

# Effectiveness of Internal Control in the Banking Sector: Evidence from Bank Mellat, Iran

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*Internal control plays a very effective role in organizations. The present study aims to investigate the effectiveness of internal control in the Iranian banking sector during 2011 with special reference to Bank Mellat. A questionnaire was designed and developed for data collection. The results of the study revealed that the internal control system in the banking sector is highly efficient in preventing the incidence of frauds and errors.*

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## Introduction

Banks play a vital role in the 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). An effective control system is a critical component of bank management and is the foundation for safe and sound operation of banking organizations. A system of strong internal control ensures the achievement of goals and objectives of a banking organization—long-term profitability targets and reliable financial and managerial reporting. It also ensures that the bank complies with the laws and regulations, policies, plans and internal rules and procedures; and decreases the risk of unexpected loss or damage to the bank's reputation. The increasing demands and the awareness of corporate governance, especially in the banking industry, also aim at higher standards. Over the last decades, several financial crises and also singular company failures led the regulators to focus on this area.

For proper functioning of any organization, one needs to have usable information. The information which has abundant application, especially in banks, is accounting information, which significantly helps in decision making. Management can rely on accounting information when the information is certain and precise, and is reported in accordance with the organizational objectives. A robust internal control structure can make this happen. It enables the management to control the commercial sections correctly. The ability to rely on accounting information will be construed as a component of an internal control system with respect to observing procedures

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and guidance resulting from the decision making of management (Salehi and Husini, 2011).

Managers of companies undertake the responsibility of programming, organizing and guiding the activities of the organization considering the rules pertinent to business and corporations (Salehi and Khatiri, 2011). One of the most important works done regarding efficiency, especially in banks and financial institutions, is the concept of internal control, which plays an important role in managing the organization. Internal control comprises procedures and routines as well as programs that an organization employs to achieve its own majority and minority targets. In an attempt to outline the controversy about banking opinion and offer guidance that would lead to an effective operation of risk management, the Basel Committee of Banking Supervision is committed to developing a framework to evaluate the levels of internal control.

An effective internal control is an important part of bank management and is the basis for safe and sound banking operations. Establishing a robust internal control structure in the banking activities can help an individual bank to achieve its own permanent benefit in the form of financial management report.

The fraudulent have always been one step ahead of the accountants and/or detective factors. However, understanding the factors underlying fraud, compiling programs against fraud by economical units, exerting supervision and setting a proper internal control system can significantly decrease fraud. Therefore, an internal control system is inevitably essential for financial establishments, especially banks.

Internal control is a process effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives. This process is neither a procedure nor a policy that can be accomplished at any special level, but it is a matter which is in circulation continually at all levels of a bank.

Since accountants, inspectors and directors are considered as the main personnel in evaluating internal control in finance and banking sector, this study considers checking the documents and reports of internal accountants and bank inspectors to evaluate the effectiveness of the internal control system in preventing fraud and error with special reference to Bank Mellat. This helps in warning the accountants and inspectors of bank management to improve their internal control system, thereby preventing the occurrence of fraud and error. Identifying the pros and cons of an internal control system in a bank is an important aspect.

The pros and cons of each component of an internal control system and their effects are considered in this study. The components include: Control Environment; Risk Assessment; Control Activities; Information and Communication; and Monitoring. A majority of the difficulties observed in banks in the past can be categorized under any of these components.

## **Literature Review**

Siddiqui and Podder (2002) explored the level of independence, objectivity and competence of the auditors assigned for auditing banking companies and examined the effectiveness of financial

audit of banking companies operating within Bangladesh by identifying seven sample companies that have actually overstated their profits.

A study by Roth and Espersen (2003) on the situation of internal control in companies introduced the components of an internal control (control environment, evaluating risks, control activities, information and communication and supervising) as an advocate for a company to achieve its goals as well as its own progressive procedures. The results suggest (a) Recognizing an internal control system and the role of corporate relationship; (b) Propagating self-control systems; (c) Identifying risk factors; and (d) Preventing incidents of fraud and financial mistakes.

Abu-Musa (2004) examined the existence and adequacy of implemented security controls in the Egyptian Banking Sector (EBS). The results revealed that the computer departments paid relatively more attention to technical security controls, while internal audit departments emphasized more on the behavioral and organizational security controls. The study also provided valuable empirical results regarding inadequacies of implemented Accounting Information Systems (AIS) security controls, and introduced some suggestions to strengthen and improve the security controls in the EBS.

Alaudin *et al.* (2006) focused on management control systems, justice and trust in the Malaysian Islamic banks with the help of a questionnaire and interview and examined the documents relating to the concepts of justice and trust.

