

Investigation of the Influence of Bank Features and Banking Industry Features on Profitability of Banks

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ABSTRACT

The present research investigates the influence of bank features and banking industry features on profitability of banks. One of the main targets of banking system is absorption of resources (as inexpensive as possible) from real and legal persons and directing them towards economic activities and finally increasing profit margin. Therefore, profitability is a necessity. The research was conducted on Iranian Exports Bank-which is a private commercial bank. This research tries to answer this question: whether bank features and banking industry features influence profitability of banks or not? Many factors influence profitability of banks. The first category of factors is internal factors which includes bank features and can be controlled by management and the next category is external factors which includes features of banking industry and cannot be controlled by management.

KEYWORDS: profitability indices, bank features, capital or ownership ratio (equity), features of banking industry, inflation expectations

INTRODUCTION

The present era is the age of unpredictable and rapid changes and companies have confronted with most difficult competitive conditions ever happened due to some factors like unclear borders between markets, fragmentation of markets, short life cycles of products, rapid changes in customers' purchase models and awareness of customers (Rahnama et al, 2012). For decades, the value of a company was measured based on its properties, tangible assets, factories and equipment. However, companies have concluded that real value of a company lies somewhere beyond that, i.e. in potential customers' minds (Heidarzadeh et al, 2011). A bank is an economic institute and every economic firm aims to acquire profit. Commercial banks look for more profitability and want to direct investments towards highly profitable targets. Therefore, this may end up in forgetting long-term economic targets. Moreover, since efficiency of every system is evaluated by measurement of its return, efficiency of a banking system is measured based on its efficiency and return for stockholders and investors. As profitability of banks increases, customers trust more in banks and keep their deposits in banks. Adoption of proper policies by central bank can create economic power and can overcome problems resulted from crisis, recession and other economic problems. In contrast, adoption of bad policies may end up in insolvency (Janzen, 2011). Within the past decade, banking industry has undergone basic changes all over the world. In spite of the fact that intervention of banks in economic and financial activities has been increased in some countries, the role of banks as the core of activities in different financial markets has remained unchanged. A good and profitable banking system can resist against negative shocks and contribute to stability of financial system. Some part of liquidity in a society is in hands of some people who are not able to use it properly and on the other hand, some people do not have enough capital for doing commercial activities in spite of having experience and interest in economic activities. Consequently, an important share of cash and human capital remains wandering and unused. This is where presence of some institutes (banks) is necessary for linking the two groups and convert additional financial resources to productive capitals. These institutes are called financial mediators. Moreover, profitability of banks is affected by internal factors-which can be controlled by bank management- and environmental and economic conditions (Demirguc et al, 1999). Proper validation of customers and bank loan users are important duties of banks (Amanda, 2013) because one of the greatest problems of banks within the past few years has been a large increase in past due receivables, delayed receivables and doubtful receivables. The large volume of these liabilities have reduced profitability of banks and finally reduced profitability of banking system. Therefore, in any economic system, the role of banking system in gathering deposits (accumulation of resources) and its use in financing investment plans (allocation of resources) is of great importance. This has made governments to make policies for development of economies and banks play important roles in this process. Therefore, calculation of profitability of banks is very important.

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Investigation of the impacts of internal factors (bank features) and external factors (banking industry features) on profitability of banks is of great importance and is the subject of the present research.

Theoretical framework

In every organization, whether a production or a service one, the main factor for organizational survival is customer, and if an organization fails to attract satisfaction and loyalty of its customers, it cannot guarantee its long-term growth and survival (Vazifehdost, Rahnama and Mousavian, 2014). Important factors which determine profitability of banks are classified into two categories: internal and external factors. Internal factors concentrate on bank features and external factors include industry features and economic environment features in which the bank is active and these factors are out of managers' control (Ramlal, 2009).

