

Risk Management Practices among Commercial Banks in Ghana

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Abstract

The study compares the risk management practices among commercial banks in Ghana. Using the multiple regression model the paper examines the determinants of risk management practices among the selected commercial banks. Cross-sectional research design was used. A standard modified questionnaire from (Hussien and Faris, 2007), were administered to risk analysts and senior risk managers of the sampled banks at the headquarters offices and branch head offices in Accra and Kumasi. The results show that the sampled banks are somewhat efficient in managing risk, and risk monitoring and control is the most influencing variable in risk management practices. The results again show a significant difference among commercial banks in the practice of risk identification, understanding risk and in risk monitoring and control except risk assessment and analysis.

Keywords: risk, management, commercial banks, Ghana.

1. Introduction

The banking industry as a whole (at a global and national level) has been profitable in every single year at least since 1970. The industry has become more competitive due to deregulation. Today banks have much flexibility on the services they offer, the location where they operate and the rate they pay depositors for their deposits. Although generally viewed as favourable, this flexibility is creating intense competition among banks and even between banks and other financial institutions that now offer banking services. Ghana has a well-developed banking system that was used extensively by previous governments to finance attempts to develop the local economy. By the late 1980s, the banks had suffered substantial losses from a number of bad loans in their portfolios. In addition, cedi depreciation had raised the banks' external liabilities. In order to strengthen the banking sector, the government in 1988 initiated comprehensive reforms. In particular, the amended banking law of August 1989 required banks to maintain a minimum capital base equivalent to 6 percent of net assets adjusted for risk and to establish uniform accounting and auditing standards. The law also introduced limits on risk exposure to single borrowers and sectors. These measures strengthened central bank supervision, improved the regulatory framework, and gradually improved resource mobilization and credit allocation.

In several parts of the world, financial institutions have faced challenging times in the recent past. The most affected have been banks which have suffered losses and even closures. A major cause of the problem has been traced to low quality assets in their portfolios that turned toxic which eroded their capital and weakened their ability to perform their intermediation function. The unpalatable outcome has been loss of confidence in the banking system with dire consequences for economic management. Without doubt, there has been a failure of corporate governance (Brown and Caylor, 2004). Risk management is the cornerstone of prudent banking practice. Undoubtedly all banks in the present-day volatile environment are facing a large number of risks such as credit risk, liquidity risk, foreign exchange risk, market risk and interest rate risk, among other risks which may threaten a bank's survival and success. In other words, banking is a business of risk. For this reason, efficient risk management is absolutely required. Carey and Mark (2001) indicate in this regard that risk management is more important in the financial sector than in other parts of the economy.

In recent years, risk management in banks has come under increasing scrutiny. This is because of the incidence of bank failures in the mid 1990s, coupled with the fraudulent operations of quasi banks such as Pyram that resulted in losses of investor's funds and eroded confidence in the banking industry (Besis and Wileyand, 2000). There is therefore increasing attention to risk management and efficient regulatory regimes to instill sanity in the banking industry. Additionally, due to the failure of many banks/financial institutions in the recent past, it has attracted the attention of regulators as well as all stakeholders. Risk management has therefore, become a key area of focus and hence warrants a study to examine and compare the risk management practices among commercial banks in Ghana.

2. Hypothesis

- Hypothesis one: There is a positive relationship between risk management practices and understanding risk, risk identification, risk assessment and analysis and risk monitoring across the selected banks in Ghana.

- Hypothesis two: There is difference in risk management practices, understanding risk, risk identification, risk assessment and analysis, and risk monitoring across the selected banks in Ghana.

3. Theoretical Literature

Risk Management has been described as all the things you need to do to make the future sufficiently certain (Bessis et al., 2004). It is regarded as the rational process that will allow risk to be managed well. For the purpose of this study, a more appropriate definition of risk is “the potential for loss either directly through loss of earnings or capital or indirectly through the imposition of constraints on an organization’s ability to meet its business objectives. Critical definitions that appear in the risk management literature review summarize it to mean a focus encompassing unexpected consequences, both favorable and unfavorable. In each case the goal is to rid the firm of risks that are not essential to the financial service provided, or to absorb only optimal quantity of a particular kind of risk. This is otherwise termed the potential for future returns to vary from the expected returns. If returns could be guaranteed under all circumstances, there would be no risk, and risk management would be irrelevant. However, such a guarantee is not possible in the real world; hence, the need for risk management.

