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The Costs of Anti-Money Laundering Enforcements to Noncompliant Banks

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Abstract

Depository institutions' noncompliance with their anti-money laundering (AML) legal obligations can threaten their safety and soundness, and also impair the integrity of the wider financial system. As a consequence, financial sector regulators apply formal enforcements against banks that are severely noncompliant. Although these enforcements are intended to curb and correct illegal behavior, they also pose certain costs to noncompliant banks. My findings show that noncompliant banks have significantly lower operating performance after a formal enforcement. This results from the operational costs to upgrade their AML compliance programs, and loss in profitability from ceasing the launder-facilitating activity. I also find that noncompliant banks have greater capital risk after enforcement, reasonably due to the increased demand on regulatory capital to support the operational risk exposed by noncompliance. There is no evidence that depositors discipline noncompliant banks, suggesting that bank regulators may be the only police of banks' AML obligations. Despite the adverse effects of AML enforcements on bank earnings and capital, there is no evidence that these enforcements are related to bank failure. Collectively, declining operating performance and increasing capital risk are seemingly the only costs to noncompliant banks from formal AML enforcements.

Keywords: Bank failure, Capital Risk, Depositor discipline, Money laundering, Operating performance, Regulatory Enforcement

JEL Classification: G21, G28

Introduction

Billions of dollars are laundered annually which impairs the integrity of the global financial system as financial institutions are the primary vehicles that criminals utilize to launder money. According to the United States Department of the Treasury Financial Crimes Enforcement Network (Fin Cen), money laundering (ML) complements criminal activities such as drug trafficking and terrorism and, as such, has a negative effect on the global economy. Consequently, the Bank Secrecy Act (BSA), 1970, requires financial institutions to (initially) record and report money laundering. The legal framework also comprises related anti-money laundering (AML) Acts[2] which serve to enhance or amend the BSA's initial AML provisions. In total, the AML legal framework currently requires financial institutions to develop compliance program to detect, monitor, and report (suspicious) ML activities in order to safeguard the financial system from criminal infiltration.

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[2] Money Laundering Control Act, 1986; Anti-Drug Abuse Act, 1988; Annunzio-Wylie Anti-Money Laundering Act, 1992; Money Laundering Suppression Act, 1994; Money Laundering and Financial Crimes Strategy Act, 1998; US PATRIOT Act, 2001; and Intelligence Reform & Terrorism Prevention Act, 2004.

Financial institutions that fail to comply with their AML legal obligations expose the financial system to comingling illicit and legitimate funds, thereby supporting the motives of criminal enterprises. Thomas J. Curry, Comptroller of the Currency, explains that AML weaknesses compromise financial institutions' integrity, and national security, by providing for criminalized activities. As disincentive to financial institutions, the law provides financial sector regulators with formal enforcement tools to encourage compliance with the AML legal framework. These enforcement tools are issued based on the severity of noncompliance. Severe noncompliance warrants the issue of formal and publicly announced enforcements such as, cease and desist orders, civil money penalties, and forfeiture orders. For example, civil money penalties and forfeiture orders totaling $2.05 billion were levied against JP Morgan Chase Bank, N.A., on July 1, 2014, for its admitted AML noncompliance. Financial sector regulators levied $8.97 billion against BNP Paribas on June 30, 2014, after the bank pled guilty to intentional breaches of its AML compliance obligations. Earlier, on December 12, 2012, civil money penalties and forfeiture orders totaling over $1.90 billion were levied against HSBC Holdings and its affiliates for AML noncompliance that facilitated the laundering of millions of dollars gained from drug trafficking, through its operations in Mexico, and the transmission of funds from US-sanctioned terrorism hotspots such as Iran. Evidently, AML enforcements will pose certain costs to noncompliant banks.

The purpose of this paper is to investigate the costs to depository institutions from formal, publicly announced, AML enforcements. Although the AML legal framework expanded the definition of financial institutions to include car dealers, real estate brokers, brokers and dealers in securities, casinos and card clubs, jewelers, and dealers in precious metals and stones, this paper focuses only on depository institutions due to the special role that they play in maintaining the integrity of the financial system. Since AML enforcements are intended to pressure ameliorative actions to address noncompliance, I examine their effects on banks' operating performance, depositor discipline, and bank failure.

My findings consistently show that operating performance worsened after AML enforcements, reasonably as a result of the operational costs incurred to correct the identified AML weaknesses and/or loss in profitability from the launder-facilitating activity. There is no evidence that depositors discipline noncompliant banks after an enforcement which suggests that AML enforcements contain no new risk information or depositors do not care about banks' AML noncompliance. Bank regulators would then appear as the only police to banks' AML obligations which also calls for greater regulatory capital defenses against the risk exposure caused by noncompliance. As a result, I find that banks' capital risk increased after enforcement due to the capital charge required for the operational risk caused by noncompliance. Despite the adverse effects of AML enforcements on profitability and regulatory capital, I find no evidence that these enforcements are related to bank failure, contrary to arguments that AML compliance can push banks toward failure. Seemingly, declining operating performance and increasing capital risk are the only costs to noncompliant banks from formal AML enforcements.

