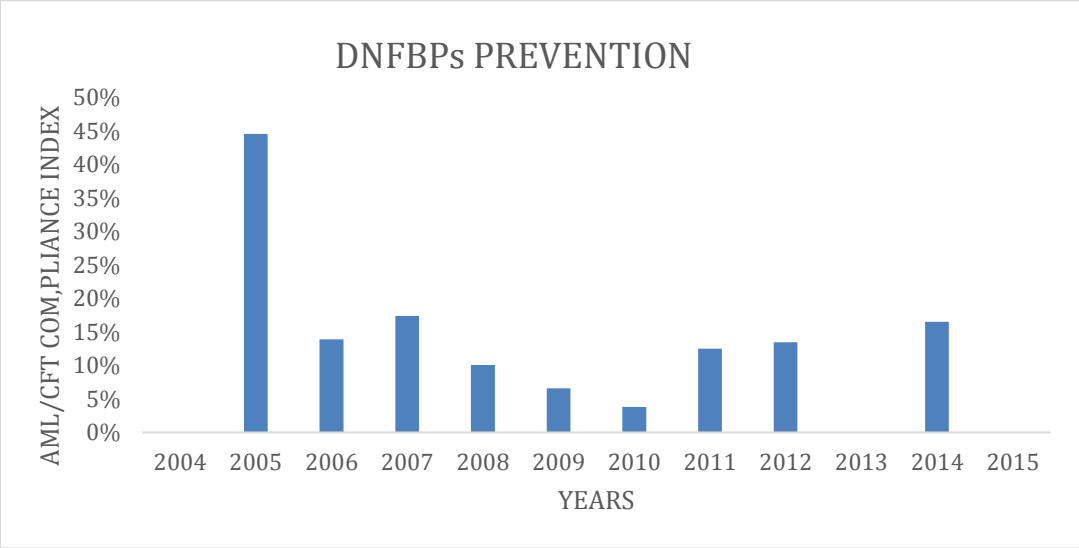
The Financial Institutions Preventive Measures is one of the most important components among the seven. The set of recommendations under this component are very sensitive in nature mainly because they are related to the financial sector of the countries. Given the sensitive nature of this component, one would expect a very high and regular level of compliance across the years under study. However, that is not the case here, though the highest level of compliance recorded in 2005 (57.85%) is satisfactory, the annual compliace levels fell below 50% with alarmingly low levels of 18.86% (2013), and 11% (2015). These results are presented in the graph below.

Figure 4.6: Compliance with Financial Institutions Prevention Measures from 2004-2015



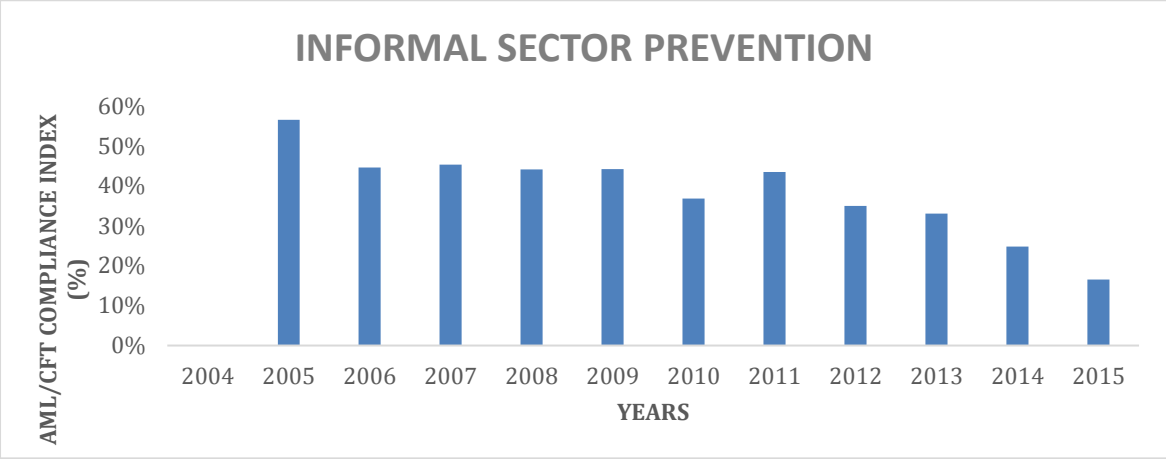
The DNFBPs Prevention recorded the lowest level (11.18%) of compliance among the seven components. This may be partly because most contries place more emphasis on Legal, Institutional and Financial Institutions prevention measures. Also, DNFBPs are usually not considered a high-risk area when it comes to Money Laundering and Terrorist Financing. The highest level of compliance for this component was recorded in 2014 (16.5%) and the lowest level of 0% were reported in the years 2004, 2013 and 2015.

Figure 4.7: Compliance with DNFBPs Prevention Measures from 2004-2015



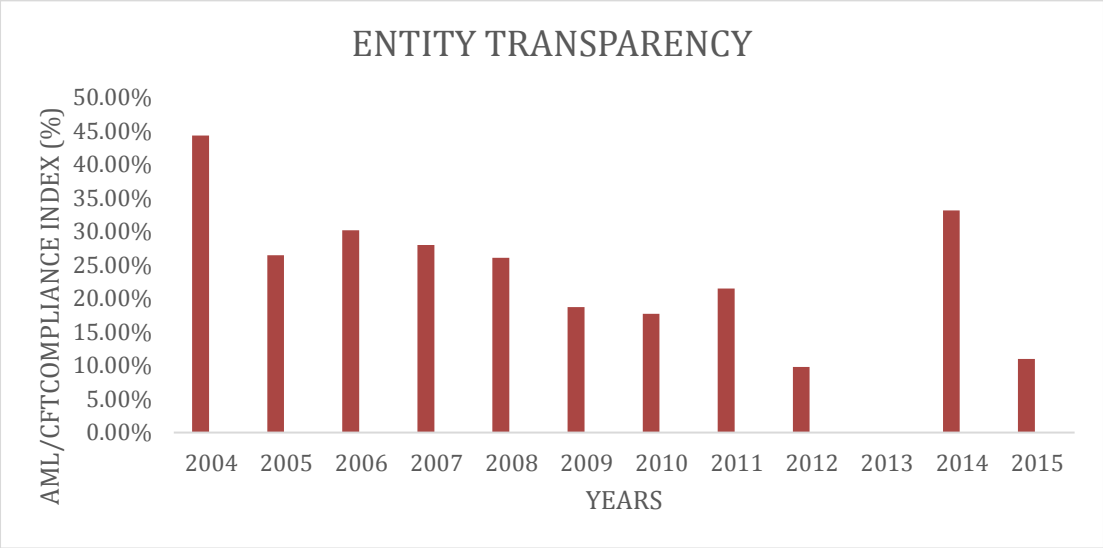
Informal Sector Prevention is another component that is ignored by many countries. However, unlike the DNFBPs component, the Informal Sector prevention component recorded a relatively high level of compliance of 44.81%. the highest level of compliace for this component was recorded in 2005 (56.5%) and the lowest was in 2004 (0%). The improvement in compliance recorded after the first year sent a positive signal of better compliance levels to come in subsequent years. However, the compliance levels of this component was sustained in the following year, but kept falling in the years afterwards to an appalling 16.5% in the year 2015.