The Committee of Sponsoring Organizations (2004), p. 6 of the Treadway Commission in the USA defines risk management as “enterprise risk management is a process, affected by an entities board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.” The European Foundation for Quality Management (2005) is somewhat less verbose. They define it as: “the systematic use of organization-wide processes to identify, assess, manage, and monitor risks-such that aggregated information can be used to protect, release and create value.” Managing risks is of course is not new; typically, risks have been managed mainly by intuition and experience. What is new in the aforementioned definitions is the systematic approach.

3.1 How to manage risk – The models

In their attempts to manage risks, most organizations will differentiate between three main types. First, there are risks which must be managed; that is to say regulatory bodies and/or government demand this of operators in a particular field, and most often the quality of management is also externally assessed. Many environmental risks come into this category. Second, there are the classic risks of internal and external fraud and theft inherent in any business dealing with money. These risks are different because in general they are not so well externally policed. However, they are inherent in financial institutions and so departments such as internal audit have had time to develop and form systems to manage them. The third type of risks is those where there is no clear self-preservation reason for the organization to try and manage them. These are optional risks. An organization can choose whether to manage them or not and to what degree, along with their risk profile. It is these kinds of risk that the risk management models target.

There are many popular models for managing risk but most are based on the original pioneering work undertaken in Australia and New Zealand and are to be found in the AUNZ standard number 4360 first published in 1999, updated in 2004. Between this and other models such as the Enterprise Risk Management (ERM) framework prepared by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission, strong similarities can be found. The AUNZ standard framework is taken as the primary model in this paper (Standards Australia and Standard New Zealand, 2004a, b). There is a wide range of possibilities ranging from “do nothing at all” in attempting to nullify the effect of each and every identified risk. This decision, like so many management problems, will be a trade-off based on comparing the cost/likelihood of insurance with the cost/likelihood of risk. In order to manage these optional risks, the models suggest that three steps are necessary: risk recognition, risk prioritization and risk management.

With respect to the first risk, the assessment task is to understand what is at risk and what events could potentially cause harm or benefits. The risk recognition phase has two parts:

- Context establishment, which defines what is risk; and
- Risk identification, which covers the identification within the established context of uncertain events that could cause harm or benefits, their associated causes and their potential consequences.

Once the risks have been identified, the next stage is to understand the nature and level of the risks, so that they can be managed in an appropriate manner. This risk prioritization phase has two parts. The first is risk analysis, which is based on likelihood and consequence. Likelihood depends on the probability of occurrence and the frequency of activity. The consequence can be measured in many ways, such as effects on results or on the enablers of results. The second is risk evaluation. After an analysis has been undertaken, risks are evaluated against an appropriate risk-acceptance criterion to give a ranking, for example “low” (tolerable), “medium” (which should be as low as reasonably practicable), and “high” (intolerable). Risk assessment is then made and can take place either quantitatively or qualitatively. Once a risk assessment has been completed, the risk profile

of an organization can be determined. This shows the scale and complexity of risks faced and depicts the number of risks for each level. It is a representation of risk exposure of the organization, which ideally equates to the risk capacity (the maximum resource that the organization is willing to put at risk) and risk appetite (the amount of risk the organization is willing to take).

The next stage in the process of risk management is the management of the risks which have been identified and prioritized. The way risks are managed can again be categorized in different ways. Perhaps the simplest of these is the “four Ts” (European Foundation for Quality Management, 2005). The “four Ts” model sets out four ways of dealing with unacceptable risks.

- Terminate – cease activities related to the risk (e.g. giving up smoking avoids associated health risks);
- Treat – add control measures or contingency plans to manage the likelihood and consequence of events (e.g. wearing a hard hat reduces the consequences of being hit by a falling object): additional control measures or contingency plans become part of the management system.
- Tolerate – accept the risk; and
- Transfer – move the impact of risks to another entity (e.g. insurance)

A fifth approach to managing risk (i.e. a fifth “T”, we might call “trade-off”), which is often used by the financial sector, is risk neutralization. This is the offsetting of risks against each other, so they cancel each other out (e.g. pooling and hedging are both risk neutralization methods).

