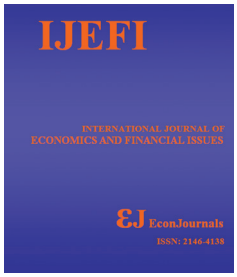

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The Effect of Capital Adequacy Ratio on the Ratio of the Bank Reserves Accepted in the Tehran Stock Exchange

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ABSTRACT

This research aimed to assess the effect of capital adequacy ratio on the ratio of the bank reserves accepted in the Tehran stock exchange also it was based on the Kashyap and Stein pattern (2004) and modified variables of Levintal (2005) research. Required data from the statistical population including 16 Iranian exchange banks has been achieved for a 5 years period from 2009 to 2013. The results of the research that indicated a direct relationship between capital adequacy ratio and bank reserves as an absorption rate of different deposits of customers in banks were considered as dependent variable. In addition, the interpretation of control variables slope in estimated relationship showed that there was an inverse relationship between rate of granted facilities and the size of bank with bank reserves; also there was a direct relationship between growth opportunities and profit volatility. Student t-test for estimated coefficients and Fisher test for total estimated relationship supported the ability to generalize relationships between variables at 95% level. The coefficient of determination showed that between 83.5% and 87/5% changes between independent and control variables with bank reserves through expressed estimated relationship and estimated relationship between variables has had a fairly complete explanatory power.

Keywords: Bank Reserves, Capital Adequacy, Facilities, The Size of Bank, Growth Opportunity, Profit Volatility
JEL Classifications: G21, G3

1. INTRODUCTION

The liquidity of banks is dependent on bank reserves and these reserves can be used to absorb deposits, to allocate facilities, ad to provide the capital of other banks. Also, if the rate of capital adequacy, calculating by dividing the salaries of shareholders to the sum of assets, equals 1 it means banks are more dependent on shareholders to finance (Giannetti and Simonov, 2009). After investing, investors are trying to lead their funds in a way with the lowest risk and the highest efficiency; also they are trying to invest in banks with high commercial credibility (Reinhart and Rogoff, 2009). Reducing the capital adequacy ratio means increasing the level of financial risk of banks and relying more on foreign financial resources. It could be led to increase company's cash costs and thus reducing the profitability of banks. Performance evaluation in the banking system can be done by using different ways. Some of these researches have been done based on process evaluation methods with the basis of some procedures such as review or auditing and procedures and processes using in banks, the expected procedures or in accordance with the standard, were compared and analyzed. The second category of these studies was conducted on quantitative assessments. Based on judging valuable criteria, the quantitative assessment of performance was divided into some basis such as profitability, efficiency, effectiveness, risk, productivity, liquidity, and other similar cases. Other divisions of quantitative assessments can be explained on the basis of the attitude used in assessment. Based on the index of attitude, performance of combining two or some bank inputs and outputs, some ratios such as profitability and liquidity, etc. are defined; as well as for functional data concerning the comparison of the performance of different banks or banking branches with each other or with the expected or past performance will be dealt with. Based on econometrics attitude between one of the performance criteria.

With other accounting or operational variables, the mathematical relation is generally defined as parametric linear. Also based on the attitude of mathematical modeling, it has been overtaken regarding to estimate optimal conditions and it is judged with comparison to the estimated condition and real performance

about the quantity and quality of the performance of banks or banking branches (Levintal, 2015). Regarding to the particular circumstances that had governed the banking system and their main role after the agreement about removing economic sanctions on the country, based on Levintal model (2015) and econometric attitude, this study has dealt with assessing the performance of banks accepted in Iran stock exchange with liquidity, capital adequacy, and profitability. The present study that is based on the above mentioned questions has been done to answer this fundamental question: What is the effect of the ratio of capital adequacy to the ratio of bank reserves accepted in the Tehran stock exchange?

