



# Impact of Internal Control on the Extent of Audit Procedures: *Evidence from the Banking Sector of Bangladesh*

Sadia Afroze

Associate Professor, Department of Accounting &  
Information Systems, University of Dhaka.  
The author can be reached through e-mail: safroze@gmail.com

Fatema-Tuz-Zohra

Lecturer, Department of Accounting &  
Information Systems, University of Dhaka.

## Abstract

The globalization of economy, technological advancements, complexity of business and allegations of fraudulent financial reporting have recently sharpened the ever-increasing attention on internal control and internal auditing. Simultaneously, the capital markets have experienced many new financial instruments and players being introduced, making the transactions and operations more complex. In this context, internal audit is to be carried out on the basis of standing laws and regulations, which generally include the policies and decrees of state as well as rules and by-laws of enterprises. Within this framework of extremely fluid business environment, the purpose of our study is to underline the importance of a well-organized internal control system and its impact on the extent of the audit procedures evidenced from banking sector of Bangladesh (2013 up-to-date) for ensuring the safe and soundness of a credit institution's activity. This will ensure the stability of the banking system as a whole. According to up-to-date theoretical and empirical literature, the results point out that all components of internal audit is vital in the effectiveness of internal audit and consequently in the business survival and success.



## 1. Introduction:

Internal Control is the process designed and effected by those charged with governance, management, and other personnel to provide reasonable assurance about the achievement of the entity's objectives with regard to reliability of financial reporting, effectiveness and efficiency of operations and compliance with applicable laws and regulations. It follows that internal control is designed and implemented to address identified business risks that threaten the achievement of any of these objectives. Internal control procedures reduce process variation, leading to more predictable outcomes. The auditors of the organization measure the effectiveness of internal control through their efforts. More specifically for external auditors, it helps to determine the appropriate sample size and audit procedures required to perform to fulfill their purpose. The growth in international financial markets has given banks the opportunity to design new products and to provide a wide range of services, there can be noticed an increase in associated risks (Palfi and Muresan, 2009). Simultaneously, there is growing management recognition of the importance of implementing a good internal control system as some of the recent reports on bank failures have highlighted fraud and negligence as the major contributory factors (Chan, 1995). In other words, the activities of internal audit are now seen as critical elements in the assurance process. Strong internal control systems have long been seen as particularly relevant to banks because of their vulnerability to fraud and the links between information systems and money (Cahill, 2006). In this context, the purpose of this paper is to highlight the interaction between components of internal audit and effectiveness of internal auditing in Bangladeshi Banks, in particular the impact of internal control on the audit procedures. To accomplish its goal, the study uses survey data from 21 DSE enlisted Bank employees. Consistent with our predictions, our results indicate that the success of internal auditing is strongly associated with the five elements of internal control system: Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring Process and successful Internal Control reduces the extent of Audit Procedures.

## 2. Theoretical Framework and Effectiveness of Internal Auditing:

In order to determine internal audit efficiency evaluation principles it is important to analyze the conceptual framework of internal auditing (Savcuk, 2007). According to the Institute of Internal Auditors, (IIA, 1991; Taylor and Glezen, 1991; IIA, 1995) internal auditing is "an independent appraisal function, established within an organization to examine and evaluate its activities as a service to the organization". By measuring and evaluating the effectiveness of organizational controls, internal auditing, itself, is an important managerial control device (Carmichael et al., 1996), which is directly linked to the organizational structure and the general rules of the business (Cai, 1997).

Hence, one of the most comprehensive definition is given by Sawyer (2003) who stated that internal auditing is "a systematic, objective appraisal by internal auditors of the diverse operations and controls within an organization to determine whether (1) financial and operating information is accurate and reliable, (2) risks to the enterprise are identified and minimized, (3) external regulations and acceptable internal policies and procedures are followed, (4) satisfactory operating criteria are met, (5) resources are used efficiently and economically and (6) the organization's objectives are effectively achieved - all for the purpose of consulting with management and for assisting members of the organization in the effective discharge of their governance responsibilities".

Based on the institutional environment, one can conclude that many standards can be used in order to assess the effectiveness of internal auditing and the extent of the audit procedures. This paper extends the above studies by presenting empirical evidence that evaluate internal auditing by assessing the components (as described by the COSO Report) of internal control system and the extent of audit procedures affecting successful internal control systems. In line with the above, the five interrelated components (or criteria) are: (Rezaee, 1995; Konrath, 1996; Yang and Guan, 2004): Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring Process.