3.2 Risk exposure functions

All organizations deal with risks, though the nature and magnitude may differ for each type of organization. This is especially true for banks/financial institutions, as they deal with money. They act as financial intermediaries in any economic system. They help in mobilizing household/corporate savings and making them available to deficit units. Since they help in credit creation by means of loans and advances, they face many risks; in fact, taking risk is the core of most of the products and services offered by banks/financial institutions.

In their role as financial intermediaries, banks and/or financial institutions are involved in the following activities, which result in various types of risks:

- Funds mobilization: Funds are mobilized by accepting term deposits as well as by allowing customers to operate their checking accounts by leaving balances in them.
- Funds deployment: The funds that are mobilized are first subject to regulatory investment requirements - i.e. banks have to invest a specific proportion of their funds in certain instruments, often government securities. The surplus funds are available as loans for various segments of corporate and retail borrowers.
- Funds transfer: Banks and financial institutions are key vehicles for moving funds on behalf of their customers. The core competence of banks is to act as agents of corporations in supporting their liquidity needs across various geographical locations.
Banks also act as settlement agents for their corporate clients in the realization and payment of their funds.
- Risk transfer: Manufacturing and other companies (the banks’ clients) are exposed to a number of risks. Some of the risks are central to their business. They relate to product obsolescence, business model, and distribution channels. The bulk of these have to be handled by the companies themselves. However, for risks that arise from financial markets, they look to their banks to take them over, since it is the latter’s core competence to handle them. Banks are thus saddled with risks passed on by their customers, in addition to the risks that are an integral part of their existence.
- Transaction services: Banks assist their customers in carrying out various trade transactions’, both domestic and international. International transactions involve dealing with multiple currencies. The global network of the banking system and its relationships constitute the backbone of such trade.
- Credit enhancement services: In the course of trade, it is quite possible that the concerned parties may not be familiar with each other. Therefore, suppliers of goods often expect the bank’s help in evaluating or enhancing the creditworthiness of a customer. The entire gamut of letters of credit or guarantees would fall under this category of services.

All these roles involve dealing with risks of some type. Inadequate risk management may adversely affect the earnings of the bank/financial institution in the short run and its survival in the long run. This is also true for organizations other than banks and financial institutions. The financial performance of most firms is affected by price changes. These prices relate to commodities, exchange rates, interest rates and equities. Fluctuations in financial prices are a source of significant risk, collectively called financial risk or price risk. Financial risk may be defined as the potential for cash flows or asset values to vary from expectations due to changes in prices. This definition also gives an indicator of the measurement of risk: the more volatile the price, the greater the risk.

Risks arise from a variety of sources, and affect the value of the assets held by the banks. As defined earlier, risk arises due to the possibility that the actual outcome could be different from the expected outcome. The

probability of an outcome is governed by the availability of certain information. Due to information asymmetry, the most up-to-date information is available with only certain economic players. Further, the outcome is dependent on several other drivers. These interrelationships are not necessarily known or determinable. Governments play a very important role; their policies may not always be in accordance with expectations. This adds more uncertainty to the possibilities. In spite of our best effort to model an outcome, it may not be possible, therefore, to ascertain the exact result. Some of the factors that can expose any economic entity (more particularly banks or financial institutions) to various risks are discussed below:

- Economic policies of governments and resultant budget deficits or surpluses: changes in money supply, levels of inflation and interest rates as well as capital formation that takes place concomitantly in the economy. All these in turn influence the movement of capital in and out of the country; have an impact on the relative value of currencies and also the values of various debt instruments.
- Compensation and savings propensities and the preferences of individual consumers, which result in certain patterns of international trade. In the process, they create trade surpluses in some economies and deficits in others.
- Political, social, racial, and ethnic issues that impact the availability of or demand for a particular commodity and thus result in upheavals in various commodity markets.
- Technological factors that bring in new products (making other products redundant in the process) and thus having an effect on the fortunes of the corporations manufacturing and marketing them.
- Governance of corporations and their financial performance (which is a result of competitive factors in various markets), as well as the financial structures opted for by the individual organization.

4. Empirical Literature

There have been a large number of studies published about risk management in general. However, the number of the empirical studies on risk management practices in financial institutions was found to be relatively small. The following summaries the main conclusions of some selected studies.

