CONTRIBUTION MARGIN - A MODEL OF PERFORMANCE EVALUATION OF BANKS' PROFIT CENTERS

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Foreword

My reason for embarking upon this project lies first and foremost in the fact that my responsibilities in the bank are inextricably bound to the concerns of managing the bank's operating performance; more specifically, to the planning and control of the performance of various responsibility centers within it to the end of meeting target objectives. I found a further impetus in my involvement in the current process of the bank's reorganization which is aimed at aligning the bank's structure to the organization standards valid in EU commercial banks. Such a massive-scale decentralization process has uncovered the need for introducing certain models of monitoring the bank's responsibility centers. This paper serves a double purpose, namely, its topic coincides with the material I need to prepare for the exam which is part of the symposium in Pforzheim I participated in and also with the contents of the course on Managerial Accounting. Secondly, with this paper I am also meeting the seminar paper requirement at the 'Management' postgraduate program.

This paper is divided in two major sections, which coincide with the two major angles from which I have looked at the topic at hand, namely, the theoretical angle and the practical one built on the example of Slavonska banka d.d. Osijek.

In the theoretical part I have looked in some detail into the concept and meaning of responsibility accounting as well as into the issue of the establishment of responsibility centers (henceforth: RC) in commercial banks. The second part purports to shape and apply the model of managerial control of the contribution margin for performance evaluation of the bank's profit centers (henceforth: PC).

I would also like to take this opportunity to extend my thanks to all of my colleagues postgraduates who have contributed in one way or another to the completion of this paper.

Introduction

The Croatian Finance sector, and by extension its banking system, have seen major changes, which have been both internally- and externally-induced. These changes have exerted an impact on the very range of banking services and products offered; like deposit and loan products, but have also led to changes in both the structure and the functioning of banks. The fundamental factor that has shown to be decisive in the survival of banks on the banking market is their efficiency and, by extension, their profitability. The classical functional organization structure has not shown to be adequate enough to meet the challenges of modern banking.

Both the complexity of information based on which business decisions are to be made as well as an increased instability of the overall environment point in the direction of implementing a decentralized organization structure. By decentralized organization structure we mean a transfer of responsibility and decision-making capacity onto lower management levels, especially when decisions to be made pertain to current operating activities.

To achieve that purpose it is necessary to establish specific RCs and determine their performance ratios. This leaves enough room for the bank's top management to dedicate its time and energy to strategic decisions and to still be able to monitor the performance of individual RCs.

In this paper I set out to demonstrate how to form a model of performance measurement for RCs of various types. Structuring banks on the basis of individual RCs can reap significant benefits in comparison to the classical functional organization structure, especially since the latter has already proved to be inefficient. The former provides the stage for the second important step, i.e. shaping a model of RC performance ratios. Banks with a highly developed internal economy are in a position to better manage the objectives defined for individual RCs, which in turn results in greater efficiency and profitabilty. Research should show how to measure the performance of individual RCs on the basis of which business decisions can be made. The model of contribution margin or marginal costs has proved to be the most adequate, and at the same time the simplest model. Besides being an indicator of the performance of individual RCs, this model also serves as a tool evaluating the competence of their respective managers and as a basis for awarding incentive payments. Besides that, the contribution margin model expresses the effect of inter-PC exchange relations in banks which have a developed internal economy, and that through transfer or internal rates. Transfer rates shall not be tackled here as they are an extremenly complex issue worthy of meticulous scientific and operative research. Information relevant for the application of this model can simply be collected from the Profit/Loss Account and the General Ledger.

I have used several scientific methods in my research and in the formulation of research findings: inductive and deductive method, analysis and synthesis method, method of generalization and specialization, descriptive and comparative method.

The contents of this paper have been systematically laid out in four interconnected sections. The first section emphasizes the need for the establishment of responsibility accounting as the basis of managerial control. The second section is on RCs, it illustrates their typology and characteristic features from the position of banking business. The third section sets out to explain the basic features and elements of the contribution margin model. In the last section, we illustrate the application of the performance evaluation model on the example of a bank's PCs

1. Implementing Responsibility Accounting in Commercial banks

The key feature of responsibility accounting is that it allows for an evaluation of how well each manager handles the scope of business operations under his/her jurisdiction. The concept of a quantitative and qualitative monitoring of managerial performance is called responsibility accounting[1]. Responsibility accounting is a special and well delienated part of the whole of managerial accounting. It implies a very specific method of processing and disclosing accounting data. Its specificity resides in the very purpose to which it is established, namely, the creation of state-of-the art managerial control in banks as well as in any other trading companies. Both the theory and current practice of modern management corroborate the indispensability of responsibility center organization for successful managerial control.

RCs, which are part and parcel of the whole responsibility network, operate on the basis of frameworks of personal responsibility regulated by the busines policy. Those frameworks specifically determine managers' personal responsibilities for the operative management of their respective units in line with determined strategic objectives. Namely, the establishment of RCs allows for a flow and integration of key information necessary for the management of income, expenses, profit and funds, which in turn is a necessary prerequisite for an efficient functioning of managerial control. Both expenses and income, as aspects of managerial performance, need careful monitoring at different managerial levels. Each managerial level is responsible for their respective income and expenses and managers at all levels bear responsibility for any potential discrepancies between the budget objectives and results achieved. This is a crucial concept for efficient profit planning and system control.

Responsibility accounting can recognize any individual within the organization that has any control over income and expenses, and that via a separate RC whose management must be clearly defined, measurable and whose results must be reported to the top of the organization. Admittedly, the idea of reponsibility accounting is not new, it has only recently started to be implemented and can be regarded as answering the need for a better and more efficient control of business activities.

What all of the above goes to show is that the basic reasons for disclosing income and expenses separately for each individual RC are the following[2]:

1. More efficient control of income, expenses and profit;

2. Introducing a market paradigm into a hierarchical paradigm which, via its impact on the income and expenses of individual RCs can (under certain circumstances) yield greater economic effects than a pure hierarchical structure.

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[1] Belak, V.: Menadžersko računovodstvo, RRIF plus, Zagreb, 1995.

[2] Belak, V.: Upravljanje centrima odgovornosti, PDS Organizacija i management Zagreb, 1998.

A more efficient control of income and expenses yields greater profit. Parallel to the development of internal economy, one also witnesses a quasimarket but management-controlled race between individual PCs. A bank-internal economy thus provides the ground for a healthy competition between PCs, which in turn yields better business results for the PCs themselves and greater profit for the bank as a whole. Each RC thus bears its own portion of overall distributed responsibility.

Responsibility accounting operates most efficiently in decentralized organizations.