Figure 4.8: Compliance with Informal Sector Prevention Measures from 2004-2015



The Entity Transparency component recorded its highest level of compliance in 2004 (44.33%). From the graph, one can clearly note that from 2004, compliance with recommendations relating to Entity Transparency dropped over the years to a relatively high level in 2014, then dropped further to 11% in 2015.

Figure 4.9: Compliance with Entity Transparency Measures from 2004-2015



The final component among the seven of the FATF Recommendation is International Cooperation. These set of recommendations spell out the steps countries should take to ratify the Vienna Convention and other international conventions relating to AML/CFT. The International Cooperation component recorded the highest level of compliance among all the seven components of the FATF Recommenations. This indicates that countries have taken the appropriate steps to ratify the international conventiontions put in place to fight money laundering and terrorist financing. Thus the international AML/CFT conventions are widely accepted across the globe. The highest level of compliance recoreded for this component was in 2005 (78%) and the lowest level was recorded in 2013 (37.17%). The graph below details the yearly levels of compliance for International cooperation from 2004-2015.

Figure 4.10: Compliance with International Cooperation Measures from 2004-2015

4.6 Determinants of AML/CFT Compliance

After measuring and discussing the level of compliance of countries across the globe based on the components of the FATF Recommendations, FATF Styled Regional Bodies (FSRBs) and also on annual basis, this section will discuss the determinants of the various levels of compliance reported. The independent variables identified in this study which explain the compliance levels among countries are: Foreign Direct Investment (FDI), Trade Openness (TradeOp), Regulatory Quality (RQ), Control of Corruption (CO), Bank Concentration (Baco), GDP Per Capita (gdppercp), Criminalization of Money Laundering (CrimDrugML), Technology (Tech) and Government Expenditure on Education.

Table 4.4: Determinants of AML/CFT Compliance (Models 1, 2, 3 & PCA Model)

VARAIABLES	DEPENDENT VARIABLES: AML/CFT COMPLIANCE INDEX AND PCA RESULTS			
INDEPENDENT VARIABLES	AML/CFT INDEX (model 1)	AML/CFT INDEX (model 2)	AML/CFT INDEX (model 3)	AML/CFT PCA INDEX (model 4)
FDI	0.01 (0.02)	0.01 (0.02)	0.02 (0.02)	0.63 (0.01)
Trade Openness	0.06*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	0.00*** (0.00)
Corruption		0.37 (1.36)		
Regulatory Quality	2.72* (1.68)			0.09** (0.41)
Bank Concentration	0.16*** (0.07)	0.02*** (0.07)	0.18** (0.07)	0.01*** (0.02)
GDP Per Capita			1.24 (1.37)	
FIC	10.57** (4.28)	11.20** (4.34)	10.41** (4.42)	0.02** (1.11)
Criminalization of ML	-1.10 (6.66)	-1.05 (6.84)	-1.69 (6.81)	0.96 (1.63)
Technology	1.60*** (0.67)	1.90*** (0.66)	1.68** (0.70)	0.02*** (0.16)
Government Expenditure on Education	0.71 (0.73)	0.88 (0.78)	0.69 (0.78)	0.12 (1.18)
Constant	3.98 (10.61)	-1.81 (10.97)	-6.93 (0.78)	0.00*** (2.58)
Observations	79	79	79	77
R-square	0.61	0.59	0.60	0.63
Adjusted R-square	0.56	0.55	0.55	0.58
Prob> chi2	0.00	0.00	0.00	0.00

Source: Authors calculations

- denotes significance at 10%, ** denotes significance at 5%, *** denotes significance at 1%

The results in model 1 suggest that the independent variables explian 61% of the variation in AML/CFT compliance levels among the countries studied. However, because Regulatory Quality, Control of Corruption and GDP Per Capita were exhibiting high levels of correlation with the other independent variables, results were reported for three different models where these three variables were dropped in turns. In model 1, Control of Corruption and GDP Per Capita were dropped, Regulatory Quality and GDP Per Capita were dropped for the second model and Regulatory Quality and Control of Corruption were dropped in model 3. However, the study based its analysis on results from model 1, because model 1 featured the Regulatory Quality variable which is sometimes used in extant literature to explain control of corruption (see: Thomas, 2010 & Berg et al, 2012). The results from model 1 show that five of the independent variables have a significant impact on the level of AML/CFT compliance of countries.

The first determinant of AML/CFT Compliance was Trade Openness. Total Exports and Imports as a percentage of GDP was used as a proxy for this variable. The results show that Trade Openness was significant in determining the level of AML/CFT compliance at a 1% significant level. In a similar study conducted by Yepes (2011), he found Trade Openness to be insignificant in explaining the AML/CFT Compliance levels among countries. However, the results from this study are confirmed by a theory of Money Laundering known as Trade-Based Money Laundering (TBML). Over the years, as the fight against ML/TF related to the financial sector intensifies, criminals also find new means of laudering money, just like Unger (2012) put it, "Water finds its way" (FATF, 2006). TBML is one of such new tricks that is being used to launder money. The large magnitude and value of international trade coupled with the relative ease of concealing the true origin of trade has made TBML very attractive to criminals (Sullivan & Smith, 2013). Just like the earlier typologies of Money Laundering, AML policies are tightened when a sector poses a threat to a country's AML

regime. Therefore countries with high volumes of international trade have more stringent AML/CFT policies than countries with relatively low volumes of world trade.

The second variable found to explain the AML/CFT compliance levels among countries is Regulatory Quality. The Regulatory Quality variable measures the perception of the ability of lawmakers of countries to pass sound laws which create a favorable environment for businesses to thrive. The variable was found to be significant in explaining compliance levels at a 10% level of significance. A study conducted by Yepes (2011) confirms the findings churned out by this research that Regulatory Quality indeed is a determinant of AML/CFT compliance. The coefficients from both studies affirm the theory that stronger domestic governance have a positive and statistically significant impact on AML/CFT compliance.

The third of the five variables that were found to be statistically significant in explaining AML/CFT compliance is Bank Concentration. Bank Concentration was measured by the ratio of commercial bank branches per 100,000 adults. The number of commercial bank branches per 100,000 adults is also used as a measure of Bank Competition. The assertions in extant literature on whether Bank Concetration expains AML/CFT compliance are diverging. While Yepes (2011) asserts that Bank Concentration is not significant in predicting AML/CFT compliance, studies conducted by Levine (1996) and Bayraktar et al (2006) suggest a positive relationship between Bank Competition, Regulation and Supervision, of which AML Policy forms part. Therefore per the findings in this study, one can glean that AML/CFT compiance levels can be improved by increasing competition in the banking sector.

Another variable that was found to be a determinant of AML/CFT compliance is Financial Intelligence Center of Unit (FIC/FIU). This is one of two dummy variables included in the model. One of the requirements of AML Policy is that countries should commission

Financial Intelligence Units to serve as collation centers for all Money Laundering and Terrorist Financing related information (Egmont Group, 2004). Azevedo (2008) posits that banks are more willing to comply with AML Regulations if there exist an external body that is responsible for screening and analyzing suspicious transactions at a faster pace and a larger volume. Masciandaro (2005) suggest that the more exculsive and financially distinguished an AML agency is, the more effective it will be. These two papers solidify the findings put forward by this research that countries with Financial Intelligence Units/Centers tend to have a relatively high AML/CFT compliance score than countries without FICs/FIUs.