Internal audite aims at identifying if:

- ✌ financial and operating information is accurate and reliable
- ✌ risks to the enterprise are identified and minimized
- ✌ external regulations internal policies and procedures are followed
- ✌ satisfactory operating criterion are met
- ✌ resources are used efficiently and effectively
- ✌ organization 's objectives are effectively achieved

Specifically, control environment reflects the attitude and the policies of management in regard with the importance of internal audit in the economic unit. On the one hand, control environment is influenced by the history and the culture of economic unit, on the other hand has a pervasive influence on the way business activities are structured that sets a positive and supportive attitude toward internal control and conscientious management (Aldridge and Colbert, 1994). In regard with risk assessment, it can be claimed that it is the identification and analysis of relevant risks associated with achieving the business objectives (Karagiorgos et al., 2009). Hence, control activities are the policies, procedures and mechanisms that enforce management's directives (Hevesi, 2005).

In line with the above, on the one hand the information and communication component refers to the identification, capture, and communication of pertinent information in an appropriate form and timeframe to accomplish the financial reporting objectives (Aldridge and Colbert, 1994). On the other hand, effective communications should occur in a broad sense with information flowing down, across, and up the organization. Finally, it is commonly acceptable that internal control systems need to be monitored in order to assess the quality of the system's performance over time. Hence by monitoring, it is ensured that the findings of audits and other reviews are promptly resolved (Rezaee et al., 2001).

### 3. Recent Empirical Literature:

As it is mentioned before that internal auditing is a critical component of an organisation's management and a foundation for its safe and sound operations (Drogalas et al., 2005; Karagiorgos et al., 2010). Banks play a vital role in economy as they hold the savings of the public provide a means of payment for goods and services and finance the development of business (Siddiqui and Podder, 2002). The growing importance of internal auditing and banking sector has led to systematic research into the factors that improve the performance of internal auditing in Banks. In the light of the above, Celal (1989) examined the internal audit function in the Banks of Turkey. To achieve its purpose 25 questionnaires were sent to the internal auditors in the Banks of Turkey and 90 different questionnaires were sent to auditors. The analysis of the survey indicates that the importance of internal audit in the banking sector is increased by the usage of

computers and the international extension of Banks. Furthermore, the results show that the number of internal auditors is related with the size of the Bank. Regarding the education of internal auditors, the results reveal that usually internal auditors have graduated from Universities and have studied Accountancy. Finally, the paper highlights the growing importance of internal auditing in business success.

Siddiqui and Podder (2002) examine the effectiveness of financial audit of banking companies operating within Bangladesh. For the purpose of this study, the audited financial statements of 14 sample banking companies have been analyzed. The study identifies seven sample companies that have actually overstated their profits. Hence, the research explores the level of independence, objectivity and competence of the auditors assigned for auditing in banking companies.

Abu-Musa (2004) examined the existence and adequacy of implemented security controls in the Egyptian banking sector. The results of the survey pointed out that the vast majority of Egyptian banks have adequate security controls in place. The results also revealed that the computer departments paid relatively more attention to technical security controls; while internal audit departments emphasized more of the behavioral and organizational security controls. Finally, the study provides valuable empirical results regarding inadequacies of implemented Credit Account Information Sharing (CAIS) security controls, and introduced some suggestions to strengthen and improve the security controls in the EBS.

More recently, Koutoupis and Tsamis (2008) via a literature review and three case study approaches analyzed the attitude of Greek banks with regard to the application of "risk-based" approach. The Greek Law, the Bank of Greece and international regulations impose internal audit in the Greek Bank sector. However, the Greek banking credit institutions ignored most regulations. The results of the research show that the standards of internal auditing require the adoption of "risk-based" approach from the internal auditors. Unfortunately, this requirement is not being into practice. Thus, the Greek banks adopt an intermediary approach of internal auditing that takes into consideration the risks, without estimating and managing them.

At the same time Khanna and Kaveri (2008) examined the implementation of risk-based internal audit in Indian Banks. To accomplish the goals of the survey, a structured questionnaire was mailed to 43 banks in India, both in the public and private sectors. A total of 25 banks, all public sector banks and six private sector banks, have responded to the questionnaire mailed. The findings of the paper pointed out that the banks have made sufficient progress in introducing Risk-Based Internal Audit (RBIA). This refers to their understanding of methodology for assessment of risk, audit procedures and implementation of audit report.

Hence, Palfi and Muresan (2009) examined the importance of a well-organized system of internal control in regard with the bank sector. The sample was based on 25 credit institutions of Romania. The analysis of the survey answers reveals that the continuous collaboration, based on periodical meetings, between all structures of bank, characterizes an effective internal audit department. Finally, Abu-Musa (2010) investigated the existence and adequacy of implemented security controls of computerized accounting information systems in the Saudi banking sector. The results of study revealed that the vast majority of Saudi banks have adequate security controls in place. The results also enable bank managers and practitioners to better secure their computerized accounting information systems and to champion the security of information technology for the success of their banks.