This paper makes a number of contributions. Firstly, it adds to the limited literature on bank regulatory enforcements, and provides insights to bank regulators and depository institutions regarding the costs of AML enforcements. Secondly, my findings reinforce the use of formal regulatory actions against AML non compliant banks to pressure changes in their compliance behavior. Thirdly, the evidence confirms that regulators are the only police of banks' AML compliance as there is no evidence that depositors discipline noncompliant banks. Finally, my findings disassociate banks' AML obligations from their failures.

The paper is structured as follows. Section 2 describes the AML legal framework, specifically, the legal requirement for an effective AML Compliance Program, and identifies regulatory enforcement tools that are available to ensure depository institutions' compliance. Section 3 sets out the research design by developing the hypotheses for this study and outlining the data and research methods. Section 4 discusses the research findings and section 5 concludes.

2. AML Legal framework

2.1 AML Compliance Program

Although each functional financial sector regulator is required to prescribe its own AML compliance standards, the common requirements for an effective AML compliance program include, at a minimum:

a) A system of internal controls that facilitates the financial institution's compliance with the AML legal framework;
b) Independent testing of the financial institution's compliance with the AML legal framework;

c) A designated individual with responsibility for managing and administering the financial institution's AML compliance program;
d) An ongoing training program for relevant financial institution staff regarding their roles, obligations, and responsibilities in complying with the AML legal framework; and
e) A risk-based Customer Identification Program that facilitates the financial institution's verification and true identification of its customers.

In addition to maintaining an effective AML compliance program, financial institutions are required to adhere to the BSA's reporting and recordkeeping requirements. These include the submission of suspicious activity reports (SARs) when they detect "known or suspected" criminal violations or suspicious activities, and currency transactions reports (CTRs) to report transactions in excess of $10,000. Between March 2013 and April 2014, BSA reporting identified 34% of the Federal Bureau of Investigation (FBI)'s cases on organized crime and drug trafficking, 28% of cases on transnational organized crime, and 15% of cases on international terrorism (Shasky Calvery, 2014). Thus, AML reporting has proven to be effective in detecting criminal activities.

2.2 AML Enforcements

Financial sector regulators can utilize informal and formal enforcements once they identify a financial institution's AML noncompliance. The appropriate enforcement is dependent on the severity of noncompliance. Initially, federal financial institution examiners may have informal discussions with a bank's management once AML weaknesses are identified during their examination. Weaknesses that are more serious may warrant higher level and more formal discussions with the financial institution's board of directors. Other AML compliance weaknesses may require written communication to the institution's management or board of directors in the form of supervisory letters, stated findings in the bank examination report requiring the board of directors' attention, or other written communication. None of these enforcements is publicly announced and they are typically issued for AML compliance weaknesses which are considered by federal financial regulators to be of limited supervisory concern. In such instances, regulators believe the institution's management to be committed and capable of implementing corrective measures and would require the institution's management/board of directors to endorse commitment letters, memoranda of understanding or undertaking to confirm its intent to do so.

An AML noncompliance considered as a compliance failure may warrant more severe enforcements than those described above. These enforcements are more formal, legally prescribed, publicly announced, and include cease and desist orders, civil money penalties, and forfeiture orders. AML compliance failures refer to financial institutions' failures to establish and maintain effective compliance programs, and failures to correct previously identified AML weaknesses. These more severe enforcements are not applied when financial institutions can show that they have made "acceptable substantial progress" in correcting previously identified AML weaknesses[3].

Section 8b of the Federal Deposit Insurance Act grants authority to bank regulators to issue cease and desist orders to financial institutions that are, in their opinion, engaged in unsafe or unsound practices, or are violating or have violated any law, rule, regulation or previously agreed upon written condition. Accordingly, the Interagency Statement on Enforcement of Bank Secrecy Act/Anti-Money Laundering Requirements has specified the intent of regulators to issue cease and desist orders for certain noncompliance. Such noncompliance includes a financial institution's failure to establish and maintain a BSA/AML compliance program or correct previously identified deficiencies in its BSA/AML compliance program. Civil money penalties are levied for "egregious or repetitive" legislative infractions or where other enforcements have failed to cause corrective measures by financial institutions[4]. Forfeiture orders are issued as a final say to remove the cash asset from the financial institution's operations.

Seventy five formal AML enforcements were issued to noncompliant banks between 2004 and 2010, of which more than half (49) were issued in 2007 and 2008. The majority of enforcements (77%) comprises cease and desist orders, all of which originated between 2007 and 2010. Forfeiture orders were the least popular enforcement as only four were issued between 2004 and 2010.

[3] See SR 91-13
[4] See SR 91-13

In some instances, a financial institution is issued multiple AML enforcements that simultaneously require it to cease and desist an activity, pay a civil money penalty, and/or forfeit a (cash) asset. Between 2004 and 2010, financial institutions were fined an aggregate $243 million in civil money penalties and forfeited an undisclosed amount in asset value.

The AML legal framework also provides regulators with the authority to place financial institutions in conservatorship, revoke bank licenses, or terminate deposit insurance where financial institutions have been criminally convicted of violating their AML obligations[5]. This authority was not applied to any bank in the sample between 2004 and 2010.

3. Research Design

3.1 Hypotheses Development

AML enforcements are intended to pressure intensified compliance investment by financial institutions to ensure their compliance frameworks are upgraded and remain consistent with legislative requirements. Thus, I examine the effects of formal enforcements on operating performance, depositor discipline, and bank failure. This study focuses on depositor discipline, rather than market discipline[6], as a majority (90%) of noncompliant banks is privately held.

