

An Appropriate Model to Calculate Mellat Bank Deposits' Cost

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ABSTRACT

Regarding the shift of banks towards being a part of private sector and the increase of competitions in banking industry and the need to be responsible and achieving more transparencies and also the demand for higher quality service renderings and the scarcity of the resources and the need to decrease the expenditures in order to survive in the competitive market and increasing the competitive ability and also the difficult situation in suitable decision-makings in the sophisticated and changing environments, the banks are forced to make efforts considering the economical viewpoints to increase the efficiency and the effectiveness of their activities. This can't be achieved unless when the cost of services is calculated and the expenditures are managed. Equipping the resources in banking system has a great importance and if a financial entity acts well in equipping its own resources, it will be successful in appropriating those resources. The aim of this paper is to present a costing system based on an appropriate pattern in order to calculate the deposits' cost in local branches of Mellat bank. The research method is a combination of library study and mostly field study. But in most cases the researcher has referred to the organizations and gathered the needed information to do the research. The results show that saving and current deposits can absorb a larger amount of indirect costs and the long-term & specific short-term deposits can absorb less of indirect costs. Also the results show that saving and current deposits are not inexpensive deposits, as it was supposed.

KEYWORDS: activity-based costing, cost price, Mellat bank, demand deposit.

1. INTRODUCTION

Today the banking industry is very competitive because banks and financial entities are increasing and the new technologies are developing. In order to gain success in this competitive environment, banks and financial entities should react fast and render their services with a higher quality and lower cost. Top managers need up-to-date and correct information of their service costs for appropriate and in time decision makings. So the exact definition of costs seems very necessary. Using activity based costing system enables the banks and financial entities to achieve an exact image of the profits made by different services and customers.

Activity based costing method is one of the new product and service costing systems to achieve tasks such as: the exact calculation of product cost, production process improvement, unnecessary activities' elimination, cost drives' recognition, performance programming and business strategies' definition for the financial entity. This system investigates the reason for cost and producing instead of regarding the clues and the effect. And if an activity lacks the reasoning, the customer and the added value, it eliminates, equalizes or improves it.

Activity based costing system involves all the organization and helps to ensure that this model reflects the reality of organization's performance. The aim of activity based costing system is not to have the most exact costing system, but the aim is to have the best system which equalizes the error costs resulting from wrong estimations of measurement costs.

Activity based costing system recognizes the relation between the created incomes and the used resources, although it doesn't recognize the relations between the changes in used resources and the changes in supplied resources. (Cooper, Kaplan, 1998)

Activity based costing system defines the practical relations of cost bases with the activities. The power of activity based costing lies in imaging the cost information and non-financial information clearly.

Some studies have been done about activity based costing. Professor coca cola (2001), of south American Indiana University, compared the profitability of bank business loans in Indiana with activity based costing in comparison with traditional costing method and showed that according to activity based costing system we can achieve a more exact cost in comparison with the traditional system and we can use its frequent benefits in managerial decision makings.

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Olga Lostic (2004), of Tarto University, has written an article entitled "Are electronic banking services profitable?". His research has been an experimental one and the research methodology was based on statistical reports and internal documents of Hanza bank which describes the cost appropriation rules. According to the researches done, a pay's cost through the use of electronic methods has been 12.5 times less than the cost of a pay by using traditional methods.

Arab Mazar and Naseri (2003), have tried to find the possible designing model to calculate bank deposits' cost using ABC method in Refah bank. In this research they have used one dimension activity based costing system in order to calculate bank refah deposits' cost. The expenditures were appropriated directly according to resource drivers and the activities didn't have any role in calculating the deposits' cost. The cost for these calculated deposits in this method is almost static and there isn't much difference between the deposits' costs. Even in some years the deposit cost has been greater than that of long-term deposits.

Anvari Rostami, Rezayat (2007), have calculated the profitability of bank loans based on Islamic regulations, using activity based costing system and traditional methods in Tose-ye-Saderat bank in an article entitled "a comparative assessment of the profitability of bank loans based on Islamic regulations." In this research bank loans' cost calculation have been done using both traditional and activity based costing systems and the results show a considerable difference between traditional costing systems and ABC systems in costs of loans based on Islamic contracts of credit sales, civil participation, and non-interest depositing.