DC = Due Care

WADC = With Above Due Care

VC = Very Carefully

## 4. Objectives of the Study:

The objective of the study is to observe whether there is a significant relationship between the efficiency of internal control systems and the extent of audit procedures performed. To perform the study we have chosen the banking sector of Bangladesh as it plays significant role in the overall economic development of the country. The previous studies in different countries revealed that if the internal control system of the organization is efficient, the extent of audit procedures performed subsequently decreased. The main purpose of the study is to explore whether the same scenario is existing in the Banking Sector of Bangladesh or not.

## 5. Research Design:

### 5.1 Survey Development:

To achieve its objective the study uses the exploratory research methods of research questionnaires. This method of data collection was considered appropriate because the information sought is not publicly available and internal auditors are the appropriate respondents to answer the questions asked. Then, the questionnaires were sent to the sample of 21 Banks. Some adjustments have been occurred on the basis of the assumption that some bank employees did not clearly provide exact component information.

### 5.2 Methodology for Data Analysis:

Respondents were asked to give their degree of agreement with 28 questions having 5 stances - very poor, poor, Average, Good, and Very Good. The scoring level- Very Poor-1, Poor-2, Average-3, Good-4, Very Good-5. A large amount of researchers use this methodology, because it is relatively easy for respondents to use, and responses from such a scale are likely to be reliable (Nunnally, 1978; Myers and Gramling; 1997, Balzan and Baldacchino, 2007; Lam and Kolic, 2008).

The methods of giving score in the audit procedures are completely subjective and based upon some defined criteria. Based upon the research, three distinguished stances of audit procedures- DC (Due Care), WADC (With Above Due Care), VC (Very Carefully) have been used. The scoring level- DC-1, WADC-2, VC-3.

### 5.2.1 Methods of scoring control environment audit procedures:

Five questions have been set up.

- ❖ 30% weight (Importance) has been given.
- ❖ Weight is completely subjective.
- ❖ If WAS (Weighted Average Score) of control environment is in between,  $12 < CE < 15$  then DC will be exercised and score-1 will be given.
- ❖ If WAS (Weighted Average Score) of control environment is in between,  $9 < CE < 12$  then WADC will be exercised and score-2 will be given.
- ❖ If WAS (Weighted Average Score) of control environment is in between,  $6 < CE < 9$  then VC will be exercised and score-3 will be given.
- ❖ Finally WAS has been computed for control environment audit procedures.
- ❖ Bands have been computed based on the score of the control environment. The highest score of control environment is 50 (5\*10 questions), Second highest 40 (4\*10 questions), third highest 30 (3\*10 questions), fourth highest 20 (2\*10 questions), etc. The band calculation is given below:

DC			WADC			VC					
Upper		Lower			Lower			Lower			
Score	Weight	WAS	Score	Weight	WAS	Score	Weight	WAS	Score	weight	WAS
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
5	30%	1.5	4	30%	1.2	3	30%	0.9	2	30%	0.6
<b>Total WAS</b>		<b>15</b>			<b>12</b>			<b>9</b>			<b>6</b>

### 5.2.2 Methods of scoring control activities audit procedures:

4 questions have been set up.

- ❖ 20% weight (Importance) has been given.
- ❖ Weight is completely subjective.
- ❖ If WAS (Weighted Average Score) of control activities is in between,  $4 < CE < 5$  then DC will be exercised and score-1 will be given.
- ❖ If WAS (Weighted Average Score) of control activities is in between,  $3 < CE < 4$  then WADC will be exercised and score-2 will be given.
- ❖ If WAS (Weighted Average Score) of control activities is in between,  $2 < CE < 3$  then VC will be exercised and score-3 will be given.
- ❖ Finally WAS has been computed for control activities audit procedures.

Bands have been computed based on the score of the control activities. The highest score of control activities is 25 (5\*5 questions), Second highest 20 (4\*5 questions), third highest 15 (3\*5 questions), fourth highest 10 (2\*5 questions), etc. The band calculation is given below:

DC			WADC						VC		
Upper			Lower			Lower			Lower		
Score	Weight	WAS	Score	Weight	WAS	Score	Weight	WAS	Score	weight	WAS
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
<b>Total WAS</b>		<b>5</b>			<b>4</b>			<b>3</b>			<b>2</b>

### 5.2.3 Methods of scoring risk assessment audit procedures:

3 questions have been set up.

