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Article

ANTI-MONEY LAUNDERING REGULATIONS AND BANKING SECTOR STABILITY IN Africa

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FINANCIAL ECONOMICS | RESEARCH ARTICLE ANTI-MONEY LAUNDERING REGULATIONS AND BANKING SECTOR STABILITY IN Africa

Mohammed Issah¹*, Samuel Antwi¹, Solomon Kofi Antwi¹ and Patience Amarh¹

Abstract: The study econometrically analysed anti-money laundering regulations and banking sector stability in Africa. A panel data on 51 African countries over the period of 2012 to 2019 were used. Secondary data were sourced from the World Bank's indicators, the IMF, the Basel Institute on Governance other financial websites. The two-staged Generalised Moment Method (GMM) was used to analyse the effect of AML regulations on banking sector stability and the effects of the different levels of AML effectiveness and its impact on the banking sector stability in Africa. The study discovered that AML regulations had a significant positive effect on the stability of banking sectors in African countries. This indicated that whether there was high effectiveness or low effectiveness of the AML regulations, it would still have a positive impact on the stability of the banking sector of the country.

Subjects: Economics; Finance; Business; Management and Accounting

Keywords: anti-money laundering; banking sector stability; generalised moment method; Africa

ABOUT THE AUTHOR

Mohammed Issah received the BSc. degree (with honors) in Applied Accounting from Oxford Brookes University, Oxford, U.K., in 2004, the M. Sc. degree in Financial Management from the University of West of England, Bristol, U.K., in 2012, and another postgraduate degree in Financial Strategy from the University of Oxford, Oxford, U.K., in 2013. Mr Issah is a Chartered Accountant and a Fellow of the Association of Certified Chartered Accountant, U.K. He was the Managing Director of FT Global Consulting in the UK and the Financial Controller for the Embrace Group in the UK for several years. He is currently the Managing Director of FT Global Investment Ltd and a Lecturer at the School of Graduate Studies at University of Professional Studies, Accra, Ghana. His research interests covers the corporate failure predictions, performance measurement, transfer pricing and Risk management. The study's major contribution is the introduction of a simple framework to identify and exploit linkages between Anti-money Laundering Regulations and Banking Sector Stability.

PUBLIC INTEREST STATEMENT

The purpose of our study is to analyse the effect of anti-money laundering regulations (AML) and banking sector stability in Africa. Data from the World Bank's indicators, the IMF, and the Basel Institute on Governance on 51 African countries over the period of 2012 to 2019 were used. The study discovered that AML regulations had a significant positive effect on the stability of countries in Africa. The study also found that the level of AML effectiveness of a country did not have a negative impact on the banking sector stability of the country. This indicated that whether there was high or low effectiveness of the AML regulations, it would still have a positive impact on the stability of the banking sector of the country.

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1. Introduction

The integration of the world economy, the removal of barriers to the free movement of capital, and the sheer speed of computer-generated financial transactions have combined to create new commercial opportunities (Alexander, 2001). The advancements have also made the global criminal task of money laundering easier.

The most significant reason of money laundering crime is to convert illegal or dirty money into clean money for safeguarding wealth, avoiding prosecution and taxes, increasing profits and becoming legitimate. There are many global dangers that money laundering poses to economies across the globe. Money laundering is responsible for the undermining and manipulation of legitimate business since businesses set up by funds from money laundering permit considerations that vary from that of legitimate or sound businesses. Money laundering has the capacity to globally misrepresent macro-economic estimates, twist currency markets and subvert financial institutions by the creation of illegal economies (Alexander, 2001). Due to the negative impact of money laundering, the international community has developed instruments to fight it through recommendations to the financial and business professions as well as other reporting parties (Go & Benarkah, 2019).

Funds can be moved among corporate entities and financial institutions in many countries in the blink of an eye through wire fund transfers, making the untangling more and more difficult at every stage. It is difficult to quantify the amount of illegitimate money that is infused in the global financial system annually. However, over the years, some organizations have attempted estimating the quantum of money laundering. The 2020, the United Nations estimates that 2–5% of the global Gross domestic product (GDP) is laundered annually. The amount is projected to be between \$800 billion and \$2 trillion US dollars. The stealthy nature of money laundering has made it a cumbersome work to accurately predict the total amount of money that goes through money laundering. Economic and Financial Crimes Commission (EFCC) estimated that African countries lose \$50 billion dollars to money laundering annually. The amounts of money that are estimated to be losses incurred by African countries due to money laundering can pay of the debt of African economies.

The financial sector is the major focus of money laundering because they are the major channels for converting illicit money to clean money. The banks, financial institutions and the whole financial system thrive on the trust of customers and a significant reduction in the level of customer confidence in the financial system can have adverse impacts on the stability of the banking sector (Ofoeda et al., 2020).

Since its criminalization 20 years ago, there has been an increasing interest within the phenomenon of money laundering globally (Aluko & Bagheri, 2012). However, most of the studyieshave focused on money laundering from the attitude of developed countries (Aluko & Bagheri, 2012). Accordingly, international opinion, policies and legislation aimed toward combating money laundering have also been designed mainly on the requirements of the developed countries (Aluko & Bagheri, 2012). However, money laundering is indeed a world phenomenon and its impact and effect reflect on all the facets of the worldwide society. Many developing countries have characteristics and attributes that money launderers find attractive to hold out their act. Consequently, this impacts on the financial sector of such countries. The fight against money laundering on the global level necessitated the establishment of the Financial Action Task Force (FATF). Money laundering is a crime that can destroy financial and economic systems in the long-run. The most significant sector that is affected by money laundering the most is the banking sector (Raweh et al., 2017). The banking sector of a country can be massively disturbed by the consequences of money laundering. The banks, financial institutions and the whole financial system thrive on the trust of customers and a momentous drop in the level of customer confidence in the financial system can have hostile impacts on the stability of the banking sector. Anti-money laundering regulations enhance the reputation of financial institutions and also promote customer confidence in the financial system and processes. A major issue that has gained much momentum in the last two decades globally is the extent of coverage of financial systems and institution (Anarfo et al., 2019). Four African countries were included in the list of countries that pose significant threats to the global financial system in the European Union. Recent financial reforms that have been made by Ethiopia and Tunisia which tackle money laundering and terrorist financing has caused them to drop on this list. Other African countries that have been included on the list are Botswana, Ghana, Zimbabwe and Mauritius. All of these countries have been categorized as high-risk countries because they suffer from tactical insufficiencies in their anti-money laundering and counter terrorism financing framework. It has now become necessary that adequate attention has to be paid to the effect of anti-money laundering regulations on banking sector stability in Africa so that going forward policies, reforms and international opinion on money laundering in Africa can be made more robust.