2. THEORETICAL FOUNDATIONS AND EXTENSION OF RESEARCH HYPOTHESES

2.1. Bank Deposits

Savings, in terms of willingness to do it, are divided into voluntary and compulsory. Voluntary saving is the personal action of households and individuals. Voluntary savings are the best way to provide financial resources because it shows that society, based on the preferences between current and future consumption, has not consumed a part of its income. In an advanced country with efficient financial markets, savings are easily sent to the securities market and banking system and important financial resources are provided to extend and develop economic system (Behmand and Bahmani, 1998). Compulsory savings result from group or government decisions that force consumers to ignore the purchase of some commodities. This ignorance is the same as compulsory savings; it is like a saving that is created through enacting tax and lead to borrowing inflation. Using inflation through distributing money that government uses it is more emphasized. Creating money lead to increase inflation that is actually got through increasing total demand and this matter leads to increase profit in national income. This means that inflation changes distributing income from classes with low savings in favor of high saving classes and this causes to increase profits. Thus, the savings that are made in this way are often called compulsory savings (Tafazoli, 1997).

2.2. Bank Reserves

Nowadays one of the tasks of the central bank is implementing monetary policy. Goals of monetary policy are summarized as a set of measures taken by monetary authorities (central bank) to control economic activities of society to accelerate economic growth, create full employment, stabilize the general level of prices, and create balance in foreign payments balances. To implement monetary and credit policy, Central Bank and monetary authorities of countries can use the following levers and tools (Noulas et al., 2008):

1. The ratio of rightful resources of deposits.
2. Redeeming facilities and its rate.
3. Open market operations.
4. Directing control of credits.
5. Determining the liquidity ratio of banks.

In models of money demand examined by Keynes, Tobin, and Baumol, the distinction and separation between trading demand and speculation is especially important. But Friedman studied the demand of money about the traditional theories of microeconomics about the consumer behavior and producer demand for inputs. Depositing is actually a kind of savings. Some effective variables on demand of money actually affect the size of deposits and Friedman's theory of the demand for money has considered the returns of money along with the returns of other alternative assets.

2.3. Reserve Ratio of Bank

In many cases, banks are required to hold a part of the deposits at the central bank. This ratio is named rightful reserve (RR) ratio and the amount of blocked deposit at the central bank is named legal deposit. In comparison to other tools, the RR of banks as one of the tools of monetary includes many advantages. For example, the effect of using changes in the RR ratio of commercial and specialized banks is seen in all banks of country. The assets of a bank are bank's costs of funds. Therefore, managing assets is making decision to select between all types of investments and to allocate between assets. Based on the liquidity criterion (or returns), bank's costs of funds can be categorized in more general items to be in one level. In different cases to provide liquidity grade, generate income and provide credit for the existing market, these assets are used in bank's activity (Gertler and Kiyotaki, 2009). In the Western economy, the banking system is composed of the central bank and different depositable institutions. In this system, depositable institutions hold two types of reserves (Branson, 1994) which are:

1. RR: According to the law, depositable institutions are obliged to transfer a part of the deposits of people to the central bank. These reserves were first used to prevent banks from bankruptcy when depositors probability request their funds; but with the possibility of deposit insurance, this necessity was eliminated and today RR are available at the central bank as a tool for monetary policy.
2. Excess reserves (ER): Depositable institutions prefer to keep reserves more than RR, and if necessary, to use it. Bank's decision is about keeping the amount of ER such as person's decision to precautionary demand for money. Banks keep reserves to answer demand for cash or to pay to other banks. Therefore, selecting the ratio of ER on the amount of RR depends on three factors. These three factors include uncertainty about the net flow of the bank deposit, the discount rate, and market interest rate; as they are risen, bank maintains more ER. If discount rate is risen, ER will be risen too; also as market interest rate is risen, the amount of this reserve is decreased (Dorenbos and Fisher, 2011).