- ❖ 20% weight (Importance) has been given.
- ❖ Weight is completely subjective.
- ❖ If WAS (Weighted Average Score) of control Risk Assessment is in between,  $4 < CE \leq 5$  then DC will be exercised and score-1 will be given.
- ❖ If WAS (Weighted Average Score) of Risk Assessment is in between,  $3 < CE \leq 4$  then WADC will be exercised and score-2 will be given.
- ❖ If WAS (Weighted Average Score) of Risk Assessment is in between,  $2 \leq CE \leq 3$  then VC will be exercised and score-3 will be given.
- ❖ Finally, WAS has been computed for Risk Assessment audit procedures.
- ❖ Bands have been computed based on the score of the Risk Assessment. The highest score of Risk Assessment is 25 (5\*5 questions), Second highest 20 (4\*5 questions), third highest 15 (3\*5 questions), fourth highest 10 (2\*5 questions), etc. The band calculation is given below:

DC			WADC						VC		
Upper			Lower			Lower			Lower		
Score	Weight	WAS	Score	Weight	WAS	Score	Weight	WAS	Score	weight	WAS
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
<b>Total WAS</b>		<b>5</b>			<b>4</b>			<b>3</b>			<b>2</b>

**5.2.4 Methods of scoring information & communication audit procedures:**

3 questions have been set up.

- ❖ 10% weight (Importance) has been given.
- ❖ Weight is completely subjective.
- ❖ If WAS (Weighted Average Score) of Information & Communication is in between,  $1.6 < CE \leq 2$  then DC will be exercised and score-1 will be given.
- ❖ If WAS (Weighted Average Score) of Information & Communication is in between,  $1.2 < CE \leq 1.6$  then WADC will be exercised and score-2 will be given.
- ❖ If WAS (Weighted Average Score) of Information & Communication is in between,  $0.8 \leq CE < 1.2$  then VC will be exercised and score-3 will be given.
- ❖ Finally, WAS has been computed for Monitoring process audit procedures.
- ❖ Bands have been computed based on the score of Information & Communication. The highest score of Information & Communication is 20 ( 5\*4 questions), Second highest 16 (4\*4 questions), third highest is 12 (3\*4 questions), fourth highest 8 (2\*4 questions), etc. The band calculation is given below:

DC			WADC			VC					
Upper		Lower			Lower			Lower			
Score	Weight	WAS	Score	Weight	WAS	Score	Weight	WAS	Score	weight	WAS
5	10%	0.5	4	10%	0.4	3	10%	0.3	2	10%	0.2
5	10%	0.5	4	10%	0.4	3	10%	0.3	2	10%	0.2
5	10%	0.5	4	10%	0.4	3	10%	0.3	2	10%	0.2
5	10%	0.5	4	10%	0.4	3	10%	0.3	2	10%	0.2
<b>Total WAS</b>		<b>2</b>			<b>1.6</b>			<b>1.2</b>			<b>0.8</b>

**5.2.5 Methods of scoring monitoring process audit procedures:**

3 questions have been set up.

- ❖ 20% weight (Importance) has been given.
- ❖ Weight is completely subjective.
- ❖ If WAS (Weighted Average Score) of Monitoring Process is in between,  $3.2 < CE \leq 4$  then DC will be exercised and score-1 will be given.
- ❖ If WAS (Weighted Average Score) of Monitoring Process is in between,  $2.4 < CE < 3.2$  then WADC will be exercised and score-2 will be given.
- ❖ If WAS (Weighted Average Score) of Monitoring Process is in between,  $1.6 < CE < 2.4$  then VC will be exercised and score-3 will be given.
- ❖ Finally, WAS has been computed for Monitoring Process audit procedures.
- ❖ Bands have been computed based on the score of Monitoring Process. The highest score of Monitoring process is 20 (5\*4 questions), Second highest 16 (4\*4 questions), third highest is 12 (3\*4 questions), fourth highest 8 (2\*4 questions), etc.

The band calculation is given below:

DC			WADC			VC					
Upper		Lower			Lower			Lower			
Score	Weight	WAS	Score	Weight	WAS	Score	Weight	WAS	Score	weight	WAS
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
5	20%	1	4	20%	0.8	3	20%	0.6	2	20%	0.4
<b>Total WAS</b>		<b>4</b>			<b>3.2</b>			<b>2.4</b>			<b>1.6</b>

### 5.3 Regression mode, Hypothesis Development Sample Selection & Process Conduction:

#### 5.3.1 Regression Model:

Here linear multiple regression model has been used. The dependent variable is AP (Audit Procedures) and independent variables are CE (Control Environment), CA (Control Activities), RA (Risk Assessment), IC (Information and Communication, and MP (Monitoring Process).

$$AP = \alpha + \beta_1(CE) + \beta_2(CA) + \beta_3(RA) + \beta_4(IC) + \beta_5(MP) + \varepsilon_i$$

#### 5.3.2 Hypothesis Development:

The entire research stems from two distinct hypotheses- Null and alternative hypothesis and the test is one tailed. The base statement has been set up under alternative hypothesis. If null hypothesis is rejected, the alternative hypothesis will be accepted. We are concern for the rejection of the null hypothesis so that we can accept the alternative hypothesis.