Money laundering in Africa has been by far under-researched because according to the Basel Institute on Governance sub-Saharan Africa is a leading destination for money laundering globally (Basel Institute on Governance, 2020). There is a worldwide consensus that financial institutions should be regulated, however, the focus of the regulation efforts is beyond the conventional solvency issue since banks have been one of the most important channels of money laundering in the last decades (Azevedo Araujo, 2008). Financial institutions play a central role in the war against money laundering (Masciandaro, 2005). The regulation of anti-money laundering in financial institutions will be a big step in the war against money laundering in the financial sector of the country, since, one of the evident channels for money to be laundered are the financial institutions in the country. The advancement and dynamics in the financial world have diversified the channels for money to be laundered. Nowadays, aside the financial institutions and banks that were historically the main channels for money or assets from one place to another, they take the form of mobile apps and websites. It is now very necessary that not only financial institutions should have adequate regulations to prevent money laundering.

Despite the promising evidence of projecting the critical role of anti-money laundering regulations in the banking sector, empirical efforts have not been through in investigating the influence of AML regulations on banking sector stability. Mekpor, Aboagye & Welbeck (2018) studied the determinants of anti-money laundering regulations. Usman Kemal (2014) also assessed studied how effective anti-money laundering regulations in Pakistan were. Mekpor (2019) studied the compliance level of countries to the global laws of AML. Ofoeda et al. (2020) studied anti-money laundering and financial sector development. Aluko and Bagheri (2012) researched on the impact of money laundering on economic and financial stability and on political development in developing countries. Existing literature in the subject area indicates a need to access anti-money laundering regulations and its effect on banking sector stability on the continent at large since the activities of money laundering can undermine the health of the banking system and subsequently the financial system through the erosion of credibility, which is a fundamental concept in the modern financial economy (Azevedo Araujo, 2008). Therefore, this study examines the influence of AML regulations on banking sector stability in Africa.

2. Literature review

Usman Kemal (2014) identified the impact of employee training on anti-money laundering towards the banking system. Tupman (2015) reviewed the actions in some countries and also established the fact that the instability in the political system will increase crimes. Hamin et al. (2016) who conducted a study on financing terrorism in Malaysia, also recognized from the study that money laundering crime that was related terrorism had to be taken seriously in formal institutions. The cooperation between all of the institutions of a country or group of countries is effective in combatting money laundering (Hamin et al., 2016).

Banking secrecy is one of the main barriers that stand in front of anti-money laundering, because it comprises of a barrier-to-access to bank deposits and a protection for doubtful funds, since it is one of the conventional rules pertinent to working banks, where client's secrets and banking operations are saved by bank's commitment to law and custom, unless there is provision in the law or in the agreement stating otherwise (Al-Nuemat, 2014).

Money laundering is a known phenomenon in the world as a result of its devastating effects on the financial sector. Subbotina (2008) examined compatibility of local anti-money laundering regulations with international standards in Russia by studying in detail four elements, which include reporting, training, supervision, regulation and customer identification for comparison purposes and identified that except the vocabularies used for certain things the rest were the same. The study further recommended that to combat money laundering, cooperation between different financial institutions, especially banks and countries should be promoted.

Ajayi and Abdulkarim (2010) asserted that the survival and integrity of financial institutions was threatened as a result of the prevailing of money laundering. He further advised that measure should be taken to stop money laundering that included but were not limited to employment of compliance staff who would monitor compliance of the institution's regulations on money laundering. Extensive data collection of consumers and records of customer information and transactions. Investment in employee training to help boost abilities in identifying false transactions and promotion of globalized attack on money laundering.

According to Mugarura (2011), AML regulations, especially related to customer record keeping, employee training and reporting suspicious transactions are the best measure to fight money laundering and other frauds. There is one drawback in these regulations that makes their impact unstable, that is, FATF regulations are not legally bound, and until and unless they are injected in the national law of the country these regulations are not effective. This drawback results in weak compliance among countries around globe; therefore, it is necessary to implement FATF regulations by tailoring adjustments in the country's law and strictly following penalizing and punishing laws.

Tang and Ai (2010) studied different cases related to anti-money laundering regulations implementation and found that they are executed by developing countries by two ways that are adoption without enforcement and selective implementation. China comes under the category of adoption without enforcement. They found that there is a negative relationship between antimoney laundering regulations effectiveness and money laundering. Reason for increased laundering crime in China is no-to-moderate enforcement of FATF recommendations because of political interruptions.

The risks created by money laundering has coerced many governments to declare that the close international operation was needed to counter money laundering, and a number of consensus have been reached internationally. Today, there are an increasing number of countries that are passing laws and regulations. It can be said that the growing threat of global money laundering and terrorism justifies overriding banking secrecy, because without a flow of information from the banks, the effective prevention of the menace is impossible (Rahman, 2013).

One of the most recent study in this area was conducted by Ofoeda et al. (2020) which identified that effective money laundering regulations could impart confidence and trust of customers in the financial system which would in turn promote the development of the financial market. The study also revealed that anti-money laundering regulations enhanced the development of both financial institutions and financial markets and that anti-money laundering regulations promoted good governance as well as enhanced the reputation of financial institutions which in the long-run magnified financial sector development.