2. Definition of a Universal Type of Profit Centers in Commercial Banks

In order for RC managers to be able to reach informed business decisions, every organizational unit, i.e. RC in the bank has to have a clear definition of target performances. The role of PCs can be summarised as follows:

- more efficient control of income, expenses and profit;
- increase of economic efficiency;
- profit maximization;
- distribution of decision-making and responsibility;
- development of market awareness at lower managerial levels;
- increase of PC autonomy entails problems in compatibility of objectives;
- greater decision-making freedom at PC levels does not diminish top management responsibility;

Incentive payments are awarded on the basis of results achieved;

Keeping in mind the bank's functional complexity, the nature of its business operations, deposit taking and lending, it is a prerogative that target performances be defined for each RC individually. Responsibility centers must me structured in such a way as to leave room for a definition of separate performance targets, which in turn will allow for individual evaluation of the contribution of each RC to overall performance. They have to be structured so as to represent an efficient income-expense management instrument aimed at increasing efficency. A responsibility center may vary in scope and be either a division, section, service, department, branch office etc. We may say that a RC is an organisation unit under the control of a manager responsible for its activities. Given the nature of banking business, it goes without saying that external revenue can only be achieved by those RCs that lend to external users, i.e. customers. However, in order to lend, the funds first need to be collected. Since, as a rule, RCs in charge of taking deposits and lending are separate units, the first thing to do is to define their respective target performances, their results and responsibilities of their managers.

With RCs as cornerstones of a bank's organization structure, PCs stand out as the key profit-generating centers. Profii centers are such organizational units whose respective managers bear responsibility for the creation of profit. The manager's objective is to maximize profit while minimizing expenses.

Activities of profit centers imply[3]:
- responsibility for expenses incurred;
- responsibility for profit earned;
- responsibility for returns on invested capital

Figure 1 is an example of a bank's organization chart. The schema nicely illustrates a division of centers into:
- profit RCs and
- cost RCs.

A cost center is defined as a portion of the total volume of responsibilities for expenses incurred. That portion refers to expenses deriving from activities of individual manager-headed organizational units, which constitute a segment of the overall business process.

Cost RCs are the following:
- accounting and controlling,
- IT,
- marketing,
- legal affairs,
- internal audit,
- internal control,
- human resources and
- risk management.

Profit RCs are the following:
- treasury,
- corporate banking,
- retail banking,
- international affairs and
- branch offices.

Though this is just one of the many possible models, it should not escape our attention that such a schema has the advantage of meeting the legal requirement of the existence of separate organizational units such as risk management, internal control and internal audit.

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[3] Ernst & Young LLP, Performance measurement for financial institutions: Methods for managing business results, McGraw Hill, Atlanta, 1995.

It is customary to structure deposit-taking RCs as cost centers, and those that engage in lending activities as profit centers. However, not all deposit-taking centers are cost centers exclusively, nor are all lending centers profit-earning exclusively. Therefore I would like to introduce a new term, that of pseudoprofit centers. It is true that deposit-taking centers incur interest expenses and that those engaged in lending activities earn interest income. Nevertheless, in the course of the transfer of funds from deposit-taking to lending RCs, a virtual interest rate is introduced (transfer rate) as an accounting value with the aim of measuring the performance of individual RCs. In principle, transfer rates can be divided into two groups:

- cost-based, and
- market-based.

Without going any further into the intricate issue of transfer rates and economic relations obtaining among RCs, let us just say that there seem to be more solid arguments for the introduction of market-based rates. The main argument for the introduction of a market-based transfer rate is that such a practice allows one center to mark internal income that closely corresponds to the income on the external market, while the other center can mark internal cost approximate to the cost of capital on the external market.

There need not be a central deposit center. Internal relations can be regulated applying the virtual interest rate, i.e. transfer rate and that via:

a) the Treasury or

b) a separate organizational unit, i.e. a central deposit unit.

Depending on the goals and facilities of the bank's information system, the bank will opt for either of the two possibilities.

A commercial bank of universal type can be considered any bank that performs the following operations[4]:

- taking all kinds of cash deposits, borrowing and lending,
- domestic and foreign payment system,
- foreign currency transactions, foreign exchange transactions, foreign lending-guarantee transactions,
- redemption of bills and checks, issuing guarantees and assuming other liabilities,
- sale and purchase of securities,
- issue of securities and cash cards,
- factoring and forfeiting,

[4] Hunjak, T., Jakovčević, D., Jurković, M., Miloslavić, V., Nesek, D., Soldo, S., Vrga, Đ., Poslovno odlučivanje i upravljanje rizicima u banci, TEB, Zagreb, 1995.

- foundation and management of joint investment funds,
- agency business and credentials.

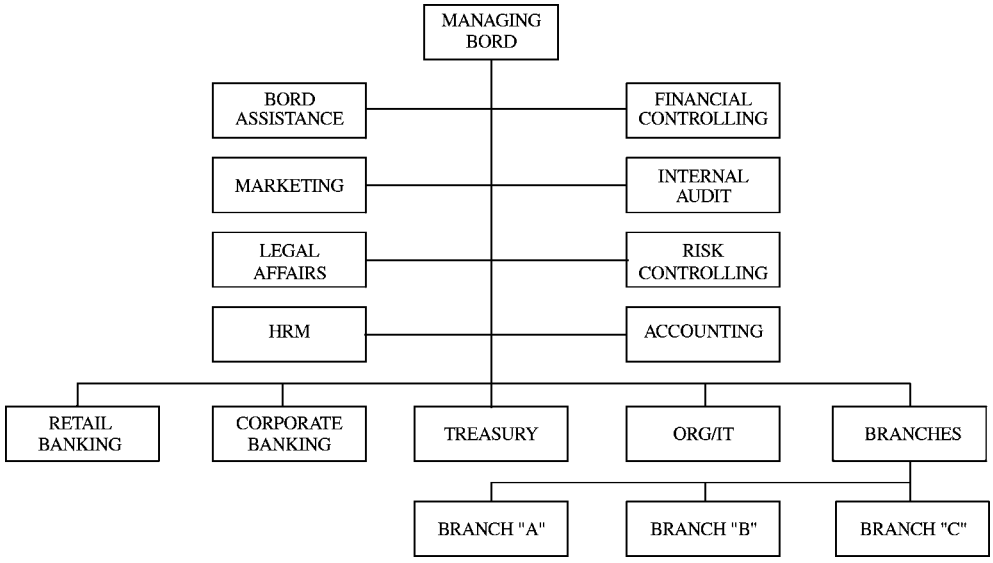

Figure 1. Example of a bank's organization chart

We go on to illustrate below an example of measuring profitability of every individual PC applying the model of contribution margin.