$H_0$  = Internal control has no impact or strong internal control increases the extent of audit procedures

$H_a$  = Strong internal control reduces the extent of audit procedures

#### 5.3.3 Sample Selection and Process Conduction:

The sample has been selected by simple random sampling and to select each sample unit we have used Random number table. The size of the sample has been determined by Raosoft calculator ([www.raosoft.com/samplesize.html](http://www.raosoft.com/samplesize.html)). The entire mathematical process has been conducted by MS EXCEL ANALYSIS TOOL-PACK VBA and EXCEL given formulas.

AP = Audit Procedures  
 CE = Control Environment  
 CA = Control Activities  
 RA = Risk Assessment  
 IC = Information and Communication  
 MP = Monitoring Process

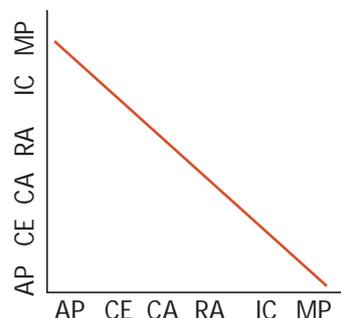
## 6. Results of the Study:

### 6.1 Basic findings of the study:

The study has found that almost all components of internal control have direct impact on the extent of the audit procedures. All of the components of the internal control are negatively correlated with the extent of the audit procedures and the relationship between the components of internal control and the extent of the audit procedures is relatively high. Later it has been proved that the relationship between some components of internal control and the extent of the audit procedures is by luck not the actual.

TABLE-1: CORRELATION MATRIX

	AP	CE	CA	RA	IC	MP
AP	1.00					
CE	(0.89)	1.00				
CA	(0.80)	0.70	1.00			
RA	(0.66)	0.70	0.59	1.00		
IC	(0.53)	0.44	0.51	0.56	1.00	
MP	(0.79)	0.69	0.59	0.74	0.72	1.00



From the above correlation matrix it has been observed that the relationship among inter independent variables is below .75 which is a major requirement of the study. If it is above .75 the entire study will become valueless.

TABLE-2 REGRESSION STATISTICS

Regression Statistics	
Multiple R	0.96
R Square	0.91
Adjusted R Square	0.88
Standard Error	0.57
Observations	21.00

From this regression statistics table-2 it has been observed that the extent of the correlation is high. The R-square is very high which indicates that 91% value of the audit procedures has been explained the components of the internal control. Here the value of the standard error is very low which indicates hypothetical values replicate the actual and also the approximate fitness of the model.

TABLE-3: ANALYSIS OF VARIANCE

ANOVA					
	df	SS	MS	F	Significance F
Regression	5.00	50.47	10.09	31.39	0.00
Residual	15.00	4.82	0.32		
Total	20.00	55.29			

From this table it has been observed that the value of significance F is exactly zero which indicates the perfectness of the data that means the data of the audit procedures and internal control components were appropriate. If the value of the significance F is above .05 there is no way to conduct the research which indicates the inconsistency of the data.

