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FACTORS AFFECTING THE VALUE OF BANK SHARES IN TEHRAN STOCK EXCHANGE

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Abstract:
Growth opportunities for investments form an important part of the bank's value. When investors determine value of the bank according to the bank's accounting report, it is necessary to consider the bank's expectations for growth investments. With the development of capital markets has been more pronounced role of performance measures at reflecting in the performance of banks through their existing content. Identify economic and financial accounting factors which influence from different directions on the value of bank shares are effective in creating positive conditions for increasing investment and financial credit absorption of bank. Taking into account the stated conditions, the purpose of this investigation is to investigate factors affecting the value of bank stocks. Needed data for research are collected from 25 active banks in Tehran Stock Exchange during 2008-2014. The data are analyzed using Excel, SPSS and E-views soft wares. Im, Pesaran, and Shin test is used to evaluate the reliability of variables, then F-Limer fitness tests and Hausman are reported and finally regression model corresponding to the research questions is fitted. Obtained results show that bank size, bank performance, inflation rate and bank credit risk have impact on market value of bank shares.

JEL: D53, E31, G32

Keywords: value of bank shares, bank size, bank performance, inflation rate, bank credit risk

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1. Introduction

Nowadays accounting information system in the shortest time gives available necessary information for users to decision making. Professional awareness of new achievements on along with the development of communication technology investment result in suppliers of capital to invest their funds in firms that have possibility to sales and profits growth (Shoorvarzi and Azadvar, 2010). Undoubtedly, investment in the stock, forms important part of the country's economy and without doubt the greatest amount of capital is traded through stock markets around the world and the national economy is heavily influenced by stock market performance (Hajaliyan and Abbasi, 2015). The purpose of investing in bank shares is to maximize profits and investor welfare. To achieve this goal, good investment decisions should be made. Financial statements are the main source of their information and reflect financial information about the activities of an entity in specified period (Khoshtinat and Raii, 2004). When new information release in the market about bank situation, these information get analyzed by analysts, investors and other users and on the basis of that decisions get made to buy or sell stocks. Including the information released by the bank, there are financial statements and the announcement of earnings per share forecast for the next fiscal year. These accounting information have important role in investor's decision on buying, selling and storing stock (Jabbarzadehkangarlooi and Askari, 2010). Considering the book value of the company's sales and earnings per share, the cost of advertising and sales growth has a great impact on the stock price changes (Roosta and Valipoor, 2013). Usefulness in predicting, in assessing the usefulness and timeliness are qualitative characteristics of accounting information. Helpful information are those that can be used in prediction models. In the field of research, accounting scholars have shown great interest the issue of the right of ownership and understanding of the process of changes in share prices on the stock market in a way that investigate the relationship between earnings and book value in market determining is allocated important branch of accounting research in term of valuable relationship between accounting data and bank valuation (Bagherinobar et al., 2010).

Despite much done research on accounting data communications with the market value of equity, yet there is not clear understanding of how impact of accounting fundamentals, profit and measuring financial assets, the stock market price. When investors determine bank value according to reported accounting data they should consider bank expects from growth of investments (Dirin and Valipoor, 2011). In experimental study by topic of valuation based on accounting information to a large extent growth of investments are ignored. Taking into account the stated conditions, the purpose of this investigation is to investigate factors affecting the value of bank stocks. So main question will be as follows:

What factors influence value of bank stocks which are active in Tehran Stock Exchange?

In order to answer the research question the following assumptions has been benefited:

1. Bank size has effect on market value of bank shares.
2. Bank performance has effect on market value of bank shares.
3. Inflation rate has effect on market value of bank shares.
4. Bank credit risk has effect on market value of bank shares.

2. Theoretical Foundations

Bank activities in a society have particular importance in process of economic development and in long term develop the productive capacity of an economy because bank is one of the main sources of investment. Functioning of financial markets, particularly the banking system in recent years has get such interest that many economic experts are looking for explaining the relationship between existing instruments in the financial markets and economic growth (Khadem. 2013). Nowadays for various reasons, including market saturation, increased competition, changes in consumer tastes and needs, companies have been faced with many challenges in their industrial and commercial activities (Beyranvand, 2004). Today, due to increased competitive activity of banks and private banks a need for more attention to the profitability of resources is undeniable. The existence of dynamic models applied in the field is an advantage.