2. RESEARCH METHOD

The main purpose to do this study is to present a pattern for calculating deposits' cost in domestic branches of Mellat bank. Some programs and activities were implemented in this field to perform the research method easily. The choice of a research method depends on our goal, the nature and subject of our research and its' administrative accessories. In this paper we have used the field study and sometimes the library method has been used, too.

Statistics' population and samples:

The statistics' population for this paper involves all domestic branches of Mellat bank all over the country. Our statistics' sample involves all domestic branches of Mellat bank in Eastern Azarbaijan province.

The overall pattern of this research:

The analyzing system in the present study is a combination of quality and quantity methods and the researcher uses cost accounting techniques to achieve the research goals and to present a pattern for calculating cost price of deposits in Rial (Iran's currency) and thus calculating the cost of activities. In the first step the bank expenditures were divided into two groups of direct and indirect costs. Direct costs are those which are directly traceable in the deposits. Direct costs in a bank include the cost for rewards of non-profit deposits and the interest paid to different kinds of the deposits. Indirect costs include the costs incurred in organizing bank units and the costs incurred in the branches. In the first stage the organizing costs are classified into three separate parts according to cost drivers.

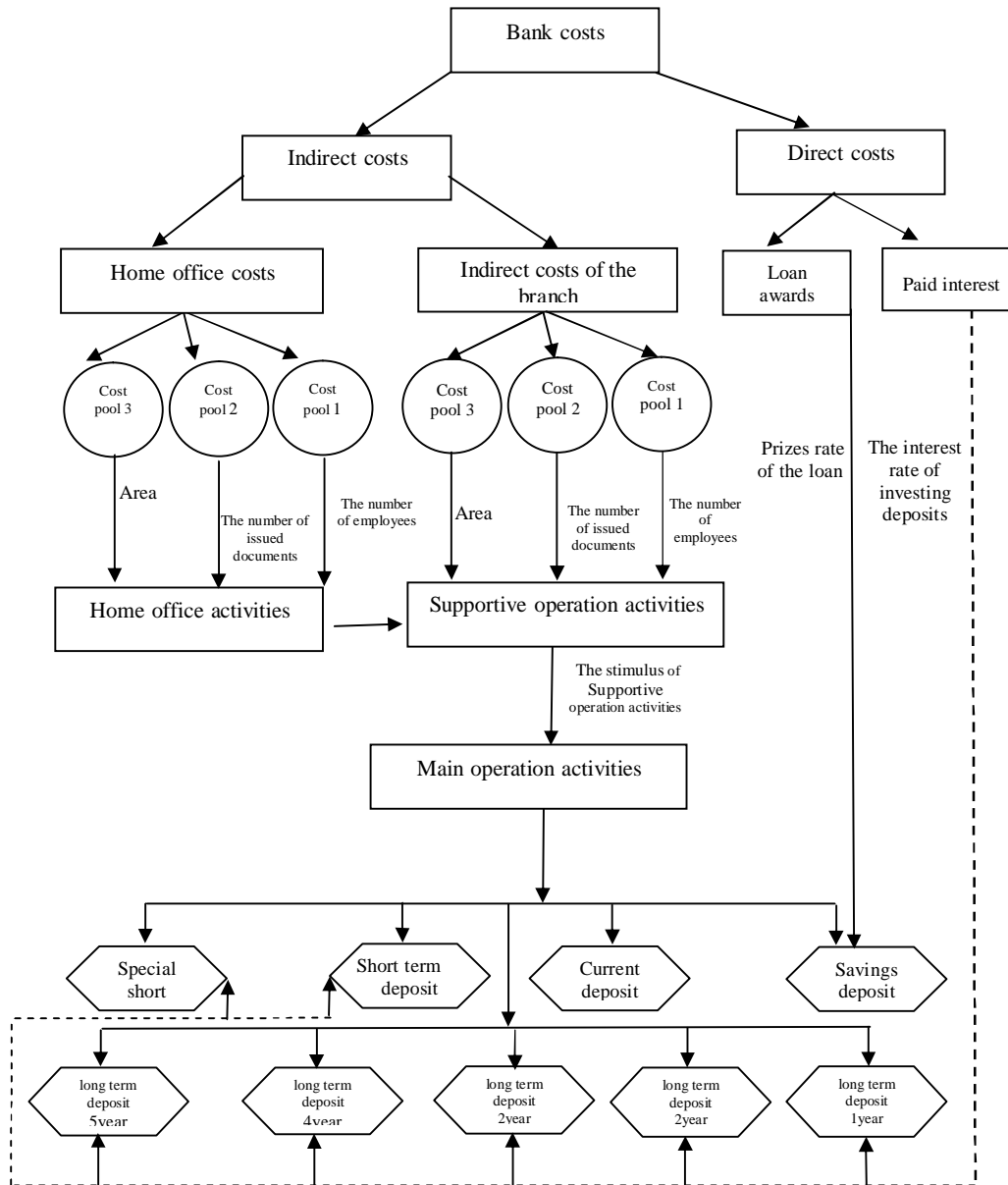


Figure 1: activity-based costing model for different types of Rial deposits in Mellat bank

The stimulus for the first part is the number of personnel and task doing period, the stimulus for the second part is the number of issued documents and the stimulus for the third part is the method of measurement. Then the expenditures were appropriated from the resources to the activities done in organizing parts which had been formed by using the organization chart and the viewpoints of bank experts. Next the costs for organizing activities were appropriated to supportive performance activities (activity centers) by using activity stimulus. The appropriation in this step also has been done by using the viewpoints of different organizing units' experts. In the second step the indirect expenditures of the branch have been classified in three different parts according to the cost drivers. The stimulus for the first part is the number of personnel and task doing period, the stimulus for the second part is the number of issued documents and the stimulus for the third part is the method of measurement. Then the expenditures were appropriated from the parts to supportive performance activities (activity centers) by using activity stimulus. Next the cost for supportive performance activities were appropriated for main performance activities according to activity drivers. To appropriate in this step we have used the viewpoints of branch authorities. In third step the cost for main performance activities were appropriated to the deposits using activity drivers. We have used the viewpoints of bank experts and