Profitability indices

Banks obtain income via provision of banking services. They attract people's deposits with low interest rates and grant loans with higher interest rates and the difference between these two rates is the income of banks and is called margin of profit and interest. In most previous studies conducted on profitability of banks, two important financial ratios i.e. return on assets and return on equity has been used for measurement of profitability index. "Rivard and Tomas" (1977) proposed that return on assets is the best ratio for measurement of profitability of a bank because return on assets does not involve stockholders and is a good estimation of ability of companies for creation of return in assets portfolio. However, return on equity is a reflection of the quality of effectiveness of bank management in using stockholders' shares. Therefore, return on assets has fewer financial links and most banks use financial leverage for increasing return on equity. Atanagelo, Brismis and Delis conducted a research titled: "bank features, banking industry features and macroeconomic features as determining factors in profitability of banks" (2008) used two important financial ratios i.e. return on assets and return on equity as criteria for determination of profitability. They believed that return on assets is a reflection of abilities of bank management for creation of profit via assets. Return on equity also shows that banks with low leverage (high equity) have higher returns but they have low return on equity. Factors affecting profitability of banks are divided into two categories: internal factors, which can be controlled by bank management and external factors which are beyond bank management control. Internal factors include bank features and external factors are industry features and macro-economic indices (Ramlal, 2003). Within the past few years, customers' needs and quality levels have received a lot of attention and high levels of quality of services offered to customers are means for reaching competitive advantages. as awareness of customers increases, banks and other financial institutes have become very sensitive to the quality of services they receive. In order to maintain a long-term relationship with customers, banks should know how to provide services with high quality (Tavanazadeh and Aligholi, 2014). In customers' strategy, customers' loyalty is of strategic importance for the organization. Increasing customers' loyalty has received a lot of attention and is an important subject for managers and consultants and scholars (Haghighi et al, 2012).

Factors affecting profitability of commercial banks

1. Capital or equity ratio

Ratio of equity on total assets which is expected to have a positive relationship with profitability of banks.

2. Credit risk

Ratio of delayed and doubtful loans on total loans which is expected to have a negative relationship with profitability of banks. Therefore, banks should increase profitability by improving evaluation systems and controlling credit risk.

3. Credit risk and management of credit risk and techniques for its measurement

Provision of loans is an important banking activity. In order to give out a loan, banks should determine degree of validity and power of repayment of the principal and profit of credit for loan-taker. Basel Committee of Switzerland defines credit risk as: "credit risk is potential for inability of loan-taker in doing his or her commitments to banks".

Different resources are used for production of products and provision of bank services in commercial banks. These resources include two categories: capital resources and workforce. In the subsequent sentences, we review some internal and external factors which influence productivity of commercial banks:

1. inputs:

The number of branches, number of employees (workforce), level of facilities, IT, fixed assets

2. outputs:

Amount of loans granted,

Research conceptual model

Relationship between variables can be shown as follows:

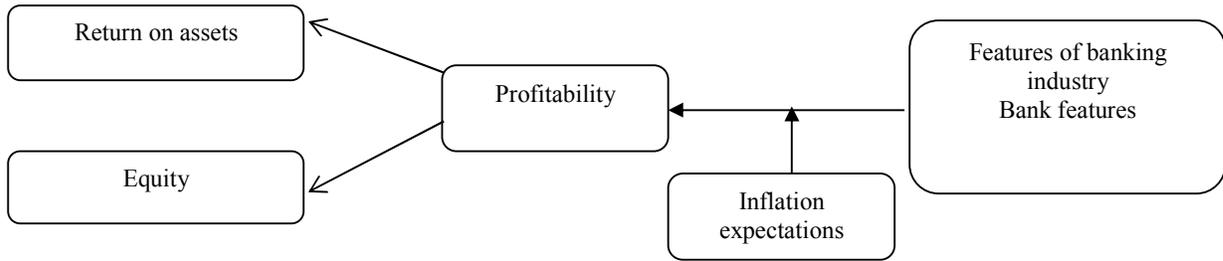


Figure1. Research model

Research hypotheses

The main hypothesis of the research is as follows:

1. Bank features have significant influence on profitability.
2. Banking industry features have significant impacts on profitability.

Subsidiary hypotheses:

1. Determination of the influence of features of banking industry on profitability
2. Determination of the influence of bank features on profitability
3. Determination of the influence of profitability on return on assets
4. Determination of the influence of profitability on equity
5. Determination of the influence of bank features on inflation expectations
6. Determination of the influence of features of banking industry on inflation expectations
7. Determination of the influence of inflation expectations on profitability

RESEARCH METHODOLOGY

The present research is an applied research in terms of goal. In terms of data gathering, it is a descriptive study because the researcher summarizes and classifies data. It is also a correlation descriptive survey. A survey is a method for acquisition of data on viewpoints, beliefs and ideas and behaviors of a group of members of a statistical population. Therefore, the present research investigates relationship between marketing fundamentals and customer satisfaction and is therefore a survey.

Research scale

- a. independent variable: bank features and banking industry features (internal and external factors) are independent variables in the research model.
- b. dependent variable: profitability index (equity, return on assets) were dependent variables. "inflation expectations" was also considered as an intervening variable.

Research reliability means ability to rely on the research, stability, consistency, predictability and precision.