One of the objectives of the banking system is to create required facilities to develop public cooperation by attracting free funds and reserves and savings and deposits, mobilize, and equip them to meet the conditions and opportunities of employment and investment goals and economic policies. In a system, resource acquisition and processing on them, creates value. Banks also as z working system, using the resources and process them has to reach value and profitability. Accounting profit is income minus costs. Banks during the financial period with regard to activities that they do earn income and from the other side for the production of goods and services pay some expenditure that at the end of the financial period in order to determine the performance of banks revenue and costs get matched together for discovering bank profit during financial period. Then profits can be a criterion for evaluating the performance of banks (Jahankhani and Zariffard, 1995). Profit and profit growth both theoretically and empirically have been considered as two fundamental factors in determining stock returns (Easton & Harris, 1991; Ali & Zarowin, 1992; Easton, et al, 1992; Ohlson & Juettner-Nauroth, 2005). Profit Growth is considered as criterion for determining the status of any company's profit in the future (Jackson, 1996). In this way, accounting profit determine according to the stock market price

which represents expectations and forecasts of future markets and future profitability of the company (Estewart, 1991). Accounting profit is traditional performance evaluation criteria that are very important for investors, shareholders, managers, creditors and securities analysts. Accounting profit that is calculated assuming of accrual by opinion of many users of accounting information is one of the most important criteria to measure performance (Worthington and West, 2004).

Credit risk to the banking system integration and network equipment and complete the single window occurs in providing banking services and credit and customer credit rating system and network security payments and bank transfers and bank customer data. Bank credit scoring system to reduce the risk of a ban by the outstanding facilities shall have the following characteristics, the system must be able to forecast past and present financial situation of the applicant to specify his future, have reliability, accuracy and trust, nature of self-control, have the ability to develop and improve, the information is useful, for the acquisition financial information there should be accordance in external environment with internal environment. In terms of credit risk distribution the following points can be noted: facilities payment to various economic sectors so that if the recession were created in a particular industry, banks do not get in trouble, payment for foreign exchange facilities should be done according to the structure (composition) of the bank, the geographical distribution facilities in the country so that if in one specific problem area (normal and abnormal events) was created banks have maneuverability and decision-making and distribution facilities Checkout (short term, medium term, long term) should be done base on resources structure.

In financial theory, the economic value of any asset by discounting expected cash flows or interests are determined using cost rates during retention period (Khajavi and Allahyari, 2009). In other words, the value of any asset is a function of cash flows that the asset creates.

Aghaii et al. (2009) proved in private banks of Iran, the system to measure customer profitability is not well developed, Rostamiyan and Hajibabaii (2009) showed liquidity risk trend during the years under review. In research of Saeedi and Pegheh (2010) the results of regression analysis showed that nominal interest rate is variable influencing stock returns of financial institutions and there is inverse relation between nominal interest rate and stock returns of financial institutions.

Aghaii et al. (2012) showed that factors such as lack of recognition of the applicant's qualifications and capacity of facilities, lack of attention to the circulars and notifications issued in lending, bank branches periodically change management and adequate responsibility lack of substitute director for collection of receivables past, the lack of adequate monitoring and continuous process of lending, lack of timely collection of receivables management and follow-up time due to lack of personnel and lack of

adequate use of tools and available methods internationally important factor in the increase in bank debt outstanding.

Etemadi and Saeedi (2013) concluded that investments growth increase intensity of the current value of the shares and profit for companies that have high profitability. Karimzadeh et al. (2013) in an article entitled "*the effect of macroeconomic variables on stock prices of banks*" suggest that inflation and exchange rates had negative impact on bank deposit interest rate and GDP have a positive effect on the index of bank stocks. Shavvalpoor and Ashari (2013) by studding effect of credit risk on the profitability of banks in Iran concluded that there is a significant negative relationship between risk and profit banks.