The fifth significant variable from the results produced by the model is Technology. The natural log of the total number of broadband subscriptions is used as a proxy for Technology. The Technology variable was found to be statistically significant at 1%. Technology has been a necessary tool in the fight against ML/TF. Infact, right from the inception of AML, the concept was based on Technology (Demetis, 2010). Lavorgna (2015) also laid much emphasis on the necessity of Technology to the AML policy framework. The importance of Technology to AML Policy cannot be overemphasized because criminal in modern-day technology-driven society are deploying every means available at their disposal to launder the proceeds from their illicit activities (Gao & Xu, 2009).

Failing to base AML policy on a strong Technology backbone has been the mistake of many jurisdictions across the globe. All these assertions confirm the findings in this study that the level of technology of a particular country is a key determinant of the AML/CFT compliance level of that country.

4.7 Determinants of the Components of FATF Recommendations

After analysing the country-specific determinants of AML/CFT Compliance, this section dicusses how the independent variables which explain total AML/CFT compliance levels

determine the level of compliance with the seven (7) components of the 49 FATF Recommendations. As a recap, the seven components of the FATF recommendations are: Legal Measures, Institutional Measures, Preventive Meaures for Financial Institutions, Preventive Measures for Designated Non-Financial Businesses and Persons (DNFBPs). Preventive Measures for Informal Sector, Entity Transparency and International Cooperation.

Table 4.5: Determinants of Compliance with the 7 Components of the FATF Recommendations

	DEPENDENT VARIABLES (7 COMPONENTS OF FATF RECOMMENDATION)						
INDEPENDENT VARIABLES	Legal (%)	Institutional Factors (%)	Financial Institutions Prevention (%)	DNFBPs Prevention (%)	Informal Sector Prevention (%)	Entity Transparency (%)	International Cooperation (%)
FDI	0.02** (0.01)	0.02*** (0.01)	-0.001 (0.02)	0.05*** (0.01)	0.02 (0.02)	0.05*** (0.01)	0.03** (0.01)
Trade Openness	0.02 (0.02)	0.06*** (0.1)	0.08*** (0.02)	0.01 (0.02)	-0.01 (0.04)	0.05*** (0.01)	0.04** (0.02)
Regulatory Quality	4.83** (2.40)	3.98* (2.04)	1.31 (2.08)	3.77 (2.51)	10.18*** (3.24)	3.57** (1.64)	0.91 (2.41)
Bank Concentration	0.12 (0.08)	0.09 (0.08)	0.16** (0.07)	0.13 (0.09)	0.21** (0.12)	0.15 (0.10)	0.28*** (0.08)
FIC	13.12** (5.49)	12.33*** (4.50)	7.84 (6.25)	3.94 (5.80)	-2.7 (7.49)	9.55 (5.98)	21.88*** (5.94)
Criminalization of ML	4.05 (12.73)	1.15 (7.89)	-3.75 (11.91)	-6.23 7.39	-13.9 (17.88)	-2.45 (4.57)	6.62 (9.10)
Technology	1.59* (0.83)	2.06*** (0.61)	2.37*** (0.76)	0.05 0.74	3.01** (1.17)	-0.42 (0.10)	-0.04 (1.02)
Government Expenditure on Education	1.76 (1.1)	1.1 (0.83)	0.25 (0.99)	0.79 (0.87)	0.96 (1.41)	-0.85 (0.76)	1.30 (1.54)
constant	-3.63 (17.21)	1.98 (11.54)	-2.40 (16.07)	6.73 (10.70)	15.06 (25.97)	20.87 (10.43)	20.02 (18.21)
Observations	79	79	79	79	79	79	79
R-square	0.54	0.63	0.46	0.20	0.43	0.34	0.48

Source: Authors calculations

- denotes significance at 10%, ** denotes significance at 5%, *** denotes significance at 1%

It was quite interesting to find that some of the variables the were found to be statistically insignificant in explaining AML/CFT compliance levels were found to be statistically significant in explaining one or more of the seven components that make up the FATF Recommendations.

Foreign Direct Investment for instance, was found to be statistically significant in explaining level of compliance with Legal Measures although the same variable was found not to be significant in explaining AML/CFT compliance levels. This finding is confirmed by a study conducted by Naheem (2015), who coined the term "investment laundering". Naheem posited that investment inflows have an impact on the AML compliance, howbeit a negative impact. The findings in this study suggest a positive relationship between FDI and compliance with Legal Measure. The idea conveyed here is that counries with sound, strong legal systems are more attractive to foreign investors than those percieved to have weak legal systems. However, the FIC and Technology variables were found to explain both AML/CFT compliance levels and compliance with the Legal Measures component. FDI was also found to explain compliance with Institutional Measures, DNFBPs Preventive Measures, Entity Transparency and Internation Cooperation measures.

The next independent variable, Trade Openness, was found to explain AML/CFT compliance levels and compliance with Institutional Measures, Financial Institutions Preventive Measures, Entity Transparency and International Cooperation Measures. Regulatory Quality was also found to be a determinant of AML/CFT compliance and also Legal, Institutional, Informal Sector Prevention and Entity Transparency Measures. Bank Concentration was reported as a determinant of AML/CFT compliance and three of the components; Financial Institutions Prevention, Informal Sector Prevention and International Cooperation. The Existence of a Financial Intelligence Center was also found to determine the AML/CFT

compliance level of a county as well as the country's compliance with Legal, Institutional Measure and International Cooperation. These findings confirm the postulations of Azevedo Araujo (2008) and Masciandaro (2005) who argued that AML regulations are more effective when the task of analysing and reporting suspicious transactions is exclusively conducted by an AML agency like Financial Intelligence Units.

Interestingly Criminalization of Money Laundering beyond Drug Money Laundering was not found to be significant in explaining AML/CFT compliance levels and country compliance with any of the seven components of the FATF Recommendations. This could be because of the perceived low level of executive commitment to the fight against money laundering. Thus, although many countries have tonnes of laws to detect and presecute Money Laundering activities, these laws are mostly rendered inneffective because of lack of commitment on the part of the executive arm of government. This assertion was made by Johnson (2003), citing the post-9/11 situation in the US as an example.

Unlike Criminalization of Money Laundering, Technology was found to be key determinant of AML/CFT compliance and compliance with Legal Measure, Institutional Measures, Financial Institutions Prevention Measures and Informal Sector Prevention. This findings confirm the arguments advanced by Demitis (2010) and Lavorgna (2015) and many other authors in extant literature. It also reechoes the suggestion that AML Agencies must have a strong technology system in order to be well equiped to fight 'tech savy' money launderers.

The final variable is Government Expediture of Education. This variable was included in the models to determine whether the level of education of a particular country has any bearing on the AML/CFT compliance level of that country. Interestingly the results from this study suggest that spending more money on education does not enhace or detract from a country's

level of AML/CFT compliance neither does it impact on the level of compliance with any of the seven components of the 49 FATF Recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Chapter Introduction

This chapter summarizes the findings of the country-specific determinants of Anti-Money Laundering and Counter-Financing of Terrorism (AML/CFT) Compliance. The findings were obtained from an Ordinary Least Squares Regression Model. The chapter ends with Conclusions and Recommendations as well as suggestions for further research.