3. Contribution margin as a Model of Evaluation of PC Performance

3.1. Design of the Contribution Margin Model

Contribution margin or marginal costs model refers to the value remaining after deduction of variable expenses from income. It is at the same time an indicator of the subject's ability to operate above the amount of variable expenses. Contribution margin is an inevitable instrument of planning, control and information-flow. It is one of the instruments of management by objectives making crucial reference to performance targets, it significantly increases the transparency of expenses and reveals room for their potential reduction. Whether profit or loss will be achieved eventually hinges on three factors: amount of income, amount of variable expenses and amount of fixed expenses. There is a general formula as shown below[5]:

5. Koch, T., MacDonald, S., Bank Management, Dryden Press, 2000.

Table 1

CONTRIBUTION MARGIN MODEL
INCOME
- VARIABLE EXPENSES
= CONTRIBUTION MARGIN
- FIXED EXPENSES
= RESULT (GAINS)

Deducing variable expenses from income yields the amount of contribution to coverage of fixed expenses. Any remaining amount above and beyond the covered fixed expenses represents company gains (for e.g. departments, group of products or a single product). When the contribution margin does not suffice to cover fixed expenses, this results in losses. This is the model of a simple calculation of contribution margin.

Since contribution margin allows for a precise statement of PC performance, it is also the basis for deciding on any incentive payments. The basic principle that obtains in ascertaining a manager's responsibility for the profit of his/her PC is that the manager himself/herself may only be responsible for that portion of expenses or gains which (s)he him-/herself controls. Given that principle, the total performance of each individual PC may be grouped into controllable and noncontrollable performance. This is illustrated in Figure 1. Every manager assumes responsibility for those areas over which (s)he can have impact, so that the manager at a given hierarchical level will only be responsible for a certain level of results. The model of contribution margin shown here provides a basis for the evaluation of the contribution of individual RCs and their respective managers to overall success and stability of the bank. By excluding "imposed", i.e. noncontrollable costs of the bank as a whole from the profit of individual PCs, only those results are disclosed over which managers could actually exert influence. Such a model is called *graded contribution margin*, it expands on the simple contribution margin. Graded contribution margin has been turning into a classic accounting instrument and PC management instrument.

Table 2

MODEL OF EVALUATION OF PC PERFORMANCE		
	ELEMENTS	CONTENTS
1.	PC Income (external+internal)	- interest income and similar income - fees and commissions - income from equity securities - other extraordinary income - internal income deriving from lendings of surplus funds
2.	PC Variable expenses	- external interest expenses and similar expenses - fees and commissions - internal interest expenses (internal cost of money) - value adjustments (risk provisions and value adjusments)
3.	CONTRIBUTION MARGIN I (1-2)	Result (amount)
4.	PC Fixed controllable expenses	- depreciation - travel expenses - marketing and entertainment costs - other expenses (rentals, salaries, telecomm. - expenses, energy costs, material, leasing)
5.	CONTRIBUTION MARGIN II (3-4) Branch office controllable profit	Result (amount)
6.	Uncontrollable fixed expenses	- depreciation of cost centers and of central treasury
7.	CONTRIBUTION MARGIN III (5-6) PC Profit	Result (amount)
8.	Bank's overheads	- salaries and other current expenses, except depreciation
9.	CONTRIBUTION MARGIN IV (7-8) PC Net gains	Result (amount)

4. MEeasuring Profit Center Performance Using the Contribution Margin Model

4.1. Corporate Department Performance Ratios

Corporate Department PC is one of the most significant RCs within a bank. As a rule, most lending and lending-guarantee transactions are conducted there. How a bank will organize its corporate lending facility depends on its size, objectives, strategy, competition and market forces. Figure 2 illustrates one of the possible ways of

organizing the corporate department. If one applies the schema according to which there is a division between the section responsible for lending and the section responsible for deposit taking as shown in Figure 2, then the lending section can be subdivided into two further units; the front office and the back office. Within the front office, which stands in immediate contact with customers, even smaller organization units, i.e. RCs can be formed according to: a) the customer's branch of activity and b) customer size. This results in better customer service. The second section of corporate banking refers to deposit taking, both in the form of a vista customer deposits as well as of fixed-term customer deposits.

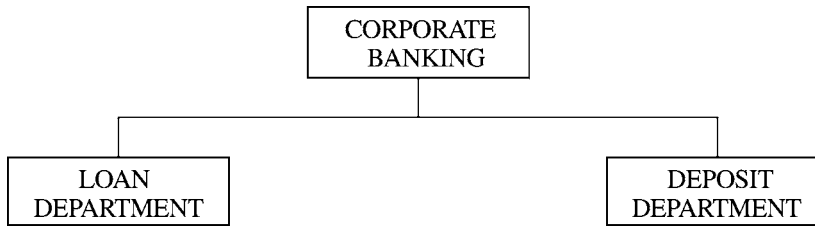

Figure 2. Organization chart for the Corporate Banking PC

The majority of income in this PC refers to interest income (regular interest, penalty interest, intercalate interest, excluded and suspended interest income), loan-guarantee processing fees, fees based on guarantees issued and on Letters of Credit as well as other income (sale of tangible assets). Within interest income structure, interest income deriving from paid contingent liabilities (off-balance records), Letters of Credit and guarantees issued makes a special item. Corporate Lending PC also marks external variable interest expenses based on customer deposits; a vista and fixed-term deposits. Thus Corporate Lending PC marks interest expenses, but those are internal variable expenses on the basis of calculation of virtual interest rate. Special attention in the Corporate Lending PC needs to be paid in respect of:

a) expenses incurred due to payments against off-balance liabilities, bank guarantees and Letters of Credit;

b) value adjustments, that is provisions against potentially non-performing loans.

If the bank does make payments against letters of credit and guarantees it needs to be disclosed as a separate item in the manager's report.

Table 3 consists of two parts. The first part indicates bookkeeping balance of PC lendings with pertaining interest (on a monthly basis) and interest income. To simplify the model for our present purposes we assume that the loan interest rate is 12% per annum, i.e. 1% per month. Penalty interest in the amount of 18% per annum, i.e. 1,5% per month is calculated for any claims deriving from payments

against bank guarantees and interest due. In order to obtain a total income level of the PC we show the amount of PC's loans disbursed in the course of a month, with a 2% fee. Since in the overall loan structure there are also foreign currency loans, this PC also marks exchange gains, i.e. exchange rate differentials between the bank's mean and sale exchange rates.

Funds needed for PC's lending activities are acquired in part from customer deposits (legal entities) and in part from deposits taken in other PCs in the bank. Funds thus borrowed may refer to retail deposits or loans received from other banks via the treasury. Lending funds acquired within the corporate PC account for 54,55% of total lending funds, the remainder is borrowed bank-internally. Internal borrowings are more expensive that self-acquired funds.

Table 3 shows the balance of lendings and deposits, as well as their accompanying income and expenses, within the corporate department PC.

