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Money Laundering and Economic Growth in Nigeria: A Bound Test Analysis.

Abstract: In spite of the government's attempts to combat money laundering through the implementation of various policies which is also aimed at boosting the GDP, the prevalence of money laundering remains a cause for concern in Nigeria. This research delves into the correlation between money laundering and the expansion of the Nigerian economy e spanning from 1993 to 2019. This study adopted the Augmented Dickey Fuller (ADF) test to assess if the time series attributes of the research variables demonstrate stationarity. Furthermore, the research applied the Auto-regressive Distributed Lag (ARDL) method to explore the connection between money laundering and the advancement of the Nigerian economy. The results indicated a negative short-term correlation between economic growth (LNGDP) and the independent factors like money laundering (ML), interest rate (INT), investment (LNINV), and exchange rate (EXR). Based on the outcomes of this study, the study recommends reinforcing strategies against money laundering and intensifying the endeavors of pertinent authorities to counteract money laundering activity. Additionally, there should be an increased worldwide cooperation in implementing regulations against money laundering and addressing issues related to jurisdiction.

KEYWORDS: *Interest Rate, Exchange Rate, Investment, Economic Growth,*

1. INTRODUCTION

Lately, there is a record of high global emphasisis on the issue of money laundering, which is generally recognized as a broad phenomenon. The World Bank (2006), refers to money laundering as an unlawful or illicit practice that occurs all over the world, it is often attributed with several other offenses such as fraud, drug trafficking, and more forms of criminal activities. While governments are looking for proficient ways of detecting these crimes, there is a need for a comprehensive monitoring system to anticipate and curb money laundering is necessary (Walker & Unger, 2009).

According to Ogbodo and Miseseigha (2013), money laundering can also be said to be the concealing of an illegal origins, characteristics, presence, whereabouts, and disposal of money or assets acquired unlawfully through activities like embezzlement, prostitution, corruption, drug trafficking, and fraudulent means. In Nigeria, establishments such as brokerage firms, trading organizations, exchange houses, and casinos play a significant role in facilitating money laundering. These entities serve as avenue to obscure the profits that were obtained from illicit activities. As Comer (2008) points out, elements that make up money laundering includes"personal greed, employee morale challenges, low prosecution rates, societal pressures, and anti-institutional stance.

An economy that is purely characterized by a complete absence of monitoring and regulations especially in the banking sector, will not cease from witnessing the movement of money in and out with ease, providing launderers with clear opportunities to take advantage of an uncontrolled inflows of funds into the country, especially concerning the consumption of luxury goods. However, this scenario could result in notable increases concerning the matters of exports, imports, interest rates, shortfalls in foreign payments, inflation, and rates of unemployment. These changes in the need for money, instigated by illicit funds, can inherently exert negative impacts on monetary policies. Especially in developing countries, incorrect signals of money laundering hinder the adoption of essential steps to address challenges like budget shortfalls and elevated inflation. Ultimately, this undermines effective economic governance and growth. Through the global repercussions of these activities, the stability of markets becomes compromised, and financial crises in one country have the potential to ripple into other countries (Ribadu, 2014).

The real sectors of the economy can suffer significant harm due to financial instability resulting from money laundering, which therefore affects the growth of the economy. The challenges of money laundering have become widespread in both advanced and developing countries. The effect that money laundering has on economic growth and advancement can be divided into three areas: financial, concrete, and external, as highlighted by Bartlett (2002). Money laundering holds a profound sway over financial institutions, resulting in repercussions for economic growth through internal corruption and damage to reputation. Additionally, it negatively impacts the efficiency of the actual industry by redirecting valuable resources. Concurrently, it fuels crime and corruption, resulting in damage to reputation, distortions in the market, and economic contraction.

Nigeria is a country with a history of high exploitation from its colonial days to its transition from military rule to democratic governance, and the country has consistently been a hub for money laundering in Africa (Silk Screen, 1994). Despite the transition to democratic government, the prevalence of money laundering continues to increase (Ogbodo and Miseseigha, 2013). Philips (2016) states that the impact of money laundering on Nigeria's economy is direr, considering that money laundering is deeply rooted in the economic and financial structure. Money laundering is also deeply ingrained that between 1994 and 2002, the nation reportedly suffered a loss exceeding $400 billion (Zekeri, 2015), which surpassed 26 years' worth of public spending. This substantial amount was squandered and illicitly moved by Politically Exposed Individuals (PEPs), including political figures, within an astonishingly short timeframe. Estimates shows that approximately US$507 billion have been wrongfully taken from Nigeria (Otive Igbuzor, 2008). As a result, Nigeria was ranked 146th among 180 countries globally in terms of corruption (Corruption Perception Index, 2020).

As a result, the integrity of Nigerian financial institutions has been compromised due to economic and financial crimes, with a significant portion of them actively participating in money laundering and related financial wrongdoings. This occurrence can be historically linked to the period of the oil boom and the subsequent drop in oil prices during the 1980s. Vanguard Newspaper (2005) reports that an approximate sum of US$100 billion was lost to money laundering in Nigeria between the 1980s and 1999. In the era of General Sani Abacha's military regime, The Times Newspaper (1999) recounts that businessman Uri David, a British citizen and prominent donor to the British Labour Party, alongside British lawyer Jefrey Tesler, were enlisted to recover about US$4 billion from diverse banks in London and Switzerland. Concurrently, a syndicate engaged in international fraud caused the country to suffer a loss of roughly US$30 billion (The Times, 1999). It is worth noting that Nigerians specializing in international money transfer fraud extorted approximately US$357,142,857 from victims overseas (Bakre, 2007).