5.1 Summary of Findings

The study sought to examine how well countries across the globe comply with the AML/CFT Recommendations enacted by the Financial Action Task Force (FATF) to wipe out or at least curb the menace of Money Laundering and Terrorist financing. A thorough review of existing literature confirmed the fact that ML/TF pose severe threats to the global financial system as well as threats to the safety of life and property. Many authors made reference to the horrible events of 9/11 in the United States in an attempt to portray how urgent this AML/CFT Policy is to securing the safety of the global financial system and that of life and property. The study further sought to uncover some of the key determinants that explain the levels of AML/CFT compliance globally.

The results produced by this study generally indicate a low level of AML/CFT compliance globally. The results also suggest that there has not been a steady or progressive increase in compliance levels across the globe between the period of 2004 to 2016. It was also found that the top three richest continents recorded the highest levels of compliance when all the FATF-Style Regional Bodies' compliance levels were ranked. Also, when all the seven components of the FATF Recommendations were ranked, the findings indicated that the top three components were, International Cooperation (55.15%), Institutional Measures (48.55%) and

Informal Sector Preventive Measures (44.81%). On the other hand, Entity Transparency (23.86%) and DNFBPs Preventive Measures (11.18%) were the components that recorded the least levels of compliance with the FATF Recommendations.

After assessing the level of AML/CFT compliance, the study went a step further to unravel some of the key factors that account for the various levels of compliance among the countries studied. The findings suggest that AML/CFT compliance of a particular country is determined by the country' Trade Openness, Regulatory Quality, the degree of Bank Concentration or Bank Competition, the existence of a Financial Intelligence Centre and the level of Technology in that country. With a reported R-square of 0.61, the results indicate that the above-mentioned country-specific factors explain 61% of the variability in AML/CFT compliance levels. Other variables included in the model were FDI, Criminalization of Money Laundering beyond Drug Money Laundering and Government Expenditure on Education. However, these variables were found to be insignificant in explaining the AML/CFT compliance levels among countries.

Additionally, results that were churned out after regressing the country-specific factors on the seven components of the FATF Recommendations suggest that most of the independent variables are significant in explaining countries' level of compliance with the seven components of the AML/CFT Regulations.

5.2 Recommendations

The findings give all stakeholders in the fight against Money Laundering and Terrorist Financing a lot to be concerned and optimistic about. This is because from our findings there is no clear indication that countries are putting in a lot of effort to improve their AML/CFT compliance levels. It seems as though countries are doing just enough to avoid being blacklisted by FATF giving the reputational repercussions of blacklisting. Going forward, in

addition to assessment of technical compliance, countries should be tasked to perform periodic assessments of the effectiveness of the AML/CFT Policies they have put in place. This will ensure that AML Policies are not just implemented to avoid blacklisting but policies are implemented in a practical way in order to guarantee their efficacy.

FATF should also avoid the one-size-fits-all approach, since it fails to address the specific needs of certain jurisdictions, leading to poor levels of compliance in such jurisdictions. It is also obvious that there is a lot of emphasis on the traditional techniques of money laundering (which mainly happens through the financial institutions) to the detriment of more modern and emerging methods of money laundering (like laundering through casinos and the real estate sector). Financial Institutions Prevention component recorded one of the highest levels of compliance among the seven components, whereas the DNFBPs Prevention component recorded the lowest level of compliance. This shows that criminals who launder cash through casinos and the real estate sector are currently having a 'field day', while countries are focused on preventing the laundering of funds through financial institutions and the informal sector. Focusing on financial institutions and the informal sector is not a bad thing, however, countries should be able to find a reasonable balance between protecting financial institutions and the informal sector, as well as protecting DNFBPs from being used as conduits for laundering of illicit funds.

Also, Money Laundering as a global phenomenon is expedited by Technology, which is confirmed in extant literature. The proliferation of debit cards, credit cards, electronic purses, bitcoins and other forms of electronic money presents new challenges to AML Agencies. However, in most countries, the technological resources provided to agencies tasked with checking money-laundering activities leave much to be desired of. Many a times, agencies like the Police, Judiciary and Financial Intelligence Unit are miles behind money launderers

in terms of Technology. This study finds Technology to be a key determinant of Anti-Money Laundering compliance levels among countries. Simply put, the success or failure of this 'crusade' against Money Laundering and Terrorist Financing is largely hinged on the human, financial and most especially technological resources committed to this global cause.

Finally, the Financial Action Task Force must collaborate with other international stakeholders like the World Bank, International Monetary Fund and the United Nations to build a database for Money Laundering and other related financial crimes. Many authors shy away from conducting research in the area of Money Laundering due to the lack of data on that topic. A database for financial crimes will go a long way to encourage many researchers to study the topic and produce useful and relevant findings that will aid in the successful combat of the menace.

5.3 Conclusion

While there exist an array of indices in literature that measure different variables, only two known AML compliance indexes exist. One by Welbeck (2015) which measures firm-level compliance and the other by Yepes (2011) which has been rendered redundant due to the revision of the FATF recommendations which the index was built on. This study presents a new and modified AML/CFT compliance that is based on both the new and old FATF recommendations. The AML/CT compliance index show that AML/CFT compliance levels have improved slightly over the past decade, though compliance levels remain low and leave so much room for improvement. Findings also suggest that richer countries record relatively higher compliance levels than poor countries. More so, countries need to work harder towards improving their compliance with DNFBPs recommendations since DNFBPs present new methods and opportunities to money launderers. The results from the regression model specified in this research indicates that factors like countries level of technology and

education, as well as regulatory quality and trade openness have the capacity to improve a country's compliance with AML/CFT regulations.

5.4 Suggestions for further Study

The factors considered in this research were mainly country-specific and macroeconomic in nature. Further studies could focus on the firm specific and cultural factors that drive of inhibit AML/CFT compliance. This study also focused on measuring the extent to which countries comply with AML/CFT Recommendations set by the FATF. An interesting area that further research could consider is measuring the extent of non-compliance with AML/CFT required Standards. The FATF should consider revising the rating of recommendations to include different degrees of non-compliance. This will help segregate non-compliant countries on the basis of their level of non-compliance so as to address countries with special needs or problems. Also, the modus operandi of this study in terms of the measurement of AML/CFT compliance levels took the form of a one-size-fits-all approach. Further studies could consider the risk-based approach in measuring compliance levels among countries.

Finally, further studies could consider different econometric estimations to find out if the results of this study are not biased towards to the econometric framework adopted in this study. A system of equations could be used to find the interdependence of the key variables. This was beyond the scope of this study however that could give more insight.

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APPENDICES

APPENDIX A

1. Laundering proceeds from Corruption
2. Organized Maritime Piracy and Related Kidnapping for Ransom
3. Proceeds from Trafficking in Human Beings and Smuggling of Migrants
4. Money Laundering using Payment Methods.
5. Money Laundering using Corporate Vehicles (Trust and Company Service Providers).
6. Money Laundering through Money Remittance and Currency Exchange Providers.
7. Money Laundering through Free Trade Zones.
8. Money Laundering Through the Securities Sector.
9. Money Laundering through the Football Sector.
10. Money Laundering through Casinos and the Gaming Sector.
11. Money Laundering through Commercial Websites and Internet Payment Systems.
12. Terrorist Financing.
13. Proliferation Financing.
14. Money Laundering through the Real Estate Sector.
15. Laundering of Proceeds from Tax Fraud.
16. Trade-based Money Laundering.
17. Money Laundering through the Physical Transportation of Cash.
18. Money Laundering through the Gold Market.