have analyzed the needed activities for each deposit in order to verify the drivers to appropriate in this step. Finally the cost of a deposit was divided to the average amount of the deposit in the year and cost percentage for each deposit was calculated.

3. THE IMPLEMENTATION STEPS FOR ACTIVITY BASED COSTING SYSTEM IN MELLAT BANK

A. Output characterization:

Since this paper regards the resource equipping part, the rendered services in this part include: current interest-free deposit, saving interest-free deposit, short-term funding deposit, special short-term funding deposit, and long-term funding deposits.

A-1: Current interest-free deposits

Since these deposits don't receive any interest and they can't be allowed to receive any rewards, they don't have any direct costs but they deserve a great part of indirect costs. Most bank services like pays and receives, documentary credits, loans etc. are rendered through these deposits to the depositors of these deposits. Also if the appropriate services are not rendered, the depositors will transfer their deposits to other banks which render them appropriately and rapidly.

A-2: Saving interest-free deposits

Saving interest-free deposits have both direct and indirect costs. The direct costs of these deposits are the rewards given to the depositors and the indirect costs are those incurred because of rendered services and official issues related to the depositors of these kinds of deposits.

A-3: Short-term funding deposits

Also short-term funding deposits have both direct costs (interest paid to the depositors) and indirect costs.

A-4: Special short-term funding deposits

Also special short-term funding deposits have both direct costs (interest paid to the depositors) and indirect costs. The difference lies in the time-span of funding which are three months, six months, and nine months periods.

A-5: Long-term funding deposits

Long-term funding deposits also have both direct costs (interest paid) and indirect costs like short-term funding deposits and special short-term funding deposits. The difference of these kinds of deposits with the other ones lies in the time-span of funding which are one year, two years, three years, four years and five years periods.

B. Criteria definition to measure the deposits

In this study we want to calculate the costs for each rial of each one of the rial deposits of Mellat bank in Rial branches. So we have used the annual average amount of the deposits.

C. Characterizing the activities and their drivers

Using the approved organizational chart and bank experts' viewpoints, all banking activities related to the deposits were divided into three levels as follows:

Supportive organizing activities
Supportive performance activities
Main performance activities

We have used the viewpoints of bank experts and analyzed each one of the activities in choosing the drivers in each level of activity.

Supportive organizing activities

Supportive organizing activities are those activities done in organizing units of Mellat bank in order to support the branches' activities. Regarding the approved organizational chart, the branch management is divided into three parts of administration and finance assistance, informatics and support assistance, and credit assistance.

