The Relationship between Maturity of Facilities and Receivable Cash Flow and Accepted Bank Performance in Capital Market

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ABSTRACT

This study investigates the relationship between maturity of facilities and Receivable cash flow and accepted bank performance in capital market. To do this study, a sample was selected which contains 10 private banks among accepted banks in Tehran stock exchange in time period of 2010-2014. This study investigated the banking facilities (all kind of facilities) and their maturity structure (current, deferred, departed, doubtful collection), OCF and profit and ROA in a period of 5 years using multivariate regression. Results of this research show that operating cash flows with outstanding facilities have negative and significant relation which means that if outstanding facilities increase (decrease) OCF decrease (increase), in fact as soon as long term has passed from maturity date of facilities, OCF is going to reduce. On the other hand, receivable accounts are important for business unit because they affect liquidity of company. Especially in periods in which access to financial facilities for company is not allowed. If receivable accounts become irrecoverable and burned in future periods, so profit is also affected in future period. Thus, we expect that changes in the balance sheet accounts lead to some changes in the company’s future performance, thus the importance cash management and demanding and control are specified effective on liquidity risk.

KEYWORD

Facilities, Grant facilities, Maturity date, Receivable cash funds, Bank performance, Operating cash flow

INTRODUCTION

Cash funds flows of each agency is its lifeblood. In spite of cash flows, management strategies will be practicable and useful. So due to lack of cash funds, doing future operation of commercial unit is confused practically and development cannot be conceivable and vice versa if required cash funds exist, daily activities will continue uninterrupted while management can also think of development and improvement of commercial unit. Generally, operational cycle in commercial units can be as follow:

1. Buy resource → paying accounts for buying resource → selling goods on credit → receiving funds for selling goods.
2. But in banks, buying and selling were not conducted; in turn some services are done including providing facilities (current, outstanding, departed, doubtful collection) or investment (long term or short term) and gaining profit from their position. What is considered in this research is bank’s activities in terms of making cash flow and their effect on bank performance and as a result changing in their share price. Receiving payments or installment in facilities maturity will cause to entering cash flows to operating cycle. This process cause to more rapid access to cash funds by shortening the suspension period, so it is logical that we can meet improvement in bank performance with proper function of granting facilities system receiving cash funds.

This research seeks to investigate the relationship between facilities maturity structure, receivable cash flows and accepted bank performance in capital market. Statistics show that, in recent years, ratio of outstanding demanding to total paid facilities or loan has had a growing trend.

This trend will have serious risk for banking system of country, even total Iran economy and dealing with this problem is very important, therefore in this study, in addition to evaluating the effect of this ratio on OCF, some approaches are recommended to deal with this problem.

The banks have a special place in developed and developing economies due to very deep connections with each other and also with other economic sectors. Any crisis in a bank has ability to spread to other banks quickly (contagion effect). And bank bankruptcy can put others at risk of bankruptcy (domino effect). In different countries, tensity of bank balance sheet and banking system is a starting point for many economic crises in national and international level because of it will cause to transfer disorganization in financial affairs and even other industries...
and national and international economic conditions which will bring systematic risk[3].

RESEARCH BACKGROUND

Foreign background:
The effect of cash flows and commercial units’ performance on share price and share profit of these units is investigated by chinban and et.al in 2003. They concluded that existence of shorter cycle period causes to more investment and then more profits that its result is the division of funds between shareholders and their consent in terms of share profit gaining and following a rise in their share price in stock exchange which in turn will increase wealth of shareholders. Finally, improvement in bank’s performance will provide cause of investor’s attraction[1].

According to James cruse and andromanikas(2013), DSO changes have significant relationship with performance changes in the current period. Resulting findings from this analysis that show that reduction in DSO and DIO, have relationship with positive improvement in financial performance of company and lead to the importance of management of working capital. When a commercial unit wants to decrease its DSO by better connection with customers and other ways, it can experience a long term performance. First, decreasing DSO causes to improve liquidity of a company and allows to a company to invest in new opportunities for business growth that its benefits require multiple periods to convert to liquidity. Second, decreasing DSO which often includes improving the connections of customers, it shows lasting progress for both sides which will be continued during periods.

Also ΔDSO is a useful norm for managing cash flows, and developing management strategies to manipulate these leverages in order to improve performance must be conducted[4].