19. Money Laundering through Diamond trade.
20. Money Laundering related to Illicit Tobacco Trade
21. Money Laundering through the Opiates Market.
22. Money Laundering through Non-Profit Organizations (NGOs).
23. Money Laundering through Virtual Currencies.
24. Money Laundering through Hawala (Underground Banking Systems)
25. Money Laundering through Legal Professionals.
26. Money Laundering related to Counterfeiting of Currency.

APPENDIX B

- Asia/Pacific Group on Money Laundering (APG)
- Caribbean Financial Action Task Force (CFATF)
- Council of Europe Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism (MONEYVAL)
- Eurasian Group (EAG)
- Eastern and Southern Africa Anti-Money Laundering Group (ESAAMLG)
- Financial Action Task Force of Latin America (GAFILAT)
- Inter Governmental Action Group against Money Laundering in West Africa (GIABA)
- Middle East and North Africa Financial Action Task Force (MENAFATF)
- Task Force on Money Laundering in Central Africa (GABAC).

The members of FATF and the FSRBs all sum up to over 180 jurisdictions across the globe.

APPENDIX C: Revision of FATF Recommendations

Year	Number of Recommendations	Purpose
1990	40 Recommendations	To combat the misuse of financial systems by persons laundering drug money.
1996	40 Recommendations	To address evolving ML trends and techniques and to broaden AML scope beyond drug ML
2001	40+8 Recommendations	Recommendations were expanded to deal with issues of terrorist financing.
2003	40+9 Recommendations	To be able to better address the emerging issues of terrorist financing
2012	40 Recommendations	For combating money laundering, terrorist financing and the financing of proliferation of weapons of mass destruction.

(Source: The FATF Recommendations, 2003 & 2012)

APPENDIX D: Normality Test

Shapiro-Wilk W Test For Normal Data					
Variable	Obs	W	V	z	Prob>z
AML/CFT	175	0.97895	2.797	2.351	0.00937
FDI	138	0.18762	88.022	10.107	0.00000
TradeOp	159	0.70639	35.916	8.143	0.00000
RQ	170	0.97865	2.766	2.321	0.01013
Baco	132	0.59642	42.104	8.422	0.00000
FIC	168	0.99146	1.095	0.207	0.41784
CrimML	168	0.84825	19.463	6.770	0.00000
tech	157	0.98255	2.112	1.699	0.04467
Edu	107	0.98362	1.431	0.798	0.21232

APPENDIX E: Variance Inflation Factor

Variable	VIF	1/VIF
Tech	2.55	0.391829
FIC	2.36	0.424335
RQ	1.82	0.548698
Baco	1.39	0.720537
TradeOp	1.31	0.763594
CrimML	1.18	0.845461
FDI	1.12	0.892332
Edu	1.10	0.907764
Mean VIF	1.60	

APPENDIX F: Correlation Matrix

	AML/CFT Index	FDI	Edu	RQ	Corr	CrimML	FIC	TradeOp	Baco	tech	gdppercap
AML/CFT Index	1.00										
FDI	0.14	1.00									
Edu	0.02	0.10	1.00								
RQ	0.59	0.10	0.10	1.00							
Cor	0.43	0.10	0.27	0.91	1.00						
CrimML	0.24	0.02	-0.01	0.22	0.26	1.00					
FIC	0.64	0.02	-0.09	0.49	0.38	0.37	1.00				
TradeOp	0.24	0.28	-0.06	0.15	0.12	-0.09	0.01	1.00			
Baco	0.46	0.08	0.05	0.47	0.38	0.20	0.36	-0.10	1.00		
Tech	0.57	-0.10	-0.15	0.49	0.36	0.33	0.72	-0.18	0.31	1.00	
gdppercap	0.63	0.10	0.18	0.79	0.80	0.34	0.62	0.14	0.49	0.60	1.00

APPENDIX G: AML Fines and Penalties in the US and UK

Table A: 2012/2013 U.S. and UK AML Enforcement Actions

Date	Institution	Amount	Violation(s)
April 2013	EFG Private Bank	£4.2 million	Weaknesses in AML controls of high risk customers and Politically Exposed Persons (PEP).
January 2013	TCF	US$10 million	Failure to properly file SARs (late filing, poor quality of data)
December 2012	HSBC	US$1.92 billion	Circumventing the safeguards for screening transactions against the Office of Foreign Asset Control (OFAC) sanction list, servicing high-risk affiliates, disregarding terrorist financing links, clearing suspicious bulk traveler's checks
December/ July 2012	Standard Chartered	US$567 million	Restricted transactions with Iran
December 2012	First Bank of Delaware	US$15 million	Failure to implement systems and controls to identify and report suspicious activities
November 2012	MoneyGram	US$100 million	Phishing scams perpetrated by MoneyGram agents; failure to maintain and effective AML program
June 2012	ING Bank	US$619 million	Intentionally routed transactions through affiliates in order to disguise transactions with Iran and Cuba
May 2012	Habib Bank AG Zurich	£525,000	Weaknesses in AML controls of high risk customers and Politically Exposed Persons (PEP). Habib's Money Laundering Reporting Officer was also fined £17,500.
March 2012	Coutts & Co.	£8.75 million	Weaknesses in AML controls of high risk customers and Politically Exposed Persons (PEP).

Source: FinCEN, Aite Group

APPENDIX H: AML/CFT Compliance Index from 2004-2015

COUNTRY	YEAR	AML/CFT	AML/CFT (%)	PCA INDEX	LEGAL (%)	INSTITUTIONAL FACTORS (%)	FINANCIAL INSTITUTIONS PREVENTION (%)	DNFBPs PREVENTION (%)	INFORMAL SECTOR PREVENTION (%)	ENTITY TRANSPARENCY (%)
AFGHANISTAN	2011	7.60	15.51	-6.73	22.00	14.14	17.33	0.00	33.00	0.00
AUSTRALIA	2006	24.20	49.39	2.41	66.00	71.00	33.14	0.00	66.50	44.00
AUSTRALIA	2005	25.53	52.10	3.27	71.67	71.00	33.14	11.00	66.50	44.00
BANGLADESH	2009	13.54	27.63	-2.94	27.50	33.00	28.33	0.00	49.50	11.00
BRUNEI DARUSSALAM	2010	12.55	25.61		33.00	33.00	15.76	0.00	16.50	33.00
CAMBODIA	2007	4.29	8.76	-7.89	0.00	14.14	6.29	11.00	0.00	22.00
CANADA	2008	23.50	47.96	2.58	66.00	52.00	37.86	0.00	100.00	33.00
PEOPLES' REPUBLIC OF CHINA	2007	23.84	48.65	2.05	33.00	70.86	44.14	0.00	66.50	33.00
CHINESE TAIPEI	2007	23.17	47.29	1.59	22.00	75.71	53.62	0.00	16.50	44.00
COOK ISLANDS	2009	27.10	55.31	3.90	60.50	51.86	56.76	44.00	49.50	33.00
FIJI	2006	22.52	45.96	1.41	33.00	52.14	47.38	33.00	66.50	33.00
MACAO, CHINA	2007	27.47	56.06	3.97	55.00	61.57	64.67	44.00	50.00	44.00
CHINA	2007	23.84	48.65	2.05	33.00	70.86	44.14	0.00	66.50	33.00
NEW ZEALAND	2009	21.20	43.27	1.11	66.17	66.43	26.81	0.00	66.50	22.00
HONG KONG	2008	28.15	57.45	4.40	49.67	75.86	59.90	0.00	33.00	44.00
INDIA	2010	25.45	51.94	2.42	44.00	70.86	56.71	0.00	49.50	22.00