To counter the menace of money laundering, law enforcement introduced various legislative acts, including the Money Laundering (Prohibition) Act of 2004. The efforts were further supported by the Central Bank of Nigeria (CBN) Anti-Money Laundering Compliance Manual Guidelines established by the Economic and Financial Crimes Commission (EFCC, 2004) and the Independent Corrupt Practices Commission (ICPC, 2000). These organizations were tasked with the responsibility of countering money laundering and enforcing laws concerning economic and financial offenses in Nigeria (Okogbula, 2007). However, despite these thorough legal and regulatory measures aimed at reducing the impact of money laundering and financing terrorism, there hasn't been a substantial decrease in money laundering and other financial crimes in nigeria (Philips, 2016). The extent of this issue seems to be more pronounced in Nigeria, partly because the problem of money laundering has infiltrated various aspects of citizens' lives (Muhammad, 2016). The present working environment and economic conditions in the country foster bribery and corruption. This can be attributed to a lack of political determination to enforce the enabling laws.

Aluko (2011) cites Nuhu Ribadu, the former chairman of Nigeria's Economic and Financial Crime Commission (EFCC), who pointed out in his thesis that substantial amounts are involved in transnational economic and financial crimes. Such financial wrongdoings often carry extensive consequences for the stability of local economies as well as the worldwide financial networks. For example, around $100 billion was unlawfully transferred from Nigeria during the period spanning the mid-1980s to 1999. Additionally, each year, an estimated $1 trillion in ill-gotten gains finds its way into the United States with the cooperation of global financial structures. These funds frequently include earnings from drug trafficking and a range of economic and financial offenses (Olalekan, 2014).

Money laundering is thought to exert an adverse influence on the real sector, primarily impacting investment and levels of productivity. This detrimental consequence often arises from capital flight, a situation where resources that could have been channeled into investments or reinvestments are redirected from productive sectors or sometimes relocated to less-productive sectors or foreign economies. For example, allegations emerged that former Nigerian military head of state General Abacha laundered approximately $4 billion into various banks in countries including the UK, Germany, Switzerland, the US, Luxembourg, and others (Ogbodo and Miseseigha, 2013). Similarly, allegations were made against certain former governors of Bayelsa and Delta states for diverting significant portions of their states' funds, initially intended for

development, into private accounts in developed nations during the democratic era (Olalekan, 2014). This situation underscores the depletion of resources through money laundering.

Within the existing body of literature, several authors have thoroughly explored the adverse repercussions of money laundering on economic stability. Ayodeji (2011) and Aluko (2012) have both chronicled the adverse effects of money laundering on economic growth and the stability of finances. Research undertaken by Quirk (1996) and Camdessus (1998) has delved into the impact of money laundering on economic stability and investment funding, ultimately establishing that it triggers negative shifts in money demand and magnifies the unpredictability of global capital movements, exchange rates, and interest rates. Idowu (2012) also explored the broader economic repercussions of money laundering, determining that it leads to detrimental outcomes for investment funding, government revenue, rates of economic growth, and poses a threat to both a nation's political stability and internal security. In contrast, Cabaravdic and Nilsson (2017) uncovered a noteworthy positive relationship between economic growth and money laundering, contrary to previous findings. They observed that a heightened level of money laundering corresponds with increased per capita growth of real gross domestic product (GDP). Nonetheless, they cautioned that this beneficial impact is more fleeting and that corruption may temporarily facilitate economic activities.

Given the different opinions among previous researchers, this study sets out to explore how money laundering affects Nigeria's economic growth.

II. Empirical Review

Quirk (1996) conducted a study that involved 18 developed countries during the timeframe of 1983 to 1990. The findings highlighted a connection between the growing occurrence of money laundering and a drop in annual economic growth rates. The research built upon a model originated by Barro (1991), which initially examined the influence of human capital on economic growth. However, Quirk (1996) took a different approach by substituting human capital with a variable for money laundering. In essence, Quirk (1996) expanded upon Barro's model by introducing the money laundering variable to gauge the level of criminal activities. The outcomes exhibited notable variations in the results when government expenditure was excluded from consideration. The study demonstrated a distinct and significant negative effect, firmly associating money laundering with government spending.

Blum et al., (1998) put forth evidence indicating a negative link between money laundering and a country's tax situation. They argued that income sourced from illicit activities and reintegrated into the legal economic system tends to attract scrutiny from tax authorities. The study contended that criminals manipulate tax records of legitimate businesses they use as covers and end up paying disproportionately high taxes.

McDowell and Novis (2001) emphasized in their study that money laundering has the potential to impact exchange rates and interest rates. The reason behind this is that laundered money is invested strategically to avoid drawing attention, rather than aiming for significant returns. As a result, this behavior escalates the inherent risk associated with monetary instability, resulting in improper distribution of resources and disruptions in the pricing of products and financial assets. When money launderers perceive an industry or sector as less appealing, they are inclined to distance themselves from it. This shift in focus can precipitate the decline of these sectors, inflicting substantial damage on their respective economies (McDowell and Novis, 2001). Bartlett (2002)

echoed the sentiments of McDowell and Novis (2001), accentuating the significant impact of money laundering on economic growth, particularly when viewed through the lens of investment.

