Evaluation of Bank Market Share and its Affective Determinants: Sepah Bank

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ABSTRACT: Banking activities play a crucial role on economic growth along with initiation and continuation of manufacturing and service. This matter is done by suitable collection of liquidity (especially stranded assets) and correct conduction to proper manufacturing channels. Therefore, in banking industry, appropriate monetary policies and efficient performances of banks cause purpose achievement and significant change on national economy. Due to this fact that Iranian thriving banks are controlled by state, their performance evaluation is highly important. The current study aims to evaluate Sepah bank performance and its response to market demand in comparison with other banks. Due to market expansion and complicated economic relationship, market power and capital ratio Sepah bank activities in comparison to other banks have been assessed for the last 5 years have been assessed. This research estimate market share stability of Sepah bank during the period of 2007-2011 in Iran money market. The results of unit root test indicate that the unit root hypothesis is not rejected. In other words, Sepah bank market share stability is rejected. Moreover, this study determines the most effective factors on Iranian market share. That support the significant and positive effect of branch share, advertisement costs and information technology (IT) based share in surveyed period.

Keywords: bank, market share, deposit, asset, electronic banking

INTRODUCTION

Banking activities play a crucial role on economic growth along with initiation and continuation of manufacturing and service. This matter is done by suitable collection of liquidity (especially stranded assets) and correct conduction to proper manufacturing channels. Therefore, in banking industry, appropriate monetary policies and efficient performances of banks cause purpose achievement and significant change on national economy. Due to this fact that Iranian thriving banks are controlled by state, their performance evaluation is highly important. Regarding bank competition, there are various significant factors among which market share is a crucial one. Increased organizational competition and competitiveness lead to competitive environment in each society followed by improved national competitiveness resulting in achievable fundamentals for globalization. (Sharma & Fisher, 2009)

Competitiveness is a quality achieved by market governance and creation of activities based on relative and competitive advantage. Meanwhile, one of the most influential determinants for the organizational competitive power is market share known as a major factor for organizational competitive power (Fu & Haffeman, 2009). The current study seeks to examine the most influential determinants on Iranian bank’s market share in the money market. Thus, the market share stability of Sepah bank and significant factors of market share are assessed. For this aim, during the period of 2007-2011, market share of Sepah bank is investigated. meanwhile, significant determinants of banks’ market share is examined using statistical regression And effective factors on bank’s market share will be analyzed in next section based on statistical regression.

Literature review

In 2002, Dunbar presented a paper entitled “Factors affecting investment bank initial public offering market share” noted that purchase has a greatest impact on changes in market share; especially in low-volume markets with an initial share. While this factor provides less economical and statistical impacts on market share of banks recently established. In 2013, Xue & Cheng presented an article entitled “National culture, market condition and
market share of foreign bank” provided a theoretical model based on the definition of national culture that helps economic behavioural explanation of foreign bank. Moreover, they demonstrated that this factor is as important as credit market condition in market share determination. The mentioned model has two main results. The first result is that the market share of foreign bank in emerging market is always lower than domestic banks. Another result is that in a heterogeneous society, foreign banks are more likely to expand their market share during the recession in transitional economy. In 2013, Berger & Bouwman conducted a paper entitled “how does capital affect bank performance during financial crises?” demonstrated that firstly, investment increases the opportunity of remaining and market share of small banks in the whole period of their activity(during banking crisis, market crisis and normal condition). Secondly, capital improves the initial performance of large and medium-sized banks during banking crisis.