2.4. Capital Adequacy

Based on the definition given in the Central Bank Regulations, capital adequacy is the result of the division of main capital into sum of risk-adjusted assets on risk factors in percentage. The capital of banks and assets are two main components of determining the rate of capital adequacy in the bank. The components of risk-adjusted assets of banks include the followings:

Description	Risk factors
Cash inventory	0
Rightful deposit	0
Claims from central bank	20
Claims from banks and credit institutions	0
Claims from the government	0
Government participation bonds	100
Investment in stocks	100
Receivable accounts	100
Loans and rental facilities provided that ownership and housing	50
Other loans and payable facilities and demands	100
Other assets	100
To guarantee the participation bonds in non-governmental sector (with conversion coefficient of 50%)	100
Commitments for issued guarantees (with conversion coefficient of 20%)	100
Commitments for issued credits (with conversion coefficient of 20%)	20
Other commitments	50
Net fixed assets and goodwill	100
Balanced assets and commitments based on risk	0

Source: Asre bank's educational site

After calculating the sum of assets and commitments assigned to risk, the final number is divided into the main capital and capital adequacy ratio is obtained. Bank capital is one of the main factors in reducing bank risks. Hence capital adequacy ratio that is often defined as the main capital divided into assets assigned to risks is a significant proportion to evaluate banks; as a bank that holds more capital can be easily survived in difficult economic conditions. The need to maintain a certain amount of capital is an important matter to banks and supervisor for years; that is they take cash from the depositors to provide facilities for them. In this process maybe some borrowers are unable or unwilling to repay their loans, in this case the only source that bank can rely on it is bank capital. Therefore a cautious relationship should be existed between bank capital and the volume of loans that are paid and it is named as "capital adequacy ratio." Capital adequacy is one of the most important indicators that reflects the financial health of the banks that assures the shareholders and prevents bank bankruptcy and generally keeps banks alive. This indicator shows whether the bank has enough capital to bear the unexpected losses in the future or not? This ratio is obtained by calculating the following ratios (Pashaeifam, 2011).

2.5. Leverage Ratio

This ratio can be calculated by dividing the primary capital into total assets.

Primary capital includes:

a. All paid stocks.
b. Permanent non-accumulated premium shares.
c. Disclosed reserves (RR, general reserve, spend the stock, undivided profit, minority shares in investable bank).

The highest percentage indicates the desirability of bank capital and vice versa.

2.6. The Ratio of Main Capital

This ratio is calculated by dividing the primary capital into the risk-adjusted asset. The highest percentage shows the desirability of bank capital and vice versa.

2.7. Total Capital Ratio

This ratio can be calculated by dividing total assets to the risk-adjusted assets.

2.8. Supplementary Capital Ratio

This ratio can be calculated by dividing supplementary asset into risk-adjusted assets.

2.9. Supplementary Capital

This capital consists of the reserves of doubtful demands (general) + the reserves for the revaluation of fixed assets + the reserves arising from revaluation of stock.

3. REVIEW OF THE RELATED LITERATURE

In a study titled "performance measurement of Taiwan's commercial banks," Ho and Zho (2005) investigated 41 Taiwanese banks to evaluate efficiency. In this research, they used a two-stage data envelopment analysis model to evaluate. In the first step, the assets needed to generate income to evaluate the efficiency and in the second stage, the generated profit to evaluate efficiency were studied. In another study titled "capital adequacy: The benchmark of the 2000's," Jeff (2015) provided a general overview of capital requirements for banks and financial institutions by considering the return on assets ratio as the primary factor of the management of bank capital; also he showed that there is no difference in the capital standards of banks and financial institutions. Santamero and Watson (2015) conducted a study named "determining an optimal capital standard for banking industry;" they showed that by enacting hard regulations for capital market, banks have reduced their credits that leads to collapse of productive investments. They argued that in terms of society, the optimal level of capital for the banking system should be determined through the points where the final returns of the bank capital are exactly equal to the final costs of the bank capital. Reynolds and Ratanakomut (2014) conducted a research titled "Bank Financial Structure in Precrisis East and South East Asia;" after studying the financial structure and the performance of banks in eight eastern and south east Asian countries during 2007–2014, they concluded that there was a direct relation between profitability and the priority of the loan with the size of bank and they were increased but there was a reverse relation between capital adequacy and the size of bank also they were reduced. In the study titled "The macroeconomic implications of regulatory capital adequacy requirements for Korean banks" conducted by Chol (2014), comparisons of legal requirements of 2008 statement with old standards and its performance on the economic situation of banks in Korea were examined; he concluded that with the increase in capital or the reduction of risk assets such as commercial loans, credit risk is also reduced. Therefore, banks with lower capital adequacy ratios reduce their granted facilities and vice versa. In the study