DESCRIPTION	CLAIMS	INTEREST RATE	INTEREST INCOME
Loans	2.000.000	1,00%	20.000
Paid guarantees	100.000	1,50%	1.500
Interest	100.000	1,50%	1.500
TOTAL	**2.200.000**		**23.000**

DESCRIPTION	AMOUNT	FEE	INCOME
Loans	250.000	2,00%	5.000
Exchange rate differentials	100.000	0,50%	500
TOTAL	**350.000**		**5.500**

GRAND TOTAL INCOME		28.500

DESCRIPTION	DEPOSITS	STRUCTURE	INTERE ST RATE	INTEREST EXPENSES
Deposits	1.200.000	54,55%	0,50%	6.000
Borrowings	1.000.000	45,45%	0,65%	6.500
TOTAL	**2.200.000**	**100,00%**		**12.500**

Table 3. State of lendings, deposits, interest income and expenses in Corporate Department PC

Value adjustments are an especially sensitive issue for any bank. What kind of provision policy a bank will adopt depends on its objectives and strategy. The Croatian National Bank has set up certain conditions which need to be abided by in the course of evaluation of customers' credit worthiness.

However, the mentioned regulations notwithstanding, there is still room enough to manipulate provisions, and by extension, financial performance. Provisions against potential losses should be made in accordance with the credit-risk class to which a customer has been asigned. Figure 3 illustrates the calculation of the contribution margin for the Corporate Department PC.

Should the amount of provisions at the end of an accounting period exceed that at its beginning, this amount shall be charged directly to the financial result. Among the reasons for an increase in provisions are problems in the collection from the customers of amounts due, because of a decrease in their business volume or because of the bank's more conservative provision policy. A smaller amount of provisions at the end of an accounting period as against the amount at the beginning will reflect as an increase of the bank's financial result and that for the amount of decrease in provisions.

1. PC income		28.500
	External	28.500
	- interest income	23.000
	- fees and commissions	5.000
	- currency gains	500
2. PC's variable expenses		17.500
	External	6.000
	- interest expenses	6.000
	Internal	6.500
	- interest expenses	6.500
	- value adjustments	5.000
3. Contribution margin (1-2)		11.000
4. PC's controllable expenses		9.800
- depreciation		800
- gross salaries		4.000
- overheads		5.000
5. PC's controllable profit and (3-4)		1.200

Figure 3. Model of measurement of contribution margin and controllable profit for the Corporate Department PC (based on Hunjak, T., Jakovčević, D., Jurković, M., Miloslavić, V., Nesek, D., Soldo, S., Vrga, Đ., Poslovno odlučivanje i upravljanje rizicima u banci, TEB, Zagreb, 1995, p. 60)

Figure 3 illustrates the calculation of Corporate Department's controllable profit. It is evident from the Table above that the PC has made a positive controllable profit. Controllable profit can be set up beforehand as a target performance value. In order to get a real net profit of the PC, one needs to subtract from it the expenses of all other cost centers. All expenses incurred by cost centers should be ascribed to PCs. Only so can the actual profitability level of a given PC transpire.

4.2. Retail Department Performance Ratios

Retail department PC consists of two smaller organization units:

a) deposit pseudoprofit RC and

b) loan pseudoprofit RC.

The deposit pseudoprofit RC takes retail deposits, for which it pays interest. This interest represents interest expenses. Funds are acquired via saving facilities, current accounts and giro accounts of private persons. Besides taking deposits, this RC has a certain lending function, it extends revolving loans on the basis of private persons' current accounts. It is largely a matter of the bank's objectives and strategy how great a portion private persons' deposits will occupy in the total customer deposits, i.e. in the total liabilities. It depends on whether the bank is primarily oriented towards retail banking or corporate banking.

Loan RC is responsible for retail lendings within the Retail PC. This lending function manifests itself in a specific kind of retail products it offers; i.e. consumer and housing loans.

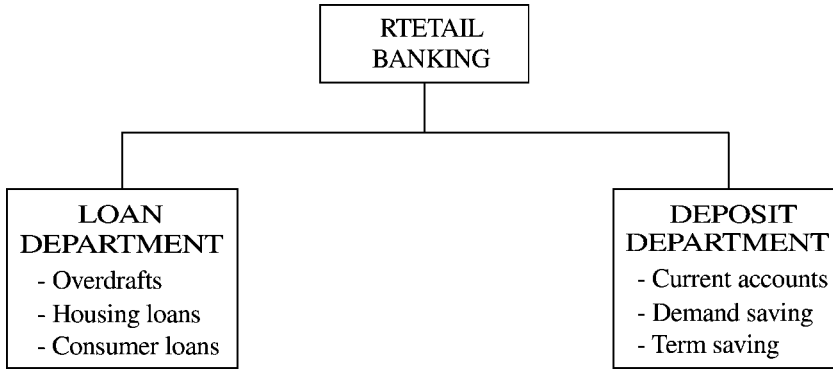

Figure 4. Organization chart for the Retail Banking PC

The deposit RC performs the following activities: retail savings (in all currencies and of all maturities), private persons' giro and current accounts. Activities of this RC are largely conducted through a direct contact between the customer and the

banking officer. Besides the above-mentioned activities, transactions through both the domestic and the foreign payment system are conducted at the tellers, as well as money exchange transactions, which yield income from fees and commissions.

All of the above goes to show that deposit RCs make very little external interest income. Their income on the basis of revolving loans, fees and commissions does not suffice to cover their expenses. Thus other RCs, which do make external income always disclose "gains", while deposit RCs always disclose "losses". The aforesaid, however, only gives us a blurred picture of the activities of RCs. In order to get a clearer picture of the quality of work done in the deposit RC, it is necessary to introduce the concept of virtual interest rate. Virtual interest rate is used as an internal accounting unit with the aim of forming manager's reports and determining target performances. After the virtual interest rate has been defined, a manager's report for the retail deposit RC can be designed. With such a model of performance ratios, which includes internal income as well, we get a better picture of the achievement of target performances and a better basis for making proper business decisions. However, when designing manager's reports on the basis of the mentioned model, problems crop up when it comes to defining individual income and expenses categories. Fees, commissions and exchange rate differentials, as RC's external income, are obtained from financial bookkeeping records, i.e. from appropriate subledger records. Besides the mentioned external income, the retail deposit RC also makes external income from current account revolving loans.

The second income category refers to internal income of the deposit RC. In order to calculate this RC's internal income one needs to determine the virtual interest rate. There is the issue though of determining the virtual interest rate, i.e. the transfer rate, at which the retail deposit RC shall borrow, i.e. lend its funds to other RC's. i.e. to other PCs which will lend those funds to external beneficiaries and thus make external income. In this case the transfer rate, i.e. the virtual interest rate will be equivalent to the market price on the interbank market. The amount of internal income is calculated as follows:

Average balance of deposits during a year in kn	x	average annual interest rate =	amount of internal income per year in Kn

Although the interest rate is expressed at annual levels, it can also be expressed at monthly levels to facilitate the compilation of monthly reports for the retail deposit RC.

The deposit RC also marks considerable external variable interest expenses. Those refer to deposits gained through savings accounts, giro and current accounts. Depending on the bank's business policy, interest for the mentioned deposits is expressed at annual levels, while the calculation and entry of interest may occur on a monthly, quarterly, semiannual or annual basis.