### Table 1. literature review summery

<table>
<thead>
<tr>
<th>Author-year</th>
<th>Determining factors affecting banks’ market share in Iran’s banking system through commercial banks approach in the period of 1991-2005</th>
<th>Methodology and findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabizadeh-2007</td>
<td>The following hypotheses were examined in 6 Iranian banks consisting of Meli, Saderat, Melat, Tejarat, Sepah and Refah. Marketing crosses improves bank’s money market. Key ratios have a significant effect on improving bank’s market share. The first hypothesis was examined by questionnaire and cluster analysis and Friedman test using SPSS. In the second hypothesis, the quantities were tested through econometric methods using Eviews software.</td>
<td>In this paper, Exploratory factor analysis was done based on data collected from banking experts and professionals and examined through confirmatory factor analysis. Finally, the conclusion is that the banks’ share of non-shared revenues plays a crucial role in helping banks for gaining competitive advantages.</td>
</tr>
<tr>
<td>Seyed Javadin &amp; Ebrahimi 2010</td>
<td>A model for explaining the role of Iranian banks’ market share on their competitiveness</td>
<td>The effect of innovation of banks’ services on development of bank’s market share with an emphasis on knowledge management (case study: Mazandaran Maskan bank) Required data was collected through a questionnaire in 5 zones. The results indicated that knowledge acquisition, knowledge conversion, knowledge application have positive effect on banking service innovativeness in Mazandaran Maskan banks. In addition, banking service innovativeness and knowledge management have positive influence in market share improvement. Finally, the effect of banking service innovativeness on market share improvement is highly dependent on educational level while, it is insignificant for branches. Based on their results the most significant determinants for banking system are providing latest services based on customers’ requirements, interaction between bank and clients, the speed of providing banking services, service provider brand, diversity in banking system dependent on marketing crisis while for competitive workflow, required motivation, up-to-date knowledge and professional behaviour are necessary. After identifying the main factors affecting relative marketing through banking experts and professionals, factors influencing market share were determined. According to the results there is a positive relationship between relative marketing main factors( trust, commitment, communication and conflict management) and banks’ market share. There is a strong and notable relationship between trust and communication with market share.</td>
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<td>Khamesi-2011</td>
<td>Investigation of methods for improving revenue and banks’ market share through providing services to healthcare clients</td>
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<td>Lotfi et.al. 2012</td>
<td>Evaluation of the role of relative marketing strategy on banks’ market share</td>
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</tr>
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<td>Nopasand et.al. 2012</td>
<td>Factors affecting bank’s resource improvement based on Meli bank managers’ opinion in Mazandaran province</td>
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Theoretical background

In economic literature, the market share of firms has a crucial role in determining the equilibrium price. In other words, the greater numbers of firms in market along with the less market share resulting in better market movement towards a competitive market. In this section, first of all the indicators of market share is evaluated and then factors affecting market share are determined.

Market share indicators

Market share indicators can be divided into three categories based on the computational principles (Seyed Javadin & Ebrahimi 2010)

Section I: Indicators based on deposits

Indicators based on deposits show the market share through the proportion of local banking system in banking market. Totally, the more indicators demonstrate the higher banks' market share in the money market. Due to the importance of deposits in banks' market share evaluation, it is evaluated based on number and cost. Based on bank’s experts and professional opinions, cost and number of deposits are significant in assessing market share of banks. Customers who are the statistical community can empirically evaluate the number of people coming and going and statistical information provided by banks and broadcast in internet for being informed about the number and cost of deposits of each bank (Nopasand et.al.2012). this indicators illustrating bank’s market share of each deposit as a bank’s resource share of monetary market are presented as follow:

a) The share of sight deposits
Sight deposits are highly important for banks because of cheap resources. This indicator reveals that what percent of sight deposits is allocated to each bank.

b) The share of saving deposits:
These deposits are cheap resources for banks as well. This indicator shows that what percent of saving deposits of banking system are belonged to each bank. Its subsets are including the share of short-term deposits, the share of long-term deposit and the share of other deposits. The last three indicators are presenting bank’s share from mentioned deposits. In conclusion, the greater indicators show the higher market share of monetary market and the better ability of bank competitiveness (Ebrahimi 2007)

Section II: branch indicators

In this section, the share of branches is an effective factor considered as customer contact points. Branches as market contact points play an important role in capturing market share. The more branches the more market share for banks. However, it should be considered that the number of branches does not have influence on the power of bank competitiveness because there should be direct linear relationship between this indicator and share of deposits indicators for share of deposit.

Section III: indicators focused on joint Revenue share

It shows bank’s share of market of banking services. Moreover, this indicator present bank’s share of banking and deposit services. The higher indicator the more banks share of banking and deposit services. Today's competitive world is dependent on the widespread use of e-banking services. One of the main goals mentioned in e-banking is answering the need of people for banking services and linking central banks' systems through automation systems of interbank operations. Development of e-banking services includes internet bank, mobile bank, SMS bank, sales terminals and ATMs indicates the high quality of banks in competitive market. Customers have a positive attitude toward a bank providing speed, security, accuracy and ease of use of banking services. Customers are drawn to banks with high market share and branches located in large and small commercial centers and ATMs in some hotels and public and private organizations (Nopasand 2012).

Factor affecting the market share of banks

Marketing elements in marketing of products include product, price, distribution and motivation along with employees, process and physical facilities as a specific factors related to bank's marketing. These factors or marketing mix affects the quality of banks’ market share. Factors affecting banks’ market share are divided into qualitative and quantitative factors. Qualitative factors are related to views, feelings and opinions of banks’ customers called marketing mix while quantitative factors are the results of financial performance of banking system recorded in financial accounts that are not related to customers or employee’s opinion.
These factors are key performance ratios of the banking system. If managers do not pay attention to these factors in marketing the bank survival will be in dangerous while the increase of market share does not have any effect on the increase of revenue of stockholders resulting in negative economic, social and political advertising. The current study uses the following econometric model for evaluating market share stability and instability.