Internal background:

Nasibeh kheiri (2011) in her research concluded that part of granted facilities by banks do not return to them, on the other words, bank has granted facilities from investors’ deposition that they are not paid. If the bank meet a problem against investors and it should spend new collected funds to these losses.so banks lose their power of granting facilities and if investors refer to banks, banks are forced to borrow from the central banks that cause to increase the monetary base and inject powerful money to society. As a result, non-current demanding should be received and should be enter into cycle of generative activities.

Mahmudvand and mohammadi said results of their studies as follows:

Banks and financial institutions are faced with risk of lack of facilities collection to their customers that if these losses are repeated, bankroll may be put at risk (credit risk) that these two researchers provided a model to investigate the credit risk[5].

RESEARCH HYPOTHESES

There is a significance relationship between OCF and maturity of facilities.

The statistical model of research:

In this study, the role of each operating cash flows factors and maturity of facilities are examined based on the following model: value relevance of each variables:

\[
OCF = a + \alpha_1(\text{total facilities/ deferred facilities}) + \alpha_2(\text{total facilities/ departed maturity}) + \alpha_3(\text{doubtful collection facilities/ total facilities}) + \alpha_4.ROA + \alpha_5 \text{ size } + \epsilon
\]

In above relationship

\(a = \) constant or latitude from origin of intersection point of line with horizontal axis.

\(\alpha_1= \) regression coefficient or slope of the curve for independent variable ith.

\(OCF = \) operating cash flow.

\(OCF/TA = \) ratio of operating cash flows to total assets.

\(ROA = \) ratio of net profit to total assets.

Size: firm size.

RESEARCH VARIABLES AND THEIR CALCULATION METHOD:

A. Dependent variable

1. Operating cash flows: OCF
   They are cash funds that are obtained by normal and regular operations of commercial unit.

B. Independent variables

1. Ratio of OCF to total assets: OCF/TA
   It includes part of assets which are generated by OCF.

2. Ratio of net profit to total assets.
   It is representative of earned profit from utilization of commercial unit’s assets in commercial activities.

3. Outstanding facilities, deferred maturity, doubtful collection.
   When facilities are not paid at maturity, they will be effective to one of three states of financial statements. Deferred means delayed, it means that a long time has passed from its maturity but deferred maturity is receiving installments while doubtful collections are among burning or receiving state. According to the circular of the central bank of Islamic republic of Iran, facilities are transmitted to deferred maturity, departed and doubtful collection classes after maturity loan and unpaid loan as follows:
   - Flow class: maximum 2 month has passed from maturity and client has a good financial condition and related industry perspective is favorable.
   - The departed class: between 2 to 6 month has passed from maturity of loan and customer does not have favorable financial condition and related industry perspective has a limited growth.
   - Deferred class: between 6 to 18 month has passed from maturity and customer does not have favorable financial condition and related industry perspective has a serious limitation and stagnation.
   - Doubtful collection: more than 18 month has passed from maturity of loan and customer does not have a good financial satiation.

C. Control variable

1. Duration of facilities:
   Being short or long term facilities effects on maturity and results of research so in this study, we suppose that facilities are equal in terms of kickback (even belonged investment).
2. Type of facilities:
Banks considered different rate of profit and even storage of doubtful reception demands for facilities depending on price, timing and payment conditions which part of these reserves will convert to burned demands and management will have a problem for liquidity.

3. Firm size:
Firm size is calculated by natural logarithm of book value of the assets.

**Research territory:**
Research territory is as follow in terms of temporal, spatial and subjective:

**Subjective territory:**
The subjective territory of this study is economy and effect of accounting information on economics situation and banks performance.