With an increase in deposits, variable expenses increase accordingly, as well as the total RC income, while the fixed expenses per unit will drop which eventually leads to a better overall result of the retail deposits RC.

Insurance premiums on savings deposits are a novelty on the Croatian banking market. Such premiums may be considered interest expenses, although some claim they should be analysed as general operating expenses. Value adjustments are a sensitive issue for any bank, so too for this RC. In the deposit RC value adjustments are made in respect of current accounts. If a customer does not settle their debt towards the bank, court proceedings are initiated. The bank performs value adjustments in the given amount charging directly its financial result. This has a direct impact on the result of the RC itself. If the customer settles their debt, this is considered "extraordinary income". This shows that value adjustments may be positive too and thus contribute to an increase of the bank's and RC's financial performance. If one adopts this report model, value adjustments are disclosed on a net basis. Table 4 illustrates an example of a performance ratio model for the retail deposit RC.

DESCRIPTION	DEPOSITS	INTEREST RATE	INTEREST EXPENSES - EXTERNAL
Current accounts	51.250	2,00%	1.025
Savings a vista	187.000	2,00%	3.740
Term savings	452.120	5,70%	25.771
TOTAL	**690.370**		**30.536**

DESCRIPTION	CLAIMS	INTEREST RATE	INTEREST INCOME - EXTERNAL
Current accounts	28.500	15,00%	4.275

DESCRIPTION	CLAIMS	INTEREST RATE	INTEREST INCOME - INTERNAL
Current accounts	22.750	7,90%	1.797
Savings a vista	187.000	7,90%	14.773
Term savings	452.120	11,50%	51.994
TOTAL	**661.870**		**68.564**

Table 4. Balance of deposits in the deposit RC

Table 4 illustrates deposits acquired in the total amount of 690.370kn with accompanying interest at annual levels. Average annual interest rate for deposits amounts to 4,42%. A vista deposits (current accounts and a vista savings) have considerably lower interest rates that those for term deposits.

For expository purposes of this illustration, the interest rate on term savings includes an insurance premium on savings deposits. Of the total amount of deposits taken, 28.500 kn has been lent to private persons though current account revolving loans at an average interest rate of 15%, which generated a 4.275 kn interest income.

The surplus of deposits taken is lent bank-internally at two different interest rates. The interest rate on a vista deposits is lower than that on term deposits, which is understandable if one considers their maturity structure, i.e. quality. Similarly, internal interest rates are lower than market interest rates, because the deposit RC assumes no risk when placing its funds internally.

The contribution margin of the retail deposit RC represents the first category of gains or losses, whereby it transpires whether the RC can cover its variable expenses. In the case of a negative contribution margin, one must try to identify the reasons behind, which can be the following:

a) low deposit base,
b) high variable expenses,
c) high amounts of value adjustments,
d) the problem of determining the virtual interest rate, i.e. the internal price and
e) level of fees and contributions.

A low deposit base may be caused by poor and inattractive, i.e. a small number of retail deposit products, unacceptable interest rates as against that of other banks, bank's instability and an undifferentiated customer approach.

High variable expenses may result from attractively high interest payable, which exceed or significantly exceed those of the bank's competitors. In that case the levels of interest payable need to be reconsidered, and made to fit the objectives and strategy of the bank as a whole. High amounts of value adjustments occur in cases of an undifferentiated customer approach, a mild politics towards current account revolving loans and checks, and inefficiency in claim collection on the basis of court decisions. The problem of determining the virtual interest rate consists in the fact that its amount can directly influence RC's performance. Income or expenses on the basis of fees and commissions may derive from a positive or negative contribution margin value. The amount of fees and commissions income and expenses will depend on the type of bank (whether it is primarily oriented to retail or corporate banking), cost of services, scope of transactions, market competition and the bank's strategy.

The controllable expenses of the retail deposit RC refer to those expenses which are indispensable for the functioning of this RC. These include: depreciation, gross salaries, travel expenses, daily allowances, entertainment costs, marketing, overheads and other expenses. Figure 5 illustrates a model of a profitability report for the retail deposit PC.

1. RC income	77.839
External income	9.275
- fees and commissions	4.500
- exchange gains	500
- interest on current accounts	4.275
Internal income	68.564
- interest income – current accounts	1.797
- interest income - a vista savings	14.773
- interest income – term savings	51.994
2. RC's variable expenses	31.106
External expenses	31.106
- interest expenses – current accounts	1.025
- interest expenses – a vista savings	3.740
- interest expenses – term savings	25.771
- value adjustments (2%)	570
3. Contribution margin (1-2)	46.733
4. RC's controllable expenses	10.530
Depreciation	830
Gross salaries	5.000
Overheads and other expenses	4.700
5. RC's controllable profit (3-4)	36.203

Figure 5. Model of performance ratios for the Retail Deposit RC

According to the above model, the RC is making a relatively high controllable profit. Internal income accounts for the greatest portion in the total income structure. In order to arrive at the actual profit of the RC, relevant expenses (determined in this RC by the key method) need to be subtracted from controllable profit.

Relevant expenses pertain to all expenses of cost centers which need to be transfered onto PCs. According to the model we have illustrated, the RC is making profit because of a strong deposit base generating income exceeding the amount of expenses.

Depending on the bank's organization and the organization of its bookkeeping, some types of expenses, i.e. their amounts shall be taken directly from subledger records of financial bookkeeping (e.g. phone expenses, cost of office material, marketing, business trips etc.) if they refer specifically to individual RCs. In case of those expenses that cannot be accurately allocated to individual RCs, we use the key used for the allocation of overheads (e.g. heating, electrical power, water supply etc.).

Gross salaries for RC employees are obtained from subledger records, which should be broken down according to individual RCs.

If incentive payments are included in the salary management system, it would be useful to state them explicitly in the structure of gross salaries. Travel expenses, allowances, education and entertainment costs refer directly to the relevant RC, and we gain that information from subledger records too. Marketing expenses, i.e. that portion which refers to retail deposits RC shall be directly allocated to the RC. Other expenses incurred by the marketing, which is a budgeted cost center, are allocated onto RCs on the basis of key for cost allocation.

Overheads and other expenses, i.e. their amounts are obtained from subledger records if possible. If not, certain cost allocation keys need to be applied. Which key will be used will depend on the bank's structure and the adequacy of individual keys for individual expenses. Most frequetly used keys for the allocation of overheads and other expenses are the number of employees and surface used by the RC expressed in square meters.

Funds intended for retial lending may come from the following sources: a) retail deposits (without regard for currency or term structure), b) bank's liabilities for loans taken over, c) securities issued and d) bank's equity. To determine RC performance and to control current performances it is necessary to shape a reporting model for the retail lending RC. The pseudoprofit loan RC makes external income on the basis of interest and fees. In order to be able to lend, one first must collected the funds which are then transferred to the loan RC. Virtual interest rate is calculated for those funds, which for some will represent expenses, for others income. Typical contents of the manager's report for the loan RC are shown in Figure 6.