Linbo (2004) examined efficiency versus risk in large domestic USA banks. He found that profit efficiency is sensitive to credit risk and insolvency risk but not to liquidity risk or to the mix of loan products. Hahm (2004) conducted an empirical study on interest rate and exchange rate exposures of banking institutions in pre-crisis Korea. The results indicated that Korean commercial banks and merchant banking corporations had been significantly exposed to both interest rate and exchange rate risks, and that the subsequent profitability of commercial banks was significantly associated with the degree of pre-crisis exposure. The results also indicated that the Korean case highlights the importance of upgrading financial supervision and risk management practices as a precondition for successful financial liberalization. Niinimaki (2004) found that the magnitude of risk taking depends on the structure and size of banks' risk Management in the market competition. Banks in this situation tend to take risks, although extreme risk taking is avoided. In contrast, introducing deposit insurance increases risk taking if banks are competing for deposits. In this case, deposit rates become excessively high, thereby forcing banks to take extreme risks. Wetmore (2004) examined the relationship between liquidity risk and loans-to-core deposit ratio. This he observed, was an increased over the period studied, which reflects a change in the asset/liability management practices of banks. He also concluded that there is a positive relationship occurring between market risk and the change in loan-to-core deposits ratio after 1994.

Wang and Sheng (2004) studied foreign exchange risk, diversification and Taiwanese America depository receipt (ADRs). In this study, they tried to answer the following question: Should USA investors purchase American depository receipts issued by Taiwanese multinationals? Their empirical results indicated that Taiwanese ADRs were shown to help USA investors diversify their portfolios globally. These findings suggest that Taiwanese ADRs are valid investment tools for USA investors who seek international diversifications. Khambata and Bagdi (2003) examined off-balance –sheet (OBS) credit risk across the top 20 Japanese banks. The main results of this study indicated that financial derivatives are heavily used by the four banks and that loan commitments are the largest source of credit risk among traditional OBS instruments.

The main techniques used in risk management according to Al-Tamimi (2002) were establishing standards, credit score, credit worthiness analysis, risk rating and collateral. He also highlighted the willingness of the UAE commercial banks to use the most sophisticated risk management techniques in the study, and recommended the adoption of a conservative credit policy. The GDP growth rate, firms, family indebtedness, rapid past credit or branch expansion, inefficiency, portfolio composition, size, net interest margin, capital ratio and market power are variables that explain credit risk. Their findings raise important bank supervisory policy issues: the use of bank-level variables as early warning indicators, the advantages of mergers of banks from different regions, and the role of banking competition and ownership in determining credit risk. Oldfield and Santomero (1997) investigated risk management in financial institutions and suggested four steps for active risk management techniques:

- The establishment of standards and reports;
- The imposition of position limits and rules (i.e. contemporary exposures, credit limits and position concentration);
- The creation of self investment guidelines and strategies; and
- The alignment of incentive contracts and compensation (performance-based compensation contracts).

5. Data and Methodology

The study was descriptive in nature and employed the cross-sectional research design. This type of research design examines a single point in time or takes a one time snapshot approach of an issue being studied and is appropriate for large sample size (Nueman, 2007).

5.1 Sampling and Data Collection

Empirical analysis is based on a sample of six banks, drawn from a list of 27 banks in Ghana. The targeted sampled banks are the six biggest commercial banks in Ghana and these banks are involved in risk management (Price Waterhouse Coopers, 2009). The sample includes four foreign banks operating in Ghana: Barclays Bank, SG-SSB Bank, Standard Chartered Bank and Ecobank and two local banks: Agricultural Development Bank (ADB) and Ghana Commercial Bank (GCB). A modified standard questionnaire from (Hussien and Faris, 2007), were administered at the headquarters offices and branch head offices of the selected banks in Accra and Kumasi. They were given to the risk analysts and senior risk managers of those banks. The sampling technique used is the purposive sampling since it allowed qualified respondents to be specifically contacted or approached to participate in the survey.

5.2 Data Analysis

A multiple linear regression model was estimated to identify the degree of association between risk management practices and the determinants (understanding risk, risk identification, risk assessment and analysis and risk monitoring and control) to test hypothesis one. A non-parametric Kruskal-Wallis Test was used to test if there were differences in risk management practices and the determinants (understanding risk, risk identification, risk assessment and analysis and risk monitoring and control) across the selected banks considered for this study as stated in hypothesis two. The nonparametric tests for multiple independent samples are useful for determining whether or not the values of a particular variable differ between two or more groups. This is especially true when the assumptions of ANOVA are not met. The Kruskal-Wallis test is a one-way analysis of variance by ranks. It tests the null hypothesis that multiple independent samples come from the same population. Unlike standard ANOVA, it does not assume normality, and it can be used to test ordinal variables

