

The Research of Factors Affecting the Effectiveness of Internal Control Systems in Commercial Banks-empirical Evidence in Viet Nam

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Abstract

The purpose of this research was to determine the factors that affect effectiveness of internal control systems in commercial banks in Vietnam. Through the method of qualitative research and quantitative based on reliability Cronbach's Alpha, exploratory factor analysis (EFA) and multiple regression analysis (MRA). According to the report of COSO, BASEL organizations and the other authors, control environment; risk assessment; information and communication; control activities and monitoring could affected the effectiveness of internal control systems in commercial banks. In addition, this research has indicated that there are two new factors have an impact on the effectiveness of internal control systems in commercial banks in Vietnam: political institutions and interest groups.

Keywords: factors, effectiveness of internal control systems, commercial banks, Vietnam

1. Introduction

There were many researches on internal control system, the effectiveness of internal control system as well as factors affecting the effectiveness of internal control system. Some researches on internal control system and the effectiveness of internal control system were COSO (1992), Coco (1994), Basel (1998), Turbull (1999), Ge, W., & McVay, S. (2005), O'Donnell (2005), Doyle et al.(2007), Angella Amudo & Eno L. Inanga (2009), Sultana & Haque (2011), etc. Besides, some researches on factors affecting the effectiveness of internal control system were Ramos (2004), Rae & Subramaniam (2006), Lannoye (1999), Walker (1999), Steihoff (2001), Hevesi (2005), Jenkinson (2008), Springer (2004), Muhota (2005), Diamond (1984), Calomiris & Kahn (1991).

However, there had not been any research on factors affecting the effectiveness of internal control system in commercial banks in Vietnam. Therefore, this study will focus on the effectiveness of internal control system as well as factors affecting them in commercial banks in Vietnam.

2. Literature Review

2.1 The Effectiveness of Internal Control Systems

The report of the COSO (1992), Basel (1998), COSO (2013) said that: an internal control system is effective if the Board of Directors and the managers achieve the following criteria:

- They understand clearly the objectives of their organization
- The financial statements are prepared and presented reliably
- The laws and the regulations are being complied.

Beside those criteria, five other components of the internal control systems should be evaluated to consider the effectiveness of internal control system.

2.2 The Factors that Affect the Effectiveness of Internal Control Systems

2.2.1 Control Environment

Control environment is one of the key components of an entity's internal control, it sets the tone of an entity, influences the control consciousness of all people within the organization and is the foundation for all other components of internal control system (Ramos, 2004). Some of the components of control environment for this study are; corporate culture, Competence levels, Quality of audit committees and Integrity and ethics (D'Aquila, 1998 & Ramos, 2004). According to Rae & Subramaniam (2006), the core of any organization is its people and they are the engine that drives the organisation. They further assert that individual attributes (integrity, ethical values and

competence) and the environment in which they operate determine the success of the institution and that the control environment as established by the organization's administration sets the tone of an institution and influences the control consciousness of its people. Control environment factors as listed by Subramaniam et al., (2006), include:

- Integrity and ethical values;
- The competence of an institution's people;
- Leadership philosophy and operating style;
- The way management assigns authority and responsibility and organizes and develops its people.

In relation to Subramaniam et al, (2006) organisational values cannot rise above the integrity and ethics of the people who create, administer and monitor them.

2.2.2 Risk Assessment

Lannoye (1999) said that the approach can vary between businesses but they must be designed to maintain an appropriate risk management through consideration of the concept of reasonable assurance about the cost-benefit balance. According to Walker (1999), the management of risks in the process of change should be designed to prevent or minimize the risk, managers should monitor any changes to ensure that each risk management continued when a change occurs. Managers should inform responsible employees directly about any proposed change in risk management. Managers should continue to monitor the factors that can affect the risk can create new risks.