**Framework**

**Testing for market share stability and instability**

One of the most important topics in econometrics is time series analysis and its applications. Time series patterns, used mostly for short-term forecasts, try to explain a behaviour of a variable based on its previous values (and probably the previous values of other variables) (Noferesti 1999).

If the mean, variance and covariance of time series variable be independent of time factor, thus that variable is stationary or in details weakly stationary or covariance stationary. For static time series test unit root test as a generalized test of augmented Dickey-Fuller unit root test. In this method ADF test-statistics or delay item \( t \) compare with Mckinven critical values. If the \( t \) value was smaller than the critical value, it is concluded that the observed variable is static (ShirinBakhsh & Khonsari 2005)

\[
\Delta Y_t = \mu + \lambda t + \theta Y_{t-1} + u_t, \quad (1-4)
\]

In unit root test it is evaluated that if the \( \theta = 0 \) or not in (1-4) formula. Thus, in formula (2-4) \( t \) value should be selected for \( \theta \) and its significance examined. \( t \) is defined as:

\[
t = \frac{\hat{\theta}}{SE(\hat{\theta})} \quad (2-4)
\]

The only problem is that \( t \) value cannot be compared with \( t \) table. In conventional tests if \( t \) value is above two then the factor is significant in sign-level = 0.05. in this study the \( t \) value calculated using formula (2-4) does not compare with conventional table of \( t \) so critical values are required. The above test is known as Dickey- Fuller (AD) test. This test is valid when \( u_t \) is a random variable with its assumptions. In addition, \( u_t \) should not be in the form of autocorrelation. Else, when autocorrelation is removed, logged dependent variable is added on the right hand side of regression. Therefore, formula (2-4) is defined as:

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**Figure 1. Conceptual framework**

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Employees</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The suitable mix of media and face-to-face advertising, active participation in professional conferences, providing rewards</td>
<td>Increase salary and benefits, employee training, rewarding based on productivity, human resource management and ...</td>
<td>Selecting the best locations for branches, presenting in thriving areas, appointing especial budget for special</td>
</tr>
</tbody>
</table>

| The process | |
|-------------| |
| New technologies for accelerating, facilitating customer service, job rotation, and producing short moves | |

**Product**

Diverse services, different services, improving service quality, financial and professional advice

**Price**

Increase deposits’ interests, decrease loans interests, suitable combination of contracts, increase mechanization, reduce work force, increase productivity
\[ \Delta Y_t = \mu + \lambda t + \theta Y_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta Y_{t-i} + u_t \]  
(3-4)

This model is known as generalized dickey fuller test (ADF) (Sori 2011). Formula (3-4) is used for evaluating market share stability. The following formulas are based on formula (3-4).

Regression model for stability analysis of market share of assets
\[ \Delta C_t = \mu + \lambda t + \theta C_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta C_{t-i} + u_t, \]

Regression model for stability analysis of market share of sight deposits
\[ \Delta D_t = \mu + \lambda t + \theta D_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta D_{t-i} + u_t, \]

Regression model for stability analysis of market share of saving deposits
\[ \Delta S_t = \mu + \lambda t + \theta S_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta S_{t-i} + u_t, \]

Regression model for stability analysis of market share of long-term deposits
\[ \Delta LD_t = \mu + \lambda t + \theta LD_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta LD_{t-i} + u_t, \]

Regression model for stability analysis of market share of short-term deposits
\[ \Delta SD_t = \mu + \lambda t + \theta SD_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta SD_{t-i} + u_t, \]

Regression model for stability analysis of market share of ATM
\[ \Delta ATM_t = \mu + \lambda t + \theta ATM_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta ATM_{t-i} + u_t, \]

Regression model for stability analysis of market share of PINPAD
\[ \Delta PIN_t = \mu + \lambda t + \theta PIN_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta PIN_{t-i} + u_t, \]

Regression model for stability analysis of market share of debit cards
\[ \Delta CA_t = \mu + \lambda t + \theta CA_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta CA_{t-i} + u_t, \]

Regression model for stability analysis of market share of POS:
\[ \Delta POS_t = \mu + \lambda t + \theta POS_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta POS_{t-i} + u_t, \]