2.1. Anti-money laundering regulations and banking sector stability

The financial system is the major channel of laundering proceeds of criminal activities (Raweh et al., 2017). Money laundering has the ability to destabilize financial institutions and the entire financial system (Mekpor et al., 2018). Van der Zahn et al. (2007) also indicated that money laundering corrupts the financial market and diminishes the confidence and trust of customers in the financial system. Money laundering has great reputational risks for financial institutions

because it results in a loss of integrity (Bartlett, 2002). Unchecked money laundering could mean complicity on the part of financial institutions in the crimes that generate illicit funds which affect the trust and confidence of customers in the financial market according to (FATF, 2020). African countries with strong corruption control experience greater banking solvency and higher financial development levels, hence, improving stability (Ozili, 2013). Financial institutions that benefit from money laundering may not be able to endure the test of market competition as they may have challenges in adequately managing their assets, liabilities and operations (Ofoeda et al., 2020). Financial institutions in Nigeria that rely massively on illicit capital are unable to endure the tests of market competition and as a result, many of them collapse (Aluko & Bagheri, 2012). Large capital inflows and outflows attained by money laundering would unfavorably affect the foreign exchange market which will result to fluctuations of the local currency (Tanzi, 1997). An attempt to stop money laundering will greatly impact the development and stability of the financial sector (Ofoeda et al., 2020). Anti-money laundering policies are factors of good government policies and they fall in line with efficient financial stability regulations (Ofoeda et al., 2020). Anti-money laundering regulations have positive impacts on the banking sector stability of an economy; however, some studies have identified contrasting results. Geiger and Wuensch (2007) suggested from their study that anti-money regulations enforced on financial institutions that could adversely affect these institutions by increasing their transaction cost. Masciandaro (1999) tried to quantify the cost of anti-money laundering regulations and concluded that anti-money laundering regulations did not improve banking efficiency. Anti-money laundering threatens the confidence the public has in the financial system especially when it is through these same financial institutions that money is laundered. Ofoeda et al. (2020) found that the implementation of anti-money laundering regulations in financial institutions were expected to restore and improve confidence in the financial institutions and the financial system as a whole.

2.2. Determinants of banking sector stability

Banking sector stability promotes economic growth of nations. A financial stability of any country is an important factor in going to the world through increased international business (Alshubiri, 2017). The financial stability is achieved by the relative stability of the indicators of monetary and fiscal policy, which reflect the growth in the country's economy. For an economy to be able to be assessed as stable or not, there is a need to determine and understand the mechanism and nature of the economy. (Kato and Hagendorff, 2010). The stability of prices on all commercial and financial activities contribute to financial stability in the country (Alshubiri, 2017). Financial stability may be hindered by both internal processes and strong shocks that create weak spots in the financial system. Such shocks may arise from the external environment, domestic macroeconomic developments, main debtors and creditors of financial institutions, economic policies or changes in the institutional environment (Azam & Siddigoui, 2012). Any interaction between weak spots and shocks can result in the collapse of major financial institutions and disruption of the functions of the financial system as regards financial intermediation processes (Mburu, 2016). Without sound and effective regulation, financial systems can become unstable, triggering crises that can devastate the real economy as evidenced by the recent global financial crisis that began in 2007 (Spratt 2013). A strong financial system plays a vital role in enhancing growth and reducing the risk in the banking industry in a country. Financial stability is an essential requirement not only for monetary stability but also for healthy development of the economy (Mburu, 2016).

3. Methodology

3.1. Introduction

This Chapter describes the procedures and techniques employed to achieve the study objectives. This includes the theoretical and philosophical assumptions upon which this research was based and the implications of the method(s) adopted. The methods specifically refer to the techniques and procedures used to obtain and analyse data. This chapter consists of the research design, target population, data source and collection method, research model, study instrument, ethical and legal consideration and statistical analysis.

3.2. Sample size

The sample was drawn from African countries studied by the Basel Institute of Governance concerning Anti-money laundering regulations. The population of the study comprises of alla African Countries. The sample was selected from availability of data. The study used fifty (50) African countries as the sample size. The sample size was chosen purposely because of the availability of data. The data for the study weere from 2012 to 2019.

3.3. Data source

The data on Anti-money laundering were collected from the Basel Institute on Governance. The Basel Institute on Governance has an Anti-money laundering index (Basel AML index) is an independent annual ranking that assesses the risk of money laundering and terrorist financing (ML/TF) around the world. The index spans five main criteria and a score from 0 to 10 is allocated to a country. An index value of 0 indicates the lowest risk level of money laundering and terrorist financing while a value of 10 indicates the highest risk level of money laundering and terrorist financing. The data on banking sector stability were collected from a myriad of financial websites and databases such as the Global Financial Development database, Bank scope, and the World Bank.

3.4. Analytical technique

The study adopted the two-staged Generalised Moment Method (GMM) as an analytical tool for the study. The ability of GMM in accounting for dynamics in a dynamic panel model and the control for endogeneity among many explanatory variables is the theoretical implication of its use in this study. The GMM will control majority of errors associated with data analysis of the study. GMM generalizes the method of moments (MM) by allowing the number of moment conditions to be greater than the number of parameters. Using these extra moment conditions makes GMM more efficient than MM. A major advantage of the dynamic panel model is the ability to predict short and long run values of coefficients. Researchers can also choose which variables are potentially endogenous or exogenous using dynamic panel models. The generalised method of moments can be applied in a panel data where the model contains a lagged dependent variable regressed along with an unobserved effect. Estimators of the GMM are asymptotically efficient and consistent.

3.5. Dynamic panel model specifications

In line with literature, the empirical model in assessing the impact and extent of AML regulations on banking sector stability was specified as follows:

$$BSS_{it} = \beta_0 + \beta_1 BSS_{i,t-1} + \beta_2 AML_{it} + \beta_3 CPI_{it} + \beta_4 UMP_{it} + \beta_5 BSZ_{it} + \beta_6 BRW_{it} + \varepsilon_{it}$$

where BSS_{it} represents the proxies for banking sector stability of country i in time t. AML_{it} represents the anti-money laundering regulations index. CPI_{it} represents the consumer price index as a measure of the inflation in country i in time t. Again, UMP_{it} refers to the unemployment rate in country i in time t. BSZ_{it} represents private credit by deposit money banks to GDP as a measure bank size and BRW_{it} is the level of funds borrowed from banks in country i in time t. The β terms represent the coefficients of the respective variables. The ϵ is the error term.