conducted by Mpuga (2014) titled "The 1998–99 banking crisis in Uganda: What was the role of the new capital requirements?" he showed that new requirements after reviewing the performance of Uganda commercial banks during the critical years (2011–2012), capital has a positive impact on the performance of commercial banks when increasing deposits, cash assets, paid capital, main capital, total capital, and net profit; also he concluded that lack of minimum enough capital in accounting to control the risk of portfolios with banks can be one of the major factors in bank failure. In a study done by Shirley and Hsu (2014) titled "leverage, performance and capital adequacy ratio in Taiwan's Banking Industry," the relationship between financial structure of banks and risk investment strategies in Taiwan's banking industry were examined. They showed that limitations of the ratio of capital adequacy were influenced by strategies of investment risk of companies and the performance of company is directly related to the size and ratio of financial leverage and financial costs. In the study conducted by Buyuksalvarci and Abdiglu (2013) titled "determinant of capital adequacy ratio in Turkish banks: A panel data analysis," the determinant effect of capital adequacy ratio on the financial situation of Turkish banks was examined by using the panel data analysis method. They showed that reserve of losses of loans variables and return on assets had a positive effect on capital adequacy ratio; loans variables and salary return of shareholders variables had a negative effect on capital adequacy ratio; also variables of size of the bank, deposits, liquidity, and net profit margin had no significant effect on capital adequacy ratio. In the study done by Harly (2011) titled" determinants of capital adequacy in the banking sub-sector of the Nigeria economy: Efficacy of camels," he showed the impacts of bank characteristics, financial structure and macroeconomic indicators in the bank capitals in banking industry in Nigeria. The results of the study show that there is a real relationship between inflation and bank capital in many developing economies which means that the government of Nigerian should present investment policies in a way that banks are required to keep the inflation rate in the lowest level.

3. RESEARCH METHODOLOGY

3.1. Type of Procedure

In terms of aim, the present study is considered functional. The statistical data used in this research are performance data related to the financial period of 5 years ended on the 29th February, 2014, it has been done in past so the research project is "ex-post facto."

This type of research is named retrospective, and descriptive-analytic based on past experiences.

Statistical data and used variables in this study are non-qualitative and quantitative methods of Regression econometrics and quantitative correlation analysis have been used so general method or type of research in terms of nature and type of data and used methods have been "quantitative" or "non-judgmental.

3.2. Research Hypothesis

To achieve the main goal of the research, the following main hypothesis has been presented and examined:

H: With an increase in capital adequacy ratio, the deposit rate of banks accepted in the Tehran stock exchange is increased.

3.3. Statistical Population and Samples

In contrast to the common financial research that excludes banks, financial and credit institutions, the statistical population has been precisely restricted to banks. Therefore, the statistical population is defined as follows:

1. Iranian bank should be used and its stocks and capital should belong to real or legal Iranian investors.
2. It should be operated as a bank through being supervised by the central bank of Iran and getting its license.
3. Their fiscal year should be ended on the 29th February and under the period of 5 years ended on the 29th February, 2014, they shouldn't change their fiscal course.
4. It should be joined in the Tehran stock exchange before 2010 and has not left the membership in the period of 5 years ended on the 29th February, 2014.
5. The performance data related to them should be associated with available research variables or calculation.

Due to the small number of searchable banks, and on the other hand, due to the multiplicity of the number of independent and dependent variables in regression estimation and, ultimately, due to unjustifiable considerations such as saving time or cost of research based on very limited sampling, random sampling has not been used so the size of statistical population is consistent to sample size i.e., n = n and it has been defined as 5 non-random and16-point dependent samples, in other words, 80 years, bank has been defined.

3.4. Data Collection

In this research, the library study method, electronic books and articles, publications and authoritative scientific sites have been used to collect theoretical data and review of literature; the required research data have been extracted from the financial statements and financial documents of the comprehensive statistical banks. In addition, relying on audited documents such as audited financial statements, or relying on the accepted documents and reports of the central bank, reliability of the collected data has been guaranteed. To determine validity, financial statements, attachment notes and even the audited reliable evidences related to performance data in the banks accepted in the Tehran stock exchange have been relied on.