Thomas J. Curry, Comptroller of the Currency, in his testimony before the Senate Committee on Banking, Housing, and Urban Affairs on March 7, 2013, cites financial institutions' commitment to adequate and expert resources, upgrading information technology and monitoring processes, and strengthening risk management, as the measures needed to correct the current trends in AML noncompliance. These compliance costs will adversely affect bank profitability. In addition, any loss of business as a result of formal enforcements should also adversely affect operating performance. Accordingly, I hypothesize that AML noncompliant banks have lower operating performance after a formal AML enforcement.

Zeidan (2012 and 2013) finds no significant effect of enforcement actions on the financial performance of banks that violate banking regulations. However, Arnold and Hughes (2014) report that HSBC is spending $750 to $800 million on its AML compliance and risk program which represents a $150 million to $200 million increase from the 2013 financial year and is expected to increase further in the 2015 financial year. Also, BNP has committed to enhancing its internal compliance framework, consistent with legal requirements, by among other things, increasing its compliance staff. These reactions are in direct response to respective AML enforcements. Therefore, I expect AML enforcements to lower the operating performance of noncompliant banks. My expectation is consistent with the negative effect of corporate illegal behavior (Baucus and Baucus, 1997), and Accounting and Auditing Enforcement action (Leng, et. al, 2011) on operating performance.

A financial institution's AML noncompliance is consistent with heightened operational risk. Thus, AML enforcements should provide depositors with additional risk information. An increase in bank risk may cause depositors to withdraw their funds or require higher rates of return to compensate for greater risk. Peria and Schmukler (2001), and Park and Peristiani (1998), show that depositors discipline banks to encourage prudent behavior by either withdrawing their funds or requiring higher rates of return on their deposits. Further, the Office of the Comptroller of the Currency (OCC) has incorporated identified AML noncompliance as part of its assessment of financial institutions' management. Thus, the severity of AML noncompliance will adversely affect a bank's safety and soundness CAMELS rating[7]. Grossman (2014) believes that this will affect a financial institution's ability to raise capital. In addition, a bank's cease and desist activities can result in a contraction in financing, or product offerings, which may shift its balance sheet structure and banking operations. According to Arnold and Hughes (2014), HSBC withdrew operations from 11 countries and sold 74 businesses in response to a formal AML enforcement.

[5] See SR 93-51.

[6] Studies on corporate illegality or bank regulatory violations focus on market discipline, thus only publicly traded corporations are examined (Brous and Leggett, 1996 and Davidson and Worrell, 1988).

[7] Bank examiners assign a safety and sound rating (CAMELS) to financial institutions based on an assessment of their capital adequacy, asset quality, management (oversight) quality, earnings, liquidity management, and sensitivity to market risks. Thus, the rating reflects bank regulator's perspective of the institution's overall riskiness. A financial institution can be assigned the strongest rating of one, or the weakest rating of five.

The bank also refused business dealings and accounts of customers in US-sanctioned jurisdictions. The fear is that banks may need to restrict their product and service offerings to some types of customers resulting in a loss of business. As a consequence, AML enforcements may adversely affect financial institutions' sources and costs of funding. Accordingly, I hypothesize that depositors discipline noncompliant banks by providing proportionately lesser financing and/or requiring higher returns after a formal enforcement. Any findings to the contrary would support Alton and Vaughan (1998) who show that enforcement actions did not cause deposit run-offs or discrete changes in deposit rates which suggested that enforcements did not contain any useful or new information to depositors. AML enforcements, indicative of financial institution's heightened operational risk, denote failures in operational processes and programs. Regulatory capital adequacy standards require financial institutions to apply a capital charge to cover its operational risk. Consistent with the findings of Grossman (2014) and the hypothesized decline in operating performance, I hypothesize that noncompliant banks will have greater capital risk after AML enforcement. This would be the result of limitations on noncompliant banks to bolster regulatory capital from accretion from earnings or infusion from existing shareholders.

It is evident from the foregoing that AML enforcement is a recurring call on bank earnings and capital and may eventually affect bank solvency. As a result, I test whether formal AML enforcements are related to bank failure. In fact, the Annunzio-Wylie Anti-Money Laundering Act grants authority to bank regulators to terminate the license of financial institutions that have been criminally convicted under the AML legal framework. Deposit insurance for these financial institutions may also be terminated under the Act for similar reasons. Also, the US Patriot Act requires bank regulators to include banks' AML history in evaluating mergers and acquisitions, or other business combinations. Thus, AML enforcements can affect bank's going concern status.

3.2 Data and Research Methods

I compile a list of depository institutions that received formal AML enforcements between 2004 and 2010 from the BSA/AML penalties list provided by Bankers Online.com. Bankers Online.com provides a comprehensive listing of formal AML enforcements issued to financial institutions by financial sector regulators including the Department of Justice (DOJ), the Federal Deposit Insurance Corporation (FDIC), Federal Reserve System, Fin Cen, Office of the Comptroller of the Currency (OCC), and Office of Thrift Supervision (OTS). I compare the compiled list to formal AML enforcements which are publicly disclosed on each financial sector regulator's website or other public media such as newspapers. The initial sample identified 70 depository institutions. Financial data on these banks is accessed from the Federal Financial Institutions Examination Council (FFIEC)'s Uniform Bank Performance Report (UBPR). UBPRs are compiled from banks' Call Reports filed at the Central Data Repository. Financial data was collected for up to three years prior to, and subsequent to, the formal AML enforcement, including the year of the enforcement. Data for nine banks could not be identified from the FFIEC's UBPRs. Of the 61 remaining depository institutions included in the sample, 55 banks (90%) are privately held. Table 1 provides descriptive statistics of AML noncompliant banks that were issued formal enforcements between 2004 and 2010.