Bastos et al. (2010) evaluated the ability of a parametric fractional response regression and a nonparametric regression tree model to forecast bank loan credit losses. The results suggest that regression trees are an interesting alternative to parametric models in modeling and forecasting loss-given-default. Sevai (2011) used time series based on ARIMA to predict bank failures. Carbo Valvered (2011) did an article entitled"*exploiting old customers and attracting new ones: The case of bank deposit pricing*". The findings confirm the existence of the trade-off between exploiting old customers and attracting new ones. Park et al. (2013) concluded that companies with more predictable earnings, have more favorable loan terms such as lower interest rates, longer maturities, lower collateral requirements and restrictive.

Aleksanyan & Karim (2013) examined premium/discount firm characteristic that fundamentally affects the value relevance of two key accounting line items, earnings and book values. They showed that discovered relationships between the relative valuation roles of book values and earnings and the discount/premium characteristics of the firm are robust to the effect of time, information environment and the industry of the firm. Study of Radis (2015) advances the study of Fiordelisi and Molyneux (2010) by examining the shareholder value efficiency and its determinants for a large sample of Japanese banks between 1999 and 2011. A new, specifically tailored measure of the Economic Value Added approach, based on the shadow price of equity, is developed in order to account for specific characteristics of the Japanese banking system. This new "shareholder value measure" is then used in a dynamic panel data model as a linear function of various bank-risk, bank-specific, and macroeconomic variables.

This study finds that cost efficiency gains, credit risk and bank size are the most important factors in explaining the shareholder value creation in Japanese banking. Cost efficiency changes are also found to significantly influence cost of equity capital.

3. Research Methodology

The purpose of this investigation is to investigate factors affecting the value of bank stocks. The research method is descriptive and from the view point of data gathering

are library references. Needed data for research are collected from 25 active banks in Tehran Stock Exchange during 2008-2014. Data resources are "Management, development and Islamic studies Stock Exchange" site: "Tadbirpardaz" and "Rahavardnovin" soft wares and documents in the Library of the Tehran Stock Exchange. To determine the optimal sample size screening method is used. According to limitations, 25 banks are chose from active banks in Tehran Stock Exchange. The data are analyzed using Excel, SPSS and E-views soft wares. Im, Pesaran, and Shin test is used to evaluate the reliability of variables, then F-Limer fitness tests and Hausman are reported and finally regression model corresponding to the research questions is fitted.

3.1 Research model

Based on Radic (2015) in running study following model is used:

$$\ln(y_{i,t}) = \alpha + \alpha_1 INF_{it} + \alpha_2 XEF_{it} + \alpha_3 REF_{it} + \alpha_4 CR_{it} + \alpha_5 BAS_{it} + \epsilon$$

Where, i subscript denotes the cross-section dimension, t denotes the time dimension. The bank-specific variables include: bank's shareholder value variable (y) which is calculated as a ratio between the EVA and capital invested in the bank, net operating profits and the cost of capital (part of the EVA); cost and revenue efficiency changes over two consecutive periods (x-eff and τ-eff respectively); risk-specific factors include: (CR) is an aggregate measure of bad loans, (LIQ) is an aggregate measure of liquid assets; (MR) is a market risk indicator.

Other bank-specific indicators include: (ID) is an income diversification measure10; (BAS) is bank asset size; and ln (NOE) is the natural logarithm of the number of employees. INF is the natural logarithm of the rate of inflation, and ϵ is the random error term. REF and XEF respectively are changes in performance of revenues and expenses during two consecutive periods that these sum up shows overall bank performance component.

Present study focuses on concept of the efficient frontier usage in measuring the performance of revenues and expenditures of the surveyed banks. In other words, the concept of distance amount decision-making units from the best performance boundary (in the field of income and expenses separately) used to assess banks (Delis et al., 2008). In the earnings performance, the performance belongs to the unit that according to certain amount of the cost compared to other units can have more income (Bader et al., 2008).

4. Research findings

In table 1, the results of regression model fitting are reported.