3.6. Selection, description and measurement of variables

3.6.1. Selection of variables

Several studies have considered different predictor of Ofoeda et al. (2020) observed that there is no strong underlying theory which supports many of the variables that appeared in most previous studies. Thus, variables were selected using two basic criteria in terms of:

(i) Their popularity in Anti-money Laundering and Banking sector stability literature (Al-Nuemat, 2014; Azam & Siddiqoui, 2012; Mekpor et al., 2018; Van der Zahn et al. 2007).

(ii) The availability of financial data provided by Basel Institute on Governance, Global Financial Development database, Bank scope, and the World Bank.

3.6.2. Dependent variable

3.6.2.1. Banking sector stability. This will be measured using the Z-score. The Z-score is a commonly used accounting-based measure of banking sector stability (Cuestas et al., 2020). The Z-score compares capitalization and returns with risk from the volatility of returns to determine how far a financial institution or bank is from insolvency (Cuestas et al., 2020). There is an inverse relationship between the likelihood of a financial institution becoming insolvent and the Z-score. Empirical evidence shows that the Z-score is an absolute measure of banking stability (Fang et al., 2014). The Z-score is calculated as the return on assets plus the capital-asset ratio divided by the standard deviation of the return on assets *ZSCORE* = $\frac{(ROA+CAR)}{SD_{ROA}}$ Since the Z-score is inversely related to the probability of a bank becoming insolvent, a high Z-score will indicate a higher level of stability while a lower Z-score will indicate a lower level of stability. The limitation of the Z-score is that it is highly skewed and as such we consider the natural logarithm of the Z-score (LnZscore) which is normally distributed as a measurement of banking sector stability. This method is consistent with Laeven and Levine (2009), Ozili (2013), Houston et al (2010) and Fernandez et al (2016) among others.

3.6.3. Independent variables

3.6.3.1. Anti-money laundering regulations. This will be measured using the Basel Anti-money laundering index that is published by the Basel Institute on Governance. Annually, the Basel institute on Governance ranks the risk of money laundering and terrorist financing (ML/TF) globally. The effectiveness of structures, systems and procedures to combat money laundering are assessed by the index. The index by the Basel Institute spans five main criteria and a score from 0 to 10 is allocated to a country. An index value of 0 indicates the lowest risk level of money laundering and terrorist financing while a value of 10 indicates the highest risk level of money laundering and terrorist financing. The domains that are used to assign a score on a country basis are as follows; quality of anti-money laundering/Countering Financing of Terrorism frame- work (65%); bribery and corruption (10%); financial transparency and standards (15%); public transparency and accountability (5%); and legal and political risks (5%). Following Ofoeda et al. (2020) and Agoba et al. (2019), we scale the AML index where risk scores from the index will match lower effectiveness of anti-money laundering regulations. Based on the study of Ofoeda et al. (2020), the computation will be done as -1^* (AMLR-10), where AMRL is the anti-money laundering regulations index.

3.6.3.2. Inflation. Inflation reduces the value of future cash flows which lead to higher interest rates and increase in cost of capital of businesses (Ofoeda et al., 2020). Inflation has the tendency to increase the day-to-day expenses of a business (operational cost), which can adversely affect the business and in the long run the financial sector. Inflation can seriously affect the financial stability of an economy, it can affect price of goods, purchasing power of consumers and the selling price of firms. Inflation can also affect cost of living, exchange rates, interest rates and other macroeconomic variables that are vital in determining the stability of the financial sector. The study will use consumer price index proxy inflation. On the other hand, banks benefit from higher price margins during inflationary periods which increase their profitability therefore contributing to higher banking stability (Jokipii and Monnin, 2013).

3.6.3.3. Unemployment. Unemployment is a macroeconomic factor that can influence the banking sector stability (Boateng et al., 2015). The probability of loan defaults increases when there is unemployment. Borrowers will experience difficulty to repay the principal and/or interest on the loan facility due to loss of jobs during high periods of unemployment, thus, resulting in a high default of loan repayments which can cause banking sector instability. Unemployment will be measured as the unemployment as a percentage of the total labor force (Ozili, 2013).

3.6.3.4. Bank size. The bigger the banking sector of a country the higher the depth and/or breath of financial intermediation in the financial system of the country (Ozili, 2013). A deeper and bigger financial intermediation will cause a financial sector to be more stable provided a systematic risk regulatory framework exists (Ozili, 2013). The bank size will be measured as private credit by deposit money banks to GDP which demonstrates the size of the banking sector. It has to be noted that a large banking sector may correlate with greater banking instability if excessive competition drives banks to take excessive risk that could materialize as losses during bad economic times which can destabilize the banking system (Ozili, 2013). Data were collected from the World Bank and Global Financial Development database.

3.6.3.5. Borrowing. This will measure the level of funds borrowed from the banking sector. Higher values indicate a high level of confidence in the banking sector while low values will indicate lower levels of confidence in the banking sector. The data were collected from bank scope database.

4. Data analysis

4.1. Descriptive statistics

Table 1 shows measurement, descriptions and expected sign of variables used in the study's model. AML, BSZ, BRW are expected to have positive signs, whilst CPI and UMP are expected to have negative signs.

Table 2 shows the descriptive Statistics of the variables used in the study. The number of observations was 408 from 50 African Countries. Table 2 shows the number of observations, mean, standard deviation, minimum and maximum values for all the variables used in the study.

The results from Table 2 reveal that the average level of banking sector stability in Africa was 2.411 with a standard deviation of 0.47. This is an indication that the banking sector in African countries are very unstable. The sample mean is less than 50% which suggest that there is a very low level of banking sector stability in Africa. The mean of anti-money laundering regulation is 3.48. The index ranges from 0 to 10, such that 0 indicates the lowest level of anti-money laundering regulation effectiveness, while, a score of 10 indicates the highest level of anti-money laundering regulation effectiveness. The implication of the mean of 3.48 indicates that there is a very weak low level of anti-money laundering regulation effectiveness in Africa. The consumer price index as a proxy for inflation reported a mean of 5.57 for the sample. The level of unemployment over the study period had an average of 8.43% and a standard deviation of 6.54% indicating that 8.43% of the total labour force are unemployed in Africa. The private credit by deposit money banks to GDP as a measure of banking sector size had an average of 39%. This implies a relatively lower size of the banking sector in Africa based on amount of owing credit offered by the banks to the non-financial private sector by deposit money banks, the table also 4.1 shows that the level of borrowing in Africa over the study period had a very high average of 143.67 and a standard deviation of 92.8 indicating that there is a high dependency on the banking system in Africa for funds. The high mean suggest that a lot of financing is done through debt in Africa and the banks in Africa provide majority of this debt financing.