According to the Lannoye (1999), this component of internal control system highlighting the importance of identifying caution in management and reviews the factors that can make your business barriers to achieve its mission. Risk assessment is a systematic process of integration of the adverse conditions and events can occur, evaluate the damage can (financial and non-financial). Precondition to risk assessment is business must have clear objectives, as appropriate. Internal control give businesses the way in risk assessment from the inside as well as outside business like: identify risks; Risk analysis; Estimating the risk; Reviews of frequency of occurrence; Consider how to manage the risk

2.2.3 Control Activities

According to Jenkinson (2008), control policies and procedures must be established and executed to help ensure that actions necessary to achieve the institution's objectives are effectively carried out. It is further argued that control activities are the policies and procedures that help ensure that management directives are carried out and also controlled activities occur as diverse as approvals, authorizations, verifications, reconciliations, reviews of operating performance, security of assets and segregation of duties. Similarly reviews should be made of actual performance versus budgets, forecasts and performance in prior periods and performance reviews should be made of specific functions or activities. Reviews in banks may focus on compliance, financial or operational issues. Ramos (2004) suggests that a variety of control activities should be performed to check the accuracy and completeness of information as well as the authorization of transactions. Development of new systems and changes to existing ones should be controlled. Additionally, access to programs and data should be restricted. Physical controls include control of equipments, inventories, securities, cash and other assets which should be secured physically and periodically counted and compared with amounts shown on control records. Performance indicators may be through anticipating certain operating results by investigating unexpected results that jeopardize the achievement of the banks' objectives. Duties are segregated among different people to reduce the risk of error or inappropriate actions. For example, responsibilities for authorizing transactions, recording them and handling the related assets should be separated.

2.2.4 Information and Communication

Communication systems represent the institution's channels and methods of conveying important information, policies and directives as cited by Robert & Abbie (2003). In relation to the above, surrounding control environment activities are information and communication systems that enable the organization's people to capture and exchange the information needed to conduct, manage and control its operations therefore pertinent information must be identified, captured and communicated to appropriate personnel on a timely basis, thus effective communication must flow down, across and up the organization.

The study of Steihoff (2001) and Hevesi (2005), have shown that information and communication is an important factor affecting the effectiveness of the Internal Control systems. Information must be determined reliably from both inside and outside the enterprise, to be informed and handled by people with functions in a timely manner. Media information to be communicated officially and allowed by the board and staff to perform its responsibilities. Information and communication system that allows all employees understand their role in the control system, and the people involved. Businesses must be able to prepare accurate and timely financial reporting, including interim reports to report to managers to perform full responsibility and decision-making in a timely manner. Therefore, the need for job

descriptions for all levels in the enterprise.

2.2.5 Monitoring

Monitoring is one of the most important aspects of internal control in any organization. According to Springer (2004), monitoring the performance of the internal control system over time, made continuous or separate assessment. The purpose of the monitoring is to determine the internal control made properly, fully and efficiently as designed all five components.

Monitoring is an ongoing activity which involves performing procedures periodically and reviewing banks documentation to confirm that all procedures have been performed as required (Muhota, 2005). The tools used in many organizations are reconciliations, internal checks and audits to ensure the accuracy of transactions being reported in financial statements in monitoring loans (Diamond, 1984). The entire process must be monitored and modified as necessary, thus the system can react dynamically to changing conditions. Internal control systems need to be monitored, a process that assesses the quality of the system's performance over time. This is accomplished through ongoing monitoring activities, separate evaluations or a combination of the two. Ongoing monitoring occurs in the course of operations. It includes regular management and supervisory activities and other actions personnel take in performing during their duties. A good monitoring system should be able to identify internal control deficiencies and be reported immediately to top administration and governing boards as stated by Calomiris & Khan (1991).

2.2.6 Political Institutions

Zingales's (1998), Beck (2003) points out that the political institutions that affect development finance. Kaufmann & partner (2009) has built the norms reflect the political institutions of a country, including: the quality article, political stability, government effectiveness, accountability, corruption control policy. Group author using the indicators were calculated, published and updated annually by the World Bank (World Bank database) to reflect the political factor. Kenjegalieva & Simper (2011) find that next to the macro economic factors, corruption in the organs of public power and the low efficiency of the Executive apparatus of the negative influence to results of operations of the Bank.

2.2.7 Group Interests

Rawls, J.A. (1971) starting a political institutions are considered civilized when there is perfect legal system, create that important among interest groups, actively develop the mechanism of resistance through the reform process, constant innovation, regular, long, constantly backlogged, and separation of powers for the various components of the apparatus the right to monitor and the balance of power. Frank Scarpatti (1977) for that to continue building, modernization of the control mechanism of State power, the creation of a mechanism capable of encouraging the maximum positive influence of interest groups as well as minimize the negative influence of interest groups. Allan J. Cigler & Burdett A. Loomis (1995) states that benefits from the group forming the interest group. The society is a complex benefit system along with the interaction of interests in each group, or between different groups in a State competition, struggle continually to hold equal ownership, the distribution of public resources and the right to participate in the process of shaping, through, establishing the decision policy, in terms of State power with the purpose of bringing the benefits of the highest group. No formation, existence the Group stood outside interests. The society, which is a synthesis of the various interest groups, the number of them being regulated and limited by a single index: benefits-from which they link, form and operation.