Haque and Kneller (2015) delved into a model of growth that considered the uneven sharing of information between the government and the bureaucracy. They observed that bureaucrats could provide misleading information, indicating high-quality, high-cost procurement, while in reality offering subpar, low-cost products. This mismatch in the quality of public services results in inflated public spending, which, in turn, hampers overall growth.

Cabaravdic and Nilsson (2017) uncovered a noteworthy and positive connection between economic growth and money laundering. They discovered that elevated levels of money laundering align with increased per capita real gross domestic product (GDP) growth. Nonetheless, their analysis suggests that these outcomes primarily apply in the short term, hinting that corruption might temporarily contribute to a boost in the economy.

Mauro (1997a) undertook an estimation of corruption's impact on growth, investment, and government expenditure. His findings underscored that corruption could substantially hinder economic growth, mainly by diminishing private investment. The ripple effects of corruption could extend through multiple pathways, potentially influencing the allocation of public spending. Mauro (1997a) further elaborated that corruption's repercussions encompass constraining investment, a pivotal element for upholding sustained, long-term economic growth. The study contended that corrupt practices tend to discourage both foreign and local investors, leading to significant adverse consequences for economic growth.

Ferwerda and Bosma, (2005) took a fresh look at Quirk's study, approaching it from a different angle. They embarked on assessing how money laundering impacts economic growth, building on Barro's model. However, their study went further, encompassing six distinct measurements of actual money laundering instances across 17 countries. Both the Walker model and its adjusted version were employed. To validate Quirk's findings, they introduced the crime rate as an indicator of money laundering. Remarkably, their investigation upheld Quirk's (1996) conclusion that money laundering hampers economic growth. The six diverse estimates of money laundering and the crime rate consistently corresponded to lower rates of economic growth.

What's particularly intriguing about Ferwerda and Bosma's research is their ability to differentiate between the effects of the crime level and money laundering. Their findings shows that money laundering doesn't directly impede economic growth, the connected criminal activities do. This suggests that the actual movement of funds in money laundering might not be the direct cause of economic harm. Instead, it's the actions of the criminals and their aftermath that have the adverse impact on the economy.

Cardenas (2007) focused their inquiry on the interplay between growth rates and organized crime across a diverse set of 65 countries. Their findings illuminated that criminal activities in Colombia cast a negative shadow on economic growth through their influence on productivity. This insight emerged after deploying growth accounting calculations. Importantly, the analysis of growth sources underscored that the surge in criminality's impact on productivity fully explained the observed reversal in economic growth.

Habibullah and Baharom, (2008) delved into the connection that exists between the real gross national product (GNP) and cybercrime. The study employed an ARDL model tailored to

Malaysia, offered evidence that cybercrime significantly and detrimentally affects the nation's GNP. Ahmad, Ullah, and Arfeen (2012) embarked on a study that analyzed panel data spanning the years 1984 to 2009 across 71 developed and developing nations. They employed various metrics, index, and institutional index this involves considering various factors like the corruption index, corruption squared, bureaucratic efficiency index, and political stability. These aspects will be analyzed using the generalized methods of moments estimation (GMM) technique. Their research divulged a noteworthy insight: diminishing corruption contributes to a boost in economic growth rates.

In a similar vein, Fabayo, Posu, and Obisanya (2011) utilized the Ordinary Least Square technique in determining the influence of economic crimes on investment trends in Nigeria from 1996 to 2010 timeframe. They employed the annual corruption perception index as a substitute for gauging economic crimes. The results highlighted a low Corruption Perception Index ranking for Nigeria which indicates a pervasive corruption. This observation aligns with the corresponding decrease in investment and a lackluster economic growth within the country.

Aluko (2012) ventured into understanding the effects that money laundering has on investment financing. The study emphasized the negative implications of money laundering on the growth of the economy and financial stability. Additionally, the study identified corruption to positively affect money laundering in Nigeria. Given these outcomes, the author underscored the necessity for cooperative efforts among nations contending with money laundering to mitigate its adverse impacts.

Examining the broader macroeconomic repercussions of money laundering, Idowu (2012) unearthed its negative consequences on investment financing, economic growth rates, government revenue, and even the potential to disrupt political stability and national security. Ayodeji (2011) also delved into the macroeconomic dimensions of money laundering. Their findings echoed similar sentiments, revealing that this phenomenon indeed carries detrimental effects on both economic growth and financial stability.

E. M. Rotimi, B. Obasaju, A. Lawal, and Joseph, I. (2013) embarked on an exploration aimed at understanding the complex connection between corruption and economic Growth in Nigeria. They delved into this by taking GDP as the dependent factor and incorporating corruption, historical instances of corruption, and Nigeria's corruption perception index as explanatory factors. By utilizing the Ordinary Least Squares (OLS) technique, their research distinctly found that corruption exerts a detrimental influence on impeding economic growth.