4.2. Correlation analysis of variables used in the study

Table 3 presents the correlation matrix of the variables used in both models.

The study used the correlation analysis to determine the strength and direction of the relationship between the independent variables and the dependent variables. Table 3 above shows the results of the correlation analysis of Banking sector stability, Anti-money laundering regulation index, Consumer price index, unemployment rate, Banking sector size and unemployment. The correlation in Table 3 shows a positive association between anti-money laundering regulations and banking sector stability. There is a negative relationship between consumer price index as a proxy for inflation and banking sector stability. The results show a positive

Table 1. Measurement and description	s of variables in the model above		
Variables	Description	Measurement	Expected Sign
BSS	Banking Sector Stability	Natural logarithm of the Z-score.LNZSCORE = $\frac{(ROA+CAR)}{SD_{ROA}}$	
AML	Anti-money laundering regulation	Basel AML index	+
CPI	Inflation	Consumer price index	
UMP	Unemployment	Unemployment percentage of total labour force	1
BSZ	Banking sector size	Private credit by deposit money banks to GDP	+
BRW	Borrowing from banks	Rate of borrowing	+

Table 2. Descriptive statistics of variables used in the study							
VARIABLE	OBS.	MEAN	STD.DEV.	MIN	MAX		
BSS	408	2.411	0.474	0.770	4.009		
AML	408	3.843	0.830	1.673	6.830		
CPI	408	5.570	6.421	-2.409	52.814		
UMP	408	8.436	6.543	0.384	28.181		
BSZ	408	39.044	24.143	0.948	146.883		
BRW	408	143.671	92.851	0.565	336.552		

Table 3. Correlation analysis for model							
VAR	BSS	AML	CPI	UMP	BSZ	BRW	
BSS	1.0000						
AML	0.2411**	1.0000					
CPI	-0.0264**	0.0202**	1.0000				
UMP	0.2546**	0.2230	0.0355**	1.0000			
BSZ	0.3268**	0.2773**	-0.1942	0.2819	1.0000		
BRW	0.1621	0.1323	-0.1692	0.1634**	0.3122	1.0000	

symbols ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

association between unemployment and banking sector stability. There is also a positive relationship between banking sector size and banking sector stability. Borrowing also has positive association with banking sector stability. From the table, the correlation matrix does not demonstrate a concern about the issue of multi-collinearity in the data.

4.3. Effect of anti-money laundering regulations on banking sector stability in Africa

Table 4 below presents the system-GMM panel regression analysis results of the model used to analyse the effect of Anti-money laundering regulations on banking sector stability in Africa. It also includes the reliability and validity test (i.e., Sargan test, (F), AR (1) and AR (2)) for the model. The overall model was significant at 1%. The study also showed that Anti-money laundering regulations, size of banking sector and level of borrowing are factors that significantly affect banking sector stability in Africa.

4.3.1. Diagnostic test results

Table 4 below shows the diagnostic test result which were used in ensuring robustness of the result. Due to the expectation of serial correlation or autocorrelation within the financial variables under GMM, Table 4 includes the lag of the dependent variable (Banking sector stability). In order to ensure a robust result, serial correlation of financial data is only expected to exist at level one and not at level two. If there is presence of serial correlation at order one, then the GMM model should report AR (1) p < 0.05 at 5% level of significance, and if there's presence of serial correlation at order 2, then AR (2) p > 0.05 at 5% level of significance (Bond, 2002). As shown in Table 4 above, the first level of the Arellano-Bond test AR (1) was significant at 5% level of significance with a P-value of 0.000 whilst while AR (2) was seen to be insignificant at 5% level of significance with a P-value of 0.158. This suggests that the model is free from autocorrelation or serial correlation.

To ensure unbiased estimators (Co-efficient of variables), the F test was applied under the system-GMM results to test the reliability of the estimators of the models and the significance of

the model. Table 4 shows that the estimators of the model are unbiased and the model in general is significant at 95% level of confidence since the p > F is 0.03 which is less than 0.05.

Further, Table 4 shows the result of the Sargan test and the Hansen test which designates the validity of instruments under the system GMM. Instruments are valid under system-GMM at 95% level of confidence if the Sargan test probability of the Chi-square is greater than 0.05. The Sargan test or Hansen test must be insignificant to establish that the instrument for the model is valid. The results show that Sargan test and Hansen test are insignificant since Pr> chi² of Sargan test is 0.690 and Pr> chi² of Hansen test is 0.767 which is greater than 0.05. Therefore, the null hypothesis which states that "instruments are not valid" is rejected at 5% level of significance.

From Table 4, the coefficient of the lag of banking sector stability (BSS L.) is positive and significant at 1% level of significance. This suggests that a country with a previous history of banking sector stability will have a stable banking sector in the current year.

Table (Pooled GMM results on the effect of anti-money laundering regulations and hapking

sector stability						
BSS	COEF.	STD.ERR.	т	P> t		
BSS L.	0.782***	0.0921873	8.48	0.000		
AML	0.085**	0.033164	2.57	0.013		
CPI	-0.004	0.0093094	-0.43	0.667		
UMP	0.019	0.013999	1.37	0.176		
BSZ	0.004*	0.0024515	1.96	0.056		
BRW	-0.009**	0.0004524	-2.06	0.044		
Prob > F	0.03	Sargan test Pr> chi2	0.690	AR (1) Pr > z = 0.000		
AR (2) Pr > z	0.158	Hansen test Pr> chi2	0.767	OBS . 357		

The symbols ***, **, and * indicate significance at the 1, 5 and 10% levels, respectively

