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Research Article

STUDYING INFLUENCE OF SMOOTHING PROFIT ON BANK LOAN EXPENSES IN ACCEPTED COMPANIES IN TEHRAN STOCK EXCHANGE

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ABSTRACT
Investors rely on cited financial information in financial statements of economical units, specially their reported profits for their investment decisions. And also, companies need financial resources for running available projects of profit-making investment, overdue dept settlement, increase of investment in working capital and giving profit to shareholders. Capabilities of companies are main factors of company success in providing suitable financial resources and correct decision making. So, this paper has been done to study relationship between smoothing profit and bank loan expenses. Period of testing hypotheses has been years from 1385 to 1390. Statistic population of this research is accepted companies in Tehran stock exchange and by using omission sampling method, 73 companies were selected as research sample. Results of research show that variables of discretionary accruals and pre-determined profits have direct and inverse relationship to bank loans, respectively and hence from these two secondary hypotheses it can be concluded that smoothing profit can lead into decrease in bank loan expenses.

Keywords: *Smoothing Profit, Bank Loan Expense, Discretionary Accruals, Pre-determined Profits, Eckel Model*

INTRODUCTION
Investors rely on cited financial information in financial statements of economical units, specially their reported profits for their investment decisions. Generally, investors believe that fix profit compared to volatilized profit guarantees higher divided earnings. Also, profit volatility is considered as main criterion of total risk of company and companies with smoother profit have less risk. So, companies with smoother profit are favored more by investors and will be considered as better places for investment. This issue makes some managers smooth their profit by different methods like controlling business activities, acceleration and delay in delivering and shipping goods and issuing bills, increase and decreasing cash at the end of period, changing calculation method of amortization and generally change in selective methods of accounting.
So, recognition of priority of methods for financing and effective factors on them and selection of suitable methods in order to maximize stockholders' wealth are very important (Abzari *et al.,* 1386).
A lot of companies have too much dependency to bank loans. Bank loans are a main factor in management of companies.
Besides analyzing relationship between smoothing profit and expenses of bank loans, this research focuses on received information about main banks and studies influence of relationship between smoothing profit and information about main bank loans in behaviors of smoothing profit and expenses of bank loans.

Statement of Problem
Smoothing profit is a conscious and deliberate action for decreasing changes of volatilities of reported earnings or predicted earnings by using accounting techniques in framework of general accepted principles in accounting. Managers smooth profit for different reasons. One of main objectives in smoothing profit is creation of a more stable flow to support higher level of paid profit. In other words a more stable flow of profit is understood as a lower risk that leads into higher stock price and lower borrowing cost.

Hope (1953) was the first one who suggested smoothing profit as an accounting issue. One of the main roles of banking systems and in some peoples' opinion, the most important roles of theirs are controlling and conducting main variables of macroeconomics by running monetary policies. Regulating and running monetary and credit policies in related regulations and experiences of countries, are responsibility of monetary and specifically central bank and monetary policy committee (money and credit council). One of the most important bank services is giving loan and facilities (Shirin and Jabbari, 1389).

Studying previous researches show that most of studies have focused on methods of meeting financial needs and its influence in efficiency of cases like relationship between selection of providing finance and efficiency of companies, priority of out of organization resources of providing finance to in-organization resources or vice versa, reaching to a suitable structure of investment and relationship between structure of investment and risk. So, according to explanations, one of applicable out of organization resources for financing among active companies in Tehran stock exchange is bank loan and increase in investment on the other hand, reaction of stock market to any basic information in symbol of price change and stock efficiency (Mollanazari *et al.*, 1388). So, bank loans are the largest resources of bank incomes and on the other hand bank loans are full of risk assets among bank assets. Because it is possible that the clients don't do their commitments and most of these loans couldn't be sellable or changed into cash before final maturity. Since, process of providing cash has expenses of providing finance for giving facilities, so, condition of giving loan should be advantageous economically both for bank and investors.