In a different study, Ihsan and Razi (2012) delved into the repercussions of money laundering on the Nigerian economy. Their study took the form of a cross-sectional survey, involving 51 respondents in their sample. The results they obtained strongly indicated the adverse impact of money laundering on the country's economy. Meanwhile, Okoye and Gbegi (2013) embarked on their own investigation, aiming to shed light on the effects of fraud and related financial crimes on Nigeria's economic landscape. Employing regression analysis to examine the collected data, their study uncovered a connection between various forms of financial fraud and their detrimental consequences on the Nigerian economy.

Nwogwugwu and Uzoechina (2015) also delved into the relationship between economic crime and Nigeria's economy. Their findings provided strong evidence of a significant, non-linear connection between economic crimes and the long-term growth of Nigeria's economy. While the short-term

impact was found to be minimal, their study brought to light a two-way causal link between economic crimes and economic growth within Nigeria.

Oluwadayisi and Mimiko (2016) conducted a detailed exploration into the impact of money laundering on the Nigerian economy. Their research was aimed at shedding light on the harmful effects of money laundering on economic growth. Employing a methodical approach, they meticulously examined primary and secondary data sources to analyze various consequences encompassing domestic production, socioeconomic aspects, financial outcomes, political ramifications, and the oil and gas sector. Their findings clearly highlighted the negative influence of money laundering on Nigeria's economy. It is noteworthy that despite the implementation of laws and policies in the country, the persistence of money laundering and other financial and economic crimes can be traced back to the corrupt practices of government officials.

Loayza,Villa and Misas. (2019) present different comparative statistical activities with a theoretical model of long-run and a set of estimable macroenometric equations by utilizing kilman filter on government efficiency, gross domestic product (GDP) drug trafficking, kidnapping, fraud. illegal drugs, illicit sector productivity to determine the extent of laundering in Columbia from 1985 to 2013. The study found that illicit sources of income increased significantly until 2001and reached its highest level of about 12% of GDP which was followed by a decrease to less than 2% in 2013.

Slama, and Gueddari,(2022) adopt the simultaneous equation in panel data to find the effect of money laundering on the growth of 18 countries in the Middle east and North Africa(MENA) from 2008 to 2019 by first adopting the principal component analysis (PCA) to determine the amount of money being laundered for the period. The study found the highest laundering rate of 5.5 for the period under review in countries like Algeria (2012), and for Mauritania to be 2016. The study finds a negative relationship between money laundering and economic growth for the countries under review.

Ofoeda, Agbloyor, Abor, and Achampong, (2022) adopted the prais-Winsten approach to investigate the impact of anti-money launderin (AML) regulations on foreign direct investments, and economic growth among 165 countries in the world from 2012 to 2018. The study established that the AML (anti-money laundering) regulations assist to stimulate economic growth below the identified threshold value.

III. METHODOLOGY

3.1 THEORETICAL FRAMEWORK

The study followed an innovative path, merging the two-sectors of dynamic general equilibrium model with classical theory. While delving into classical theory, Gupta, Davoodi, & Alonso-Terme (2002) discovered that elevated instances of economic crimes can lead to a less balanced distribution of income in certain situations. Interestingly, they also discovered that heightened money laundering disturbs how public resources are allocated, ultimately leading to more pronounced income inequality, which, in turn, slows down the pace of economic growth. When aiming for economic expansion, it's crucial that investments surpass the necessary capital replacement. Thus, the interplay between savings and investments holds significant sway over the trajectory of economic growth.

To measure money laundering, the study adopted a dynamic general equilibrium model, encompassing two distinct sectors: the regular sector and the criminal sector. Within this framework, two main players were considered: businesses and households. This model further introduced two types of businesses, each producing different kinds of products. The lawful sector manufactured legitimate goods, whereas the unlawful sector produced illicit items, generating funds subject to money laundering. In this situation, a typical household provided work services to both sectors while also using goods from both categories. Companies and families engaged the criminal sector for unlawful actions while employing the formal economy to disguise` the gains from these actions through money laundering.

3.2 MODEL SPECIFICATION

The approach taken in this study is inspired by Enofe, Aliu & Ombu's (2018) model, which draws its roots from the dynamic general equilibrium theory pioneered by Bagella Argentiero, and Busato (2009), with some adjustments.

Enofe, Aliu & Ombu's (2018) model is defined as follows:

Real Gross Domestic Product (RGDP) = f(Money Laundering (ML), Movement of Stolen Money (MOVST), Interest Rate (INT))

This model can be represented in an econometric form:

Log of Real Gross Domestic Product (InRGDP) = $\beta 0 + \beta 1 * MLt + \beta 2 * MOVSTt + \beta 3 * INTt + \mu t$

Where:

InRGDP = log of Real Gross Domestic Product

ML = Money Laundering

MOVST = Movement of Stolen Money

INT = Interest Rate

μ = stochastic error term

$\beta 0$ = the intercept

$\beta 1$, $\beta 2$, $\beta 3$ = parameter estimates

By building upon the framework of Enofe, Aliu & Ombu (2018) and incorporating Investment (INV) and Exchange Rate (EXR), the modified model becomes:

Gross Domestic Product (GDP) = f(Money Laundering (ML), Investment (INV), Exchange Rate (EXR), Interest Rate (INT))

This can be presented explicitly as:

$GDP = \beta 0 + \beta 1 * MLt-1 + \beta 2 * INVt-1 + \beta 3 * EXRt-1 + \beta 4 * INTt-1 + \mu t$