INDONESIA	2008	16.54	33.76	-2.15	22.00	47.29	36.24	0.00	66.50	0.00
JAPAN	2008	21.49	43.86	1.40	49.50	70.86	40.95	22.00	50.00	11.00
KOREA	2009	20.51	41.86	0.06	38.50	51.86	37.86	0.00	83.00	11.00
LAO PDR	2011	5.29	10.80	-7.38	16.50	14.14	9.48	0.00	16.50	11.00
MALAYSIA	2007	29.79	60.80	4.89	60.50	71.00	66.29	33.00	50.00	33.00
MALDIVES	2011	3.97	8.10	-8.36	0.00	14.14	9.48	0.00	0.00	0.00
SINGAPORE	2008	33.44	68.24	6.72	60.50	80.57	74.10	11.00	66.00	44.00
USA	2006	34.14	69.67	7.70	77.33	80.57	72.52	11.00	100.00	33.33
MONGOLIA	2007	14.22	29.02	-2.78	16.50	33.14	23.62	0.00	66.50	33.00
MYANMAR	2008	12.56	25.63	-3.76	22.00	42.43	23.67	11.00	33.00	22.00
REPUBLIC OF NAURU	2012	19.51	39.82		33.00	47.14	44.14	22.00	66.50	0.00
NEPAL	2011	6.28	12.82	-7.13	11.00	37.71	11.05	0.00	33.00	0.00
NIEU	2012	18.51	37.78	-0.20	33.00	47.14	39.43	33.00	49.50	11.00
PAKISTAN	2009	18.87	38.51	-1.55	27.50	33.00	53.62	0.00	33.00	22.00
PALAU	2008	17.45	35.61		44.17	42.43	24.81	0.00	66.00	33.00
PAPAU NEW GUINEA	2011	12.23	24.96	-4.25	22.00	14.14	22.05	0.00	50.00	22.00
THE REPUBLIC OF PHILIPPINES	2009	20.50	41.84	0.02	27.50	42.43	45.71	0.00	49.50	44.00
MARSHALL ISLANDS	2011	21.83	44.55	0.49	49.50	37.71	58.38	0.00	16.50	0.00
SAMOA	2006	13.54	27.63	-3.19	22.00	33.00	28.33	33.00	49.50	11.00
SOLOMOM ISLANDS	2010	20.19	41.20	0.52	55.00	56.86	37.86	0.00	16.50	11.00
SRI LANKA	2006	13.56	27.67	-3.40	33.00	33.00	22.10	0.00	16.50	33.00
THAILAND	2007	14.54	29.67	-2.56	44.00	37.71	28.38	0.00	16.50	11.00
TIMOR-LESTE	2012	19.48	39.76	-0.08	44.00	37.71	44.05	22.00	49.50	22.00
TONGA	2010	11.22	22.90	-4.16	16.50	47.14	20.43	0.00	0.00	11.00
VANUATU	2006	16.19	33.04	-2.52	38.50	18.86	39.38	0.00	16.50	11.00
VIETNAM	2009	11.23	22.92	-4.36	16.50	37.71	18.90	0.00	49.50	22.00

BELARUS	2004	17.90	36.53	-0.12	38.67	38.00	29.95	0.00	0.00	44.33
BELARUS	2008	21.83	44.55	1.09	55.00	52.00	37.76	11.00	50.00	44.33
KYRGYZ	2007	16.88	34.45	-1.93	11.00	42.57	39.43	0.00	66.50	11.00
UZBEKISTAN	2010	25.81	52.67	3.03	55.00	61.57	48.81	33.00	66.50	22.00
RUSSIA	2008	25.51	52.06	3.24	66.17	66.29	41.00	33.00	50.00	22.00
TURKMENISTAN	2011	19.85	40.51	-0.36	55.00	28.43	39.38	11.00	66.50	22.00
KAZAKHSTAN	2011	15.52	31.67	-2.39	38.50	37.71	28.33	0.00	49.50	0.00
TAJIKISTAN	2008	2.97	6.06	-8.61	11.00	18.86	4.71	0.00	0.00	0.00
ANGOLA	2012	15.21	31.04	-3.21	22.00	33.00	50.43	0.00	16.50	0.00
BOTSWANA	2007	11.25	22.96	-4.56	16.50	33.14	22.10	0.00	16.50	0.00
COMOROS	2010	7.92	16.16	-6.19	27.50	23.57	9.43	0.00	16.50	0.00
LESOTHO	2011	9.61	19.61	-5.76	16.50	14.14	20.57	0.00	50.00	0.00
SWAZILAND	2010	4.63	9.45		16.50	9.43	6.33	0.00	0.00	0.00
SEYCHELLES	2008	10.90	22.24	-4.50	33.00	18.86	22.05	0.00	16.50	0.00
MALAWI	2008	19.51	39.82	-0.28	44.00	37.86	40.95	0.00	49.50	22.00
MAURITIUS	2008	23.48	47.92	1.66	38.50	51.86	48.90	11.00	66.50	44.00
SOUTH AFRICA	2009	24.51	50.02	2.72	66.17	66.29	37.86	22.00	66.50	22.00
KENYA	2011	6.61	13.49	-6.96	11.00	18.86	11.05	0.00	33.00	0.00
MOZAMBIQUE	2011	4.56	9.31	-7.54	16.50	18.86	3.14	9.00	33.00	0.00
NAMIBIA	2007	9.59	19.57	-4.93	16.50	28.29	11.05	0.00	49.50	11.00
TANZANIA	2009	6.62	13.51	-7.11	0.00	23.57	11.05	0.00	50.00	0.00
UGANDA	2007	4.96	10.12	-7.42	11.00	9.43	12.62	0.00	0.00	11.00
ZAMBIA	2008	12.26	25.02	-5.15	11.00	28.29	14.14	0.00	0.00	11.00
ZIMBABWE	2007	16.20	33.06	-1.95	16.50	37.71	42.57	22.00	33.00	22.00
ARGENTINA	2010	11.24	22.94	-4.44	27.50	23.57	22.05	0.00	33.00	0.00
AUSTRALIA	2005	25.53	52.10	3.27	71.67	71.00	33.14	11.00	66.50	44.00
AUSTRIA	2009	26.46	54.00	3.22	44.00	66.29	59.90	33.00	49.50	33.00
BELGIUM	2005	36.18	73.84	8.75	77.50	75.86	83.86	44.00	50.00	44.33