Loan RC makes its income for the most part on the basis of interest (both regular and penalty interest). Besides those, there is also intercalate interest that is calculated as of the date of loan disbursement until its transfer into repayment.

Depending on the bank's policy intercalate interest can either be added to the principal, or paid. Apart from interest, this RC also makes income from fees. Those refer to loan processing fees. Interest expenses based on the virtual interest rate account for the largest portion of variable costs. These costs are internal, which means they serve the purpose of measuring target performances of the RC. They are charged on the funds borrowed from other RCs, which are lent to external beneficiaries, i.e. private persons.

Value adjustments have the form of external expenses, and they result from debts owed to the bank. To protect its interests and collect its claims, the bank activates its security instruments. The bank makes value adjustments in the amount of uncollected claims, which is directly charged to the bank's financial result.

Should the bank collect its claim after value adjustments have been made, this value adjustment has a positive value and is done in favor of the bank's, i.e. RC's financial result. Contribution margin of the loan RC represents the first profit category.

A negative contribution margin may be indicative of: a) low interest income due to a low loan volume which may be the result of the bank's investment into other, more profitable activities, b) high interest expenses, c) high value adjustments as a result of poor collection of claims due and inadequate loan security instruments.

A positive contribution margin points to the following analysis: a) what is the portion of contribution margin in overall income b) past trends in contribution margin values and what trends are predicted for the future and c) comparison of different RCs within the bank. Contribution margin allows us to conclude how much room we have to cover RC's controllable expenses. Controllable expenses of the loan RC refer to those expenses that are necessary for the functioning of this RC. This RC's controllable expenses include the following: depreciation, gross salaries, travel expenses, daily allowances, entertainment costs, marketing, overheads and other expenses. Depending on the bank's organization structure and the organization of its accounting, some types of expenses, i.e. their amounts are obtained directly from subledger records, if they refer precisely to specific RCs. Those controllable expenses that cannot be allocated to individual RCs, are distributed by the key method.

Table 5 illustrates the balance of loans and deposits with pertaining interest rates, i.e. income and expenses

DESCRIPTION	LOANS	INTEREST monthly	INTEREST INCOME	INTEREST annual
Loans a	20.000.000	0,75%	150.000	9,00
Loans b	6.300.000	0,80%	50.400	9,60
Loans c	1.800.000	0,85%	15.300	10,20
TOTAL	**28.100.000**		**215.700**	

DESCRIPTION	AMOUNT	FEES	INCOME
Loans a	1.000.000	2,00%	20.000
Loans b	250.000	2,00%	5.000
Loans c	100.000	2,00%	2.000
TOTAL	**1.350.000**		**27.000**

GRAND TOTAL INCOME	242.700

DESCRIPTION	DEPOSITS	INTEREST monthly	INTEREST EXPENSES	INTEREST annual
Borrowings a	11.000.000	0,30%	33.000	3,60
Borrowings b	17.100.000	0,50%	85.500	6,00
TOTAL	**28.100.000**		**118.500**	

Table 5. Balance of deposits, lendings and accompanying interest income, interest expenses and income from fees at the Loan RC

The figures in Table 5 are expressed on a monthly basis. It shows that the RC lends its funds in the form of three lending products at different interest rates and that it achieves a montly interest income in the amount of 215.700 kn and 27.000 kn on the basis of fees charged on loans approved the previous month. In order to lend internally, funds were borrowed at two different interest rates. The rates differ because sources for the lendings are of a different kind, in respect of maturity. Funds borrowed at longer maturity dates are more expensive and vice versa.

Figure 6 illustrates a model of RC profitability report. It is evident that in the total income structure fees account for 11,12%, i.e. amount to a total of 27.000 kn. Negative value adjustments during the month surveyed amounted to 0,5% as against the amount of total loans, which caused a negative contribution margin for this RC. Adding controllable expenses, the controllable profit, i.e. loss of the RC increased. Causes of non-profitability are low lending activity, which is evident from the bad income structure (interest and non-interest income), high amount of provisions, i.e. of negative value adjustments and a relatively small loan portfolio, whose generated profit cannot cover even the minimum amount of provisions.5.RC controllable profit (3-4)-26.830

1.	RC income	242.700
	External income	242.700
	- interest income	215.700
	- fess and commissions	27.000
2.	RC variable expenses	259.000
	Internal income	118.500
	- interest expenses	118.500
	- value adjustments (0,5%)	140.500
3.	Contribution margin (1-2)	-16.300
4.	RC controllable expenses	10.530
	Depreciation	830
	Gross salaries	5.000
	Overheads and other expenses	4.700
5.	RC controllable profit (3-4)	-26.830

Figure 6. A model of performance ratios for the Loan RC

4.3. Treasury Department Performance Ratios

Liquidity is one of the three pillars of banking business, the other two being security and profitability. bank liquidity is a concern for the treasury pc. cash flow statement, together with the balance sheet and profit/loss account form the basic financial and accounting statements that are compiled for every balance sheet period, i.e. calender year. in this section we shall concentrate on the design of a model of cash flow statement of internal character.

Bank, i.e. PC cash flows may be significant indicators of their respective business performances. Unless profit, as an accounting category disclosed in bookkeeping records, is followed by cash inflow, consequences may be catastrophic for the management, shareholders and the employees.

The goal of managers' cash flow statements is to detect weak spots in the circulation of cash at the bank level, but also within individual PCs and to delimit the better ones from the worse-performing ones thus keeping under control target performances of individual PCs.

When compiling managers' cash flow statements for the entire bank, i.e. for individual PCs, one has to keep in mind the following:

- bank size and its organization structure,
- time span covered by the cash flow statement and
- profit and loss account, that is, individual PCs' contribution margin.

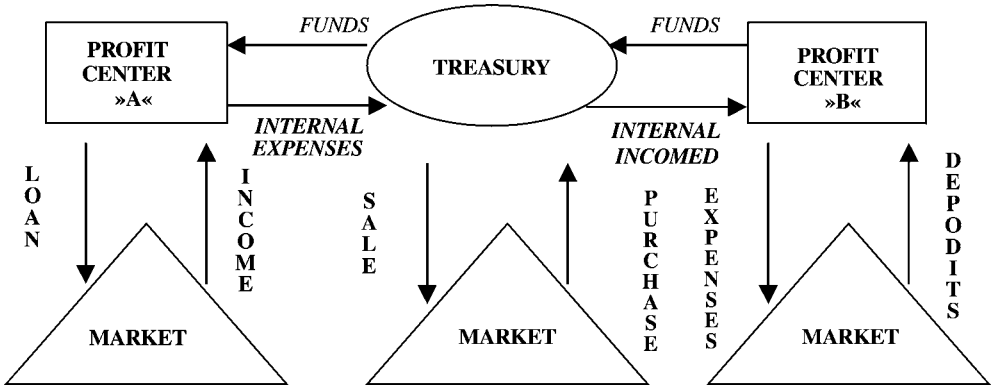

Figure 7. Method of regulating bank-internal relations via the Treasury (based on na Ernst & Young LLP, Performance measurement for financial institutions: Methods for managing business results, McGraw Hill, Atlanta, 1995, p. 177)