Due to the inherently complex nature of the internal control process, a study by O'Leary *et al.* (2006) spread itself across a broad range of auditing, accounting and general business areas, and stated that an adequate system of internal control is considered critical for good corporate governance.

Khanna and Kaveri (2008) examined the implementation of a Risk-Based Internal Audit (RBIA) in the Indian banks (19 public sector and six private sector banks). The findings of the paper pointed out that the banks have made sufficient progress in introducing RBIA, confirming their understanding of the methodology for assessment of risk, audit procedures and implementation of the audit report.

Koutoupis and Tsamis (2009) studied internal auditing in Greek banks. The results showed that the standards of internal auditing require the adoption of a risk-based approach from the internal auditors. Unfortunately, this requirement is not being practiced, and the Greek banks adopted an intermediary approach of internal auditing that took into consideration the risks, without estimating and managing them.

Palfi and Muresan (2009) examined the importance of a well-organized system of internal control in the banking sector. The analysis of the survey revealed that continuous collaboration based on periodical meetings, between all structures of bank, characterizes an effective internal audit department.

Abu-Musa (2010) focused on implementing security controls of computerized accounting information systems in the Saudi banking sector. The results of the study revealed that a vast majority of Saudi banks have adequate security controls in place. The results also enabled the

bank managers and practitioners to better secure their computerized accounting information systems and to champion IT for the success of their banks.

## Methodology

The present study considers 'fraud' and 'error' as dependent variables, and the 'internal control system in Bank Mellat' as an independent variable. The more powerful the internal control system is, the more are frauds and errors prevented from being repeated.

A structured questionnaire (refer Appendix) was administered for data collection and a total of 105 usable questionnaires were collected from the participants. The questionnaire was designed and developed on the basis of the components that form an internal control system in banking industry based on the laws interpreted by Ball Committee and measures defined as indicators of the components of an internal control system. Although a questionnaire was used in the study, other techniques such as structural interview, observation and analysis, were also used. The sample population of the study includes all individuals affected by the internal control system in Bank Mellat. The sample consisted of 187 individuals, including general managers of the central administration offices of an individual bank as well as their assistant managers of all districts in a province, and their assistants. All individuals faced charges of errors and fraud. The bank had to play its role by setting up an internal control system.

The questions that needed to be answered in the study are: (1) Does an internal control system in Bank Mellat has proper power in preventing fraud and error? (2) Is there a significant relationship between the weakness of internal control system components (control environment, risk assessment, information and communication, control activities and monitoring) and the occurrence of error and fraud? To test the validity of the questions, the following hypotheses are postulated.

- H<sub>1</sub>: The weakness of control environment as a component of an internal control system in an incident of error and fraud in Bank Mellat is effective.*
- H<sub>2</sub>: The weakness of the risk assessment as a component of an internal control system in an incident of error and fraud in Bank Mellat is effective.*
- H<sub>3</sub>: The weakness of information and communication as a component of an internal control system in an incident of error and fraud in Bank Mellat is effective.*
- H<sub>4</sub>: The weakness of control activities as a component of an internal control system in an incident of error and fraud in Bank Mellat is effective.*
- H<sub>5</sub>: The weakness of monitoring as a component of an internal control system in an incident of error and fraud in Bank Mellat is effective.*

Overall, the above tests would check whether the internal control system in Bank Mellat has good ability in preventing fraud and error.

Cronbach's  $\alpha$  was employed to measure the stability computed by SPSS software. The Cronbach's  $\alpha$  for the questionnaire stood at 0.70. Spearman's rank correlation test, which

is used as a measure of linear relationship between two sets of ranked data (Altman, 1991), was employed to measure the coefficient of correlation. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to compare the magnitudes of the observed correlation coefficients in relation to the magnitudes of the partial correlation coefficients. The KMO value must be greater than 0.5 and the rate of correlation in each question with other ones must be less than 0.3. Kruskal-Wallis test is employed to compare more than two groups of tests.

## Results and Discussion

The demographic characteristics of the sample of 105 individuals are presented in Table 1.

<b>Table 1: Demographic Characteristics of the Respondents</b>		
<b>Characteristics</b>	<b>Frequency</b>	<b>(%)</b>
<b>Classification Based on Job Title</b>		
District Manager	22	21.00
General Manager	11	10.50
Assistants and Others	72	68.50
<b>Classification Based on Level of Education</b>		
Post-Diploma	1	1.00
Bachelor of Science (BS)	57	54.30
MA	46	43.80
Not Replied	1	1.00
<b>Classification Based on Field of Education</b>		
Accountancy	10	9.50
Management	50	47.60
Economy	10	9.50
Others	34	32.40
Not Replied	1	1.00
<b>Classification Based on Working Record</b>		
<15 years	33	31.40
15-20 years	19	18.10
20-25 years	42	40.00
25-30 years	11	10.50

The results of the KMO test for each factor are shown in Table 2. The results reveal that the KMO test is significant at 1% level. Also, it is seen that its value is greater than 0.5 and the operative circulation loading for each question is greater than 0.3. Therefore, the questions mentioned above are converted into the factor of a control environment.