TABLE-4: COEFFICIENTS, t-stat, P-value

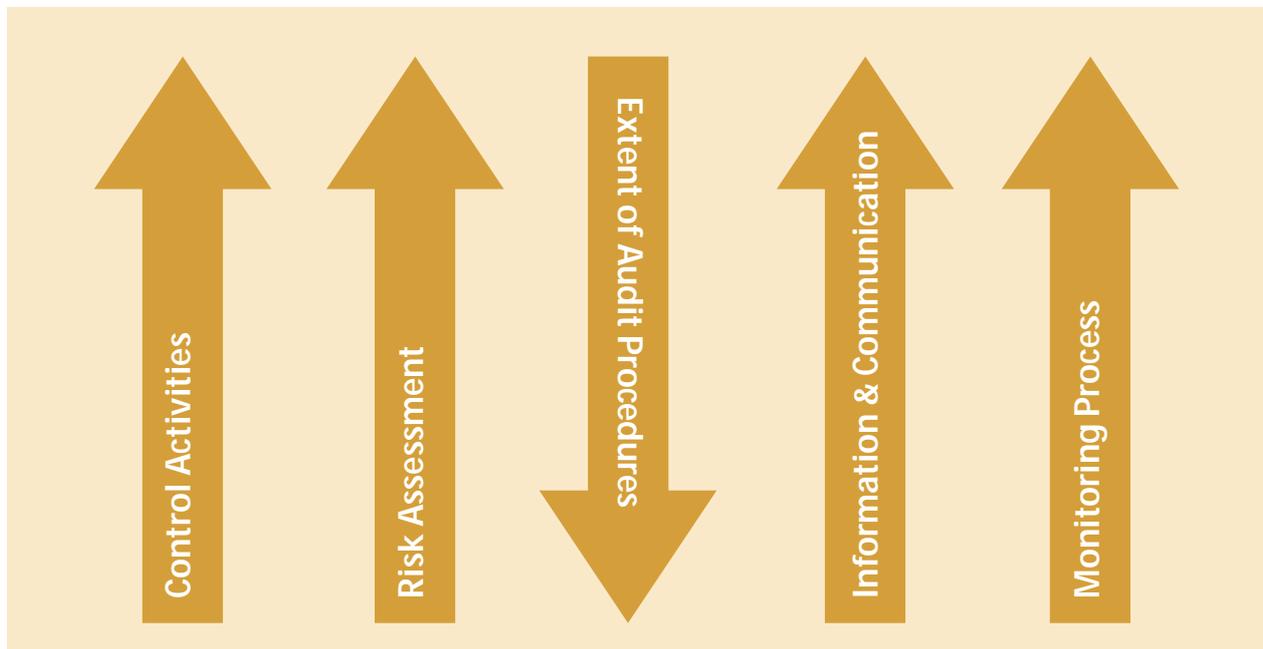
	Coefficients	StandardError	t-Stat	P-value
$\alpha$	21.65	1.17	18.55	0.00
CE	(0.71)	0.17	(4.17)	0.00
CA	(1.38)	0.49	(2.83)	0.01
RA	0.53	0.38	1.40	0.18
IC	0.55	0.83	0.67	0.51
MP	(1.40)	0.50	(2.83)	0.01

From the above table the required regression model:

$$AP = 21.65 + (0.71)CE + (1.38)CA + 0.53RA + 0.55IC + (1.40)MP + 0.57$$

From the above regression equation it has been observed that per unit increase in the extent of the Control Environment reduces the extent of the Audit Procedures by 0.71 unit, per unit increase in the extent of the control activities reduces the extent of the audit procedures by 1.38 unit, per unit increase in the extent of the Monitoring process reduces the extent of the audit procedures by 1.4 unit but per unit increase in the extent of the Risk Assessments and Information & communication increases the extent of audit procedures by 0.53 and 0.55 unit respectively which is completely contradictory of our hypothesis.

## 7. Validation of the Hypothesis:



### 7.1 Control Environment:

Here the P-value-0.00 is smaller than 0.05 which indicates the rejection of the null hypothesis (Internal Control has no impact or strong internal control increases the extent of the audit procedures) and acceptance of the alternative hypothesis (Strong internal control reduces the extent of the audit procedures) which is consistent with our developed hypothesis. So strong internal control environment reduces the extent of audit procedures.

### 7.2 Control Activities:

Here the P-value-0.01 is smaller than 0.05 which indicates the rejection of the null hypothesis (Internal Control has no impact or strong internal control increases the extent of the audit procedures) and acceptance of the alternative hypothesis (Strong internal control reduces the extent of the audit procedures) which is consistent with our developed hypothesis. So strong internal control activities reduces the extent of audit procedures.

### 7.3 Risk Assessment:

Here the P-value-0.18 is greater than 0.05 which indicates the acceptance of the null hypothesis (Internal Control has no impact or strong internal control increases the extent of the audit procedures) and rejection of the alternative hypothesis (Strong internal control reduces the extent of the audit procedures) which is inconsistent with our developed hypothesis. So, strong risk assessment increases the extent of audit procedures. But this result is still controversial because many studies have found that strong risk assessment reduces the extent of the audit procedures. This result may arise as a result of giving false information about risk assessment.

### 7.4 Information & Communication:

Here the P-value-0.51 is greater than 0.05 which indicates the acceptance of the null hypothesis (Internal control has no impact or strong internal control increases the extent of the audit procedures) and rejection of the alternative hypothesis (Strong internal control reduces the extent of the audit procedures) which is inconsistent with our developed hypothesis. So strong information and communication increases the extent of audit procedures. But this result is still controversial because many studies have found that strong information and communication reduces the extent of the audit procedures. This result may arise as a result of giving false information about Information and communication.

### 7.5 Monitoring Process:

Here the P-value-0.01 is smaller than 0.05 which indicates the rejection of the null hypothesis (Internal control has no impact or strong internal control increases the extent of the audit procedures) and acceptance of the alternative hypothesis (Strong internal control reduces the

extent of the audit procedures) which is consistent with our developed hypothesis. So strong monitoring process reduces the extent of audit procedures.