From the model of the factors that influence the effectiveness of the internal control system of the authors before, when performing in-depth interviews with experts in the field of audit, the Bank in the country, the author proposes a research model to match the current conditions of the Vietnam commercial bank are as follows:

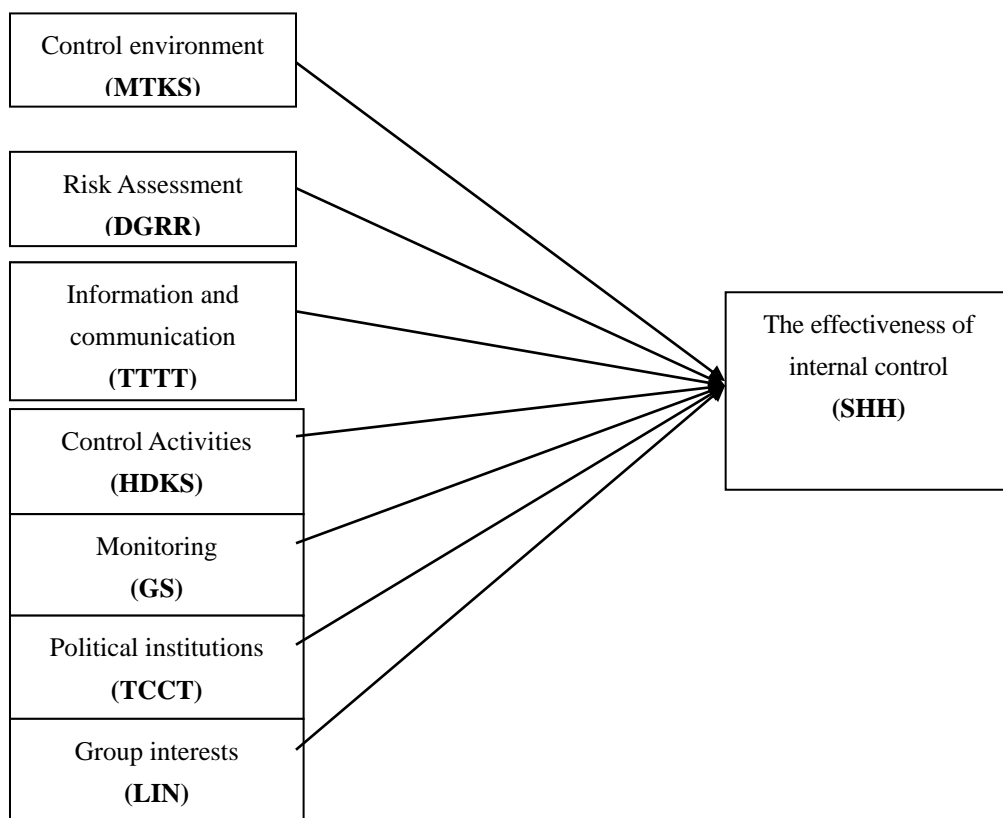


Figure 1. Proposed model of factors affecting the effectiveness of internal control system in commercial bank of Viet Nam. (Source: The model proposed by author)

Thus, the hypotheses are posited as follows.

Hypothesis 1: The greater the control environment is, the more likely that internal control systems will achieve more effectiveness.

Hypothesis 2: The greater the risk assessment is, the more likely that internal control systems will achieve more effectiveness.

Hypothesis 3: The greater the control activities are, the more likely that internal control systems will achieve more effectiveness.

Hypothesis 4: The greater the information and communications are, the more likely that internal control systems will achieve more effectiveness.

Hypothesis 5: The greater the monitoring is, the more likely that internal control systems will achieve more effectiveness.

Hypothesis 6: The greater the political institutions are, the more likely that internal control systems will achieve more effectiveness.

Hypothesis 7: The greater the Group interests are, the more likely that internal control systems will achieve less effectiveness.

3. Data Collection and Research Methodology

The data were collected from the survey in 37 commercial banks in the 4th quarter of 2015 in Vietnam. There were 600 managers (in the total of 1,000 managers at commercial banks Vietnam) participated in this survey. After eliminating the invalid votes, 512 remaining votes were reliable to analyze. To achieve the goals of this research, I used a combination of the qualitative and quantitative methods.