Table 1: Descriptive Statistics of AML Noncompliant Banks

Variables	Obs	Mean	Median	Max.	Min.	SD.
Operating Profit Margin (%)	375	-7.08	6.03	35.54	-409.58	44.01
Return on Average Assets (%)	376	-0.20	0.36	3.11	-13.28	2.03
Return on Average Equity (%)	376	-2.99	3.41	37.44	-182.81	25.62
Core Deposits to Total Liabilities (%)	376	67.89	71.48	99.57	-36.47	21.61
Noncore Deposits to Total Liabilities (%)	376	22.88	19.82	114.62	0.00	16.79
Uninsured Time Deposits to Total Assets (%)	375	15.48	14.03	53.95	0.00	10.43
Tier One Leverage Capital ratio (%)	373	9.89	9.27	54.61	0.27	4.45
Tier One Risk-Based Capital ratio (%)	373	15.20	12.41	266.69	0.38	15.91
Total Risk-based Capital ratio (%)	376	16.51	13.83	267.45	0.76	15.85

I analyze the effect of formal AM enforcements on operating performance, depositor discipline, and capital risk using the following model. My analysis considers banks' safety and soundness indicators, since an AML enforcement is an indictment on the quality of management oversight, and included in the OCC's determination of a bank's CAMELS rating:

$$DV_{i,t} = \alpha_{i,t} + \beta_1 TRBC_{i,t-1} + \beta_2 NPL_{i,t-1} + \beta_3 ENFORCE_{i,t} + \beta_4 ROAA_{i,t-1} + \beta_5 LIQ_{i,t-1} + \beta_6 IR1YR_{i,t-1} + \beta_7 Controls_{i,t-1} + e_{i,t} \qquad (1)$$

$DV_{i,t}$ is the dependent variable that captures operating performance, depositor discipline, and capital risk. The independent variables capture banks' safety and soundness[8] and are lagged to address any endogeneity in the model.

I use three indicators of operating performance, namely, operating profit margin (operating profit divided by total revenue), return on average assets (operating profit divided by average assets), and return on average equity (operating profit divided by average shareholder's equity). A financial institution's recurring investment to maintain and upgrade its AML compliance program, and cease and desist its launder-facilitating activities should reflect increased overhead costs and contraction in revenues, respectively. Ultimately, the result is a significant negative effect on operating performance.

I use three indicators of depositor discipline, namely, core deposit ratio (core deposits divided by total liabilities), noncore deposit ratio (noncore deposits divided by total liabilities), and uninsured deposit ratio (uninsured time deposits divided by total assets). Significant declines in core deposit ratio and noncore deposit ratio show discipline by stable (core depositors) and volatile (noncore) depositors of AML noncompliant banks. Since this reaction can be tempered by the moral hazard that deposit insurance presents, I also examine the behavior of uninsured depositors. A significant decline in the uninsured deposit ratio reflects discipline by the most at-risk depositors of noncompliant banks.

I use three indicators of capital risk, namely, Tier 1 risk-based capital ratio (Tier 1 capital divided by total risk weighted assets), Tier 1 leverage ratio (Tier 1 capital divided by average consolidated assets), and Total risk-based capital ratio (total regulatory capital divided by total risk weighted assets). I examine these indicators since increased operational risk, which stems from AML noncompliance, may warrant increases in regulatory capital. Significant declines in these indicators show noncompliant banks' limitations in bolstering regulatory capital from earnings accretion or infusion from existing shareholders after AML enforcement to offset the risk exposure.

The independent variables in the model include TRBC, total risk-based capital ratio (total regulatory capital divided by total risk weighted assets), reflects bank's capital adequacy as a component of CAMELS. The results of the model are not qualitatively different when Tier 1 risk-based capital ratio or Tier 1 leverage ratio is used. NPL, nonperforming loan ratio (total noncurrent loans divided by total gross loans), reflects bank's asset quality as a component of CAMELS. ENFORCE is a binary variable equal to 1 during the years of and after a formal AML enforcement, 0 otherwise, and reflects the quality of management oversight as a component of CAMELS.

This is the variable of interest as it shows the effect of formal AML enforcements on the dependent variable. Only the most recent enforcement is considered when multiple enforcements are issued during the sample period.

Any earlier enforcement was evidently not sufficient to warrant the requisite corrective action to ward off subsequent or more formal enforcements. The sample includes three banks that received multiple AML enforcements during the sample period. One of these banks received multiple enforcements in the same financial year while the remaining two banks received enforcements within the last two years of their most recent enforcement. The adjustment for earlier enforcements of these banks did not materially change the results. ROAA, return on average assets (operating profit divided average assets), reflects bank earnings as a component of CAMELS. The results of the model are not qualitatively different when operating profit margin or return on average equity is used. LIQ represents bank's short term liquidity (short term assets divided by short term liabilities, STA/STL), and reflects liquidity management as a component of CAMELS. IR1YR, over 1 year Re pricing GAP ratio(difference between rate sensitive assets that re price over one year divided by total assets, and rate sensitive liabilities that re price over one year divided by total assets), reflects bank's sensitivity to market risks (specifically, interest rate risk) as a component of CAMELS.