BRAZIL	2010	22.14	45.18	0.55	16.50	51.86	56.67	0.00	49.50	11.00
CANADA	2008	24.82	50.65	3.44	66.00	61.43	37.86	22.00	100.00	33.00
CHINA	2007	23.92	48.82	2.10	33.00	72.00	44.14	0.00	66.50	33.00
DENMARK	2006	24.17	49.33	2.76	49.50	66.29	41.00	11.00	66.50	44.00
FRANCE	2011	31.44	64.16	5.88	60.67	61.43	67.81	22.00	83.00	66.00
GERMANY	2010	25.79	52.63	2.97	49.50	61.29	56.76	0.00	83.00	22.00
GREECE	2007	16.19	33.04	-2.34	33.00	33.14	34.62	0.00	33.00	0.00
ICELAND	2006	23.18	47.31	1.63	44.00	56.86	48.95	22.00	66.50	11.00
INDIA	2010	25.12	51.27	2.23	44.00	70.86	56.71	0.00	49.50	22.00
IRELAND	2006	29.20	59.59	5.08	60.67	71.00	52.14	22.00	66.50	33.00
ITALY	2006	30.54	62.33	5.80	66.17	75.71	50.52	0.00	100.00	77.67
JAPAN	2008	21.49	43.86	1.40	49.50	70.86	40.95	22.00	50.00	11.00
KOREA	2009	20.51	41.86	0.06	38.50	51.86	37.86	0.00	83.00	11.00
LUXEMBOURG	2010	16.84	34.37	-1.70	33.00	47.14	29.86	0.00	16.50	22.00
MEXICO	2008	24.49	49.98	2.39	38.50	61.43	58.38	0.00	16.50	33.00
NETHERLANDS	2011	28.12	57.39	4.17	55.00	66.14	63.10	33.00	83.00	44.00
NEW ZEALAND	2009	21.20	43.27	1.11	66.17	66.43	26.81	0.00	66.50	22.00
NORWAY	2005	28.84	58.86	4.96	66.33	61.57	58.48	55.00	66.50	22.00
PORTUGAL	2006	31.48	64.24	6.12	55.00	66.14	61.52	33.00	83.00	44.00
RUSSIA	2008	25.51	52.06	3.24	66.17	66.29	41.00	33.00	50.00	22.00
SINGAPORE	2008	33.44	68.24	6.72	60.50	80.57	74.10	11.00	66.00	44.00
SOUTH AFRICA	2009	24.51	50.02	2.72	66.17	66.29	37.86	22.00	66.50	22.00
SPAIN	2006	28.15	57.45	4.74	60.50	51.86	56.86	22.00	66.00	33.00
SWEDEN	2006	24.81	50.63	3.10	60.50	61.43	42.48	22.00	50.00	22.00
SWITZERLAND	2005	33.82	69.02	5.89	66.33	71.00	80.62	44.00	33.00	22.00
TURKEY	2007	22.85	46.63	0.12	44.00	47.14	52.19	0.00	83.00	22.00
UNITED KINGDOM	2007	35.22	71.88	8.47	100.00	80.57	60.10	44.00	83.00	44.00
USA	2006	34.14	69.67	7.70	77.33	80.57	72.52	11.00	100.00	33.33

CAMEROUN	2008	13.20	26.94	-3.39	27.50	33.00	31.43	0.00	0.00	0.00
GABON	2013	10.23	20.88	-5.04	22.00	23.57	18.86	0.00	33.00	0.00
CHAD	2014	9.57	19.53	-5.27	22.00	23.57	17.29	0.00	0.00	22.00
CENTRAL AFRICAN REPUBLIC	2010	11.22	22.90		33.00	23.57	22.00	0.00	0.00	0.00
CONGO	2015	8.91	18.18	-5.35	27.50	23.57	11.00	0.00	16.50	11.00
GUATEMALA	2010	26.81	54.71	3.32	49.50	52.00	63.05	0.00	66.50	33.00
ARGENTINA	2010	11.24	22.94	-4.44	27.50	23.57	22.05	0.00	33.00	0.00
BRAZIL	2010	22.14	45.18	0.55	16.50	51.86	56.67	0.00	49.50	11.00
MEXICO	2008	24.49	49.98	2.39	38.50	61.43	58.38	0.00	16.50	33.00
BENIN	2010	10.23	20.88	-4.79	22.00	33.00	17.29	0.00	0.00	0.00
BURKINA FASO	2009	7.59	15.49	-5.82	22.00	18.86	9.43	0.00	0.00	0.00
GHANA	2009	11.23	22.92	-4.79	27.50	23.57	20.48	0.00	49.50	11.00
TUNISIA	2007	23.19	47.33	2.47	55.33	56.86	37.81	22.00	66.00	55.33
MOROCCO	2007	11.91	24.31	-3.90	33.00	19.00	17.38	0.00	0.00	22.00
EGYPT	2009	25.46	51.96	3.27	49.50	61.43	48.76	22.00	49.50	44.33
JORDAN	2009	17.54	35.80	-1.43	27.50	42.71	44.14	11.00	0.00	22.00
IRAQ	2012	7.28	14.86	-6.71	0.00	9.43	18.95	0.00	16.50	22.00
YEMEN	2008	8.58	17.51	-5.48	16.50	23.57	11.00	11.00	33.00	22.00
SAUDI ARABIA	2010	25.11	51.24	2.31	38.50	61.29	56.67	0.00	66.50	66.00
SUDAN	2012	11.55	23.57	-4.01	16.50	33.00	25.14	11.00	16.50	11.00
KUWAIT	2011	12.88	26.29	-3.35	33.00	14.14	26.76	0.00	33.00	11.00
ALGERIA	2010	12.90	26.33	-3.46	33.00	28.43	20.48	0.00	33.00	11.00
SULTANATE OF OMAN	2011	24.12	49.22	3.10	49.50	61.29	42.48	11.00	50.00	77.33
THE KINGDOM OF BAHRAIN	2006	24.82	50.65	2.51	33.00	56.71	56.76	22.00	16.50	33.00
THE SYRIAN ARAB REPUBLIC	2006	18.86	38.49	-1.07	38.50	47.29	39.48	22.00	33.00	22.00
LEBANESE	2009	21.82	44.53	0.98	44.00	61.43	40.95	0.00	50.00	33.00

REPUBLIC										
THE ISLAMIC REPUBLIC OF MAURITANIA	2006	14.54	29.67	-2.69	27.50	28.29	26.81	0.00	33.00	22.00
QATAR	2008	15.86	32.37	-1.84	33.00	47.29	26.76	11.00	16.50	55.00
UNITED ARAB EMIRATES	2008	20.84	42.53	0.91	49.50	56.86	34.62	0.00	16.50	66.33
AZERBAIJAN	2014	26.44	53.96	3.39	38.50	56.57	59.86	33.00	49.50	44.33
CYPRUS	2011	33.45	68.27	6.70	66.17	66.29	72.52	33.00	83.00	55.00
CZECH REPUBLIC	2011	25.12	51.27	2.42	44.00	61.43	50.38	33.00	66.00	22.00
GEORGIA	2012	23.79	48.55	1.89	49.50	51.86	51.95	11.00	33.00	22.00
HUNGARY	2010	34.88	71.18	7.32	49.67	76.00	82.33	55.00	66.50	33.33
RUSSIA	2008	25.51	52.06	3.24	66.17	66.29	41.00	33.00	50.00	22.00
LITHUANIA	2006	29.16	59.51		44.00	66.43	61.48	33.00	66.50	33.00
GEORGIA	2006	17.86	36.45	-0.90	33.00	56.71	26.76	22.00	33.00	22.00
LATVIA	2006	26.18	53.43	3.87	60.67	75.71	45.71	22.00	50.00	33.33
POLAND	2006	19.52	39.84	0.00	38.50	61.57	31.52	11.00	83.00	11.00
MALTA	2007	33.52	68.41	6.83	66.00	80.57	60.10	44.00	66.00	66.67
ANDORRA	2007	17.84	36.41	-0.66	38.50	56.86	29.86	22.00	16.50	11.00
MOLDOVA	2007	15.21	31.04	-2.06	33.00	42.57	20.48	0.00	49.50	22.00
LIECHTENSTEIN	2007	24.82	50.65	3.12	44.00	75.71	48.86	44.00	50.00	33.00
BULGARIA	2008	30.16	61.55	5.68	60.50	75.86	55.19	33.00	66.50	33.00
CROATIA	2008	16.86	34.41	-1.20	33.00	71.00	23.62	0.00	33.00	11.00
ROMANIA	2008	25.16	51.35	2.52	49.50	70.86	44.19	11.00	49.50	33.00
AZERBAIJAN	2008	11.56	23.59	-4.35	22.00	28.29	18.90	0.00	33.00	11.00
ESTONIA	2008	29.78	60.78	5.04	55.17	80.57	59.81	33.00	66.50	33.00