Where:
GDP = Gross Domestic Product

ML = Money Laundering (proxied with Corruption Perception Index)
INV = Investment
EXR = Exchange Rate
INT = Interest Rate
μ = stochastic error term
β0 = the intercept
β1, β2, β3, β4 = parameter estimates

3.3 ARDL Error Correction Model

The Error Correction Model (ECM) evaluates the speed at which balance readjusts. Drawing inspiration from the modeling technique of Pesaran et al. (2001) and Bahamani and Nasir (2014), the ARDL dynamic (ECM - ARDL) model utilized in this research is illustrated as follows:

$$\Delta lnGDP_t = \alpha_0 \sum_{n=1}^{k} \alpha_1 ML_t + \sum_{n=1}^{k} \alpha_2 lnINV_t + \sum_{n=1}^{k} \alpha_3 EXR_t + \sum_{n=1}^{k} \alpha_4 lnINT_t + \beta_1 ML_{t-1} + \beta_2 lnINV_{t-1} + \beta_3 EXR_{t-1} + \beta_4 INT_{t-1} + \mu_t \quad \text{.....3.3.5}$$

3.4 Sources of Data

In this research, we explored the connection between the Gross Domestic Product (GDP) and money laundering in Nigeria, covering the timeframe from 1993 to 2019. We gathered information for the variables from credible sources like the Central Bank of Nigeria Statistical Bulletins and reports published by the National Bureau of Statistics (NBS).

IV RESULTS AND DISCUSSION OF FINDINGS

Table 4.1: Descriptive Statistics of variables

	LNGDP	ML	LNINV	EXR	INT
Mean	25.82801	1.966667	24.7734	3.346008	133.8889
Median	26.18754	2.2	24.74444	6.047248	129.2224
Maximum	27.02712	2.8	25.08253	18.18	306.921
Minimum	24.04658	0.7	24.53892	-31.45257	21.88443
Std. Dev.	0.981462	0.695037	0.140453	10.26074	85.14546
Skewness	-0.345115	-0.452461	0.369578	-1.608012	0.55824
Kurtosis	1.582904	1.790215	2.273364	6.188123	2.897899
Jarque-Bera	2.795152	2.567773	1.208645	23.0703	1.41407
Probability	0.247195	0.276959	0.546445	0.00001	0.493104
Sum	697.3563	53.1	668.8819	90.34221	3615.001
Sum Sq. Dev.	25.04496	12.56	0.512904	2737.351	188493.5
Observations	27	27	27	27	27

Source: Author's Computation, 2021

Table 4.1 showcases the findings derived from calculated mean values, which were put to use in scrutinizing the data's distribution pattern. The exchange rate came out on top with the highest mean of 133.8889 among the variables, while money laundering yielded the lowest mean, clocking in at 1.966667. Delving deeper, the standard deviation figures for the log of GDP, money laundering, and the log of investment were observed to be on the lower side, standing at 0.981462,

0.695037, and 0.140453, respectively. This insight hints at these variables exhibiting minimal divergence from their respective average values. In contrast, variables such as the exchange rate and interest rate showcase more pronounced variability around their mean values.

Furthermore, Table 4.1 highlights that, apart from investment and exchange rate, the remaining variables mainly exhibit a distribution that leans toward the negative side. The computed kurtosis values for the natural logarithm of GDP, money laundering, natural logarithm of investment, and exchange rate all register values lower than the threshold of 3, indicating a platykurtic distribution. Essentially, this signifies that the tails of the distribution for these variables are narrower compared to what a normal distribution would depict. Conversely, the kurtosis statistics for the interest rate point towards a leptokurtic distribution, exceeding a value of 3. This implies that the distribution tails for this particular variable spread wider than the norms of a standard distribution, pointing to the existence of data heterogeneity. Additionally, the results from the Jarque-Bera test hint at a statistically significant outcome for all variables, excluding the interest rate, at the 5% significance level. This suggests that, excluding the interest rate, the distribution pattern of all other variables closely aligns with a normal distribution. With the descriptive statistics underlining these conclusions, the outcomes further bolster the rationale behind opting for the panel co-integration method, offering a suitable avenue for uncovering the connections among the variables under investigation in this research.

Table 4.2: Unit Root

	AT LEVELS			**1ST DIFFERENCE**			**Level of Integration**
Variables	ADF-Test	1% C.V.	5% C. V.	ADF-Test	1% C.V.	5% C. V.	
LNGDP	-2.294875	-3.711457	-2.981038	-3.208686	-3.724070	-2.986225	1(1)
ML	1.432723	-3.711457	-2.981038	-5.382100	-3.724070	2.986225	1(1)
LNINV	-2.458826	-3.711457	-2.981038	-3.188088	-3.724070	-2.986225	1(1)
EXR	0.433633	-3.711457	-2.981038	-3.637756	-3.724070	-2.986225	1(1)
INT	-6.551599	-3.737853	-3.737853	-2.991878	-5.594884	-3.724070	1(0)