Table 5. Pooled GMM results on the effect of countries ABOVE anti-money laundering regu- lations mean and banking sector stability					
BSS	COEF.	STD.ERR.	т	P> t	
BSS L.	0.670891***	0.1290327	5.20	0.000	
AML	0.2238672**	0.0927907	2.41	0.023	
CPI	-0.0206569**	0.009377	-2.20	0.036	
UMP	-0.0028827	0.0285372	-0.10	0.920	
BSZ	0.0049025**	0.0015774	3.11	0.004	
BRW	-0.0013237**	0.0006324	-2.09	0.046	
Prob > F	0.03	Sargan test Pr> chi2	0.991	AR(1) Pr > z = 0.002	
AR(2) $Pr > z$	0.618	Hansen test Pr> chi2	0.474	OBS . 196	

The symbols ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

Table 6. Pooled GMM results on the effect of countries BELOW anti-money laundering regu- lations mean and banking sector stability					
BSS	COEF.	STD.ERR.	т	P> t	
BSS L.	0.7154427***	0.239397	2.99	0.007	
AML	0.1827564**	0.0856543	2.13	0.044	
CPI	-0.0104068*	0.00545	1.91	0.069	
UMP	-0.0270854	0.016337	-1.66	0.111	
BSZ	0.0065216	0.0121023	0.54	0.595	
BRW	-0.0001772	0.0005495	-0.32	0.750	
Prob > F	0.03	Sargan test Pr> chi2	0.794	AR (1) Pr > z = 0.042	
AR (2) Pr > z	0.103	Hansen test Pr> chi2	0.590	OBS . 161	

Source: Author's own computation, STATA 2016

The symbols ***, **, and * indicate significance at the 1, 5 and 10% levels, respectively.

The coefficient of Anti-money laundering regulations (AML) is positive and significant at 5% level of significance. This is an indication that an increase in the effectiveness of anti-money regulations effectiveness will lead to an increase in the banking sector stability of the country. This positive relationship is in accordance with the expectation of the study. The results are however consistent with the findings of Ofoeda et al. (2020) who found that AML regulations promote financial sector development in developing countries. African countries with strong corruption control enjoy greater banking solvency and higher financial development levels Ozili (2013). Countries with high AML effectiveness have a more stable banking sector since the banking sector suffers the most consequences from the crime of money laundering. It is through the banks that the money is laundered and mostly converted. This frequently impedes on the confidence of customers of these banks, this affects the stability of the banks and therefore the entire banking sector. The result suggest that if there are robust laws and regulations that prevent money from being laundered there will be a huge boost in customer confidence in the banks, since it is through these same banks money is laundered and this will positively impact the stability of the banks.

Additionally, Table 4 shows that the coefficient of banking sector size (BSZ) is positive and significant at 10% level of significance. This shows that an increase in the banking sector in Africa will result in an increase in banking sector stability. Private credit was used as a proxy for the size of the banking sector. This simply means the banking sector should expand to be able to give more credit. Therefore, more credit means bigger banking sector. A bigger banking sector will enhance the stability of the banking sector because, relatively the bigger the bank the bigger the ability of the bank to absorb risks and make adequate allocations for systematic and unsystematic risks. This implies that a large banking sector will lead to lower risk in the banking sector which will enhance stability. The positive direction is consistent with the prior expectation of the study. The findings of the study are consistent with that of (Ozili, 2013) who found that the bigger the banking sector of a country the deeper and higher the depth of the financial system and relatively a bigger sector means a more stable banking system. The coefficient of borrowing (BRW) is negative and significant at 5% level of significance. This is an indication that an increase in the rate or level of borrowing offered by banks in Africa will lead to a reduction in the level of stability in Africa. The activity of giving out too many facilities can increase the risk of loan defaulting and a recurrent practice of defaulting loans in the banking sector can have adverse impacts on the stability of the banking sector. The negative direction is consistent with the study's prior expectation.

4.4. Anti-money laundering effectiveness in Africa

Tables 5 and 6 above present the system-GMM panel regression analysis results of the model used to analyse the effect of the different levels of AML regulatory effectiveness on banking sector

stability in Africa. Two separate regressions were run. The mean of the AML regulation was used to classify countries as having high effectiveness of AML regulations or low effectiveness of AML regulation. Countries above and below the mean of AML were used to determine the effect of the different levels of AML. Table 5 represents regression for countries above the mean while Table 6 represents regression for countries below the mean. It also includes the reliability and validity test (i.e., Sargan test, (F), AR (1) and AR (2)) for the model.

4.4.1. Diagnostic test results for model in Tables 5 and 6

From Table 5, the coefficient of the lag of banking sector stability (BSS L.) is positive and significant at 1% level of significance. This means that a previous recording of high stability in a country with high effectiveness of AML regulations will cause the current banking sector stability to increase. This positive relationship is very consistent with the expectation of the study. This suggests that a country that has an effective regulation of AML which has a previous history of banking sector stability will have a stable banking sector in the current year. The coefficient of Anti-money laundering regulations (AML) is positive and significant at 5% level of significance. This is an indication that an increase in the effectiveness of anti-money regulations will cause the banking sector stability of a country with high AML regulation effectiveness to increase. This positive relationship is in accordance with the expectation of the study. Countries with high AML effectiveness have a more stable banking sector since the banking sector suffers the most consequences from the crime of money laundering. In comparing the coefficients of antimoney laundering in Tables 5 and 6, we find that although in both high effectiveness, thus, above the mean and low effectiveness, thus, below the mean, AML regulation have a positive impact on the banking sector stability; however, the coefficients for AML in countries that are above the mean of AML, that is, countries that have a higher effectiveness of anti-money laundering regulations is higher than that of countries below the mean of AML. This suggests that the positive impact of AML regulations on banking sector stability is more pronounced in countries with a higher effectiveness of AML regulations. This implies that, the more we promote AML regulation effectiveness the more we promote the banking sector stability in Africa. This may be due to the fact that African countries generally are known to have high incidence of ML and for that matter countries with stronger AML regulations are going to engender more trust and confidence in the banking sector which is key in promoting banking sector stability. The coefficient of inflation measured as the consumer price index (CPI) is negative and significant at 5% level of significance. The negative relationship is very consistent with the prior expectations of the study. The findings of this study seek to suggest that an increase in the consumer price index of a country will cause the banking sector of that country to be destabilized. African countries with strong corruption control enjoy greater banking solvency and higher financial development levels Ozili (2013). This result is very consistent with existing literature from Aga and Kocaman (2006), Agbloyor et al. (2013), and Ofoeda et al. (2020) who found that inflation reduced the present value of future cashflows and increased the cost of capital of firms, which leads to a decrease in stability. According to Andres and Hernando (1999), inflation reduces the level of investments and decreases per capita income which leads to instability in financial institutions.