<b>Table 2: KMO Test</b>			
<b>Factor</b>	<b>Element</b>	<b>Operative Loads (in Circulation)</b>	<b>KMO Measure</b>
Control Environment	Question No. 1	0.303	0.822
	Question No. 2	0.555	
	Question No. 3	0.613	
	Question No. 4	0.494	
	Question No. 5	0.673	
	Question No. 11	0.518	
Risk Assessment	Question No. 7	0.512	0.613
	Question No. 8	0.537	
	Question No. 9	0.685	
Control Activities	Question No. 10	0.557	0.597
	Question No. 12	0.731	
	Question No. 13	0.780	
	Question No. 15	0.949	
Information and Communication	Question No. 14	0.668	0.767
	Question No. 16	0.595	
	Question No. 17	0.619	
	Question No. 18	0.476	
	Question No. 20	0.604	
	Question No. 26	0.780	
Monitoring	Question No. 22	0.617	0.562
	Question No. 23	0.504	
	Question No. 24	0.653	
	Question No. 25	0.588	
	Question No. 29	0.669	

$H_1$ : The results of  $H_1$  are presented in Table 3. The Spearman's test was significant at 1% level, suggesting a relationship between weakness of control environment and incidence of error and fraud in Bank Mellat. The weakness of control environment as one of the components of internal control system in an incident of error and fraud is effective. Therefore,  $H_1$  is accepted.

$H_2$ : The results of  $H_2$  are presented in Table 4. The Spearman's correlation test is significant at 1% level showing a relationship between the weakness of risk assessment and an incident of mistake and fraud in Bank Mellat. Therefore, the weakness of risk assessment as a component

of the internal control system in an incident of error and fraud is effective. Therefore  $H_2$  is accepted.

<b>Table 3: Results of <math>H_1</math></b>		
<b>Spearman's Test</b>	<b>Number</b>	<b>Sig.</b>
1.624	105	0.001

<b>Table 4: Results of <math>H_2</math></b>		
<b>Spearman's Test</b>	<b>Number</b>	<b>Sig.</b>
0.828	105	0.001

$H_3$ : The results of  $H_3$  are presented in Table 5. The Spearman's correlation test is significant at 1% level, showing a relationship between the weakness of control activities and an incident of error and fraud in Bank Mellat. Therefore, the weakness of control activities as one of the components of an internal control system in an incident of error and fraud is effective. Therefore,  $H_3$  is accepted.

<b>Table 5: Results of <math>H_3</math></b>		
<b>Spearman Test</b>	<b>Number</b>	<b>Sig.</b>
0.614	105	0.001

$H_4$ : The results of  $H_4$  are presented in Table 6. The Spearman's test is significant at 1% level, showing a relationship between the weakness of information and communication and an incident of error and fraud in Bank Mellat. Therefore, the weakness of information and communication as one of the components of an internal control system in an incident of error and fraud is effective. Therefore,  $H_4$  is accepted.

<b>Table 6: Results of <math>H_4</math></b>		
<b>Spearman's Test</b>	<b>Number</b>	<b>Sig.</b>
0.881	105	0.001

$H_5$ : The results of  $H_5$  are presented in Table 7. The Spearman's correlation test is significant at 1% level, showing a relationship between the weakness of monitoring and an incident of error and fraud in Bank Mellat. Therefore, the weakness of monitoring as one of the components of an internal control system in an incident of error and fraud is effective. Therefore  $H_5$  is accepted.

Now the question is, which of the internal controls of Bank Mellat has proper power of preventing error and fraud. Table 8 shows the ranking of variables in the study and accordingly Table 9 shows the validity of Kruskal-Wallis test.

<b>Table 7: Results of <math>H_5</math></b>		
<b>Spearman Test</b>	<b>Number</b>	<b>Sig.</b>
0.667	105	0.001

<b>Table 8: Ranking Internal Control Systems by Kruskal-Wallis Test</b>					
<b>Variable</b>	Control Environment	Risk Assessment	Control Activities	Information and Communication	Monitoring
<b>Average of Ranking</b>	357.02	271.30	266.65	212.19	207.85
<b>Number</b>	105	105	105	105	105

<b>Table 9: Validity of Kruskal-Wallis Test</b>	
$\chi^2$	66.80
Degrees of freedom	4
Sig.	0.001

Control environment has obtained the highest ranking (Table 8) and the Kruskal-Wallis test is significant at 1% level (Table 9). The results revealed that there is a difference between the implementation of internal control systems of Bank Mellat in preventing an incident of error and fraud.