3.5. Evaluating Variables

In this research, based on the review of literature of similar and related researches, the theoretical and functional definition of the research variables is presented.

3.5.1. Bank reserves

According to Levintal's study (2015), this variable that is defined as dependent variable is obtained by dividing the deposits of real and legal customers in banks to the sum of assets of each bank as a relative quantity that is expressed in percentage through multiplying by 100. These deposits in types of interest free (qard al-hasan), short-term, long-term, and current have been deposited in banks.

3.5.2. Capital adequacy ratio

Capital adequacy that is defined as the ownership ratio in banks determines the financial structure in banks and it is the complement

of the debt ratio. To calculate it, according to Sepehrdoost and A'aeini's study (2015), sum of shareholders' assets in each bank is divided into sum of assets and used as a relative quantity or has been defined as percentage rate through multiplying by 100. In this research, capital adequacy ratio is considered as the third independent variable in the model.

3.5.3. Granted facilities

Granted facilities is the first control variable in the research and shows the contractionary or expansionary policy of bank in allocating banking facilities to real and legal customers. According to Sepehrdoost and A'aeini's study (2015), this variable is obtained by dividing sum of granted facilities of each bank during fiscal year to real and legal customers to sum of customers' deposits during the year according to rank. When this ratio is greater, it is considered as boldly contractionary or expansionary policy of bank in granting facilities; but when it is lowered, it shows the conservative or risk aversion policy of bank and it is a contraction procedure in granting facilities to the customers.

3.5.4. Size

Size is another control variable that in different researches has been defined based on the number of employees, natural logarithm of sale, logarithm of financial turnover, logarithm of total assets or logarithm of company's value. In this research, based on Monsef and Mansouri's study (2010), the size of each bank is calculated based on the natural logarithm of total assets at the end of course.

3.5.5. Growth opportunities

Growth opportunities are another control variable, which, in comparison with other banks, it considers the possibility for price growth of bank shares as growth opportunity of return on investment. Based on Kheirabadi's research (2014), growth opportunities are calculated from the value of the day of each share to the value of the office at the end of the period and they are defined according to rank. Review of literature shows that in companies with a value <1 unit, stocks are considered growth and the possibility to increase its price has been imagined.

3.5.6. Profit volatility

Profit volatility is another control variable that based on Kheirabadi's research (2014) it represents change in profit of per share of company toward past. To calculate it, the profit of per share of bank during the course minus the profit of per share of the previous course (change in the profit of each share) is divided on the profit of each share during past course and it is usually expressed as a percentage by multiplying by 100.

3.6. Data Analysis

Determining the relationship between dependent and independent variables based on combined linear regression and panel data analysis has been done in EVIEWS; after estimating the regression relationship parameters, its validation was based on coefficient of determination, the generalizations based on the significance level of t-student test and Fisher test from coefficients of independent variables in the estimated relationship to determine the type of relationship between variables. The used assumptions in this method including determining the type of panel data have been evaluated.

4. FINDINGS OF THE RESEARCH

4.1. Determine the Type of Panel Data Analysis

With regard to the used pattern in the study of Kashyap and Stein (2004) and modified variables in the study of Levintal (2015) as well as sample size limitation in selected stock Iranian banks and multiplicity of variables in the estimated equation, on the other hand, using cross-sectional regression for each year had no significant results. To determine whether the estimation of the relationship between variables is done by the method of compilation data or panel data, Chow test with F Limer standard have been used and the test results have been summarized in Table 1.

F Limer test in Chow test was obtained 24/2901 and the significance level corresponding to it was equal to o/o135. The probability or obtained significant level in this study have tended to zero and had been <5%. Based on the significant level, it can be concluded that the result of the test were significant at 95% confidence level therefore, panel data method should be used in this study to estimate the relationship between variables based on estimating composed linear regression. After it was determined whether or not the width of the origin is fixed in the estimation of the regression relationship, to estimate the relationship between variables it should be selected among the methods of fixed or random effects. For this purpose, in similar or related researches, Hausman test has been usually used and the related results have been summarized in Table 2.