[8] Also reflect the Financial Soundness Indicators (FSIs) used by the International Monetary Fund (IMF) when evaluating countries' financial sector safety and soundness.

I control for bank size using log of total assets, and changes in economic conditions using 3-month Treasury bill yield (3mth TBret) and return on the S&P 500 (SP500 ret). I also estimate differences in operating performance, depositor discipline, and capital risk between noncompliant banks and a matched control sample of banks which did not receive formal AML enforcements ("compliant banks"), up to three years before a formal AML enforcement ("pre-enforcement period"), and up to three years after the enforcement and including the year of enforcement, ("post-enforcement period") of their matched noncompliant peer, using the following:

$$DV_{i,t} = \alpha_{i,t} + \beta_1 TRBC_{i,t-1} + \beta_2 NPL_{i,t-1} + \beta_3 NCBANK_{i,t} + \beta_4 ROAA_{i,t-1} + \beta_5 LIQ_{i,t-1} + \beta_6 IR1YR_{i,t-1} + \beta_7 Controls_{i,t-1} + e_{i,t} \quad (2)$$

Banks are matched based on average asset values in the same peer group defined by the FFIEC in the year of the formal AML enforcement of the noncompliant bank. The match is maintained for up to three years prior to and up to three years after the enforcement. The FFIEC defines a peer group using up to three criteria including, asset size, number of banking offices, and bank location (metropolitan area or non-metropolitan area). The FFIEC uses peer groups as a benchmark to measure asset and liability structures and earnings performance of banks. The independent variables in model 2 are similar to model 1. NCBANK is a binary variable equal to 1 for noncompliant banks, and 0 for compliant banks.

Finally, using the combined sample of noncompliant and compliant banks, I estimate whether AML enforcement is related to bank failure by applying the following probit model:

$$FAIL_{i,t} = \alpha_{i,t} + \beta_1 TRBC_{i,t} + \beta_2 NPL_{i,t} + \beta_3 ENFORCE_{i,t} + \beta_4 EARNINGS_{i,t} + \beta_5 LIQ_{i,t} + \beta_6 IR1YR_{i,t} + \beta_7 ENFORCE_{i,t} * EARNINGS_{i,t} + \beta_8 ENFORCE_{i,t} * TRBC_{i,t} + \beta_7 Controls_{i,t} + e_{i,t} \quad (3)$$

FAIL is a binary variable equal to 1 in the year of bank failure, 0 otherwise. A bank failure includes instances of voluntary or involuntary liquidation, or bank merger with or without assistance. The independent variables in model 3 are similar to model 1. EARNINGS proxies for a bank's operating profit margin (OPMARGIN), return on average assets (ROAA), and return on average equity (ROAE). The variable of interest, ENFORCE, is a binary variable equal to 1 for the firm-year in which a bank receives a formal AML enforcement and all subsequent years, and zero in the years prior to the enforcement. ENFORCE is set to 0 for all firm years for compliant banks. A positive and significant ENFORCE covariate is consistent with a failure to reject the hypothesis that a formal AML enforcement is related to bank failure. I also estimate the effect of bank earnings and capital after enforcement on bank failure, (ENFORCE * EARNINGS, and ENFORCE * TRBC).

4. Research Findings

4.1 AML Enforcements Actions and Bank Operating Performance

I analyze the effect of AML enforcement on operating performance. I use three indicators of operating performance, namely, operating profit margin (operating profit divided by total revenue), return on average assets (operating profit divided by average assets), and return on average equity (operating profit divided by average shareholder's equity). The results are presented in Table 2A. The variable of interest, ENFORCE, consistently shows that AML noncompliant banks experience significant declines in operating profit margin, return on average assets, and return on average equity after formal AML enforcements. These findings are likely evidence of institutions' recurring investment to maintain and upgrade their AML compliance program consistent with the enforcement action, and/or cease and desist their launder-facilitating activities. Thus, the increased overhead costs and contraction in revenues likely adversely affected profitability. These results support the hypothesis that formal AML enforcements lower operating performance. My findings complement Baucus and Baucus (2007) and Leng, et. al (2011).

Table 2A: Effect of AML Enforcements on Operating Performance

Dependent Variable:	Operating Profit Margin	Return on Average Assets	Return on Average Equity
Capital Adequacy			
TRBCt-1	-0.0014	-0.0001	-0.0008
Asset Quality			
NPLt-1	-0.0225***	-0.0010***	-0.0143***
Management Oversight			
Enforce	-0.0989**	-0.0076***	-0.1279***
Earnings			
ROAAt-1	-0.0400***	-0.0016**	-0.0057
Liquidity Management			
STA/STLt-1	0.0002**	0.0000***	0.0001
Sensitivity to Market Risk			
1-Yr Repricingt-1	-0.0032**	-0.0001*	-0.0127
Other			
Assets	-0.0140	-0.0002	0.0028
3mthTBret	0.0279**	0.0015**	0.0140*
SP500ret	0.0275	0.0072	0.0968*
R-Squared	53.22%	55.08%	53.53%
F-value	5.04***	5.45***	5.12***