Regression model for stability analysis of market share of profit or loss
\[ \Delta \Pi_t = \mu + \lambda t + \theta \Pi_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta \Pi_{t-i} + u_t. \]

**Findings**

Above formulas are evaluated while \( \theta = 0 \) for each of them. When a hypothesis is rejected, it means that the variable does not have unit root shown that it has stable market share over time while trend variable and part with lag of variable are used for better model estimation. For evaluating and estimating the mentioned formulas, Sepah bank’s information was used during the period of 2007-2011. The results shown in table 2 demonstrate that none of the variables is static.
Table 2. ADF statistics calculated for the factors affecting the market share of bank

<table>
<thead>
<tr>
<th>variable</th>
<th>ADF statistic</th>
<th>Critical values 1%</th>
<th>Critical values 5%</th>
<th>Critical values 10%</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>market share of assets</td>
<td>1.0949</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.9799</td>
</tr>
<tr>
<td>market share of sight deposits</td>
<td>1.5640</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.4143</td>
</tr>
<tr>
<td>market share of saving deposits</td>
<td>0.0507</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.8977</td>
</tr>
<tr>
<td>market share of long-term deposits</td>
<td>0.7911</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.7036</td>
</tr>
<tr>
<td>market share of short-term deposits</td>
<td>0.5260</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.4143</td>
</tr>
<tr>
<td>market share of ATM</td>
<td>2.3527</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.7742</td>
</tr>
<tr>
<td>market share of PINPAD</td>
<td>1.0000</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.9965</td>
</tr>
<tr>
<td>market share of debit cards</td>
<td>3.0030</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.9982</td>
</tr>
<tr>
<td>market share of POS</td>
<td>0.0280</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.8942</td>
</tr>
<tr>
<td>market share of profit or loss</td>
<td>1.5640</td>
<td>6.4236</td>
<td>3.9849</td>
<td>3.1206</td>
<td>0.4143</td>
</tr>
</tbody>
</table>

The hypotheses about existence of unit root for all variables cannot be rejected. However, the results indicate that variables are not static. Thus, it can be concluded that market share is not stable during the time. In other words factors affecting banks’ market share consisting of market share of asset, sight deposits, saving deposits, ...evaluated in Sepha bank revealed that market share is not static. Finally, instability in market share and competitors effort for more market share would be facilitated through current mechanisms for moving to competitive market.

Effective Factors on Bank’s Market Share Model Estimation

To measure market share effective factors evolution, we used the following intelligible model. In other words, the algebra model of above model is as follow:

\[ MS_{it} = \alpha_i + \beta SN_{it} + \beta SIT_{it} + \beta ADV_{it} + \epsilon_{it} \]

Where, \( MS_{it} \), is deposit market shares of bank i at time of t. \( SN_{it} \) is branch’s market share of bank i at time of t, \( ADV_{it} \) is advertisement severity of bank i at time of t, \( SIT_{it} \) is IT based market share of bank i at time of t and \( \epsilon \) is error term or in more easy word, is other not identified effective factors in this model. The theoretical relationship of independent variables with dependent variables is positive. We test the model using panel data estimation approach and bank’s data in time period of 2007-2011 that the results shown in table 4-11. To interpret of above results, we first comment on coefficients and their meaningfully. The estimated intercept is 0.006 which is positive and statically significant as well as branch’s market share \( (SN_{it}) \) that is 0.018. Also advertisement severity \( (ADV) \) is 0.147 which confirm that positive and meaningful relationship. Finally, as well as pervious factor, IT based market share \( (SIT_{it}) \) is 0.539 that is confirm that positive and meaningful relationship. The remarkable point, here, is goodness of fit factor that is 0.78 and confirms acceptability of model results.

Table 3. Estimated Models and Goodness of Fit

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Explanatory Variable</th>
<th>Coefficient</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposit Market Shares</td>
<td>Intercept ©</td>
<td>0.006</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Branch Market Share ( SN_{it} )</td>
<td>0.018</td>
<td>0.051</td>
</tr>
<tr>
<td></td>
<td>Advertisement Severity ( ADV_{it} )</td>
<td>0.147</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>IT services Market Share ( SIT_{it} )</td>
<td>0.539</td>
<td>0.000</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.78 \]

We can conclude that above factors obviously have positive effect on market shares of Iranian banks. In other words, as further as branch market share, advertisement severity of banks and IT based market shares, they have gain more share in market. In more easy statement, we can say to have more market share, banks need to improve their above mentioned (branch market share, bank’s advertisement severity and IT based market shares) three elements.

REFERENCES