UKRAINE	2009	18.83	38.43	-0.79	27.50	52.00	36.19	22.00	49.50	22.00
MONTENEGRO	2009	26.17	53.41	3.48	44.17	71.00	53.67	22.00	49.50	11.00
ARMENIA	2009	24.81	50.63	2.15	38.50	47.14	64.67	11.00	33.00	33.00
SERBIA	2009	21.79	44.47	0.60	38.50	51.86	51.90	0.00	49.50	11.00
BOSNIA & HERZEGOVINA	2009	18.18	37.10	-1.14	33.00	33.00	41.00	0.00	33.00	11.00
HOLY SEE (INCLUDING VATICAN CITY)	2012	20.16	41.14	0.40	49.50	56.71	31.43	22.00	66.50	0.00
SAN MARINO	2011	28.75	58.67	4.53	49.50	61.43	61.43	44.00	49.50	66.00
SLOVAK REPUBLIC	2011	24.47	49.94	1.97	44.17	52.00	56.71	33.00	49.50	11.00
AFGHANISTAN	2011	7.6	15.51	-6.73	22.00	14.14	17.33	0.00	33.00	0.00
AUSTRALIA	2006	24.2	49.39	2.41	66.00	71.00	33.14	0.00	66.50	44.00
BANGLADESH	2009	13.54	27.63	-2.94	27.50	33.00	28.33	0.00	49.50	11.00
BARBADOS	2008	24.51	50.02	2.17	55.17	75.86	40.95	0.00	83.00	44.00
CAYMAN ISLANDS	2007	33.14	67.63	7.11	71.67	75.86	59.86	44.00	66.50	77.67
DOMINICA	2009	12.23	24.96	-3.80	38.50	23.57	15.76	0.00	33.00	11.00
DOMINICA	2006	14.19	28.96	-3.17	22.00	37.71	34.57	0.00	0.00	11.00
EL SALVADOR	2010	24.53	50.06	2.25	77.33	42.71	45.76	0.00	66.50	44.00
GRENADA	2009	13.9	28.37	-2.43	33.00	51.86	14.19	0.00	16.50	0.00
GUATEMALA	2010	27.14	55.39	3.52	49.50	52.00	63.05	0.00	66.50	33.00
HAITI	2008	10.57	21.57	-5.40	11.00	23.57	26.76	0.00	16.50	0.00
ARUBA	2009	10.91	22.27	-4.73	27.50	23.57	18.90	0.00	33.00	0.00
MONTESERRAT	2011	25.77	52.59	3.17	55.00	47.14	56.67	33.00	50.00	44.00
ST LUCIA	2008	6.6	13.47	-6.51	22.00	18.86	9.43	0.00	16.50	11.00
ST KITTS AND NEVIS	2009	21.53	43.94	0.54	38.50	33.00	44.19	11.00	50.00	55.00

SURINAME	2009	8.93	18.22	-5.32	22.00	37.86	7.86	0.00	16.50	0.00
BAHAMAS	2007	26.86	54.82	4.07	60.83	71.29	42.57	33.00	66.50	55.00
TRINIDAD AND TOBAGO	2007	9.25	18.88	-5.48	11.00	37.86	9.43	0.00	33.00	11.00
VENEZUELA	2009	19.53	39.86	0.08	38.50	42.57	42.57	0.00	0.00	11.00
VIRGIN ISLANDS	2008	38.85	79.29	7.60	77.33	80.71	55.19	33.00	100.00	44.00
TURKS AND CAICOS	2008	16.56	33.80	-1.84	49.50	47.43	25.24	0.00	16.50	22.00

APPENDIX I: AML/CFT Compliance Index from 2012-2016

	POLICIES AND COORDINATION	ML AND CONFISICATION	TERRORIST FINANCINCG AND FINANCING OF PROLIFERATION	PREVENTIVE MEASURES	TRANSPARENCY AND BENEFICIAL OWNERSHIP OF LEGAL PERSONS AND ARANGEMENTS	POWERS AND RESPONSIBILITIES OF COMPETENT AUTHORITIES AND OTHER INSTITUTIONAL MEASURES	INTERNATIONAL COOPERATION
AML/CFT							
14.9	0.66	0.99	1.99	4.31	0	4.64	2.31
12.55	0	0.33	0.66	6.27	0	4.3	0.99
23.55	0.99	2	2.66	7.62	0.33	5.29	4.66
24.48	0.99	1.32	2.98	9.94	0.66	5.29	3.3
17.23	0.33	0.66	0.33	10.29	0.99	3.31	1.32
24.86	1.66	1.66	2.98	7.29	0.33	6.96	3.98
19.87	0.66	1.66	0.66	6.96	0.66	6.29	2.98
30.85	1.66	1.32	2.65	12.62	0.66	8.64	3.3
29.54	1.66	1.66	2.64	11.64	0.66	7.64	3.64
23.22	0.99	2	2.66	7.29	0.33	5.29	4.66
19.52	0.66	0.99	0.99	7.96	0.66	5.29	2.97
9.28	0.33	0.99	0	4.32	0	1.65	1.99
21.53	0.33	1.32	0.99	11.29	0.33	4.96	2.31
25.86	0.66	1.66	1.99	9.95	0.66	7.3	3.64
24.86	1.66	1.66	2.98	7.29	0.33	6.96	3.98
28.48	1.32	1.66	2.65	10.6	1.32	6.95	3.98
29.54	1.66	1.66	2.64	11.64	0.66	7.64	3.64
23.55	0.99	2	2.66	7.62	0.33	5.29	4.66
26.51	1.32	2	1.65	9.61	1.32	6.97	3.64

30.85	1.66	1.32	2.65	12.62	0.66	8.64	3.3
22.16	0.66	1.66	1.98	7.6	0.66	5.96	3.64
33.91	1.66	1.66	1.98	13.31	1.32	9.32	4.66
21.53	0.66	1.32	0.66	7.95	0.66	5.62	4.66
30.52	1.66	1.32	2.99	13.64	1.66	5.95	3.3
20.55	0.66	1.66	1.99	7.96	0.33	4.63	3.32
30.87	0.99	1.32	2.31	13.65	1.32	7.64	3.64
21.48	0.99	1.32	1.32	8.28	0.99	5.61	2.97
25.21	0.99	1.32	1.33	12.97	0.66	5.63	2.31