Table 2B: Difference in Operating Performance between AML noncompliant (NC Bank) and compliant banks

Dependent Variable:	Operating Profit Margin		Return on Average Assets		Return on Average Equity	
	Pre-Enforcement	Post-Enforcement	Pre-Enforcement	Post-Enforcement	Pre-Enforcement	Post-Enforcement
Capital Adequacy						
TRBCt-1	-0.0015	-0.0022	-0.0000	-0.0001	0.0001	-0.0024
Asset Quality						
NPLt-1	-0.0174**	-0.0048	0.0004	-0.0001	0.0030	-0.0019
Management Oversight						
NCBank	-0.1053***	-0.1198***	-0.0054***	-0.0085***	-0.0470***	-0.0906***
Earnings						
ROAAt-1	0.0480***	0.0636***	0.0038***	0.0032***	0.0352***	0.0519***
Liquidity Management						
STA/STLt-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sensitivity to Market Risk						
1-Yr Repricingt-1	0.0008	0.0046***	0.0000	0.0002***	-0.0003	0.0028***
Other						
Assets	-0.0132	-0.0076	-0.0002	-0.0002	0.0031	-0.0039
3mthTBret	0.0109	0.0365***	0.0007	0.0020***	0.0096*	0.0292***
SP500ret	0.2257*	0.1569	0.0143**	0.0110**	0.0885	0.1542***
R-Squared	15.33%	23.87%	21.40%	26.81%	21.16%	31.60%
F-value	6.32***	12.72***	9.50***	14.86***	9.36***	18.73***
Firm years	325	376	325	376	325	376

Further, a comparison of the operating performance of AML noncompliant banks (NC Banks) and a matched control sample of compliant peers in the pre-enforcement period (up to three years before a formal AML enforcement) and the post-enforcement period (the year of enforcement and up to three years thereafter) reveal that although noncompliant banks had comparatively lower operating performance in the pre- and post-enforcement periods, their operating performance were comparatively much lower in the post-enforcement period. Table 2B refers.

Since, a formal AML enforcement is an indictment on the quality of bank management oversight, I speculate that the consistent comparatively lower operating performance of noncompliant banks is symptomatic of additional management weaknesses that have adversely affected bank profitability and have been exacerbated by the enforcement action. In addition, the comparatively lower operating performance in the pre-enforcement period can be attributed to attempts by noncompliant banks to correct their AML noncompliance prior to it escalates in enforcement that is more formal. Depending on the severity of AML noncompliance, less formal, nonpublic, enforcements might be taken against a bank. During this time, banks may attempt to correct their AML compliance weaknesses. However, in the absence of timely or effective ameliorative actions, financial sector regulators will issue more formal and publicly announced enforcements.

4.2 AML Enforcements Actions and Depositor Discipline

Since the majority (90%) of the sample comprises privately-held banks for which market data is not available, I analyze whether depositors discipline noncompliant banks after AML enforcements. I use three indicators of depositor discipline, namely, core deposit ratio (core deposits divided by total liabilities), noncore deposit ratio (noncore deposits divided by total liabilities), and uninsured deposit ratio (uninsured time deposits divided by total assets).AML enforcements are symptomatic of banks' realized operational risk, heightened legal risks, and an impairment of reputational risk and the integrity of the wider financial system. As a result, depositors may adversely perceive comingling their legitimate funds with those of criminals and would discipline banks by withdrawing their funds in an attempt to minimize their own risk exposure. My findings presented in Table 3A show no evidence of an adverse effect of formal AML enforcements on banks' deposit profiles. Thus, there is no indication that depositors discipline AML noncompliant banks after formal enforcements[9]. As a result, bank regulators are seemingly the only police of banks' ML activities. These findings also support Alton and Vaughn (1998) conclusion that enforcement actions do not contain new or useful risk information to depositors.

Table 3A: Effect of AML Enforcements on Depositor Discipline

Dependent Variable:	Core Deposit Ratio	Noncore Deposit Ratio	Uninsured Deposit Ratio
Capital Adequacy			
TRBCt-1	0.0004	-0.0004	-0.0001
Asset Quality			
NPLt-1	0.0056***	-0.0137	-0.0018
Management Oversight			
Enforce	0.0169	-0.0202	0.0189**
Earnings			
ROAAt-1	-0.0007	0.0093	0.0025
Liquidity Management			
STA/STLt-1	0.0000	-0.0001	-0.0001**
Sensitivity to Market Risk			
1-Yr Repricingt-1	-0.0001	-0.0037	-0.0001
Other			
Assets	-0.0047	0.0074	0.0042
3mthTBret	-0.0133***	0.0222	0.0094***
SP500ret	0.1371***	-0.0515	-0.0543***
R-Squared	76.40%	23.12%	64.05%
F-value	14.38***	1.34*	7.89***

[9] Since depositors and other bank creditors may demand higher yields to finance riskier banks, I also examine the effect of AML enforcements on the cost of liability financing (interest expense divided by average interest bearing liabilities) and also find no evidence of a significant increase in financing cost after a formal enforcement.

Further, Table 3B largely reveals no significant differences in the deposit profiles of AML noncompliant banks and their matched peers in the pre- and post-enforcement periods. There is evidence however that AML noncompliant banks held significantly more uninsured deposits in the post-enforcement period compared to their peers which does not support depositor discipline of these banks.

