



## **THE DETERMINANTS AFFECTING THE INTEREST RATE OF COMMERCIAL BANKS IN CAN THO CITY**

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### **ABSTRACT**

*The high interest rate spreads of the commercial banking industry in the currency union have emerged as a key public policy issue. Commercial banks are the main source of business funding in the Can Tho City, therefore, the level of interest rate spreads is an important policy variable. Interest rate spreads indicate how efficiently banks perform their intermediation role of savings mobilization and allocation. Large interest rate spreads are deemed to be inimical to economic growth, as they act as a disincentive to private investment and otherwise constrain it to suboptimal levels. However, a negative side always follows the result of any growth. Expanding operation leads to debt rate increase in most commercial banks. Especially bad debts rate rose rapidly. Bad debts became a serious problem for the Can Tho City economy. The objectives of this paper were not only to look into the relevant literature but also to find common ground regarding the interest rate of commercial banks in Can Tho City and reports the results of a survey of 300 customers of commercial banks in Can Tho City. In this paper, the researchers used analytical method of explore factor analysis to determining that are components of the interest rate of commercial banks in Can Tho City. This paper conducted during the time from May 2015 to December, 2015.*

*The research result showed that there were 300 customers of commercial banks in Can Tho City interviewed but 275 processed and answered 15 questions. The researcher had analyzed KMO test, the result of KMO analysis used for multiple regression analysis. Customers' responses were measured through an adapted questionnaire on a 5-point Likert scale. Hard copy and online questionnaire were distributed among customers of commercial banks. In addition, the regression analysis results showed that there were two factors, which*

*included of factors following: the productivity and the efficiency actually affected the interest rate of commercial banks in Can Tho City with 5 % significance level. The research results were processed from SPSS 20.0 software. The parameters of the model estimated by Least - Squares Method tested for the model assumption with 5% significance level.*

**Keywords:** The bank, commercial banks, interest rate, Can Tho City and Tay Do University.

## **Introduction**

The commercial banks finance the industrial sector in a number of ways. They provide short-term, medium-term and long-term loans to industry. In Vietnam they provide short-term loans. Income of the Vietnamese, they advance medium-term loans for one to three years. But in Vietnam, the commercial banks also advance long-term loans to industry.

In Vietnam, the commercial banks undertake short-term and medium-term financing of small scale industries, and also provide hire- purchase finance. Besides, they underwrite the shares and debentures of large scale industries. Thus they not only provide finance for industry but also help in developing the capital market which is undeveloped in such countries. The commercial banks help in financing both internal and external trade. The banks provide loans to retailers and wholesalers to stock goods in which they deal. They also help in the movement of goods from one place to another by providing all types of facilities such as discounting and accepting bills of exchange, providing overdraft facilities, issuing drafts, etc. Moreover, they finance both exports and imports of developing countries by providing foreign exchange facilities to importers and exporters of goods.

The commercial banks help the large agricultural sector in developing countries in a number of ways. They provide loans to traders in agricultural commodities. They open a network of branches in rural areas to provide agricultural credit. They provide finance directly to agriculturists for the marketing of their produce, for the modernization and mechanization of their farms, for providing irrigation facilities, for developing land, etc. They also provide financial assistance for animal husbandry, dairy farming, sheep breeding, poultry farming, pisciculture and horticulture. The small and marginal farmers and landless agricultural workers, artisans and petty shopkeepers in rural areas are provided financial assistance through the regional rural banks in Vietnam. These regional rural banks operate under a commercial bank. Thus the commercial banks meet the credit requirements of all types of rural people.

People in underdeveloped countries being poor and having low incomes do not possess sufficient financial resources to buy durable consumer goods. The commercial banks advance

loans to consumers for the purchase of such items as houses, scooters, fans, refrigerators, etc. In this way, they also help in raising the standard of living of the people in developing countries by providing loans for consumptive activities. The commercial banks finance employment generating activities in developing countries. They provide loans for the education of young person's studying in engineering, medical and other vocational institutes of higher learning. They advance loans to young entrepreneurs, medical and engineering graduates, and other technically trained persons in establishing their own business. Such loan facilities are being provided by a number of commercial banks in Vietnam. Thus the banks not only help inhuman capital formation but also in increasing entrepreneurial activities in developing countries.

The commercial banks help the economic development of a country by faithfully following the monetary policy of the central bank. In fact, the central bank depends upon the commercial banks for the success of its policy of monetary management in keeping with requirements of a developing economy. Thus the commercial banks contribute much to the growth of a developing economy by granting loans to agriculture, trade and industry, by helping in physical and human capital formation and by following the monetary policy of the country.