Additionally, Table 5 shows that the coefficient of banking sector size (BSZ) is positive and significant at 5% level of significance. Private credit was used as a proxy for the size of the banking sector. This shows that an expansion in the size of the banking sector in Africa will result in an increase in banking sector stability of countries that have high effectiveness of AML regulation. The result suggests that in countries that have a higher effectiveness of anti-money laundering regulations, the banking sector should expand to be able to give more credit. Therefore, more credit means bigger banking sector capacity which is a sign of a developed banking sector. A bigger banking sector will enhance the stability of the banking sector, the larger the banking sector the better it will be in making provisions for risks. The positive direction is consistent with the prior expectation of the study. The findings of the study are consistent with that of (Ozili, 2013) who found that the bigger the banking sector of a country the deeper and higher the depth of the financial system and relatively a bigger sector means a more stable banking system. The coefficient of borrowing (BRW) is negative and significant at 5% level of significance. This is an indication that an increase in the rate or level of borrowing offered by banks in African countries that have high effective

AML regulations will lead to a reduction in the level of banking sector stability in those countries. The negative direction is consistent with the study's prior expectation.

From Table 6, the coefficient of the lag of banking sector stability (BSS L.) is positive and significant at 1% level of significance. This means that a previous recording of high stability in a country with low effectiveness of AML regulations will cause the current banking sector stability to increase. This positive relationship is very consistent with the expectation of the study. This implies that a country that has a lower level of AML regulation effectiveness has a previous history of banking sector stability will have a stable banking sector in the current year. The coefficient of anti-money laundering regulations (AML) is positive and significant at 5% level of significance. This is an indication that an increase in the effectiveness of Anti-money regulations will cause the banking sector stability of a country with a relatively lower AML regulation effectiveness to increase. This positive relationship is in accordance with the expectation of the study. There is evidence from the results in Table 6 that, if there are robust laws and regulations that prevent money from being laundered there will be a huge boost in customer confidence in the banks, since it is through these same banks money is laundered and this will positively impact the stability of the banking system.

The coefficient of inflation measured as the consumer price index (CPI) is negative and significant at 10% level of significance. The negative relationship is very consistent with the prior expectations of the study.

5. Conclusion

The study found that anti-money laundering regulations can significantly boost the banking sector stability in Africa, this is supposed to guide policymakers that if resources and attention are directed towards combating money laundering on the continental level, there will be a boost in the banking sector stability in Africa. This will help stabilize economies in Africa and will enhance the development of the continent as a whole. The study found that banking sector stability can be boosted by the size of the banking sector. Authorities and regulatory bodies have to use the large banking sector size in Africa as an advantage in boosting the stability of Africa's banking sector by setting in place effective and robust laws and mechanisms. The study also found that inflation had a negative impact on the stability of the banking sector in Africa, this implies that if fiscal policies and robust laws are set in place to decrease the level of inflation in Africa, the banking sector of the continent will be promoted.

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References

Aga, M., & Kocaman, B. (2006). An empirical investigation of the relationship between inflation, P/E ratios and stock

price behaviours using a new series called index-20 for Istanbul stock exchange. International Research Journal of Finance and Economics, 61, 133–165.

- Agbloyor, E. K., Abor, J., Adjasi, C. K. D., & Yawson, A. (2013). Exploring the causality links between financial markets and foreign direct investment in Africa. *Research in International Business and Finance*, 28(1), 118–134. https://doi.org/10.1016/j.ribaf.2012.11.001
- Agoba, A. M., Abor, J. Y., Osei, K., Sa-Aadu, J., Amoah, B., & Dzeha, G. C. O. (2019). Central bank Independence, elections and fiscal policy in Africa: Examining the moderating role of political institutions. *International Journal of Emerging Markets*, 14(5), 809–830. https:// doi.org/10.1108/IJOEM-08-2018-0423
- Ajayi, K., & Abdulkarim, H. (2010). Insulating the vaults from the tide of dirty money: Are the flood gates secured? *Journal of Money Laundering Control*, 13(1), 33–44. https://doi.org/10.1108/13685201011010191
- Al-Nuemat, Ahmed Adnan. (2014). Money Laundering and Banking Secrecy in the Jordanian Legislation. Journal of International Commercial Law and Technology, 9(2), 117.
- Alexander, K. (2001). The international anti-moneylaundering regime: The role of the financial action task force. *Journal of Money Laundering Control*, 4(3), 231–248. https://doi.org/10.1108/eb027276
- Alshubiri, F. N. (2017). Determinants of financial stability : An empirical study of commercial banks listed in

Muscat security market. Journal of Business and Retail Management Research, 11(4), 192–200. https:// doi.org/10.24052/JBRMR/V11IS04/ DOFSAESOCBLIMSM