## 8. Implications of the Study:

The study shows that overall there is a significant relationship between the efficient internal control systems and extent of external audit procedures. Out of five components of the internal control systems of an organization, three are showing a significant relationship. So, it implies that if the Banking Sector of Bangladesh can implement strong internal control systems in their organizations, it will subsequently help the external auditors to provide more reasonable assurance on a timely basis to the users for their decision making purpose by performing less audit procedures than before. Therefore, to achieve the desired objective, the existence of internal control systems in all banks of Bangladesh and audit of its efficiency time to time, can be made mandatory by the respective authorities.

## 9. Conclusion:

Even though it is very difficult to deal with such a subjective issue, the research has given the message that almost efficiency in all the components of the internal control components reduces the extent of the audit procedures. Two components of the internal control systems- Risk Assessment and Information and Communication are contradictory to our developed alternative hypothesis. Although many studies suggest that strong risk assessment and information and communication reduces the extent of the audit procedures but still it is believed by some analysts that complicated risk assessment procedures and sticky flow of information increase audit procedures. ☺

## References:

- Abu-Musa, Ahmad A. (2010) 'Investigating adequacy of Security Controls in Saudi Banking Sector An empirical study', *Journal of Accounting - Business & Management*, Vol. 17, No. 1, pp.1-41.
- Abu-Musa, Ahmad A. (2004) 'Investigating the Security Controls of CAIS in an Emerging Economy: An Empirical Study on Egyptian Banking Industry', *The Journal of Managerial Auditing*, Vol. 19, No. 2, pp. 272 -302.
- Aldridge, R. and Colbert, J. (1994) 'Management's Report on Internal Control and the Accountant's Response', *Managerial Auditing Journal*, Vol. 9, No. 7, pp.21-28.
- Balzan, L. and Baldacchino, P.J. (2007) 'Benchmarking in Maltese internal audit units', *Benchmarking: An International Journal*, Vol. 14, No. (6), pp.750-767.
- Bowrin, A. (2004) 'Internal control in Trinidad and Tobago religious organizations', *Accounting, Auditing and Accountability Journal*, Emerald Group Publishing Limited, Vol. 17, No. 1, pp.121-152.
- Cahill, E. (2006) 'Audit committee and internal audit effectiveness in a multinational bank subsidiary: A case study', *Journal of Banking Regulation*, Vol 7, No ½, pp.160-179.
- Cai, C. (1997) 'On the functions and objectives of internal audit and their underlying conditions', *Managerial Auditing Journal*, 12(4), pp. 247-250.
- Candrea, P. J. (2006) 'Controlling Internal Controls', *Public Administration Review*, pp.463 - 465.
- Carmichael, D.R., Willingham, J.J. and Schaller C.A. (1996) *Auditing concepts and methods. A Guide to current theory and practice*, 6th edition, McGraw-Hill ed., pp. 25.
- Celal K. (1989) 'Internal auditing in the Turkish banking sector', *Emerald Backfiles 2007*, Anadolu University, Izmir, Turkey.
- Chan, M. (1995) 'Achieving audit uniformity out of diversity: a case study of an international bank', *Managerial Auditing Journal*, Vol. 10, No. 4, pp. 44-48.
- Chen, Y., Chen, G. and Wu, S. (2005) 'Issues and opportunities in e-business research: a Simonian perspective', *International Journal of E-Business Research*, Vol. 1 No. 1, pp. 37-53.
- COSO (1992) *Internal Control-integrated Framework*, Committee of Sponsoring Organisations of the Treadway Commission, Coopers and Lybrand, New York, NY.
- Drogalas, G., Soubeniotis, D. and Fotiadis, Th. (2005) 'Conceptual Framework of Internal Auditing: theoretical approach and case study analysis', *Dioikitiki Enimerosi*, pp.52-65.
- Institute of Internal Auditors-UK (1991) *Standards and Guidelines for the Professional Practice of Internal Auditing*, IIA-UK ed. (statement of responsibilities).
- Institute of Internal Auditors-UK (1995) *Standards for the Professional practice of Internal Audit*, Altamonte Springs, FL.
- Kantzos C. and Chondraki, A. (2006) *Auditing Theory and Practise II*, Stamouli, Athens.pp- 10.
- Karagiorgos, T., Drogalas, G., Gotzamanis, ?. and Tampakoudis, I. (2009) 'The Contribution of Internal Auditing to Management', *International Journal of Management Research and Technology*, Vol. 3, No. 2, Serials Publications, pp.417-427.
- Karagiorgos, T., Drogalas, G., Eleftheriadis, ?. and Christodoulou, P. (2009) 'Efficient Risk Management and Internal Audit', *International Journal of Management Research and Technology*, Vol. 3, No. 2, Serials Publications, pp.429-436.
- Khanna, V. (2008) 'Risk-Based Internal Audit in Indian Banks: A Modified and Improved Approach for Conduct of Branch Audit', *The Icfai University Journal of Bank Management*, Vol. 4, No. 4, pp.35-56
- Khanna, V. and Kaveri, V.S. (2008) 'Implementing Risk-Based Internal Audit in Indian Banks: An Assessment of Organizational Preparedness', *The Icfai University Journal of Bank Management*, Vol. 6, No. 3, pp.23-47
- Konrath, L.F. (1996) *Auditing concepts and applications*, 3rd edition, West Publishing Company, United States of America, pp.730.
- Koutoupis, A. and Tsamis, A. (2009) 'Risk based internal auditing within Greek banks: a case study approach', *Journal of Management Government*, Vol. 13, pp. 101-130.