Thus in combination with the practical requirements of the teaching career, the author had boldly chosen the theme: "*The determinants affecting the interest rate of commercial banks in Can Tho City*". As a paper for researching in the developing of the bank sector in the future.

### **Literature review**

Barajas et al (1998), examine the sources of high intermediation spreads observed in the Colombian banking sector over the pre liberalisation period (1974- 1988) and the post liberalisation period (1991-1996) and found mixed results. Liberalisation increased banking sector competitiveness, lowered market power and reduced financial taxation from its high 1970s level. The results also show bank spreads to be more responsive to non-financial costs (wages) and changes in loan quality. Afanassieff et al (2000), using panel data techniques to uncover the main determinants of bank spreads in Brazil, found that macroeconomic factors are the most relevant in explaining the spreads. Ramful (2001) in his study of the Mauritian banking sector found that interest rate spread was used not only to cover the cost of operating expenses and required reserves but also reflected the high degree of market power among banks and the poor quality of loans.

Chirwa et al (2004) used panel data techniques to investigate the causes of interest rate spreads in the commercial banking system of Malawi over the liberalised period of the 1990s. Their results show that high interest rate spreads were attributable to monopoly power, high reserve requirements, high central bank discount rate and high inflation. Demirguc-Kunt et al (1999) using bank level data for 80 industrial and developing countries over the period 1988-1995 show that differences in interest margins reflect a variety of determinants such as bank characteristics, macroeconomic conditions, explicit and implicit bank taxes and the overall financial structure.

### **Methods of research**

This study used of quantitative research methods to survey the factors affecting the interest rate of commercial banks in Can Tho City. The results obtained from quantitative research processed by SPSS statistical software version 20.0.

Quantitative research methods describe and measure the level of occurrences based on numbers and calculations. Quantitative research is the collection of numerical data and exhibiting the view of relationship between theory and research as deductive, a predilection for natural science approach, and as having an objectivist conception of social reality. Therefore, this specific form of research uses the quantitative data to analysis.

After preliminary investigations, formal research is done by using quantitative methods questionnaire survey of 300 customers related the interest rate of commercial banks in Can Tho City and answered nearly 15 questions. The reason tested measurement models, model and test research hypotheses.

Data collected were tested by the reliability index (excluding variables with correlation coefficients lower  $< 0.30$  and variable coefficient Cronbach's alpha  $< 0.60$ ), factor analysis explored (remove the variable low load factor  $< 0.50$ ). The hypothesis was tested through multiple regression analysis with linear Enter method.

Present research relies on self-reported data, but socially desirable responses have been found to be a major challenge when dealing with self-reported data (Thompson and Phua, 2005). In order to get more reliable research data, a short form of the Marlowe-Crowne social desirability scale (developed and validated by Rudmin, 1999) was used in the questionnaire as well.

## Research results

### Descriptive Statistics and Cronbach's Alpha the factors affecting the interest rate of commercial banks in Can Tho City

**Table 1: Descriptive Statistics and Cronbach's Alpha for the Productivity (P)**

Items	N	Min	Max	Mean	Std. Deviation
P1: Deposit of commercial bank	275	1	5	3.13	.938
P2: Interest expenses of commercial bank	275	1	5	3.17	.931
P3: Operating expenses of commercial bank	275	1	5	3.25	.957
P4: Advance of commercial bank	275	1	5	3.35	.932
P5: Interest income of commercial bank	275	1	5	3.29	.910
P6: Other income of commercial bank	275	1	5	3.26	.921
Valid N (listwise)	275				

#### Reliability Statistics

Cronbach's Alpha	N of Items
.922	6

#### Item-Total Statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
P1: Deposit of commercial bank	16.32	15.518	.830	.901
P2: Interest expenses of commercial bank	16.28	16.230	.724	.915
P3: Operating expenses of commercial bank	16.20	15.739	.774	.909
P4: Advance of commercial bank	16.11	16.299	.713	.917
P5: Interest income of commercial bank	16.16	15.753	.823	.902
P6: Other income of commercial bank	16.19	15.806	.802	.905

(Source: The researcher's collecting data and SPSS)

Table 1 showed that there were 300 customers related the interest rate of commercial banks in Can Tho City and answered 6 questions but 275 customers processed. Besides, Std. Deviation is around 1.0 and Cronbach's Alpha is 0.922 (> 0.6). This showed that the Data is very good for the next analysis.