Indirect costs/ surcharges

By indirect costs/ surcharges we mean those costs which are incurred in the bank and are not appropriated directly to the deposits. Since the surcharges include a high ratio of the whole expenditures in the bank, their correct appropriation into different deposits and the exact characterization of services' costs and bank products' costs are very important. This knowledge will give powerful tools to the managers in order to decrease the financial expenditures of the bank.

Characterizing the indirect expenditures' drivers

Since the indirect expenditures form a high ratio of the whole expenditures of the bank, the correct appropriation of the expenditures into the activities and from the activities into the deposits is very important in exact characterization of the bank services' costs. This knowledge will be a powerful means for the managers in order to decrease the bank's financial expenditures and manage the expenditures effectively. To appropriate the indirect expenditures into different kinds of the deposits,

the surcharges were appropriated into expenditure parts. In this study we have used three expenditure parts as follows:

The first part includes the items of personnel number drivers and the time spent to do the activity and their related appropriations such as: the staff salary, transportations in the city, trip costs etc.

The second part includes the items of the driver of the number of issued documents which can be appropriated to the activities and from activities into the services such as: advertising costs, official advertisement, official requirements, official press etc.

The third part includes the cost of the buildings' measure driver appropriated to the activities such as: proprietary building mending, real estate properties' depreciation and goodwill, etc.

Research Findings:

The costs for all Mellat Bank deposits were implemented using the activity-based costing system and the represented model for a period of 6 years between 2004 and 2009.

In first step the indirect expenditures were appropriated to the deposits according to the step mentioned above. The results are shown in table 1.

Supportive performance activities (activity centers) and their drivers

Supportive performance activities (activity centers) include a set of activities done in the branch in different parts. In this study we have chosen five activity centers in the branch regarding the topic for our research as follows:

The cash register and current deposits part's activity

The accounting part's activity

The draws part's activity

The drafts and fax part's activity

The filing activity

Table 1 – The research results

No.	Activities	Organizing driver	activity	No.	Activities	Organizing driver	activity
1	Personnel and employment issues	The number of staff		10	Guest houses' issues	Square meter	
2	Medical services' issues	The number of staff		11	Building engineering issues	Square meter	
3	The pays and welfare issues	The number of staff		12	Modern services	The number of branches	
4	The documents' issuing and controlling	The number of documents		13	Computer services	The number of computers	
5	The statistics and budget issues	Working hours		14	Branch issues' auditing and control	Working hours	
6	The properties and stock issues	The number of drafts		15	Education activity	The number of staff	
7	The cashiers and bond issues	Working hours		16	Public relations' activity	The number of staff	
8	Barter and distribution issues	The number of check		17	Security guard activity	Square meter	
9	Storage issues	The number of drafts		18	Sanitary activity	Square meter	

Main performance activities

Main performance activities are a set of those activities which are done in each one of the activity centers. Tables 3 to 6 show the activities done in each activity center and table 8 shows the activities done in the branch.

Table 2 – the activities done by cashiers' bureau and current deposits' bureau and the supportive performance drivers

No.	The activity	supportive performance driver
1	Account opening	The percentage of the job done
2	Receipt and pays of the accounts	The percentage of the job done
3	Document recording	The percentage of the job done
4	Account maintenance operations	The percentage of the job done
5	Transferred customer checks	The percentage of the job done
6	Non-paid accounts certificates' issuance	The percentage of the job done
7	Accounts' closing	The percentage of the job done
8	Receipt and pay from the cashier register	The percentage of the job done
9	Other issues	The percentage of the job done

Table 3 – accounting bureau activities and supportive performance drivers

No.	The activity	supportive performance driver
1	Document collection	The percentage of the job done
2	Assuring the correctness of documents' issuing	The percentage of the job done
3	Documents' issuing	The percentage of the job done
4	The accounts' balancing	The percentage of the job done
5	Supervising and control	The percentage of the job done
6	Statistics and data preparation	The percentage of the job done
7	The end of year performance	The percentage of the job done
8	Other issues	The percentage of the job done

Table 4 – draft bureau activities' identification and defining supportive performance drivers

No.	The activity	supportive performance driver
1	Different bank checks' issuing	The percentage of the job done
2	Different bank checks' receipt	The percentage of the job done
3	Inside city drafts' issuing	The percentage of the job done
4	Inside city drafts' receipt	The percentage of the job done
5	Out of the city drafts' issuing	The percentage of the job done
6	Out of the city drafts' receipt	The percentage of the job done
7	Drawing SATNA draft	The percentage of the job done
8	Other tasks and control	The percentage of the job done