Qualitative research was applied by interviewing the experts. Based on the collecting opinions from experts (including the Ministry of Finance, the State Bank of Vietnam, Vietnam Banking Association) about the factors affecting the effectiveness of internal control system, I developed, adjusted and rearranged the questionnaire to set a formal scale to do the survey in commercial banks in Vietnam.

Quantitative method was used by these steps: designing the study, collecting data, quantitative analysis using software

version 20.0 SPSS. This software is used to synthesize and present basic data about the frequency of variables and statistical description of factors and their impact on the effectiveness of internal control systems. In this study, first author using Cronbach Alpha Test techniques to test the factors of the scale then use technical analysis exploratory factor (EFA) to reduce the observed variables, change variable names and models shortened; finally ran regression models through regression analysis techniques to assess the final conclusions of the factors that affect the effectiveness of internal control in commercial bank of Viet Nam.

4. Result and Discussion

In this survey, the authors propose a model of 35 variables independent observers (variables) gathered in 7 groups of factors (Factors) and 3 observers for the dependent variable. To test the reliability of the scale model of the original author used the Cronbach's Alpha testing. Results of the testing were eliminated from model 8 observations following:

Table 1. Testing the rating scale by Cronbach's Alpha reliability coefficient (reliability statistics item-total statistics). Source: The results of analysis from SPSS 20.0 software

Rating scale of Factor No.1, Cronbach's Alpha = 0.809						
	Scale Mean if Item Deleted	Scale Deleted	Variance if Deleted	ItemCorrected Correlation	Item-Cronbach's Alpha if Deleted	Total Cronbach's Alpha if Deleted
MTKS2	7.9512	1.252		.603		.792
MTKS4	7.9824	1.152		.668		.727
MTKS5	7.9609	1.145		.703		.690
Rating scale of Factor No.2, Cronbach's Alpha = 0.795						
DGRR1	16.2383	3.266		.537		.770
DGRR2	16.1914	3.271		.592		.752
DGRR3	16.2344	3.346		.517		.775
DGRR4	16.2480	3.181		.635		.738
DGRR5	16.2520	3.246		.603		.748
Rating scale of Factor No.3, Cronbach's Alpha = 0.782						
	Scale Mean if Item Deleted	Scale Deleted	Variance if Deleted	ItemCorrected Correlation	Item-Cronbach's Alpha if Deleted	Total Cronbach's Alpha if Deleted
HDKS1	12.0469	2.534		.577		.734
HDKS2	12.0234	2.477		.588		.729
HDKS4	12.0234	2.583		.607		.720
HDKS5	11.9766	2.626		.579		.733
Rating scale of Factor No.4, Cronbach's Alpha = 0.727						
	Scale Mean if Item Deleted	Scale Deleted	Variance if Deleted	ItemCorrected Correlation	Item-Cronbach's Alpha if Deleted	Total Cronbach's Alpha if Deleted
TTTT1	11.8535	2.626		.498		.678
TTTT3	11.8496	2.735		.517		.667
TTTT5	11.9648	2.543		.567		.637
TTTT6	11.9277	2.576		.489		.684
Rating scale of Factor No.5, Cronbach's Alpha = 0.742						
	Scale Mean if Item Deleted	Scale Deleted	Variance if Deleted	ItemCorrected Correlation	Item-Cronbach's Alpha if Deleted	Total Cronbach's Alpha if Deleted
GS1	8.0879	1.051		.535		.699
GS3	8.0078	1.115		.559		.669
GS4	7.9277	1.014		.613		.603
Rating scale of Factor No.6, Cronbach's Alpha = 0.797						
	Scale Mean if Item Deleted	Scale Deleted	Variance if Deleted	ItemCorrected Correlation	Item-Cronbach's Alpha if Deleted	Total Cronbach's Alpha if Deleted
TCCT2	12.2813	2.433		.612		.744
TCCT3	12.1973	2.370		.628		.736
TCCT4	12.2109	2.543		.578		.761
TCCT5	12.2773	2.385		.614		.743
Rating scale of Factor No.7, Cronbach's Alpha = 0.703						
	Scale Mean if Item Deleted	Scale Deleted	Variance if Deleted	ItemCorrected Correlation	Item-Cronbach's Alpha if Deleted	Total Cronbach's Alpha if Deleted
LIN1	7.8535	14.431		.472		.648
LIN2	7.7813	14.246		.476		.646
LIN3	7.5391	13.118		.541		.604
LIN4	7.9395	14.828		.461		.655