## Conclusion

Weakness of control environment as a component of internal control system in an incident of error and fraud is effective. Therefore, the more the increase in the weakness of a control environment in Bank Mellat, the more is the incident of error and fraud. Further, the weakness of risk assessment as a component of internal control system in an incident of fraud and error is effective. Therefore, the more the increase in the weakness of risk assessment in Bank Mellat, the more is the incident of error and fraud. Furthermore, the weakness of control activities as a component of internal control system in an incident of error and fraud is effective. Therefore, the more the weakness of control activities in Bank Mellat, the more is the incident of error and fraud. The weakness of control environment as a component of internal control system in an incident of error and fraud is effective. Therefore, the more the weakness of information and communication in Bank Mellat, the more is the incident of error and fraud. From the analysis, it can be concluded that the internal control system in Bank Mellat is good at preventing the incident of error and fraud.

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## Appendix

Questionnaire						
S. No.	Question	Fully Opposite	Opposite	No Comments	Agree	Fully Agree
1.	The existence of appropriate policies and strategies for internal control system and monitoring its effectiveness help to prevent the possibility of error and fraud.					
2.	Well documented organizational hierarchy that clearly shows the path of reporting obligations and authorities causes prevention of error and fraud.					
3.	Disciplinary methods and a culture of integrity help to prevent the possibility of error and fraud.					
4.	Adherence to qualifications and ethical standards of honesty and culture of integrity in banks help to prevent the possibility of error and fraud.					
5.	The existence of information and employees playing their respective roles in the internal control process help to prevent the possibility of error.					
6.	Timely evaluation and consequently taking measures intended for risks of electronic banking help to prevent the possibility of error and fraud.					
7.	Dynamics of the internal control system in identification and evaluation of risks which prevent from achieving the bank goals help to prevent the possibility of error and fraud.					
8.	Coverage of risks arising from external factors due to developments in the banking industry by internal control system helps to prevent the possibility of fraud.					
9.	A comprehensive risk assessment process in the face of all the risks such as credit risk, operational risk, and market reputation helps to prevent the possibility of error and fraud.					
10.	Appropriate job classification and monitoring help prevent the possibility of error.					

## Appendix (Cont.)

S. No.	Question	Fully Opposite	Opposite	No Comments	Agree	Fully Agree
11.	The existence of stable and constant policies and strategies about human resources prevents the possibility of error and fraud.					
12.	Defining the controlling activities for each of the work levels in bank structure helps to prevent the possibility of error and fraud.					
13.	The existence of a systematic structure in legislations and licenses required in bank prevents the possibility of error and fraud.					
14.	Awareness of information affecting decisions about events outside market conditions prevents the possibility and the repetition of error.					
15.	The computer system of internal control (that is recognized as general and applied control) is completely effective in preventing error, but it is not effective in the prevention of fraud.					
16.	Valid information reports prepared by the internal control system in the form of coordinate formats and ease of access prevent the possibility of error and fraud.					
17.	The existence of policy and procedures that assure the management regarding the implementation of its order and guidelines prevents the possibility of fraud.					
18.	The existence of comprehensive and sufficient data about financial and comparative things prevents the possibility of error and fraud.					
19.	The updated internal control system in accordance with the advancement of technology and international banking helps to prevent error and fraud.					
20.	Organizational structure of the bank that facilitates adequate flow of information along the length, breadth and width prevents the possibility of error and fraud.					
21.	In electronic banking, the internal control system is embedded in a manner that completely prevents the possibility of error and fraud.					

Appendix (Cont.)

S. No.	Question	Fully Opposite	Opposite	No Comments	Agree	Fully Agree
22.	Internal audit staff (in current structure inspectors' bank) are appropriately trained and this prevents the possibility of error and fraud.					
23.	Monitoring the effectiveness of the internal control system prevents the possibility of error and fraud.					
24.	The existence of a systematic structure in identifying and persuading the weaknesses in internal controls and transferring of these weaknesses by employees to the management prevents the possibility of error and fraud.					
25.	Proper conduct of continuous monitoring activity, case assessments and segregated by internal auditor prevent the possibility of error and fraud.					
26.	The existence of effective and assured communication channels that cause the awareness of bank employees and form effective policies and procedures for their duties and responsibilities prevent the possibility of error and fraud.					
27.	Internal auditing helps in identifying fraud and error after occurrence.					
28.	The IT that emanated in electronic banking, leads the advancement in the internal control system.					
29.	The monitoring of the external organizational management activities, such as customer complaints and regulatory authorities, prevents the possibility of error and fraud.					
30.	Since the electronic banking system is flexible and open to change, in banks, the internal controls system can be updated to prevent the possibility of error and fraud.					

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