- Lam, C. T. and Kolic, M. (2008) 'Effects of Semantic Incompatibility on Rating Response', *Applied Psychological Measurement*, Sage Publications, Vol. 32, No. 3, pp.248-260.
- Likert, R. A. (1932) 'A technique for the measurement of attitudes', *Archives of Psychology*, pp.40-52.
- Messier, W. F. (1997), *Auditing. A Systematic Approach*, McGraw-Hill editions, pp.202.
- Myers, P.M. and Gramling, A.A. (1997) 'The perceived benefits of certified internal auditor designation', *Managerial Auditing Journal*, Vol. 12, No.2, pp.70-9.
- Norusis, M. (1990) *SPSS/PC + Statistics 4.0*, SPSS Inc., United States of America.
- Palfi, C. and Muresan, M. (2009) Survey on weaknesses of banks internal control systems, *Journal of International Finance and Economics*, Vol. 9, No. 1, pp. 106-116.
- Papastathis, P. (2003) *The Modern Internal Control in Businesses and its applications in them*, Athens, Greece.
- Power, M. (2004) 'The nature of risk: the risk management of everything', *Balance Sheet*, Vol. 12, No. 5, pp.19-28.
- Rezaee, Z. (1995) 'What the COSO report means for internal auditors', *Managerial Auditing Journal*, Vol. 10, No. 6, pp.5-9.
- Rezaee, Z., Elam, R. and Sharbatoghlie, A. (2001) 'Continuous auditing: the audit of the future', *Managerial Auditing Journal*, Vol.16, No.3, pp.150-158.
- Rittenberg, L. E. (2006) 'Internal control: No small matter', *Internal Auditor*, Vol. 63, No.5, pp.47-51.
- Roth, J. and Espersen, D. (2002) *Internal Auditor 's Role in Corporate Governance*, Institute of Internal Auditors Research Foundation, Altamonte Springs, Florida.
- Sarens, G. and De Beelde, I. (2006) 'Internal auditors' perception about their role in risk management. A comparison between US and Belgian companies', *Managerial Auditing Journal*, Emerald Group Publishing Limited, 21(1), pp. 63-80.
- Savcuk, O. (2007) 'Internal Audit Efficiency Evaluation Principles', *Journal of Business Economics and Management*, Vol. 6, No.4, pp.275-284.
- Sawyer B.L. (2003) *Sawyer's Internal Auditing The practise of Modern Internal Auditing*, The Institute of Internal Auditors, 5th edition, ISBN 0-89413-509-0, 120-121.
- Siddiqui, J. and Podder, J. (2002) 'Effectiveness of bank audit in Bangladesh', *Managerial Auditing Journal*, Vol. 17, No. 8, pp.502-510.
- Soliman, F. and Youssef, M.A. (2003), 'Internet-based e-commerce and its impact on manufacturing and business operations', *Industrial Management & Data Systems*, Vol. 103 No. 8-9, pp. 546-53.
- Taylor, D.H. and Glezen, W.G. (1991) *Auditing: Integrated Concepts and Procedures*, 5th edition, John Wiley & Sons Inc, U.S., pp.5, 29.
- Van Gansberghe, C.N. (2005) 'Internal auditing in the public sector: a consultative forum in Nairobi, Kenya, shores up best practices for government audit professionals in developing nations', *Internal Auditor*, Vol. 62, No.4, pp.69-73.
- Yang, D.C. and Guan, L. (2004) 'The evolution of IT auditing and internal control standards in financial statement audits The case of the United States', *Managerial Auditing Journal*, Vol. 19, No.4, pp.544-555.