Rating scale measuring the effectiveness of internal control systems in commercial banks in Vietnam, Cronbach's Alpha = 0.834

SHH1	8.1719	1.125	.691	.774
SHH2	8.1465	1.123	.675	.791
SHH3	8.1270	1.133	.720	.747

As can be seen in the test result of the rating scale measuring the effectiveness of internal control systems in commercial banks in Vietnam, the Cronbach's Alpha = 0.834 (>0.6), the gross correlation coefficients are approximately or greater than 0.5 (much more than the acceptable level of 0.3); hence, the reliability of this rating scale is acceptable. After the Cronbach's Alpha test, we used the result acquired from the summary of 512 eligible answers and input variables into EFA to take out factors. The result of the selection of Varimax rotation and shortened down to the variable load factor less than 0:55 after the second time running, the results showed: KMO = 0.844 with Sig = 0.000 significance level and extracting 7 factors with the gross variance extracted = 60.944%.

Table 2. Result of the second exploratory factor analysis with varimax rotation (KMO and Bartlett's test). Source: The results of analysis from SPSS 20.0 software.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.844
	Approx. Chi-Square	4810.042
Bartlett's Test of Sphericity	df	351
	Sig.	.000

Table 3. Analysis of the gross variance extracted elements. Source: The results of analysis from SPSS 20.0 software.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.806	25.209	25.209	6.806	25.209	25.209	2.711	10.039	10.039
2	2.188	8.103	33.312	2.188	8.103	33.312	2.534	9.384	19.423
3	1.917	7.101	40.412	1.917	7.101	40.412	2.423	8.974	28.397
4	1.636	6.058	46.471	1.636	6.058	46.471	2.307	8.544	36.941
5	1.477	5.469	51.940	1.477	5.469	51.940	2.290	8.483	45.424
6	1.260	4.665	56.605	1.260	4.665	56.605	2.156	7.984	53.408
7	1.171	4.339	60.944	1.171	4.339	60.944	2.035	7.536	60.944
8	.999	3.702	64.646						
9	.844	3.127	67.772						
10	.799	2.958	70.730						
11	.716	2.650	73.381						
12	.668	2.475	75.856						
13	.634	2.349	78.204						
14	.597	2.212	80.416						
15	.566	2.096	82.512						
16	.532	1.970	84.482						
17	.509	1.887	86.369						
18	.476	1.764	88.133						
19	.451	1.672	89.805						
20	.429	1.588	91.393						
21	.412	1.527	92.920						
22	.393	1.456	94.376						
23	.366	1.356	95.732						
24	.326	1.208	96.940						
25	.318	1.179	98.119						
26	.295	1.094	99.213						
27	.212	.787	100.000						

Extraction Method: Principal Component Analysis.

Table 4. Result of rotated component matrix. Source: The results of analysis from SPSS 20.0 software.

	Component						
	1	2	3	4	5	6	7
DGRR2	.720						
DGRR1	.700						
DGRR3	.673						
DGRR4	.637						
DGRR5	.599						
TCCT3		.773					
TCCT4		.740					
TCCT2		.738					
TCCT5		.675					
HDKS4			.733				
HDKS1			.694				
HDKS5			.672				
HDKS2			.667				
TTTT5				.808			
TTTT3				.725			
TTTT6				.663			
TTTT1				.639			
MTKS4					.840		
MTKS5					.808		
MTKS2					.734		
LIN3						.777	
LIN2						.715	
LIN1						.709	
LIN4						.692	
GS1							.789
GS4							.788
GS3							.773

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 6 iterations.

As can be seen, 7 factors with the gross variance extracted equal to 60.944%, which mean these 7 factors can explain for 60.944% the effectiveness of internal control systems in commercial banks in Vietnam. The calibration model comprises of 7 factors that have impact on the effectiveness of internal control systems in commercial banks in Vietnam, namely : factor no.1, which is referred to in our study as "Control environment" (motruongkiemsoat); factor no. 2 called "Risk Assessment" (danhgiaruiro); factor no. 3 called " Information and communication" (thongtintruyenthong); factor no. 4 called " Control Activities" (hoatdongkiemsoat); factor no. 5 called " Monitoring" (giamsat); factor no. 6 called " Political institutions" (thehechintri) and the final factor called "Group interests" (loiichnhom).