Source: Author's computation from Data, 2021

The results of the Augmented Dickey Fuller (ADF) test, as displayed in Table 4.2, shed light on the behavior of various variables. These include the growth of GDP, money laundering (ML), investment (INV), exchange rate (EXR), and the interest rate (INT). The findings indicate that GDP growth, money laundering, investment, and exchange rate exhibit a state of stationarity at the first difference, labeled as 1(1). In contrast, the interest rate demonstrates stationarity at levels, identified as 1(0). The rationale behind this distinction lies in the fact that the Augmented Dickey Fuller statistics for each variable exceeded the 5 percent critical value, taking into account their absolute terms. Of particular note is the interest rate's stationary state at levels, signifying that any unforeseen disturbance to this variable will not sustain its impact over an extended duration. On

the contrary, when observed at levels, GDP growth, money laundering, investment, and exchange rate do not exhibit a stationary behavior. This implies that shocks influencing these variables would not persist over time. To address this disparity, a re-evaluation was conducted, resulting in the identification of stationarity at the first difference for these variables. This confirmation indicates that the effects of disturbances impacting these variables will be short-lived. Consequently, this discovery solidifies the presence of a short-run equilibrium relationship among all the variables under scrutiny.

Based on the results obtained from the ADF test, the essential requirements for carrying out an auto-regressive distribution lag co-integration examination have been met. However, the essential criteria for performing a Johansen co-integration analysis haven't been satisfied. As a consequence, the ARDL - Bound testing approach is selected over the Johansen method for conducting co-integration analysis.

Table 4.3: Lag Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2.14E+02	NA	5.69E+01	18.23018	18.47561	18.29529
1	-1.14E+02	149.7345	0.117616	11.99493	13.46749	12.3856
2	-74.8244	42.37428	4.97E-02	10.8187	13.51841	11.53493
3	11.17433	57.33249*	0.000847*	5.735473*	9.662319*	6.777266*

* indicates lag order selected by the criterion, **Source:** Author's computation from Data, 2021 LR: sequential modified LR test statistic (each test at 5% level),FPE is Final prediction error, AIC stands for Akaike information criterion, SC: Schwarz information criterion, HQ denotes Hannan-Quinn information criterion

Through a step-by-step process of gradually increasing the number of lag lengths, extending up to four lags and beyond until no notable improvement in lag selection is noticed, the results in Table 4.3 were generated. These outcomes consistently suggest that according to all assessment criteria, opting for three lags represents the most suitable choice for the ARDL model.

Table 4.4: VAR Residual Serial Correlation Lagrangian Multiplier

Lags	**LM-Stat**	**Prob**
1	0.021212	0.9429
Probs from chi-square with 1 df.		

Source: Author's computation from Data, 2021

An important concept within the ARDL/Bound Testing approach, as described by Peseran et al. (2001), is that the mistakes within the equation should be free from serial dependence. To investigate this assumption, we employ the LM test. The LM test, carried out on the ARDL model, is displayed in Table 4.4. The results reveal that there is no evidence of serial correlation when considering one lag, and this holds true at both the 1% and 5% significance levels. To address potential multicollinearity concerns, we decide to stick to a maximum of one lag. As a result, our preferred specification becomes ARDL (LNGDP, ML, LNINV, EXR, INT), specifically ARDL(1,0,1,1,1).

Table 4.5: Unrestricted ARDL Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LNGDP(-1)	1.010254	0.054817	18.42959	0
ML	-0.033346	0.073674	-0.452613	0.6565
LNINV	-0.133895	0.171856	-0.779114	0.4466
LNINV(-1)	-0.253317	0.182067	-1.391338	0.1821
INT	-0.006163	0.001993	-3.092714	0.0066
INT(-1)	0.003637	0.002149	1.69269	0.1088
EXR	-0.003245	0.000856	-3.792491	0.0015
EXR(-1)	0.003502	0.000874	4.007187	0.0009
C	9.51347	5.991125	1.587927	0.1307
R-squared	0.984123	Mean dependent var		25.89653
Adjusted R-squared	0.972828	S.D. dependent var		0.932725
S.E. of regression	0.078993	Akaike info criterion		-1.971501
Sum squared resid	0.106077	Schwarz criterion		-1.536006
Log likelihood	34.62952	Hannan-Quinn criter.		-1.846095
F-statistic	433.5724	Durbin-Watson stat		1.922909
Prob(F-statistic)	0			

Source: Author's computation

The analysis conducted through the ARDL test, as outlined in Table 4.5, confirms a limited correlation in the immediate period between money laundering and Nigeria's gross domestic product. On the contrary, both the interest rate (INT) and the exchange rate display no significant links, whereas the connection between investment (INV) and money laundering lacks statistical significance. This suggests that the existence of money laundering tends to undermine the gross domestic product in the short run. The coefficient of determination, symbolized by R2, is indicative of the goodness of fit, and it records a value of 0.984123. This figure suggests that around 98% of the fluctuations observed in the gross domestic product can be explained by other variables.

4.1 DISCUSSION OF FINDINGS

This research delves deeply into examining the connection between money laundering and the growth of the Nigerian economy. It involves a thorough analysis of annual data spanning from 1993 to 2019. The study adopts the Auto-regressive Distributed Lag (ARDL) method for co-integration and employs the Error Correction Model to investigate the relationship between money laundering and economic growth in Nigeria. To begin the analysis, the characteristics of the time series variables are evaluated using the Augmented Dickey Fuller (ADF) unit root test, utilizing a critical value of 5%. The results of the unit root test reveal that only the interest rate exhibited stationarity at its original level, whereas the other variables demonstrated stationarity in their first differences. With the ADF test meeting the necessary conditions, the requirements for Auto-regressive Distribution Lag co-integration are fulfilled.