**Table 2: Descriptive Statistics and Cronbach's Alpha for the efficiency (E)****Descriptive Statistics**

Items	N	Minimum	Maximum	Mean	Std. Deviation
E1: Fixed assets of commercial bank	275	2	5	3.99	.949
E2: Deposit of commercial bank	275	2	5	3.94	.959
E3: Number employees of commercial bank	275	1	5	3.34	1.093
E4: Loan of commercial bank	275	2	5	3.62	1.291
E5: Investment of commercial bank	275	1	5	3.34	1.326
E6: The inflation of Vietnam in 2015	275	1	5	3.31	1.303
Valid N (listwise)	275				

**Reliability Statistics**

Cronbach's Alpha	N of Items
.951	6

**Item Statistics**

Items	Mean	Std. Deviation	N
E1: Fixed assets of commercial bank	3.99	.949	275
E2: Deposit of commercial bank	3.94	.959	275
E3: Number employees of commercial bank	3.34	1.093	275
E4: Loan of commercial bank	3.62	1.291	275
E5: Investment of commercial bank	3.34	1.326	275
E6: The inflation of Vietnam in 2015	3.31	1.303	275

(Source: The researcher's collecting data and SPSS)

Table 2 showed that there were 300 customers related the interest rate of commercial banks in Can Tho City and answered 6 questions but 275 customers processed. Besides, Std.

Deviation is around 1.0 and Cronbach's Alpha is 0.951 (> 0.6). This showed that the Data is very good for the next analysis.

**Table 3: Descriptive Statistics and Cronbach's Alpha for the interest rate of commercial banks (IR)**

**Descriptive Statistics**

Items	N	Minimum	Maximum	Mean	Std. Deviation
R1: The efficiency of commercial bank affecting the interest rate of the bank	275	2	4	3.34	.566
R2: The productivity of commercial bank affecting the interest rate of the bank	275	1	3	2.35	.561
R3: The inflation affecting the interest rate of commercial bank	275	1	3	2.35	.567
Valid N (listwise)	275				

**Reliability Statistics**

Cronbach's Alpha	N of Items
.972	3

**Item Statistics**

Items	Mean	Std. Deviation	N
R1: The efficiency of commercial bank affecting the interest rate of the bank	3.34	.566	275
R2: The productivity of commercial bank affecting the interest rate of the bank	2.35	.561	275
R3: The inflation affecting the interest rate of commercial bank	2.35	.567	275

(Source: The researcher's collecting data and SPSS)

Table 3 showed that there were 300 customers related the interest rate of commercial banks in Can Tho City and answered 3 questions but 275 customers processed. Besides, Std.

Deviation is around 1.0 and Cronbach's Alpha is 0.972 (> 0.6). This showed that the Data is very good for the next analysis.

**Exploratory Factor Analysis for factors affecting the interest rate of commercial banks in Can Tho City**

**Table 4: Total Variance Explained for factors affecting the interest rate of commercial banks in Can Tho City**

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.824
Bartlett's Test of Sphericity	Approx. Chi-Square	3838.408
	df	66
	Sig.	.000

**Total Variance Explained**

Com.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.989	41.572	41.572	4.989	41.572	41.572	4.917
2	4.259	35.495	77.068	4.259	35.495	77.068	4.355
3	.722	6.018	83.086				
4	.561	4.674	87.760				
5	.454	3.780	91.540				
6	.300	2.501	94.041				
7	.259	2.158	96.198				
8	.223	1.857	98.055				
9	.080	.663	98.718				
10	.070	.583	99.301				
11	.049	.412	99.712				
12	.035	.288	100.000				

(Source: The researcher's collecting data and SPSS)

The table 4 showed that Kaiser-Meyer-Olkin Measure of Sampling Adequacy was statistically significant and high data reliability (KMO = 0.824 > 0.6). This result was very good for data analysis. Table 4 showed that Cumulative percent was statistically significant and high data reliability was 77.068 % (> 60 %). This is factors for independent variables.

**Table 5: Rotated Component Matrix for factors affecting the interest rate of commercial banks in Can Tho City**

**Pattern Matrix<sup>a</sup>**

Items	Component	
	1	2
E1: Fixed assets of commercial bank	.939	
E5: Investment of commercial bank	.933	
E6: The inflation of Vietnam in 2015	.916	
E2: Deposit of commercial bank	.909	
E4: Loan of commercial bank	.888	
E3: Number employees of commercial bank	.834	
P1: Deposit of commercial bank		.888
P5: Interest income of commercial bank		.887
P6: Other income of commercial bank		.873
P3: Operating expenses of commercial bank		.843
P2: Interest expenses of commercial bank		.808
P4: Advance of commercial bank		.795

(Source: The researcher's collecting data and SPSS)

The table 5 showed that Structure Matrix for the factors affecting the interest rate of commercial banks in Can Tho City. We had two components. Component 1 (X1) was the efficiency (E) and Component 2 (X2) was the productivity (P) and. We can call Y: the interest rate of commercial banks in Can Tho City (R).