Research Model and Method of Measuring Research Variables

According to theoretical and empirical studies and also based on statistic evidences, selected model for studying independent variables that include smoothing profit (smth), discretionary accrual products (DAP), pre-determined interest (PDI), earnings before interest, taxes and depreciation and amortization (EBITDA), company size (size), growth [LN(pbr)], financial leverage (lev), long term interest rate (ltir), on dependent variable that is bank loan expense (loan) is like this:

$$loan = \alpha 0 + \beta 1EBITDA + \beta 2LN(PBR) + \beta 3SIZE + \beta 4LTIR + \beta 5LEV$$

$$+ \beta 6dap + \beta 7pdi + \beta 8Smth + \varepsilon$$

According to Equation Above

Smoothing Profit (Independent Variable)

This index has proposed by Eckel (1981) and some other researchers inside and outside of the country. In this model, CV change coefficient or distribution or variability coefficient that is one of relative average indexes, is used. Theoretical framework of Eckel model, defines smoothing institution as a unit that uses several accounting variables in such a way that resultant effect, causes volatility of profit into minimum point. According to this model, that company will be considered as smoother which distribution coefficient of variations in a period of gross profit, operational profit or net profit on distribution coefficient of changes in a period of sale is smaller. In other words, smoothing index is calculated in this way:

$$CV = \frac{CV\ \ \Delta i}{CV\ \ \Delta S}$$

That in this model: $CV\ \ \Delta i$ is distribution coefficient of profit variations in i th company at the time of research. If CY≥1, the company hasn't smoothen its profit and if CY <1, the company has smoothen its profit (Ebrahimian, 1389).

LOAN (dependent variable): expense of bank interest is considered as an index for expense of bank loan.

DAP: discretionary accruals are deviation of real discretionary accruals of nondiscretionary accruals.

DAP = N DAP – TAC

PDI: this profit is calculated by subtracting discretionary accruals of net profit

PDI= NI – DAP

Earnings before interest, taxes, depreciation and amortization (EBITDA): operational revenue in any financial year in addition to expenses in each financial year divided by all assets at the first of each financial year.
Volatility of Pre-discretionary Income (VPDI): Volatility of a specific company of PDI that is calculated by standard deviation of PDI in more than past 5 years that are discretionary accruals.
Growth, Book Value Ratio, LN (PBR): Equals logarithm of market value of shareholders into book value of shareholders at the end of each financial year.
Size of the Company (Size): Logarithm of total assets of company at the end of each financial year.
Long Term Interest Rate (LTIR): Average of long term interest rate at the end of each financial year.
Financial Leverage (LEV): Is calculated from division of total debts to total assets.

Research Objectives

- *Main Objectives*

Studying influence of smoothing profit on bank loan expenses in accepted companies in Tehran stock exchange

- *Secondary Objective 1*

Studying influence of discretionary accruals on bank loan expenses in accepted companies in Tehran stock exchange

- *Secondary Objective 2*

Studying influence of pre-determined interest on bank loan expenses in accepted companies in Tehran stock exchange

MATERIALS AND METHODS

Methodology of Research

This research is an applied and ex post facto research, it means that it is based on analyzing past data (financial statements of companies). First, the relation between smoothing profit and expenses of bank loans will be evaluated by using panel data method and in software environment of Eviews and finally the research hypotheses will be tested.
In this research we will study influence of "profit smoothing" on "expenses of bank loans" in accepted companies in Tehran stock exchange at the time period of research and suitable research methods are used for studying the relationship between these two variables.

1- Classification of this research is an applied research based on its objective.
2- The method of this research is correlation (comparison-cause researches).

Statistic population includes active accepted companies in Tehran stock exchange from 1385 to 1390. According to distribution of statistic population, some of companies will be selected as research samples. To select suitable statistic population that demonstrates characteristics of our statistic population, the companies that lack these characteristics were omitted after studying present companies in statistic population:

1) Financial year of the company ends at the end of Esfand month.
2) At the time of research period, have active attendance in stock exchange.
3) At the time of research period, don't change their financial year.
4) Desired information should is available for extraction of data.

According to above mentioned characteristics, 73 companies were selected as statistic population.

Research Hypotheses

Main Hypothesis

There is a significant and negative relationship between profit smoothing and expenses of bank loans.
Secondary Hypothesis 1
There is a significant and positive relationship between discretionary accruals and expenses of bank loans.
Secondary Hypothesis 2
There is a significant and negative relationship between pre-determined interest and expenses of bank loans.

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Analyzing Research Hypotheses

To analyze research hypotheses these considerations have been taken into account:

1- Selecting model companies among statistic population by systematic omission method.
2- Getting financial statements and other required information of selected companies as a sample and extraction of required information from financial statements.
3- Determining smoothing and non-smoothing profit of sample companies by using Eickel model.
4- Using Rahavard-e Novin, Excel, Eviews for testing hypotheses and other analyses by using statistic methods like descriptive statistic, correlation test, F-Leamer test and Hausman test.