Table 3B: Difference in Depositor Discipline indicators between AML noncompliant (NCBank) and compliant banks

Dependent Variable:	Core Deposits to Total Liabilities		Noncore Deposit to Total Liabilities		Uninsured Time Deposits to Total Assets	
	Pre-Enforcement	Post-Enforcement	Pre-Enforcement	Post-Enforcement	Pre-Enforcement	Post-Enforcement
Capital Adequacy						
TRBCt-1	0.0006	0.0025*	-0.0009	-0.0019	-0.0004	-0.0013*
Asset Quality						
NPLt-1	0.0116**	0.0031	-0.0148	-0.0024	-0.0051	-0.0006
Management Oversight						
NCBank	-0.0371	-0.0178	0.0764	0.0187	-0.0235	0.03374***
Earnings						
ROAAt-1	1.9683**	0.3275	-1.1731	-0.3073	0.7112	-0.0138
Liquidity Management						
STA/STLt-1	0.0001***	0.0001***	0.0000	-0.0001***	-0.0001	-0.0001***
Sensitivity to Market Risk						
1-Yr Repricingt-1	0.0024***	0.0018***	-0.0040**	-0.0013**	-0.0009	-0.0007**
Other						
Assets	-0.0250***	-0.0262***	0.0011	0.0096**	0.0082	-0.0043*
3mthTBret	-0.0108	-0.0163***	0.0253	0.0161***	0.0047	0.0126***
SP500ret	0.0017*	0.00122***	-0.0016	-0.0009**	-0.0033**	-0.0004
R-Squared	14.09%	19.47%	3.20%	12.94%	2.54%	16.73%
F-value	5.72***	9.80***	1.15	6.03***	0.91	8.13***
Firm years	325	376	325	376	325	376

4.3 AML Enforcements and Capital Risk

I analyze the effect of AML enforcements on capital risk. I use three indicators of capital risk, namely, Tier 1 risk-based capital ratio (Tier 1 capital divided by total risk weighted assets), Tier 1 leverage ratio (Tier 1 capital divided by average consolidated assets), and Total risk-based capital ratio (total regulatory capital divided by total risk weighted assets). AML enforcements are also indicative of financial institution's heightened operational risk as they denote failures in operational processes and programs. Consistent with regulatory capital requirements, financial institutions must apply a capital charge to offset its operational risk. In the absence of increases in regulatory capital, AML enforcements will increase capital risk.

Table 4A: Effect of AML Enforcements on Capital Risk

Dependent Variable:	**Tier 1 Risk-Based Capital Ratio**	**Total Risk-Based Capital Ratio**	**Tier 1 Leverage Capital Ratio**
Capital Adequacy			
TRBCt-1	-0.0166	-0.0196	0.0318**
Asset Quality			
NPLt-1	0.3503	0.3454	0.0603
Management Oversight			
Enforce	-4.8325***	-4.8872***	-1.6616***
Earnings			
ROAAt-1	1.1599**	1.1405**	0.4806***
Liquidity Management			
STA/STLt-1	-0.0120***	-0.0256***	-0.0049***
Sensitivity to Market Risk			
1-Yr Repricingt-1	0.0277	0.0256	0.0230
Other			
Assets	3.4719***	3.5249***	0.5848***
3mthTBret	0.3120	0.3007	0.2230*
SP500ret	-0.5629	-0.4579	-0.0943
R-Squared	46.21%	46.53%	56.24%
F-value	3.81***	3.87***	5.71***

Table 4A shows that AML noncompliant banks have greater capital risk after formal enforcements. This is consistent with the perspective that a formal AML enforcement is confirmation of the presence of severe operational weaknesses that warrant increased regulatory capital coverage. As a consequence of a bank's failure to immediately provide greater capital either from earnings accretion or capital infusion by shareholders, banks will be exposed to increased capital risk. Thus far, my results demonstrate that formal AML enforcements will call on financial institutions' earnings and capital.

Table 4B: Difference in Capital Risk between AML noncompliant (NC Bank) and compliant banks

Dependent Variable:	**Tier 1 Risk-Based Capital Ratio**		**Total Risk-Based Capital Ratio**		**Tier 1 Leverage Capital Ratio**	
	Pre-Enforcement	**Post-Enforcement**	**Pre-Enforcement**	**Post-Enforcement**	**Pre-Enforcement**	**Post-Enforcement**
Capital Adequacy						
TRBCt-1	0.1671***	0.6468***	0.1705***	0.1363***	0.0747***	0.6536***
Asset Quality						
NPLt-1	0.7522*	0.1025*	0.7507*	-0.0003	-0.0043	0.0782
Management Oversight						
NCBank	1.7457	-0.6235	1.7314	-0.2725	0.5468	-0.5363
Earnings						
ROAAt-1	-0.4280	0.1897	-0.4393	0.3064***	-0.2159	0.1363
Liquidity Management						
STA/STLt-1	0.0024	0.0025***	0.0023	0.0002	0.0012	0.0015*
Sensitivity to Market Risk						
1-Yr Repricingt-1	0.0563	0.0302*	0.0573	0.0024	0.0010	0.0209
Other						
Assets	1.2563**	-0.3054**	1.4200***	-0.2779***	-0.1512	-0.1530
3mthTBret	0.9721	0.0710	0.9148	0.1967**	0.3134	0.0400
SP500ret	-0.2863	2.0169	-0.5401	0.8304	0.6440	2.0456
R-Squared	6.64%	51.02%	7.07%	26.11%	9.42%	48.48%
F-value	2.48***	42.24***	2.66***	14.33***	3.63***	38.17***
Firm years	325	376	325	376	325	376