Table 5 – the drafts bureau activities and supportive performance drivers

No.	The activity	supportive performance driver
1	Other branches' checks receipt from the customers	The percentage of the job done
2	Checks' sending to receipt centers	The percentage of the job done
3	Drafts' receipt from receipt centers	The percentage of the job done
4	Checks' reception from other banks	The percentage of the job done
5	The reception issuing in the unit to receipt centers	The percentage of the job done
6	Sending returned checks to receipt centers	The percentage of the job done
7	Check reception receipt in the unit	The percentage of the job done
8	Mellat checks' faxing to other branches	The percentage of the job done
9	Mellat checks' receipt from other branches	The percentage of the job done
10	Pays to customers' accounts	The percentage of the job done

Table 6 – the filing and branch cleaning activities and supportive performance drivers

No.	The activity	supportive performance driver
1	Numbering and sealing daily documents	The percentage of the job done
2	Reception of other branches' draft receipts	The percentage of the job done
3	The branch's cleaning	The percentage of the job done
4	File maintenance and document categorization in shelves	The percentage of the job done

Table 7 – Main performance activities and main performance drivers

No.	The activity	Main performance activity driver	No.	The activity	Main performance activity driver
1	Account opening	Number of accounts	20	Inside city drafts' issuing	Number of drafts
2	Accounts' reception and pay	Number of documents	21	Inside city drafts' receipt	Number of documents
3	Document recording	Number of documents	22	Out of the city drafts' issuing	Number of documents
4	Accounts' maintenance operations	Number of accounts	23	Out of the city drafts' receipt	Number of documents
5	Customers checks' transfer	Number of checks	24	Drawing SATNA draft	Number of drafts
6	Unpaid account certificate issuing	Number of returned checks	25	Other tasks and control	Working hours
7	Accounts' closing	Number of accounts	26	Other branches' checks receipt from the customers	Number of checks
8	Reception and pay from the cash register	Number of documents	27	Checks' sending to receipt centers	Number of checks
9	Other issues	Working hours	28	Drafts' receipt from receipt centers	Number of drafts
10	Documents collection	Number of documents	29	Checks' reception from other banks	Number of checks
11	Assuring the correctness of documents' issuing	Number of documents	30	The reception issuing in the unit to receipt centers	Number of drafts
12	Documents' issuing	Number of documents	31	Sending returned checks to receipt centers	Number of checks

13	The accounts' balancing	Number of documents	32	Check reception receipt in the unit	Number of drafts
14	Supervising and control	Working hours	33	Mellat checks' faxing to other branches	Number of checks
15	Statistics and data preparation	Working hours	34	Mellat checks' receipt from other branches	Number of checks
16	The end of year performance	Working hours	35	Pays to customers' accounts	Number of documents
17	Other issues	Working hours	36	Numbering and sealing daily documents	Number of documents
18	Different bank checks' issuing	Number of bank checks	37	Reception of other branches' draft receipts	Number of checks
19	Different bank checks' receipt	Number of checks	38	The branch's cleaning	Metering measurement
			39	File maintenance and document categorization in shelves	Number of files

Mellat bank costs identification and classification

We can categorize Mellat bank's costs into two main categories as follows:

- **Direct costs**

By direct costs we mean the interests paid to the depositors of both short-term and long-term ones (1 to 5 years) and the rewards of interest free deposits. Since the rate of the interest paid to the funding deposits and the rate for the rewards of interest-free deposits are determined by the money and credit council, we can appropriate the interests paid to the deposits and the rewards for the interest-free deposits directly.

Table 8 – indirect costs' appropriation to the deposits (percentage)

Deposit type/ year	2004	2005	2006	2007	2008	2009
Current interest-free accounts	3.85	5.24	7.86	7.46	4.23	5.47
Saving interest-free accounts	5.94	7.73	8.42	6.65	7.37	8.54
Short-term funding accounts	1.30	1.59	1.57	2.60	0.70	0.84
Special short-term funding accounts	-	-	8.10	1.10	0.49	0.68
Long-term funding accounts	One year	0.24	0.13	0.15	0.15	0.12
	Two years	0.23	0.02	0.04	0.03	0.08
	Three years	0.24	0.52	0.45	0.32	0.23
	Four years	0.25	0.02	0.05	0.01	0.011
	Five years	0.16	0.87	0.97	0.95	0.66