After successfully developing the model of factors that affect the effectiveness of internal control systems in commercial banks in Vietnam, we processed to assess this model by Multiple Regression Analysis (MRA) model to test its appropriateness and to examine the extent to which these factors influence the effectiveness of internal control systems. The result of MRA analysis generated by SPSS with "Enter" method is as follows:

Table 5. Result of assessing the calibrated model (model summary^b). Source: The results of analysis from SPSS 20.0 software.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.844 ^a	.713	.709	.27511	1.985

Table 6. ANOVA^a. Source: The results of analysis from SPSS 20.0 software.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94.812	7	13.545	178.959	.000 ^b
	Residual	38.145	504	.076		
	Total	132.957	511			

Table 7. Result of MRA with individual regression coefficients in the model. Source: The results of analysis from SPSS 20.0 software.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1	(Constant)	-.684	.151	-4.516	.000		
	Moitruongkiemsoat	.088	.028	3.193	.001	.718	1.392
	danhgiaruiro	.377	.036	10.565	.000	.598	1.672
	hoatdongkiemsoat	.322	.031	10.370	.000	.579	1.728
	Thongtintruyenthong	.154	.027	5.813	.000	.788	1.270
	Giamsat	.120	.027	4.381	.000	.847	1.180
	thehechintri	.145	.029	4.963	.000	.684	1.461
	loiichnhom	-.038	.010	-3.748	.000	.987	1.013

MRA result shows that adjusted R2 = 0.709, F-test (ANOVA table) expresses the significance level sig. = 0.000; thus,

the regression model is suitable and these factors can explain 70.9% of the variations of the dependent variable. Considering the regression weights, we can identify the positive correlation between these factors and the effectiveness of internal control systems, these variables are statistically significant due to do sig. = .000), there is no sign of multicollinearity, or to be specific, these variables are not inter-correlated.

Based on Beta coefficient, we can arrange the order affects the effectiveness of internal control systems of these factors in turn were: Risk Assessment (factor no.2), Control Activities (factor no.4), Information and communication (factor no. 3). Political institutions (factor no.6), Monitoring (factor no.5); Control environment (factor no.1), Group interests (factor no7). Thus the model factors affecting the effectiveness of internal control systems in commercial banks in Vietnam remaining 7 factors with specific equation is:

The effectiveness of internal control= $-0.684 + 0.088$ (Control environment) + 0.377 (Risk Assessment) + 0.322 (Control Activities) + 0.154 (Information and communication) + 0.120 (Monitoring) + 0.145 (Political institutions) - 0.038 (Group interests).

Testing of hypotheses

Table 8. Regression analysis results. Source: The results of analysis from SPSS 20.0 software

	Result	b	T	p- value
H1:MTKS -->SHH	Accept	0,090	3,193	0,001
H2: DGRR -->SHH	Accept	0,326	10,565	0,000
H3: HDKS -->SHH	Accept	0,325	10,370	0,000
H4: TTTT -->SHH	Accept	0,156	5,813	0,000
H5: GS --> SHH	Accept	0,114	4,381	0,000
H6: TCCT-->SHH	Accept	0,143	4,963	0,000
H7: LIN--> SHH	Accept	-0,090	-3,748	0,000

Compared with previous researches, this research discovered two factors that affect the effectiveness of the internal control system in the commercial bank of Vietnam: political institutions and interest groups.

5. Conclusion

This is an empirical study on the pattern of factors affecting the effectiveness of internal control systems in commercial banks in Vietnam in recent years. Based on the results of research, we came up with the key factors that affect the effectiveness of internal control systems were: Control environment; Risk Assessment; Control Activities; Information and communication; Monitoring; Political institutions; Group interests. Detection is very important to advice given reasonable solutions thereby improving the effectiveness of internal control systems in commercial banks in Vietnam in the coming time.

6. Limitations of this Study

In this research, author mainly based on the constituent factors of internal control system in accordance with COSO and BASEL organizations and have added two factors consistent with conditions in Vietnam are: political institutions and interest groups. The next research can investigate other factors, especially the factors within the commercial bank of Vietnam. In addition, the scope of the research is not to mention the foreign bank. Therefore, further researches need to expand the scope of research to many other objects.

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