The signs of the NC Bank coefficient in Table 4B suggest that AML noncompliant banks had lower capital risk than their compliant counterpart in the pre enforcement period. However, the significant increase in capital risk of AML noncompliant banks after formal enforcements resulted in these banks having greater capital risk than their matched peers in the post enforcement period. Despite the interpretive value of the signs of the coefficients, the difference in capital risk between AML noncompliant banks and their matched peers remain statistically indifferent in both the pre- and post-enforcement periods.

4.4 AML Enforcement Actions and Bank Failure

I estimate whether AML enforcements are related to bank failures by applying a Probit model. The Annunzio-Wylie Anti-Money Laundering Act grants authority to bank regulators to terminate the license of financial institutions that have been criminally convicted under the AML legal framework. Deposit insurance for these financial institutions may also be terminated under the Act for similar reasons. In addition, the US Patriot Act requires bank regulators to include bank's AML history in evaluating mergers and acquisitions, or other business combinations. The AML legal framework also states that banks can be placed under conservatorship based on the severity of their AML noncompliance. Thus, AML enforcements can affect bank's going concern although none of the above measures were applied to noncompliant banks in the sample. Empirically, the results demonstrate in Table 5 that there is no relation between formal AML enforcements and bank failures. In addition, there is no significant relation between the adverse effects of AML enforcements on banks' earnings and capital, and their subsequent failure. In fact, despite the significant increase in capital risk after a formal AML enforcement, the mean and median capital risk indicators show that the average/median banks maintained capital levels well above the benchmark minima established for banks categorized as "well capitalized" by the Federal Deposit Insurance Corporation Improvement Act (FDICIA), 1994, Prompt Corrective Action (PCA) capital risk zones.

Table 5: Relation between AML Enforcements and Bank failures

	Model 1	Model 2	Model 3
Capital Adequacy			
TRBC	-0.1675**	-0.1419*	-0.0977
Asset Quality			
NPL	0.0319	0.0377	0.0303
Management Oversight			
Enforce	1.0025	0.8899	1.2117
Earnings			
OPMARGIN	-0.7736***		
ROAA		-0.1118	
ROAE			-0.0137**
Liquidity Management			
STA/STL	-0.0033	-0.0022	-0.0021
Sensitivity to Market Risk			
1-Yr Repricing	-0.0062	-0.0087	-0.0090
Interaction Terms			
Enforce*OpMargin	0.6339*		
Enforce*ROAA		0.0775	
Enforce*ROAE			0.0078
Enforce*TRBC	-0.0447	-0.0478	-0.0716
Other			
Assets	0.0605	0.0541	0.0729
3mthTBret	-0.0317	-0.0518	-0.0337
SP500ret	-0.0267	0.0525	0.0319
McFadden R2	0.4646	0.4428	0.4542
No of firm years	701	701	701
No of failures	24	24	24
No of enforcements	72	72	72

Conclusion

Billions of dollars are laundered globally each year which continues to finance criminal and terrorist activities. In order to safeguard the integrity of the financial system, financial institutions are legislatively mandated to establish an effective anti-money laundering (AML) program to detect, monitor, and report (suspicious) money laundering activities. Formal and publicly announced enforcements are applied to financial institutions that fail to maintain an effective AML compliance program or timely apply corrective actions to previously identified AML weaknesses. These enforcements include cease and desist orders, civil money penalties, and forfeiture orders.

This paper investigates the costs of formal AML enforcements to depository institutions. I analyze the effect of formal enforcements on operating performance, depositor discipline, capital risk, and bank failure. My analysis of formal AML enforcements between 2004 and 2010 concludes that the operating performance of non compliant banks worsened after the enforcements. These enforcements pressured banks to invest greater in their compliance infrastructure and cease and desist the launder-facilitating activity. It might be the combination of these outcomes that reduced operating performance. These outcomes are consistent with the effectiveness of AML enforcements in correcting noncompliant behavior. Thus, more timely formal AML enforcements may cause banks to strengthen their compliance program sooner than later to minimize subsequent laundering activities. There is also evidence that formal AML enforcements, which symptomizes severe operational weaknesses, contribute to significant increases in capital risk. Thus, AML enforcement is a call on bank earnings and capital.

There is no indication that depositors discipline AML noncompliant banks. This is demonstrated by the absence of any significant decline in the proportion of funding from core depositors, volatile depositors, and unprotected/uninsured time depositors. Seemingly, formal AML enforcements do not provide additional risk information to depositors, and bank regulators are the only police of banks' AML compliance. Finally, I also find no evidence that formal AML enforcements are significantly related to bank failures.

Despite, the adverse effect of formal enforcements on regulatory capital indicators, the average/median AML noncompliant banks remained well capitalized. Collectively, declining operating performance and increasing capital risk are seemingly the only costs to AML noncompliant banks after formal AML enforcements. Yet, these enforcements allow bank regulators to defend the integrity of the financial system.

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