Chi-square test for Hausman test in estimated regression relation was obtained 58/0125 and the significance level corresponding to it was nearly zero and equal to 0/0024. With regard to this matter that significant level is <5% level of calculated test, the result of study is significant at the confidence level of 95%. So at the confidence level of 95%, fitting regression model in this study has been appropriate by estimating panel data analysis with using "fixed effects method."

4.2. Analysis of Relationships between Variables

4.2.1. The results of the main hypothesis

The purpose of the research hypothesis test is to determine the relationship between capital adequacy ratio and bank reserves. Based on the test and carried analysis, assumption analysis of using composed linear regression based on panel data analysis was showed; distribution of variables and residues were normal; the linear independence of independent variables and errors related to the estimated relationship were being established; the stability of the variances was existed and with regard to the results of Chow test and Hausman, relationship between variables was estimated by using linear regression based on panel data analysis with fixed pattern; the estimated results are summarized in Table 3.

The rational framework of the relationship between variables or the research model based on the Kashyap and Stein (2004) and the modified research variables of Levintal's study (2015) are defined as the following parametric linear relationship:

$$Reserve_{it}=12/742+2/003ROA_{it}+0/051\Delta Cash_{it}+0/803cap_{it}al_{it}0/197-facil_{it}y_{it}4/170-size_{it}+3/200MB_{it}+0/093\Delta Earn_{it}+\varepsilon_{it}$$

Based on estimated mathematical relation, coefficient of this variable as β3 was equal to 0/803. The positive coefficient of estimation for an independent variable of the capital adequacy ratio or ownership ratio implies the existence of a direct relationship between the rate of capital adequacy and the bank reserves of companies with random sampling. Based on this estimated coefficient, with 1% increase in the fluctuation or change in liquidity flow in the studied bank, the rate of bank reserves is also increased to percentage. Therefore, according to the carried analysis, we can conclude that there is a direct relationship between capital adequacy ratio and bank reserves in banks with random sampling. The estimated coefficient of determination was calculated 0/875 and it is equal to 0/835 in adjusted state; it shows that between 83/5 and 87/5% of changes between liquidity fluctuation and bank reserves have been stated through the estimated relationship. With regard to this matter that mentioned coefficient has tended to one or one hundred percent, there was a "relatively strong linear relationship" between the dependent variables of bank reserves with independent and controlling variables of return on assets, liquidity fluctuations, capital adequacy ratios, rate of granted facilities, size of bank, growth opportunities and profit volatility; also the estimated relationship between variables has included a fairly complete explanatory power. To generalize the estimated relationship, parameter test β3 with Student t-test was used. The results of Student-t test with above assumptions have been summarized in Table 3. Based on the results of test, T-test was calculated about 3/178 for variable coefficient of return on assets and its corresponding significant level was equal 0/008. Considering this matter that the calculated significant level was <0/05, the existence of a significant linear relationship between capital adequacy ratio and bank reserves between the banks accepted in the Tehran stock exchange was accepted with 95% confidence level. So, with 95% confidence, it can be said that there is a direct linear relationship between capital adequacy ratio and bank reserves in stock banks. Also the significant level of Fisher test corresponding to F test has tended to zero and protected the results of student-t. Based on summarizing the interpretation of the coefficient of variable, validation based on the coefficient of determination and generalization of the estimated relationship based on Student-t test and Fisher test, we can conclude that "there is a relatively direct strong relationship between the capital adequacy ratio and bank reserves in the realm of study."

Table 1: Summary of the results of chow test (F Limer)

Estimated relationship	F test	Significant level	Result of research
Relationship between bank reserves and facilities	24/2901	0/0135	Relation to use panel data