Once a month, a P/L Account is complied for the Treasury Department PC, i.e. its contribution margin which is then compared to target performance values. The role of the Treasury becomes even more prominent if bank-internal inter-PC transfers are conveyed via the Department, as indicated in Figure 8. The Treasury pur-

Bank

Assets		Liabilities	
Loan:	2 years	Deposit	3 months
Amount	1.000.000	Amount	1.000.000
Interest	8,50%	Interest	4,50%

Margin = 4,00%

Interest rate risk: Susceptible liabilities
Embedded Option: Premature loan repayment

Corporate Loans Department (Lending department)

Assets		Liabilties	
Loan:	2 years	Transfer from Treasury	2 years
Amount	1.000.000	Amount	1.000.000
Interest	8,50%	Interest	6,00%

Margin = 2,50%

Interest rate risk: None
Option: Sold prepayment option to loan customer on balance sheet;
Buy an option from Treasury 0,20%
Net interest margin after option costs = 2,50% - 0,20% = 2,30%

Deposit department

Assets		Liabilities	
Claims from Treasury	3 months	Deposit	3 months
Amount	1.000.000	Amount	1.000.000
Interest	5,20%	Interest	4,50%

Margin = 0,70%

Interest rate risk: None
Option: None

Treasury

Assets		Liabilities	
Claims from Loan Department	2 years	Transfer from Acquistion Department	3 months
Amount	1.000.000	Amount	1.000.000
Interest	6,00%	Interest	5,20%

Margin = 0,80%

Interest rate risk: Susceptible liabilities
Option: Sell option to lending division for 0,20%
Net interest margin after option sale = 0,8% + 0,2% = 1,00%
Treasury bears interest rate risk and the risk of premature loan repayment

Figure 8. Example of internal fund transfer, method of term (mal)adjustment (based on Koch, T., MacDonald, S., Bank Management, Dryden Press, 2000, p. 178)

chases funds from PCs with a positive balance (whose deposit balance exceeds the credit balance), and sells them to PCs with a negative balance (whose credit balance exceeds the deposit balance) at internally-defined rates. Should internally available funds not suffice for further lending activities or exceed the need, the Treasury purchases or sells the funds on the external market.

The example below illustrates the operation of inter-PC transfers.

The bank has lent an amount of 1 Mio. kn for the period of 2 years at 8,5% interest rate. The loan proceeds are financed out of 3-month deposits at 4,5% interest rate. Net interest margin for this loan amounts to 4%. This particular example shows that the bank assumed two specific risks. The first being sensitive liabilities because interest income drops if interest rate increases, the second being the risk of premature repayment because the customer may choose to refinance prior to loan maturity. Let us assume that the bank performs three operations: lending, deposit-taking and Treasury management.

Part of Figure 8 illustrates a method of allocation of interest margin and responsibilities for individual risks. In the course of the transaction, interest rates on the money and capital market for securities for the period of 3 and 6 months were 5,2% and 6% respectively. On the basis of the defined interest rates, internal money transfer is conveyed through the Treasury, which receives funds from the deposit department at 5,2% and lends them to the Lending Department at 6%.

The net interest margin for the Lending Department is thus 2,5%. In this way the Lending department assumes business risk, but not interest rate risk. Lending department has option for premature loan repayment 0,20% which reduces its net interest margin to 2,30%.

The Treasury obtains a deposit from the Deposit Department at 5,2%, which achieves net interest margin of 0,7%, which is a rate that can be achieved by selling on the external market. This net interest margin of 0,8% is reinforced by further 0,2% , sold prepayment option; thus the total net interets margin amounts to 1%. This way, 4% of net interest margin has been divided among the three organizational units by allocating funds on a matched-maturity basis. The Treasury assumes interest rate risk and the risk of premature repayment, while other departments, the lending and deposit departments focus on other risks. Advantages of the method of term (mal)adjustment, as opposed to the pool method stand out clearly. Still, one should not lose sight of potential difficulties that may occur when introducing and implementing this method over others.

4.4. BRANCH OFFICE PERFORMANCE RATIOS

Banks that operate at several different locations away from the headquarters structure their branch offices as independent PCs. Within a branch office, i.e. the PC, smaller organization units are formed to facilitate the measurement of their target performances. The branch office PC has a relatively high degree of autonomy in

its approach to customers. Every branch office must implement the bank's business policy. Branch office PCs can be structured differently, depending on the type of activities they perform. If the bank is of universal type and engages in all sorts of banking activities, they could be organized as shown in Figure 9.

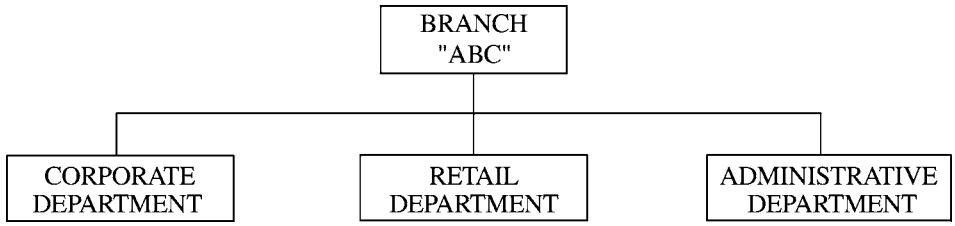

Figure 9. Organization chart for “ABC” branch office

Retail RC performs all types of retail activities. Those include taking all kinds of retail deposits, giro and current accounts and retail savings, as well as retail lendings in the form of housing and consumer loans. The very organization of business operations depends on the volume of retail business and the bank's overall lending policy, as well as the management of the branch office. The busines volume in branch offices is characteristically smaller than in the headquarters, thus no special RCs need to be formed for retail deposits and retail loan centers. However, the system of manager reports needs to be shaped in line with the types of business operations conducted in a given branch office. Such manager's reports need to be compiled at two levels:

a) at the PC, i.e. branch office level and

b) at bank-level for the top management.

At the branch office level these comprise the following reports:

a) PC's overall contribution margin, but also separate contribution margins for the retail and corporate departments,

b) Monitoring overheads and administrative expenses of the PC on the basis of the annual budget as per types of costs, and separate reports for the retail, corporate RC and branch office management,

c) Monitoring income and expenses from fees and commissions on the basis of the annual budget as per individual types of income and expenses, and separately for the respective RCs: retail and corporate and

d) Monitoring individual items of assets and liabilities on the basis of the annual budget as per individual types of deposits and lendings, and separately for the retail and corporate RC.