Cronbach's alpha was used for determination of reliability. This method is used for calculation of internal consistency. In order to calculate Cronbach's alpha coefficient, we should first calculate variance of scores of every subset and then total variance. Then, alpha is calculated by means of the following formula:

$$r_{\alpha} = \frac{J}{J-1} \left(1 - \frac{\sum_{j=1}^n S_j^2}{S^2} \right)$$

In which:

J=the number of subsets of questions of the questionnaire or test

S_j²: Jth subtest variance

S²: total variance of the questionnaire or test

Therefore, Cronbach's alpha and SPSS software were used for measurement of reliability. To this end, a primary sample including 30 questionnaires were distributed as a pretest and then we calculated Cronbach's alpha. It was equal to 0.81 for total questionnaire. For variables industry features and banking features, this coefficient was equal to 0.79 and 0.73, respectively. These numbers show that the questionnaire has a good level of reliability.

Table 1. Cronbach's alpha

		Reliability Statistics		
		Cronbach's alpha	Cronbach's Alpha Based on Standardized Items	Number of questions
Bank features		.730	.727	9
Features of banking industry		.791	.780	10
All questions		.813	.809	19

Statistical population

A statistical population is a set of individuals or units which have at least one feature in common. A common feature is a feature which is shared by all population members and differentiates the statistical population from other populations. The population under study included all managers of branches of Iranian Exports Bank in Tehran City and stockholders. Because the population contains 10000 people, 384 people were selected as sample by means of the following formula:

$$n = \frac{N * z^2 * p * q}{N * e^2 + z^2 * p * q}$$

in which N=10000, p and q are equal to 0.5, z and e are equal to 1.96 and 0.05, respectively.

In every research, data analysis is an important stage because it indicates Previous attempts. In this stage, the researcher tries to investigate data in order to test the hypothesis. Statistical description and inferential discussions were used for questionnaire analysis.

Table 2. Statistical description

		Features of banking industry	Bank features	equity	Return assets	inflation	profitability
N	Valid	384	384	6	6	6	6
mean		41.9609	36.6849	47023.	1.305	22.55	5425.333
median		42.0000	37.0000	31992.	1.135	23.45	5482.500
mode		42.00	38.00	23749.	.90	10.80 ^a	3812.00 ^a
minimum		35.00	30.00	23749.	.89	10.80	3812.00
maximum		48.00	43.00	87856.	2.01	34.70	6927.00
sum		16113.00	14087.00	28213	7.83	135.3	32552.00
a. Multiple modes exist. The smallest value is shown							

Inferential statistics

Normality of distribution of variables test (Kolmogrov-Smearnov test)

Table 3. Kolmogrov-Smearnov test

		equity	Return on assets	inflation	profitability
N		6	6	6	6
Normal Parameters ^{a,b}		mean	47023.	1.30	5425.
		SD	28836.	.491	1321.
k-s coefficient		.812	.723	.461	.425
Significance level		.525	.673	.984	.994
a. Test distribution is Normal.					
b. Calculated from data.					

According to the above table, because all significance variables of the test are greater than alpha=0.05, normality of data distribution is supported. Therefore, it can be said that variables have normal distribution. Therefore, parametric tests will be used for analysis.

Table 4. Ranking of factors for dependent variables

Ranks	
	Mean Rank
equity	2.00
profitability	3.33
Inflation expectations	3.72
Return on assets	1.00

Considering the above table, inflation expectations has the first rank, profitability has the second rank, equity holds the third rank and return on assets has the fourth rank from customers of Exports Bank viewpoints.

Because the number of questionnaire data was 384 and the number of data for profitability and return on assets rate and equity and inflation expectations were numerous, we first matched data and then we used parametric tests for investigation of hypotheses.

Determination coefficient is the level of change in dependent variable which can be explained by regression. In fact, determination coefficient shows that to what level dependent variable is affected by independent variables and to what level it relies on other variables.

In regression test, there should not be any error of correlation model. In order to investigate independence of errors, we used Durbin-Watson test. Durbin-Watson (DW) statistic verifies that there is no auto-correlation problem.

Research hypotheses analysis

1. bank features have significant impacts on profitability.

In this model, the adjusted determination coefficient was about 5%. In other words, 5% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Durbin-Watson statistic was calculated for regression model. It shows that this number is between 1.5 and 2.5. Absence of correlation in elements of the regression model in the above model is verified. Therefore, regression test can be conducted.

Considering the above results, significance level of the test for linear regression between bank features and profitability is equal to 0.00. Because it is smaller than 0.05 and beta coefficient of bank features is 0.231, it can be said with 99% of certainty that there is a significant relationship between bank features and profitability. Considering the beta coefficient, there is a positive and significant relationship between bank features and profitability. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as bank features increase, Exports Bank profitability is also increased.

Second hypothesis

2. features of banking industry have significant influence on profitability.