**Table 6: Regression for factors affecting the interest rate of commercial banks in Can Tho City (IR)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.768	.590	.587	.64278957	1.784

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	161.615	2	80.808	195.576	.000
	Residual	112.385	272	.413		
	Total	274.000	274			

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.386E-016	.039		.000	1.000		
X1	.517	.039	.517	13.289	.000	.997	1.003
X2	.595	.039	.595	15.310	.000	.997	1.003

(Source: The researcher's collecting data and SPSS)

The table 6 showed the coefficient of adjustment  $R^2 = 0.587$  (verification  $F = 195.576$ , significance  $< 0.05$ ); which means 58.7 % of the variable Y shift is explained by two independent variables ( $X_i$ ). The coefficient of Durbin - Watson ( $d$ ) = 1.784. Results showed that all independent variables affecting the interest rate of commercial banks in Can Tho City (IR) with significance level 5 %. Verifying the conformity of the model showed the multicollinearity did not violate ( $VIF < 10$ ).

## Conclusions and recommendations

### Conclusions

The research results showed that there were 300 customers related the interest rate of commercial banks in Can Tho City and answered 15 questions but 275 customers processed. The researcher had analyzed KMO test, the result of KMO analysis used for multiple regression analysis. In addition, the regression analysis results showed that there were two factors, which included of factors following: the productivity and the efficiency actually affected the interest rate of commercial banks in Can Tho City with 5 % significance level. The research results were processed from SPSS 20.0 software. The parameters of the model estimated by Least - Squares Method tested for the model assumption with 5% significance level.

The regression coefficients were positive. This showed that the effects of independent variables in the same direction with the interest rate of commercial banks in Can Tho City with significance level 5 %. We had two the findings following: First of all, we had the component 2 (X2): the productivity actually affected the interest rate of commercial banks in Can Tho City with 5 % significance level. Finally, we had the component 1 (X1): the efficiency actually affected the interest rate of commercial banks in Can Tho City with 5 % significance level.

### **Recommendations**

#### **Recommendations for improving the productivity**

Can Tho City Managers should continue to restructure the organization structure of commercial banks, to improve economic efficiency and support socio-economic development, which is consistent with the trend in technological development, business strategy of the commercial banks. Besides, Can Tho City managers should continue to restructure clearly distinguishes the function, tasks decrease risk management committee/council; expand the subsidiary network, business cooperation, product development, application and transfer of technology with foreign financial institutions.

#### **Recommendations for the improving the efficiency**

Can Tho City managers should continue to manage the improvement of Bank management capacity and to manage the business and risk management skills are still poor, as revealed in the facts that loans are mainly collateral-based, credit assessment capacity is low, system of debt classification is inappropriate and the monitoring rules are still inadequate. Most commercial banks have not been able to establish an appropriate risk management system and good business strategies in order to successfully confront challenges in opening financial markets.

Several policy implications emanate from the study. Firstly, the high responsiveness of commercial banks spreads to the proxy for the regulated minimum savings deposit rate suggests that deregulating the floor on savings must eventually take place. This will eliminate the current distortion and permit spreads to narrow. Secondly, commercial banks must continue to seriously deal with the issues of the high levels of non-performing loans and the diseconomies of scale in their operations. Thirdly, if there is to be any success in reducing commercial banks' interest rate spreads to support long-term economic growth, the competitive environment in the banking system must be enhanced.