**Temporal territory:**
Temporal territory is for a 5 years period from 2010 to 2014.

**Spatial territory:**
Spatial territory investigates accepted banks in Iran capital market for 5 years.

### DESCRIPTIVE STATISTICS

Tab. 1. descriptive statistics for research variables

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<td>OCF</td>
<td>3959</td>
<td>-553</td>
<td>2.27</td>
<td>0.87</td>
<td>1103</td>
<td>387</td>
<td>7665</td>
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<td>OCF</td>
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<td>9590</td>
<td>7519</td>
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<td>6902</td>
<td>0150</td>
<td>690</td>
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<td>OCF/T</td>
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<td>0.04</td>
<td>0.80</td>
<td>0.151</td>
<td>0.04</td>
<td>0.03</td>
<td>0.04</td>
<td>50</td>
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<td>OCF</td>
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<td>0.00</td>
<td>0.702</td>
<td>0.02</td>
<td>8</td>
<td>0.03</td>
<td>0.03</td>
<td>49</td>
<td>Deferral facilities to total</td>
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<td></td>
<td>0.64</td>
<td>9</td>
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<tr>
<td>OCF</td>
<td>0.04</td>
<td>0.00</td>
<td>0.475</td>
<td>0.01</td>
<td>1</td>
<td>0.01</td>
<td>0.01</td>
<td>49</td>
<td>Departed facilities to total</td>
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<td></td>
<td>0.64</td>
<td>9</td>
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<tr>
<td>OCF</td>
<td>0.17</td>
<td>0.00</td>
<td>0.604</td>
<td>0.05</td>
<td>0</td>
<td>0.06</td>
<td>0.06</td>
<td>49</td>
<td>Doubtful collection facilities to total</td>
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<tr>
<td></td>
<td>0.76</td>
<td>6</td>
<td></td>
<td></td>
<td>2</td>
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<td>OCF</td>
<td>0.05</td>
<td>0.00</td>
<td>0.568</td>
<td>0.01</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>50</td>
<td>ROA</td>
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<td></td>
<td>0.72</td>
<td>3</td>
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<tbody>
<tr>
<td>OCF</td>
<td>20.8</td>
<td>16.1</td>
<td>-0.31</td>
<td>1.18</td>
<td>18.7</td>
<td>18.7</td>
<td>18.7</td>
<td>50</td>
<td>SIZE</td>
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<td></td>
<td>4</td>
<td>9</td>
<td>0.34</td>
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<td>7</td>
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In table 1 central indices including mean. Median and dispersion indices such as standard deviation, kurtosis and skewness are calculated for different variables. If mean become higher than medium so it represents big points in data because mean is affected by this values. In these cases, the data distribution, skewness is toward right and vice versa the skewness is towards left. In general, if skewness and kurtosis are not in (-2,2) range so data do not have normal distribution.

If mean and median value of variables is close to each other, distribution of variables is symmetric. This characteristics is important because asymmetry is one of the characteristics of normal distribution which will be discussed in next section (amount of skewness and kurtosis of normal distribution is zero). Amount skewness is 0.27 for dependent variables to OCF which because these numbers are among 2,-2 – they show that distribution of this variable has relative asymmetry and so distribution of this variable is similar to normal distribution.

### NORMALITY OF DISTRIBUTION FOR DEPENDENT VARIABLE

Normality in rest of regression model is one of the regression hypotheses which show credit of regression tests.

In following, we investigate normality of distribution using kolmogrov- smirnov test because normality of dependent variables results to normality of rest of model (the difference between estimation from the actual values) so it is necessary to control the normality of dependent variable before estimating the parameters it is done to find a proper solution to normalize variables if they do not follow these conditions. Null hypothesis and alternative hypothesis in this test are written as follows.

- $H_0$: data follow normal distribution for dependent variables.
- $H_1$: data do not follow normal distribution for dependent variables.

Tab. 2. kolmogrov- smirnov test for investigating normality of research dependent variables.

<table>
<thead>
<tr>
<th></th>
<th>Max. difference</th>
<th>Normal parameters</th>
<th>Z value of kolmogrov-smirnov test</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCF</td>
<td>0.12</td>
<td>0.12</td>
<td>-1.18</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>0.18</td>
<td>0.18</td>
<td>1103</td>
<td>50</td>
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<tr>
<td></td>
<td>0.18</td>
<td>0.18</td>
<td>6902</td>
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<td></td>
<td>0.18</td>
<td>0.18</td>
<td>7665</td>
<td>50</td>
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The probability is 0.074 for OCF which is more than 0.005. It means distribution of this variable is normal according to prediction (skewedness and kurtosis indices are close to zero).

### TEST OF HYPOTHESES

The purpose of testing hypotheses to investigate the relation between OCF and maturity of facilities. But the statistical hypothesis of test is explained as follows.