The application of the ARDL method reveals outcomes that emphasize an adverse near-term connection between Gross Domestic Product and autonomous factors like Money Laundering

(ML), Interest rate (INT), and Exchange rate (EXR). This suggests that money laundering could potentially exert an unfavorable impact on economic growth, which aligns with earlier findings by Quirk (1996) and Aluko (2012). Additionally, the findings propose that investment might experience a negative influence due to money laundering, echoing the conclusions reached by Idowu (2012) when examining the broader economic effects of money laundering. Idowu's research indicated that money laundering has negative repercussions on investment, government income, the pace of economic growth, and even presents a hazard to political stability. Similarly, Ayodeji's (2011) study verified that money laundering has harmful consequences for both economic growth and the stability of the financial system.

Furthermore, the conducted LM test underscores the absence of serial correlation at one lag, maintaining a significance level of 5%. This corroborates the outcomes derived from the autoregressive distribution lag model, where the Durbin-Watson statistics value of 1.922909 is closely approximating 2, indicating an absence of serial correlation within the model.

V. CONCLUSION AND POLICY RECOMMENDATIONS

The study focuses on examining the effects of money laundering on Nigeria's economic growth, analyzing data from 1993 to 2019. The research outcomes reveal a negative connection between money laundering and the country's gross domestic product. Consequently, the study arrives at the conclusion that the country lacks effective and thorough oversight of money laundering perpetrators, which has hindered economic growth over the study's timeframe. Additionally, the study reveals that investment's insignificance is coupled with a negative correlation to the gross domestic product. On the other hand, there are noteworthy and adverse connections between interest rates, exchange rates, and the gross domestic product. Based on these findings, the study deduces that the presence of money laundering activities has a counterproductive impact on how interest rates, exchange rates, and investments contribute to Nigeria's growth.

In light of the outcomes, the study offers a few recommendations. Firstly, it proposes the reinforcement of anti-money laundering strategies, accompanied by strengthening the capacities of pertinent agencies responsible for combatting this issue. This means that the government should ensure the availability of an effective regulatory framework to enforce anti-money laundering. There should strong willingness to eradicating money laundering and other menace like terrorist financing in the country. Another good way of reducing the level of money laundering is the government should endeavour to ensure a high level of transparency and accountability both in the private and government parastatals and especially among the politicians and different tiers of government. Moreover, the study also emphasizes on the importance of global collaboration in enforcing regulations against money laundering and tackling jurisdictional issues by getting involved with international organizations like the Financial Action Task Force (FATF). The collaboration with this international institutions may help to technological advancements to improve the monitoring of money laundering and track offenders.

REFERENCES

Adewale, S. B. (2011). The crowding-out effects of economic crime in Nigeria: An empirical study. *E3 Journal of Business Management and Economics*, 2(2), 059-068.

Aluko, A. & Bagheri, M. (2012). "The impact of money laundering on economic and financial stability and on political development in developing countries: The case of Nigeria", Journal of Money Laundering Control, 15(4), pp. 442-457.

Ahmad, E., Ullah, M. A., & Arfeen, I. (2012). Does corruption affect economic growth? Latin American Journal of Economics. 49(2), 1-20.

Ribadu, N. (2004). The role of EFCC in sanitizing the Nigeria economic environment in a democratic setting. Being a paper presented at the Adamawa State, Nigeria. Economic conference and financial exhibition, December 9-10.

Bencivenga, V. R., & Smith, B. D. (1991). Financial Intermediation and Endogenous Growth. *The Review of Economic Studies*, *58*(2), 195–209.

Blum, J.A., Levi, M., Naylor, R.T. (1998). Financial havens, banking secrecy and money laundering. *Trends Organ Crim* **4,** 68–71 (1998).

Bartlett, L. B. (2002). The Negative Effects of Money Laundering on Economic Development. *Economic Research Report*, May 2002. Available: http://www.adb.org/documents/manuals/counteringmoneylaundering/chapter

Cabaravdic, A., & Nilsson, M. (2017). The effect of corruption on economic growth. Does corruption show a significant effect on the growth of an economy*? (Bachelor thesis in economics).* Retrieved from http://www.diva-portal.se/smash/get/diva2

Cardenas, M. (2007). Economic growth in Colombia: A reversal of fortune? *Ensayos Sobre Politica Economica*, (25).

Comer, M. (2008). Corporate fraud: Nature, Typologies and Essential theories" A paper delivered by B.I.G. consulting in conjunction with Association of National Accountants of Nigeria (ANAN) Ikeja Branch at Tourist Garden Hotel, Awka, June 4th – 6th.

Daniel Liberto (2020). Endogenous Growth Theory Definition. Retrieved from

https://www.investopedia.com/terms/e/endogenousgrowththeory.asp

Dictionary of finance and banking (2008), Oxford University Press, UK.

Economic and Financial Crimes Commission (establishment) Act, No. 5 2002.Act Cap. E1 L.F.N. *2004 repealed by Economic and Financial Crimes Commission* (establishment) Act, No. 1 2004.