In this model, the adjusted determination coefficient was about 17%. In other words, 17% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Considering the above results, significance level of the test for linear regression between banking industry features and profitability is equal to 0.001. Because it is smaller than 0.05 and beta coefficient of banking industry features is 0.170, it can be said with 99% of certainty that there is a significant relationship between banking industry features and profitability. Considering the beta coefficient, there is a positive and significant relationship between banking industry features and profitability. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as banking industry features increase, Exports Bank profitability is also increased.

Third hypothesis

3. Profitability has a significant influence on return on assets.

In this model, the adjusted determination coefficient was about 9%. In other words, 9% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Considering the above results, significance level of the test for linear regression between return on assets and profitability is equal to 0.00. Because it is smaller than 0.05 and beta coefficient of return on assets is 0.304, it can be said with 99% of certainty that there is a significant relationship between profitability and return on assets. Considering the beta coefficient, there is a positive and significant relationship between return on assets and profitability. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as profitability increase, Exports Bank return on assets is also increased.

Fourth hypothesis

4. profitability has a significant influence on equity.

In this model, the adjusted determination coefficient was about 7%. In other words, 7% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Considering the above results, significance level of the test for linear regression between profitability and equity is equal to 0.00. Because it is smaller than 0.05 and beta coefficient of features of banking industry is 0.267, it can be said with 99% of certainty that there is a significant relationship between profitability and equity. Considering the beta coefficient, there is a positive and significant relationship between profitability and equity. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as profitability increase, equity is also increased.

Fifth hypothesis

5. bank features has a significant influence on inflation expectations.

In this model, the adjusted determination coefficient was about 4%. In other words, 4% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Considering the above results, significance level of the test for linear regression between bank features and inflation expectations is equal to 0.00. Because it is smaller than 0.05 and beta coefficient of bank features is -0.218, it can be said with 99% of certainty that there is a significant relationship between bank features and inflation expectations. Considering the beta coefficient, there is a negative and significant relationship between bank features and inflation expectations. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as bank features increase, inflation expectations is also increased.

6. bank industry features has a significant influence on inflation expectations.

In this model, the adjusted determination coefficient was about 3%. In other words, 3% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Considering the above results, significance level of the test for linear regression between bank industry features and inflation expectations is equal to 0.00. Because it is smaller than 0.05 and beta coefficient of bank features is -0.180, it can be said with 99% of certainty that there is a significant relationship between banking industry features and inflation expectations. Considering the beta coefficient, there is a negative and significant relationship between banking industry features and inflation expectations. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as banking industry features increase, inflation expectations is also increased.

Seventh hypothesis:

7. inflation expectations has a significant influence on profitability.

In this model, the adjusted determination coefficient was about 12%. In other words, 12% of variance in the dependent variable can be explained by independent variables.

Durbin-Watson test:

Considering the above results, significance level of the test for linear regression between inflation expectations and profitability is equal to 0.00. Because it is smaller than 0.05 and beta coefficient of inflation expectations is 0.449, it can be said with 99% of certainty that there is a significant relationship between inflation expectations and profitability. Considering the beta coefficient, there is a positive and significant relationship between inflation expectations and profitability. Further, variance analysis tables show that total model is significant in 99% of certainty. It can be concluded that as inflation expectations increase, profitability is also increased.

CONCLUSION

1. The first hypothesis states that features of banking industry has a significant influence on profitability. Considering the results, it can be said that there is a positive and direct relationship between feature of bank and profitability and as bank features increase, profitability is also increased.

2. The second hypothesis states that bank features has a significant influence on profitability. Considering the results, it can be said that there is a positive and direct relationship between feature of bank and profitability and as bank features increase, profitability is also increased.

3. The third hypothesis states that profitability has a significant influence on equity. Considering the results, it can be said that there is a positive and direct relationship between profitability and equity and as profitability increase, equity is also increased.

4. The fourth hypothesis states that profitability has a significant influence on return on assets. Considering the results, it can be said that there is a positive and direct relationship between profitability and return on assets and as profitability increase, return on assets is also increased.

5. The fifth hypothesis states that features of banking industry has a significant influence on inflation expectations. Considering the results, it can be said that there is a negative and converse relationship between features of banking industry and inflation expectations and as features of banking industry increase, inflation expectations is decreased.

6. The sixth hypothesis states that bank features has a significant influence on inflation expectations. Considering the results, it can be said that there is a negative and converse relationship between bank features and inflation expectations and as bank features increase, inflation expectations is decreased.

7. The seventh hypothesis states that inflation expectations has a significant influence on profitability. Considering the results, it can be said that there is a positive and direct relationship between inflation expectations and profitability and as inflation expectations increase, profitability is also increased.

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