5.3 Empirical Model

The major purpose of this research is to explore the dependence of one variable on the other and so the regression model below was used:

$$RMP_i = \beta_0 + \beta_1(UR)_i + \beta_2(RI)_i + \beta_3(RAA)_i + \beta_4(RMC)_i + \varepsilon_i$$
$$i=1 \dots n$$

where RMP_i is risk management practices, UR_i is understanding risk, RI_i is risk identification, RAA_i is risk assessment and analysis and RMC_i is risk monitoring and controlling system, subscript i denote the cross-sectional dimension and n represents the number of respondents.

6. Results and Discussions

The multiple linear regression model results reported in Table 1 were obtained using the SPSS (version 17) statistical software package to test hypothesis one using the stepwise entry. The results indicated that, risk monitoring and control was the only predictor variable identified in this study to be statistically significant and have positive impact on risk management practices and it explained about 45% of the variation in risk management practices. Since ($F = 8.984$, $p = 0.003$) for the model showed a p-value less than 0.05 ($p < 0.05$), this shows that the model is significant for any future predictions. Hypothesis one is not confirmed because not all the predictor variables have positive relationship with risk management practices since the correlation coefficient for understanding risk and risk identification are negative (-0.096) and (-0.035) respectively and the relationship is not also significant.

INSERT TABLE 6.1

INSERT TABLE 6.2

The second hypothesis of the study is stipulated as “there is difference in risk management practices and the determinants (understanding risk, risk identification, risk assessment and analysis, and risk monitoring and control) across the selected banks”. Kruskal- Wallis Test was used to test for differences between the determinants of risk management. The result of the mean ranks is displayed in Table 6.3 for the various aspects of risk management practices

The Kruskal-Wallis statistics measures how much the group ranks differ from the average rank of all the groups. The results of the test statistics as shown in Table 6.3 tells us the ratings of the various risk management practices such as understanding risk, risk identification, risk monitoring and control and risk management practices did differ by the type of bank respondent. From table 3 the differences observed in the mean ranks across the various banks were highly significant except for risk assessment and analysis which did not differ by the type of bank of respondents even though there was slight difference observed between the rank means. Hence, hypothesis two is supported by the findings of the study that difference exist in the risk management practices across the banks.

INSERT TABLE 6.3

7. Conclusion

This study examined the risk management practices among selected banks in Ghana. The analysis unraveled the major risk management determinants to include: understanding of risk, risk identification, risk assessment and analysis, risk monitoring and controlling system. Risk monitoring and control was noted to be the most influencing variable in risk management practice among the banks. There is also a negative relationship between risk management practices and the determinants which includes understanding risk and risk identification, while risk assessment and analysis and risk monitoring and control are positively related with risk management practices in this study. The secondary objective is to compare the determinants of risk management among the sampled banks, and it revealed that, there is a significant difference in risk management practices, understanding risk, risk identification and risk monitoring and control, except risk assessment and analysis which did not differ across the selected banks.

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Table 6.1: Regression model results

Variable	Unstandardized Coefficients	Standard Error	Beta	t-Values	t-Probability
Constant	3.530	.278		12.703	.000
Risk Monitoring & Control System	.190	.063	.219	2.997	.003
R	.219				
R ²	.48				
Adjusted R ²	.45				
Std. Error of the Estimate	.39664				
F-statistics	8.984				
Probability (F-statistics)	.003				

Table 6.2: Excluded Variables^b

Model	Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 Understanding Risk and Risk Management	-.096 ^a	-1.256	.211	-.094	.913	1.096	.913
Risk Identification	-.035 ^a	-.476	.634	-.036	.976	1.025	.976
Risk Assessment and Analysis	.068 ^a	.918	.360	.069	.986	1.014	.986

a. Predictors in the Model: (Constant), Risk Monitoring and Control

b. Dependent Variable: Risk Management Practices

Table 6.3: Kruskal-Wallis Test

Test Statistics^{a,b}

	Understanding Risk	Risk Identification	Risk Assessment and Analysis	Risk Monitoring and Control	Risk Management Practices
Chi-Square	26.500	47.157	2.798	44.886	22.460
Df	5	5	5	5	5
Asymp. Sig.	.000	.000	.731	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable

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