So, at the beginning and after selection of sample companies, according to Eickel model, this company was divided into smoothing profit classification and non-smoothing profit classification that totally 73 smoothing profit companies were selected at the time period of 85-90. After separation and classification of companies into two smoothing profit and non-smoothing profit classifications, we will calculate expenses of bank loans and discretionary accruals and pre-determined interest.

F-Leamer test:

F-Leamer test for estimation of model by joint effect methods or panel data

H_0: estimation of model in Pooled form

H_1: estimation of model in Panel data form

Results of F-Leamer test:

$$F_{leamer} = \frac{\frac{RSS_{CE} - RSS_{FE}}{N-1}}{\frac{RSS_{FE}}{NT-N-K}} \sim F_{(N-1, NT-N-K)}$$

$$F_{leamer} = \frac{\frac{2.28E+13 \ -0.414E+12}{73-1}}{\frac{0.414E+12}{438-73-9}} = 24.7$$

Since value of calculated F that is 24.7 is higher than table F by freedom degree of 72 on numerator and 357 on denominator that is 1.53, so, between fixed and joint effect model, fixed effect model is accepted.

Hausman Test for Estimation of Model based on Fixed or Random Effects

H_0: there is no correlation between random effects and repressors.

H_1: rejection of random effects and acceptance of fixed effects.

Results of Hausman Test

Significance level	**Freedom degree**	**Chi-square statistic**
0.000	7	186.31

Resource: (research findings)

Since significance level is less than 5%, so, the hypothesis in contrast to null hypothesis that is H_1 that is using fixed effect model is accepted.

Interpretation of Research Findings

The data below are research findings:

Main hypothesis) **There is a significant and negative relationship between profit smoothing and expenses of bank loans:** by increase of 1% of smoothing profit in each company, on average expenses of bank loans is decreased 65493% directly. In other words, there is a negative and inverse relationship between expenses of bank loan and smoothing profit. So, the main hypothesis is proved.

Coefficient of determining estimated model (fixed-effect model) shows that independent variables of model explains 87% of changes of dependent variable of the model(expenses of bank loan) and only 13% of changes of dependent variable are explained by other variables that aren't considered in this model and it may be because of statistic restrictions and statistic error. Then we interpret significant coefficients of above mentioned model.

Then null hypothesis is rejected and the hypothesis that states the relationship between smoothing profit and expenses of bank loans is logic and strong relationship in Tehran stock exchange is proved.

Secondary Hypothesis 1) **There is a significant and positive relationship between discretionary accruals and expenses of bank loans:** by a unit increase in discretionary accruals, in average expenses of bank loans is increased 53420 unit. In other words, there is a positive or direct relationship between expenses of bank loan and discretionary accruals. So, the second hypothesis is proved.

So, the null hypothesis that states there is no relationship between expenses of bank loans and discretionary accruals is rejected and the hypothesis that that states there is a significant and positive relationship between discretionary accruals and expenses of bank loans in Tehran stock exchange is proved.

Secondary Hypothesis 2) **There is a significant and negative relationship between pre-determined interest and expenses of bank loans:** by 1% increase in pre-determined interest in each company, in average expenses of bank loan is decreased 0.268%. In other words, there is a negative or inverse relationship between expenses of bank loans and pre-determined interest. So, first secondary hypothesis is proved.

So, the null hypothesis that states there is no relationship between pre-determined interest and expenses of bank loans and the hypothesis that states there is a significant relationship between expenses of bank loans and pre-determined interest in Tehran stock exchange is proved.

As we know the bigger absolute value of standardized value in coefficients, the stronger relationship will be created between dependent and independent variables of the relationship.

Research findings show that variable of long term interest rate (91711) as independent variable has the strongest relationship to dependent variable (expenses of bank loans).

Suggestions of the Research

- Suggestion based on main hypothesis:

1- Change and modification of current loan and credit payment system by bank system is one of the most important suggestions in this research. At present, there is less attention into financial statements of companies in giving loan and credit and obtaining collateral is paid more attention. So, the current loan and credit payment system should be modified and their financial statements and analyzing them in giving credit should be taken into account.

2- As findings of the research show, companies smooth their profit, so, at the time of codification of accounting standards by national audit office, required activities should be done to minimize smoothing profit tools.

3- Considering existence of smoothing profit, new rules should be enacted for investors to be familiar to expenses of financing) loan, investment increase,…) in exchange companies.

- Suggestion based on secondary hypotheses:

1- Based on findings of this research it is suggested to managers' of the exchange companies that take pre-determined interest criterion more into consideration in selecting methods of financing.

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