## REFERENCES:

1. Abraham Pizam, and Taylor Ellis (1999). Customer satisfaction and its measurement in hospitality corporates. *International Journal of Contemporary Hospitality Management*.
2. Ahmet Faruk Aysan (2011). *What Determines the Banking Sector Performance in Globalized Financial Markets: The Case of Turkey, Kenya*. Boğaziçi University, Department of Economics, 34342 Bebek, Istanbul, Turkey.
3. Berg, B. (2001). *Qualitative research methods for the social sciences*. Boston: Allyn and Bacon.
4. Berg, Bruce L., (2009). *Qualitative Research Methods for the Social Sciences*. Boston MA: Pearson Education Inc.
5. Bernd Stauss, and Patricia Neuhaus. (1997). The qualitative satisfaction model. *International Journal of Service Industry Management*.
6. Blaug, Mark (2007). *The Social Sciences: Economics*. The New Encyclopædia Britannica.
7. Creswell, J. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, California: Sage Publications.
8. Christopher Lovelock (2001). *Services Marketing-People, Technology, Strategy*. Pearson Education Asia.
9. Dillman, D.A (2000). *Mail and Internet Surveys. The Tailored Design Method*, New York, Wiley.
10. Dochartaigh, N. O. (2002). *The Internet Research Handbook: A Practical Guide for customers and Researchers in The Social Sciences*. London, Sage.
11. Edward E. Leamer (2008). *Specification problems in econometrics*. The New Palgrave Dictionary of Economics.
12. Edward E. Leamer (2008). *Specification problems in econometrics*. The New Palgrave Dictionary of Economics.
13. Engle James F and Blackwell Roger D (1982). *Consumer Behavior*. Holt, Rinehart and Winston, New York.
14. Engle James F and Blackwell Roger D (1982). *Consumer Behavior*. Holt, Rinehart and Winston, New York.
15. F. T. Rothaermel and S. Sugiyamanb (2001). *Virtual Internet Communities and Commercial Success: Individual and Community-Level Theory Grounded in the Atypical Case of Timezone.com*. London: Sage Publications.

16. Fink, A. (2003). *How to Ask Survey Questions*. Thousand Oaks, CA, Sage.
17. Freedman, D.A. (2005). *Statistical Models: Theory and Practice*. Cambridge University Press.
18. Hair, J.F., Tatham, R.L., Anderson, R.E. & Black, W. (1998), *Multivariate data analysis*. US. Metuchen N.J.
19. Hand, D. J. (2004). *Measurement theory and practice: The world through quantification*. London, UK: Arnold.
20. Hayashi, Fumio (2000). *Econometrics*. Princeton University Press.
21. Howell, K. E. (2013). *Introduction to the Philosophy of Methodology*. London: Sage Publications.
22. Howell, K. E. (2013). *Introduction to the Philosophy of Methodology*. London: Sage Publications.
23. İkrâm Altındağ (2013). *The Effect of Post-2000 Banking Reforms on Efficiency of Turkish Banks*. International Review of Applied Economics.
24. Keisuke Hirano (2008). *Decision theory in econometrics*. The New Palgrave Dictionary of Economics.
25. Keisuke Hirano (2008). *Decision theory in econometrics*. The New Palgrave Dictionary of Economics.
26. Kennedy, Peter (2003). *A guide to econometrics*. Cambridge, Mass: MIT Press.
27. Kennedy, Peter (2003). *A guide to econometrics*. Cambridge, Mass: MIT Press.
28. Kumar, V., & Reinartz, W. J. (2006). *Customer relationship management: A databased approach*. Hoboken, NJ: Wiley.
29. Kurt Matzler (2002). The factor structure of Customer satisfaction. *International Journal of Service Industry Management*.
30. Levesque (2007). *SPSS Programming and Data Management: A Guide for SPSS and SAS Users*. SPSS Inc., Chicago.
31. Lewis, B.R. (1991). Service quality: an international comparison of bank customers' expectations and perceptions. *Journal of Marketing Management*.
32. Moore, David; George P. McCabe, Bruce Craig (2012). *Introduction to the practice of statistics*. New York: W.H. Freeman.
33. Parasuraman, A.V.A. Zeithaml, & Berry, L.L (1998). SERVQUAL: A multiple-item scale for measuring consumer perception of service quality. *Journal of Retailing*.

34. Pindyck, Robert S., and Daniel L. Rubinfeld (1998). *Econometric Methods and Economic Forecasts*. McGraw-Hill.
35. Probability, econometrics and truth (2000). *The methodology of econometrics*. By Hugo A. Keuzenkamp Published by Cambridge University Press, ISBN.
36. Schefter, P. and Reichheld, F. (2000). *E-Loyalty*. Harvard Business Review.
37. Silverman, David (Ed). (2011). *Qualitative Research: Issues of Theory, Method and Practice*. Thousand Oaks, New Delhi, Singapore: Sage Publications.
38. Susmita Sharma (2002). Customer Satisfaction survey to improve service performance: A case study of Amadeus Asia. *Asian Institute of Technology School of Management Thailand*.
39. Terrence Levesque, Gordon H.G. McDougall, (1996). Determinants of customer satisfaction in retail banking. *International Journal of Bank Marketing*.