- 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), 442–457. https://doi.org/10.1108/13685201211266024
- Anarfo, E. B., Abor, J. Y., Osei, K. A., & Gyeke-Dako, A. (2019). Financial inclusion and financial sector development in Sub-Saharan Africa: A panel VAR approach. International Journal of Managerial Finance, 15(4), 444–463. https://doi.org/10.1108/ IJMF-07-2018-0205
- Andres, J., & Hernando, I. (1999). Does inflation harm economic growth? Evidence from the OECD. In *The costs and benefits of price stability* (pp. 315–348). University of chicago Press.
- Azam, M., Siddiqoui, S. (2012). Domestic and Foreign Banks' Profitability: Differences and Their Determinants. International Journal of Economics and Financial Issues, 2(1), 33–40.
- Azevedo Araujo, R. (2008). Assessing the efficiency of the anti-money laundering regulation: An incentivebased approach. *Journal of Money Laundering Control*, 11(1), 67–75.
- Bartlett, B. L. (2002). The negative effects of money laundering on economic development. *Platypus Magazine*, 77, 18–23.
- Basel Institute on Governance. (2020). Basel AML Index: 9th Public Edition Ranking money laundering and terrorist financing risks around the world. 42. https:// baselgovernance.org/sites/default/files/2020-07/ basel_aml_index_2020_web.pdf
- Boateng, A., Hua, X., Nisar, S., & Wu, J. (2015). Examining the determinants of inward FDI: Evidence from Norway. Economic Modelling, 47, 118–127.
- Bond, S. R. (2002). Dynamic panel data models: a guide to micro data methods and practice. *Portuguese economic journal*, 1(2), 141–162.
- Cuestas, J. C., Lucotte, Y., & Reigl, N. (2020). Banking sector concentration, competition and financial stability: The case of the Baltic countries stability: The case of the Baltic countries. *Post-Communist Economies*, 32(2), 215–249. https://doi.org/10.1080/ 14631377.2019.1640981
- Fang, Y., Hasan, I., & Marton, K. (2014). Institutional development and bank stability: Evidence from transition countries. JOURNAL OF BANKING FINANCE, 39, 160–176. https://doi.org/10.1016/j.jbankfin.2013.11.003
- Fernández, A. I., González, F., & Suárez, N. (2016). Banking stability, competition, and economic volatility. *Journal of Financial Stability*, 22, 101–120.
 Financial Action Task Force (FATF). (2020). Money laun-
- dering,Paris: Financial Action Task Force (FATF)
- Geiger, H., & Wuensch, O. (2007). The fight against money laundering: An economic analysis of a cost-benefit paradoxon. *Journal of Money Laundering Control*, 10(1), 91–105. https://doi.org/10.1108/13685200710721881
- Go, L., & Benarkah, N. (2019). Quo Vadis legal profession participation in anti-money laundering. *Journal of Money Laundering Control*, 22(4), 764–769. https:// doi.org/10.1108/JMLC-12-2018-0072
- Hamin, Z., Omar, N., & Rosli, W. R. W. (2016). Airing dirty laundry: Reforming the anti-money laundering and anti-terrorism financing regime in Malaysia. *Global Jurist*, 16(1), 127–139.
- Houston, J. F., Lin, C., Lin, P., & Ma, Y. (2010). Creditor rights, information sharing, and bank risk taking. *Journal of financial Economics*, 96(3), 485–512.

- Jokipii, T., & Monnin, P. (2013). The impact of banking sector stability on the real economy. *Journal of International Money and Finance*, 32, 1–16.
- Kato, P., & Hagendorff, J. (2010). Distance to default, subordinated debt, and distress indicators in the banking industry. Accounting & Finance, 50(4), 853–870.
- Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of financial economics*, 93(2), 259–275.
- Masciandaro, D. (1999). Money laundering: the economics of regulation. European Journal of Law and Economics, 7(3), 225–240.
- Masciandaro, D. (2005). False and reluctant friends? National money laundering regulation, international compliance and non-cooperative countries. *European Journal of Law and Economics*, 20(1), 17–30.
- Mburu, R. W. (2016). Determinants of financial disintermediation among commercial banks In Kenya. Doctorial dissertation,University of Nairobi. http://ere pository.uonbi.ac.ke/bitstream/handle/11295/97651/ Mburu_Determinants of financial disintermediation among commercial banks in Kenya.pdf?sequence= 1&isAllowed=y
- Mekpor, E. S. (2019). Anti-money laundering and combating the financing of terrorism compliance: Are FATF member states just scratching the surface? Journal of Money Laundering Control, 22(3), 451–471. https://doi.org/10.1108/JMLC-09-2018-0057
- Mekpor, E. S., Aboagye, A., & Welbeck, J. (2018). The determinants of anti-money laundering compliance among the Financial Action Task Force (FATF) member states. *Journal of Financial Regulation and Compliance*, 26(3), 442–459. https://doi.org/10.1108/ JFRC-11-2017-0103
- Mugarura, N. (2011). The institutional framework against money laundering and its underlying predicate crimes. Journal of Financial Regulation and Compliance,19(2), 174–194. https://doi.org/10.1108/ 13581981111123870
- Ofoeda, I., Agbloyor, E. K., Abor, J. Y., & Osei, K. A. (2020). Antimoney laundering regulations and financial sector development. *International Journal of Finance and Economics*, April, 1–20. https://doi.org/10.1002/ijfe.2360
- Ozili, P. K. (2013). Banking stability determinants in Africa. https://doi.org/10.1108/IJMF-01-2018-0007.
- Rahman, A. A. (2013). The impact of reporting suspicious transactions regime on banks: Malaysian experience. *Journal of Money Laundering Control*,16(2),159–170. https://doi.org/10.1108/13685201311318502
- Raweh, B. A., Erbao, C., & Shihadeh, F. (2017). Review the literature and theories on anti-money laundering. School of Economics and Trade, Hunan University, Changsha, China, 5(3), 140–147. https://doi.org/10. 18488/journal.107.2017.53.140.1
- Spratt, S. (2013). Food price volatility and financial speculation. Future agricultures working paper, 47, 7.
- Subbotina, N. (2008). Development of anti-money laundering regime in Russia. Journal of Money Laundering Control,14(4), 358–370. https://doi.org/10.1108/ 13685200810910420
- Tang, J., & Ai, L. (2010). Combating money laundering in transition countries: the inherent limitations and practical issues. Journal of Money Laundering Control,13(3), 215–225. http://dx.doi.org/10.1108/ 13685201011057127
- Tanzi, M. V. (1997). The changing role of the state in the economy: a historical perspective. working paper No.97/114. International Monetary Fund.
- Tupman, B. (2015). What does the way crime was organised yesterday tell us about the way crime is organised today and will be tomorrow? *Journal of Money*

Laundering Control, 18, 220–233. https://doi.org/10. 1108/JMLC-10-2014-0036 Usman Kemal, M. (2014). Anti-money laundering regula-

tions and its effectiveness. Journal of Money Laundering Control, 17(4), 416–427. https://doi.org/ 10.1108/JMLC-06-2013-0022 Van der Zahn, M., Makarenko, M. I., Tower, G., Kostyuk, A. N., Barako, D., Chervoniaschaya, Y., and Kostyuk, H. (2007). The anti-money laundering activities of the central banks of Australia and Ukraine. *Journal of Money Laundering Control*. https://doi.org/10.1108/ JMLC-07-2021-0081



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