- $H_0$: there is not a significance relationship between operating cash flow and maturity of facilities.
H₁: there is a significance relationship between operating cash flow and maturity of facilities.

\[
\begin{align*}
H_0 &: \beta_1 = \beta_2 = \ldots = \beta_5 = 0 \\
H_1 &: \beta_i \neq 0 \quad i = 1,2,3,4,5
\end{align*}
\]

Judgment method ia as follows that if t value is placed in rejection region, null hypothesis will be rejected. In tabel, relationship between dependent and independent variables is determined. Positive and significant relation means that by increasing independent variables, dependent variable also increases while in negative and significant relation, by increasing independent variable, dependent variable decreases and there is no relationship between dependent and independent variables in significant relationship.

Table(3) shows results of panel analysis

<table>
<thead>
<tr>
<th>VIF</th>
<th>resuly possibility</th>
<th>tvalu e</th>
<th>coefficient</th>
<th>parametr</th>
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<tr>
<td>-</td>
<td>Negative and sig.</td>
<td>0.026</td>
<td>-2.31</td>
<td>-0.7081756</td>
</tr>
<tr>
<td>2.22</td>
<td>Negative and sig.</td>
<td>0.006</td>
<td>-2.89</td>
<td>-0.7081756</td>
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<tr>
<td>2.00</td>
<td>Unsign ificance</td>
<td>0.74</td>
<td>-0.36</td>
<td>-0.7081756</td>
</tr>
<tr>
<td>2.11</td>
<td>Unsign ificance</td>
<td>0.457</td>
<td>-0.75</td>
<td>-0.7081756</td>
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<td>5.43</td>
<td>Negative and sig.</td>
<td>0.186</td>
<td>1.35</td>
<td>-0.7081756</td>
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<tr>
<td>1.35</td>
<td>Positive and sig.</td>
<td>0.671</td>
<td>-0.43</td>
<td>-0.7081756</td>
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<tr>
<td>1.34</td>
<td>Positive and sig.</td>
<td>0.007</td>
<td>2.82</td>
<td>-0.7081756</td>
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<tr>
<td>0.00</td>
<td>F value of possibility</td>
<td>3.69</td>
<td>F value</td>
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<tr>
<td>1.81</td>
<td>Durbin-watson</td>
<td>0.35</td>
<td>Determination coefficient</td>
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T statistics value is -2.31 for intercept that is at 95% confidence level in the region of rejection of null hypotheses, i.e, intercept is significant.

**CONCLUSION**

According to test t (coefficient), operating cash vflow has only a negative and significant relationship with deferred facilities, it means if deferred facilities increase (or decrease) to total, OCF increases (decrease), i.e, they have reverse relation with each other. In fact, as soon as along term had passed from maturity date of facilities, OCF continues to decrease, and according to determination coefficient of 35%, intensity of this relation is relatively strong. On the other hand, due to the significance of whole model using F test so we can say that hypothesis is acceptable.

**RESEARCH PROPOSALS**

According to the results of this study, based on the relationship between OCF and maturity of facilities (especially with deferred facilities), and because free cash flow represents that part of cash flows which is for commercial unit that is used to pay debt, pay profit to shareholders and investment in new projects, and finally to earn interest in the future, now because our results of research are consistent with theoretical foundations, so it is proposed to investors to look at the maturity facilities during buying shares and investments in banks and they consider more financial statements and maturity of facilities to find favorable efficiency and it is also proposed to managers that request for changing in their strategies in relation to the collection of facilities, because according to this research, OCF has an indirect and significant relation in maturity facilities, existence of a lot of deferred and burned facilities will provide causes of bankruptcy.

**RECOMMENDATIONS FOR FUTURE RESEARCH**

In this study, we investigate the relationship between the facilities structure and perceptual cash flows of accepted banks in capital market, so searching about following research is recommended to the researchers:

1. Investigation of the relationship between structure of facilities and perceptual cash flows and performance of accepted banks in respect to the ownership concentration of bank in Iran capital market.

2. Investigation of relationship between facilities structure and adequacy of bank’s capital in Iran capital market.

3. Repeating this study in time period after 2014 and comparison of its results with current research.

**REFERENCES**

[1] Bun Tse, Ch,2003,Use dividends to signal or not :An examination of the UK dividend payout pat terns, management centre, university of leicester ,university road, leices ter eng land, U.K. LE1 7RH