Table 1: The results of model estimation using random effects model, dependent variable: the value of bank shares (y)

Result of model	Level of significance	T statistics	Standard deviation	Coefficients of variables	Variables	
	0.0000	5.589529	2.02E+12	1.13	o-intercept	C
Effective	0.0000	6.470629	6.74E+09	4.36	inflation rate	INF
Effective	0.0000	8.008002	1.76E+12	1.41	Cost efficiency	X_EF
Effective	0.0000	4.832006	4.29E+11	2.07	Revenue efficiency	R_EF
Effective	0.0000	-12.68310	1.21E+12	-1.53	Credit risk	CR
Effective	0.0000	340.0995	35893.73	1.220743	Bank assets	BAS
Errors are not correlated in models				1.75	Durbin-Watson statistic	
79 percent of Changes in the value of bank shares are expressed by significant independent variables				0.79	Model adjusted coefficient of determination	
FV=1.000	FD=24.145		PV=0.000		Results of F Limer	
χ^2=0.000	FD=5		PV=0.0001		Results of Hausman test	
44251.81					F statistic	
0.0000					Significance level	
y = 1.13110632105e+13 + 43617062858.8*inf + 1.41219074746e+13*x_ef + 2.07447302007e+12*r_ef - 1.52956280618e+13*cr + 1.2207434364*bas + eqn_01_efct					The final equation	

Reference: research findings.

In F. Limer test, the null hypothesis is based on being pool data. In table 1 F. Limer statistic and its probability level are presented. Result shows that F. Limer is representing being pool data of research data.

As Hausman statistics is more than 5%, with the confidence level of 95% it can be said that null hypothesis saying that there is no systematic differences in coefficients (panel data model with random effects) is confirmed and so models with random effects are more efficient than the fixed effects.

Results of model estimation using the random-effects regression in research model (The dependent variable: the value of bank shares) represents that: Model adjusted coefficient of determination is 0.79. It means 79 percent of dependent variable of banks stock value in Tehran Stock Exchange can be explained by significant variables of the model. The Durbin-Watson statistic index is 1.75. As this number is between1.5-2.5, therefor it can be concluded that model errors are not correlated.

4.1 Analysis of the results

Table 1 represents that p-value of fitted coefficient significance test for variable of bank size is less than 5%, so it can be said that the null hypothesis based on being meaningless of the coefficient at significance level of 5% is rejected and therefore

variable of bank size coefficient is positive and significant. Thus, it is claimed that bank size is effective in banks stock value and its changes result in banks stock value changes. With every unit rise in bank size, banks stock value increases by 1.220743 units. So the hypothesis that states bank size has positive significant effect on banks stock value is approved.

As p-value of significance test of fitted coefficient for revenue performance and cost efficiency are less than 5% so the null hypothesis based on being meaningless of the coefficient at significance level of 5% is rejected and so both the variables coefficient of income and cost efficiency performance are positive and significant.

With every unit rise in revenue efficiency, banks stock value increases by 2.07 units. With every unit rise in cost efficiency, banks stock value increases by 1.41 units. So the hypothesis that states revenue efficiency and cost efficiency has positive significant effect on banks stock value is approved.

Table 1 represents that p-value of fitted coefficient significance test for variable of inflation rate is less than 5%, so it can be said that the null hypothesis based on being meaningless of the coefficient at significance level of 5% is rejected and therefore variable of inflation rate coefficient is positive and significant. Thus, it is claimed that inflation rate is effective in banks stock value and its changes result in banks stock value changes. With every unit rise in inflation rate, banks stock value increases by 4.36 units. So the hypothesis that states inflation rate has positive significant effect on banks stock value is approved.

Table 1 represents that p-value of fitted coefficient significance test for variable of credit risk is less than 5%, so it can be said that the null hypothesis based on being meaningless of the coefficient at significance level of 5% is rejected and therefore variable of credit risk coefficient is positive and significant. Thus, it is claimed that credit risk is effective in banks stock value and its changes result in banks stock value changes. With every unit rise in credit risk, banks stock value increases by 1.53 units.

So the hypothesis that states credit risk has positive significant effect on banks stock value is approved

5. Conclusion

The main objective of this study is to investigate factors affecting the value of bank stocks. Needed data for research are collected from 25 active banks in Tehran Stock Exchange during 2008-2014. The data are analyzed using Excel, SPSS and E-views soft wares. Im, Pesaran, and Shin test is used to evaluate the reliability of variables, then F-Limer fitness tests and Hausman are reported and finally regression model corresponding to the research questions is fitted. Obtained results shows that bank size, bank performance, inflation rate and bank credit risk have impact on market value of bank shares.

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