Saving interest-free deposits have the largest share of indirect costs and current interest-free deposits follow them. Short-term funding deposits are in third place and special short-term deposits are placed in the fourth rank and following that we have long-term funding deposits. Finally the cost for the deposits for all Mellat bank expenditures is as follows:

Table 9 – bank costs' appropriation to the deposits (percentage)

Deposit type/ year	2004	2005	2006	2007	2008	2009
Current interest-free accounts	3.85	5.24	7.86	7.46	4.23	5.47
Saving interest-free accounts	7.94	9.73	10.42	8.65	7.37	10.54
Short-term funding accounts	8.75	8.59	8.57	9.60	9.70	9.84
Special short-term funding accounts	-	-	20.1	17.10	16.49	12.68
Long-term funding accounts	One year	13.69	13.13	14.15	15.65	15.12
	Two years	16.73	16.22	15.29	15.63	16.08
	Three years	17.24	17.22	15.95	16.02	17.23
	Four years	17.65	16.92	15.80	15.81	18.011
	Five years	17.76	17.87	16.97	16.95	19.66

4. CONCLUSIONS

As table 10 shows funding interest-free deposits deserve most of indirect costs to themselves. Current interest-free deposits score the second rank. In other words, the results show that interest-free deposits appropriate most parts of indirect costs to themselves. Short-term funding deposits are located in the third rank and special short-term funding deposits are placed next and long-term deposits deserve the least share from indirect costs. The results show that the longer the deposits, the least indirect costs are absorbed.

Table 10 – Deposits' share priorities from Mellat bank indirect costs		Table 11 – deposits' share priorities out of the whole costs in Mellat bank	
No.	Deposit type	No.	Deposit type
1	Saving interest-free deposits	1	Long-term funding deposits
2	Current interest-free deposits	2	Special short-term funding deposits
3	Short-term funding deposits	3	Short-term funding deposits
4	Special short-term funding deposits	4	Saving interest-free deposits
5	Long-term funding deposits	5	Current interest-free deposits

Table 11 shows the absorbing amount of direct and indirect costs by the deposits. As shown in the table, long-term funding deposits deserve the most costs to themselves and special short-term funding deposits score the second rank. Saving interest-free deposits and short-term funding deposits compete very closely and both have tried to achieve the third rank in different years. Current interest-free deposits appropriate the least of shares from the costs.

On the whole, the present study shows that current interest-free deposits and saving interest-free deposits appropriate the most part of indirect costs for themselves while short-term funding deposits, special short-term funding deposits and long-term funding deposits appropriate the most part of the direct costs for themselves. This can help the organization management in cost management.

Another point is that while generally it is believed that saving interest-free deposits and current interest-free deposits are inexpensive deposits, they are not so inexpensive. But they can be classified as so in comparison with other types of the deposits.

Calculating the deposits' cost by using activity-based costing system shows that there is much distance between saving and interest-free deposits, and long-term deposits. Meanwhile in a study done in Refah bank in the year 2003, using initial activity-based costing system in which the costs were appropriated directly from the resource drivers to the deposits, although the cost of interest-free deposits have been greater in some years, almost all the expenditures had been divided equally among the deposits. Using two-dimensional activity-based costing system in this study shows the distance between different deposits' costs for managerial decision-makings clearly.

Applicable suggestions

The implementation of an activity-based costing system in order to measure the real cost of services, customers and different parts of the organization to prepare exact and correct data for the managers towards effective and efficient decision-makings.

Regarding the instructions of central bank to the banks for spending the resulted resources from interest-free deposits for rendering interest-free loans, and regarding that currently the interest-free loans are rendered with annual %4 interest, the present research considers the revision in interest rate of interest-free loans necessary.

Since long-term funding deposits have a small share of surcharge absorption, it is necessary to pay more attention to these deposits in order to absorb more resources.

Since there is almost no inexpensive deposit, it seems necessary to change the cost rate of some services specially those services which are rendered in current and saving interest-free deposits.

In order to determine the exact costs to receive, the costs for other services in Mellat bank (faxing, drafts, surety bonds issuing, access card issuing, etc.) should be calculated by activity-based costing system.

The costs of rendered loans in Mellat bank should be calculated by using activity-based costing system.

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