Efeyunmi Peter-Mario (2013). The Economic Implications of Money Laundering In Nigeria. Seminar Paper.

EFCC, (2011). Akingbola Diverted N2.1billion into His Personal Account" – Witness. Available: http://www.efccnigeria.gov.ng.

Enofe, A.O., Aliu, A.K. and Ombu A. (2018). Money Laundering and the Nigerian Economy. *International Journal of Advanced Academic Research, Social & Management Sciences,* 4(4).

Ekundayo, R. M., Obasaju, B., AdedoyinIsola, L., & IseOlorunkanmi, J. (2013). Analysis of corruption and economic growth in Nigeria. *Afro Asian Journal of Social Sciences.*

Fabayo, J. A., Posu, S., & Obisanya, A. A. (2011). Economic crime and the investment climate in Nigeria. Journal of Economic and Sustainable Development.

Dr. Marwan Mohammad Aboel-Majeed Abu-Orabi1 & Dr. Abeer F.A. Al Abbadi (2019). The Effects of Money Laundering on Monetary Markets Introduction. Department of Finance and Banking, Faculty of Business and Finance, The World Islamic Sciences and Education University, Jordan- Amman

Ferwerda, J. and Z.S. Bosma (2005). The Effect of Money Laundering on Economic Growth, paper for applied economics research course, Utrecht University School of Economics

Habibullah, M. S. & Baharom, A. H. (2008). Crime and economic conditions in Malaysia: An ARDL Bound Testing Approach. MPRA Paper 11910, University Library of Munich, Germany.

Haque, M. E., & Kneller, R. (2015). Why does public investment fail to raise economic growth? The role of corruption. Manchester School, 83(6), 623-651.

Ibrahim Abdul Abubakar, (2015). Anti-Money Laundering and Counter-Terrorism Financing. Law and Practice in Nigeria. *Malthouse Press*.

Independent Corrupt Practices Commission ICPC, (2000). Retrieved from http://www.icpcnigeria.com/

Joras Ferwerda (2012). The Multidisciplinary Economics of Money Laundering. Tjalling C. Koopmans Dissertation Series USE 007 Printed by Ridderprint, Ridderkerk.

Loayza, N., Villa, E., & Misas, M. (2019). Illicit activity and money laundering from an economic growth perspective: A model and an application to Colombia. *Journal of Economic Behavior & Organization*, *159*, 442-487.

Mauro (1997). The Effect of Corruption on Growth, Investment and Government Expenditure: A cross-country analysis.

McKinnon, R. (1973). Money and Capital in Economic Development. The Brooking Institute, Washington DC.

Muhammad Ladan, (2016). Money Laundering, Terrorism, Corruption, Human Trafficking in Nigeria. *LAP LAMBERT Academic Publishing*.

Okogbule, N. S. (2007). Combating Money Laundering in Nigeria: An Appraisal of the Money Laundering Prohibition Act 2004. *Oxford Journals Law & Statute Review, 28(2*).

Ofoeda, I., Agbloyor, E. K., Abor, J. Y., & Achampong, K. O. (2022). Foreign direct investment, anti-money laundering regulations and economic growth. *Journal of International Development*, *34*(3), 670-692.

Ogbodo, U. K., and Miseseigha, E. G. (2013). The Economic Implications of Money Laundering in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(4), 170-184.

Oluwadayisi, Akin & Mimiko, Moruf. (2016). Effects of Money Laundering on the Economy of Nigeria. Beijing Law Review. 07. 158-169.

Otive Igbuzor (2008). Strategies for Winning the Anti-Corruption War in Nigeria, Abuja: Action Aid, 2008.

Philips O Okolo (2016). Corruption and Post 2015 Development Agenda in Nigeria. *Global Journal of Human-Social Science Research* 16, citing Ndubuisi A "Nigeria, What Hope?" Enugu Fourth Dimension Publishers (2009).

Rhoda Weeks-Brown (2018). IMF Anti-money Laundering and Economic Stability Straight Talk. *Finance & Development, December 2018, 55(4)*

Slama, M. B., & Gueddari, A. (2022). The relationship between money laundering and economic growth in the MENA region—a simultaneous equation model. In *Key challenges and policy reforms in the MENA region: An economic perspective* (pp. 123-141). Cham: Springer International Publishing.

Silksreen, H. (1994). Fraud: Its economic consequences. Journal of Finance and Accounting, 5(3), 12-21.

The International Monetary Fund, IMF (2018). IMF and the Fight Against Money Laundering and the Financing of Terrorism. Retrieved from htts://www.imf.org/en/About/Factsheets/2016/08/01/Fight-Against-Money-Laundering-the-Finance-of-Terrorism.

The World Bank, (2006). Money laundering. Retrieved from http://www.wolfsbergprinciples.com/indexproof.html

Unger, B. (2006). The Amounts and Effects of Money Laundering, Dutch Ministry of Finance report, with the collaboration of G. Rawlings, M. Siegel, J. Ferwerda, W. de Kruijf, E.M. Busuioc and K. Wokke

Walker, F., and Unger, B. (2009). How to dodge drowning in data? Rule- and Risk-Based Anti-Money Laundering Policies Compared. *Review of Law & Economics*, 5(2), 7-19.

Zekeri Momoh (2015). Globalization and Corruption in Africa. *Fountain University Journal of Management and Social Sciences*.