The mentioned reports are compiled on a monthly basis. There is an option of performing budget revisions, in which case they are done on a quarterly basis. All reports are of internal character exclusively and they are compiled by the organizational unit in charge of the compilation of manager's reports, e.g. controlling. Reports at the branch office level are delivered to the branch office manager, i.e. to the manager of the PC, both those referring to the PC as a whole and those referring to lower organizational units, i.e. RCs. The method of controlling and achieving target performances within lower organizational units and communictaion with them is up to the manager of the branch office, i.e. PC. This way the PC manager enjoys a relatively high degree of autonomy, but at the same time has to strive to achieve target performances.

The following reports are submitted at top management levels:

a) PC's overall contribution margin,

b) Monitoring overheads and administrative expenses incurred by the PC on the basis of annual budgets as per cost types,

c) Monitoring income and expenses from fees and commissions on the basis of annual budgets as per types of income and expenses,

d) Monitoring individual items of assets and liabilities, which are the responsibility of the PC on the basis of annual budgets as per types of deposits and lendings and comparison between branch offices in terms of the following items:

- PC Contribution margin,
- Total overheads and administrative expenses of PCs,
- Total income and expenses from fees and commissions per PCs,
- Total amounts of realised items in the assets and liabilities (item comparison, e.g. private persons' current accounts).

All reports for the top management are compiled on a monthly basis, while budget revisions are performed on a quarterly basis. When it comes to proposals for quarterly budget revisions, it is necessary to determine the top value, above which any such proposal needs to be accompanied by a special explanation.

This topmost value can be expressed in two ways:

a) In absolute terms and

b) In relative terms

Representing the revision in absolute terms has the basic advantage of allowing for a simple calculation of the total revised amount by simply adding the increase to individual budget items. Its main drawback resides in the fact that any

DESCRIPTION	LOANS	INTEREST RATE monthly	INTEREST INCOME	INTEREST RATE annual
Loans a	18.000.000	0,75%	135.000	9,00
Loans b	6.500.000	0,85%	55.250	10,20
Loans c	1.950.000	0,90%	17.550	10,80
TOTAL	**26.450.000**		**207.800**	

DESCRIPTION	DEPOSITS	INTEREST RATE monthly	INTEREST EXPENSES	INTEREST RATE annual
Deposits a	21.000.000	0,16%	33.600	1,92
Deposits b	6.500.000	0,45%	29.250	5,40
Deposits c	1.950.000	0,52%	10.140	6,24
TOTAL	**29.450.000**		**72.990**	

DESCRIPTION	LOANS	INTEREST RATE monthly	INTEREST INCOME	INTEREST RATE annual
Internal transfer	**3.000.000**	0,75%	22.500	9,00

DESCRIPTION	AMOUNT	FEE	INCOME
Loans a	**1.100.000**	2,00%	22.000
Loans b	200.000	2,00%	4.000
Loans c	50.000	2,00%	1.000
TOTAL	**1.350.000**		**27.000**

Grand total	**INCOME**	257.300

Table 6. Balance of deposits, lendings, interest income and expenses of the "ABC" branch office

increase above and beyond certain upper-limit values expressed in absolute terms may in reality be just a negligible percentage of increase as compared to the original value of the annual budget. Representing the revision in relative terms, i.e. percentages has the basic advantage in that it allows us to read off the budget increase, which in percentages may be huge, but in reality may be just a small amount. Keeping in mind all the advantages and disadvantages of both ways of representing budget revisions, one should implement the one which will be most adequate and most rational to implement. Any proposals of significant revisions need to be explained in brief, and any budget increase requires consent of the management. The structure of reports submitted reveals a pyramid of information flow. Top management receives reports at PC level, PC manager receives reports for the PC as well

as component organizational units. This is the way the top management exerts control over the target performances of the PC without having to go into whether target performances at lower organizational levels within the PC have been achieved. This kind of internal reporting fixes responsibility for the performance of target performances of individual PCs, i.e. branch offices.

Table 6 illustrates the balance of lendings and deposits taken in the branch office "ABC" with accompanying interest recalculated on a monthly basis, but they are also shown at annual levels. Given the diversity of deposit and lending products (per maturity structure and interest rate) we assume three different loan and deposit products. The Table shows that the branch office is financed out of its own deposits. The 3.000.000 kn excess is transferred to other PCs at 9% interest rate. Although the branch office PC lends at 9% - 10,80% interest rate, we should keep in mind that internal transfers, loans at virtual interest rates are risk-free lendings. Branch office "ABC" has marked in the course of the month income from fees in the amount of 27.000 kn, and that on the basis loans disbursed to customers.

1.	RC income		257.300
		- interest income – external	207.800
		- interest income – internal	22.500
		- fees and commissions	27.000
2.	RC variable expenses		205.240
		- interest expenses	72.990
		- value adjustments (0,5%)	132.250
3.	Contribution margin (1-2)		52.060
4.	RC controllable expenses		10.530
	Depreciation		830
	Gross salaries		5.000
	Overheads and other expenses		4.700
5.	RC controllable profit (3-4)		41.530

Table 7. Model of performance ratios for the "ABC" branch office

The contribution margin of the ABC branch office is positive, as is controllable profit. Although non-interest income does cover controllable expenses, we need to stress a high proportion of interest income in the overall income structure (almost 90%) which is a consequence of high interest receivable. In order to get the gross profit for the branch office, controllable profit needs to be reduced for the amount of expenses incurred by cost centers. Controllable profit needs to be valued in comparison to other branch offices and PCs and to target performances on monthly, quarterly or annual levels.

Synthesis of Research Results

The concept of a quantitative and qualitative monitoring of managerial performance is labelled responsibility accounting. With the introduction of responsibility accounting, the idea of proper managerial control within a bank is fully accomplished. Successful managerial control is unthinkable without the existence of RCs. Namely, what this type of organization implies is the linking of key information essential for income, espenses, profit and funds management, which is a prerequisite for a successful functioning of managerial control. The system of reponsibility accounting operates most efficiently through decentralized organizations.

Contribution margin, marginal cost accounting, has imposed itself as the best model of managerial control. Its aim is to determine and locate manager responsibilities and their motivation mechanisms. At the same time it represents a model for the management of PCs in banks as well as in other legal entities. Its basic idea resides in the fact that the manager bears responsibility for controllable costs only, variable and fixed, which (s)he must cover and achieve profit thus contributing to the bank's overall performance and stability. Managers' incentive payments will then derive from the results obtained from the application of this model.

A further consequence of implemeting a decentralized organizational structure based on RCs is the introduction of special relations betweeen individual PCs within the bank, which sets in motion the process of internal economy, which is a very specific economic phenomenon. The purpose of setting up bank-internal economy is to achieve cost reduction and an increase in profitability. Crucial for the establishment of internal economy is a definition of transfer, or internal rates; three approaches are commonly used in practice: cost-based transfer rates, market price-based transfer rates, and negotiable market transfer rates.

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