4.2.2. The relationship between other variables and bank reserves

According to Table 3, due to the negative coefficient of variables, the relationship between the rate of granted facilities and the size of bank with bank reserves was reverse. With the positive coefficient of variables, there was a direct relationship between growth opportunities and profit volatility with bank reserves. The meaningful level corresponded to t-test in relation to controlling variables were respectively 0/031, 0/011, 0/017, 0/045 and it was <5% at all cases; so the meaningful relationship between controlling variables and dependent variable of bank reserves can be accepted at 95% level. The significant level of the Fisher test is also zero, and it supports the significance of the estimated linear relationship. The estimated coefficient of determination was equal to 0/875 and it was estimated about 0/835 in adjusted state; it shows that between 83/5 and 87/5% of changes between liquidity fluctuation and bank reserves have been stated through the estimated relationship. Considering that the mentioned coefficient has tended to one or one hundred%, there was a "relatively strong linear relationship" between the dependent variables of bank reserves with independent and controlling variables of return on assets, liquidity fluctuations, capital adequacy ratios, rate of granted facilities, size of bank, growth opportunities and profit volatility; also the estimated relationship between variables has included a fairly complete explanatory power.

5. DISCUSSION AND CONCLUSION

The results of the research showed that with the increase of the capital adequacy ratio, the ratio of bank reserves accepted in the Tehran

Table 2: Evaluation of choice between random or fixed effects (Hausman test)

Estimated relationship	Chi-squared test	Significant level	Result of research
Relationship between bank reserves and granting facilities	58/0125	0/0024	Relation to use fixed effects

Table 3: Parameters determining the relationship between bank reserves and granted facilities

Description	Symbol	Parameter	Standard deviation	t-test	Significant level
Width from the origin	α	12/742	3/796	3/406	0/001
Return on assets	ROA	2/003	0/903	2/004	0/023
Liquidity fluctuation	ΔCash	0/051	0/041	2/257	0/016
Capital adequacy ratio	Capital	0/803	0/192	3/176	0/008
Rate of granted facility	Fasility	−0/197	0/405	−1/99	0/031
The size of bank	Size	−4/170	1/425	−2/926	0/011
Growth opportunities	MB	3/200	0/246	2/225	0/017
Profit volatility	ΔEarn	0/093	0/051	1/810	0/045
Validation of relationship	The coefficient of determination 0/875		Adjusted coefficient of determination 0/835		
The ability to generalize relationship	Fisher test 6/937		Significant level of fisher 0/000		

stock exchange will be increased too. Comparing the results of this study with Kashyap and Stein (2004) and Levintal's study (2015) shows that the results of these researches and the present research were different. Based on the statistical analysis, the relationship between capital adequacy ratio and the rate of bank reserves indicates the reduction in financial risk level of banks in relying on financing from external sources or investing more than salaries of shareholders such as increasing capital, less distribution of profit, asset transformation, and so on could lead to increase the level of reserves and liquidity of banks and to increase the ability to provide more facilities to customers. In addition, it can be concluded from comparing banks that those banks with a higher level of reliance on financing from domestic sources can increase liquidity and bank reserves accepted in the Tehran stock exchange. By summarizing the analysis of assumptions, estimation and interpreting the results of composed linear regression, validation and generalization of estimated relationships, it showed that capital adequacy rate (the ownership ratio or financing and capital structure from shareholders) had a positive effect on bank reserves (the amount of attraction from various current, short-term and long term deposits of customers) in banks accepted in the Tehran stock exchange.

5.1. Suggestions

The results of the research show that the banks whose used capital had included more adequacy could keep more deposits and attract more customers to deposit and attract more deposits in the current, short-term and long-term deposits. This case shows that the existence of more capital adequacy in banks has made it more trustworthy for customers to attract customers for all kinds of investments. Some banks such as Tejarat and Mellat are older than other private banks; so private banks have more capital and could absorb more financial sources with a new approach to customer relations. So, firstly, it is advised to the old banks such as Tejarat and Mellat to perform more agility of their capital through improving their capital and secondly, like the new private banks, these banks are recommended to try to absorb customers' bank deposits based on their relations to the customers. Investment advisers are also recommended to make banks as a measure of profitability, growth of liquidity and capital adequacy and analyze and classify them to provide the opportunity to make optimum decisions about investment.

5.2. Suggestion for Future Study

1. It is suggested to study the impact of macroeconomic variables such as economic policies of the government including the policy of exchange rate on absorbing bank deposits.
2. It is suggested to study the relationship between the variables of this research through using the neural network methods and mathematical modeling.

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