DETERMINANTS OF THE BANK’S OPERATING EFFICIENCY

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1. Introduction

The global financial and economic crisis put the banking sector to the test in countries all over the world. The crash of investment banking has led to the need for state interference for the stabilization of bank systems, and the subsequent effects found expression in programmes for reducing the business and orientation to stable market business fields. However, the consequences did not end there. The negative impact of the crisis transferred itself also into the real economy, and thence onto the commercial portfolios of banks. Bulgarian banks, being part of this global system, reported negative changes in their performance indicators – shrinkage of credit portfolios, deterioration of their quality, lower returns, the need for strengthening both liquidity and capital adequacy, with a view to retain markets and achieve higher financial stability.

The indicator incorporating the effect of changes in management policy, the market conditions and banking activity itself, is that of efficiency. And if over the years the possibility for its study fell in a number of specific approaches, today, by contrast, banks measure their own efficiency mainly through the Cost/Income indicator, expressing the ratio of operating costs over the net income of the bank or the total bank income.

The aim of the present study is to show the degree of dependence of the bank’s efficiency on individual determinants in time of crisis.

In the work there have been set a few restrictions. From the range of impact factors there have been excluded the levels of non-performing credits, the minimum required reserves and the maturity of the respective assets and liabilities in the individual banks

2. Towards a definition of operating efficiency

Generally, the assessment of efficiency is done mainly from two standpoints. The first is that of academia, who seek the limits of operational efficiency (technical,
allocative, x-efficiency) through the use of specific parametric and non-parametric methods for analysis. In most cases the estimation of the influence of the determinants is for a past (even long past) period of time and encompasses the average values of calculated efficiency, regardless of the sector or the dynamics of the registered efficiency.

In the present study the viewpoint of the author coincides with that of the controllers in banks – the estimation of the indicator and its determinants are to be used for comparability within the bank’s structures or in relation to the banks from the sector in the country. Similar comparisons allow the setting of the so-called efficiency benchmark, which serves as a reference point of the respective bank system and market. The analysis of past periods allows us to assess in time not only the effect of determinants, but also the measures for improving efficiency, as a result of surmounting the negative effects of these determinants. This makes such a method of estimation more needed for the purposes of bankers and applicable in recurrent internal analyses.

The present analysis collects the factor estimation of the diversity of efficiencies and translates it to the indicator Cost/Income used by the banks in order to confirm the proposition that the levels of efficiency are preserved mainly because of the commercial character of banking in this country. Precisely that is the standpoint, from which there are posed the questions connected with the effect of the determinants of efficiency, expressed by means of the traditional indicator for banks, specified in terms of the net or gross income of banks.

The end of the first decade of the 21st century has led to a complete rethinking of the bank’s business strategies. As the main cause of such actions many people point out the processes of deregulation and liberalization. The openness of foreign markets whetted the appetite of bankers for bigger product realization and higher income, while the goals of “competitiveness” and “market share” were the very stimuli that affected the quality of banking. The oversaturated bank market required the kind of competition offering “quick, easy and convenient” money, and it in turn boosted the conditions for the existence of moral hazard. The created new and complex products affected two of the largest sectors – commercial and investment banking, in which the measures for limiting credit risk were seemingly avoided. As a result of the process of securitization the lending risk was transferred to investment banking, while globalization turned the banking crisis into an economic crisis, as well.

The losses from investment activity and the deterioration of the credit portfolios forced banks to seek ways to cut their own costs. Part of the losses were temporarily made up for with the received state aid, but in response to that banks were supposed to undertake prompt action mainly in terms of cutting costs and raising financial stability. The shrinking incomes from core activity were opposed using the long-standing approaches of lean management – branch purging, redundancies of personnel and the topical approach of partial sale of branches or processes of total acquisition.

Along with the management of operating costs there also came to the fore the problem with interest rates on loans, which in some countries led to even greater negative effect on the economy. A similar situation is observed in markets where investment banking is undeveloped and the stable incomes from commercial banking
have determined “the flow of funds to parent banks”. In most cases the subsidiaries chose to maintain interest rates and avoid the principle of hypermarkets at the expense of the “small convenience stores”. Customers, however, replaced their loyalty with the search for alternative variants of financing or denial of production and consumption.

The entire multitude of problems, solutions and results in the banking sector formed the need for assessing the complex performance indicator – efficiency. The indicator Cost/Income chosen by banks can also be perceived as the most accessible variant for estimating cost efficiency, while the leading parameter of operating costs makes it also an indicator of operating efficiency.

The indicator Cost/Income is usually defined as the ratio of non-interest costs (excluding the bad loans and the cost of doubtful exposures) and the sum of the interest and non-interest incomes. In some of the sources, however, the indicator registers in one of the variants the gross income, and in the other – the net income (as a denominator), which forms in principle two different indicators of efficiency, provisionally named efficiency at Variant 1 and efficiency at Variant 2.

At variant 1 Cost/Income is presented as the ratio of operating costs and the sum of the net interest income, the net income from commissions and the other operating income or:

\[
\text{Cost/Income} = \frac{\text{operating costs}}{\text{net interest income} + \text{net income from commissions} + \text{other operating income}}
\]

At Variant 2 the indicator expresses the ratio of operating costs and the total earnings of the bank, i.e.:

\[
\text{Cost/Income} = \frac{\text{operating costs}}{\text{total earnings of the bank}}
\]

Despite its simplified nature the calculation of the indicator often gives rise to problems. They are caused by the discrepancy between the results of banks and the data obtained using the disclosed methods for its assessment. The main reasons for the differences are: firstly, the access to data; secondly, the limitation that the very institution sets itself in determining the scope of operating costs, and, of course, the period for which the calculations are done.

In spite of disputes concerning the issue precisely which costs can be added to operating costs, in the present study the latter include administrative costs, depreciation and the other operating costs. The choice of this particular classification is

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2 It is also one of the standards for measurement and comparison of banks under conditions of different bank markets, since it shows the result of the exploitation of resource factors (without the nominal factor) for achieving the total income. The universally accepted limit for effective bank structure is about 0.5 (50%). At the indicator value close to 1 (100%), the bank exhibits high ineffectiveness and should undertake measures for optimizing its structure/processes/costs, i.e. apply a process of reengineering.

3 The variety of possible definitions and calculations of Cost/Income is confirmed also by the statistics kept on the performance indicators of the banks in the Asian Pacific, according to which the indicator is computed as the ratio of non-interest operating costs and the sum of the net interest income and the non-interest operating earnings. See Asia Pacific Banks Performance Rank- Lowest Cost to Income Ratio, http://www.theasianbanker.com/ab700/2012-2013/lowest-cost-to-income-ratio, September 2012.

predetermined by the fact that banks are able to manage as a result of their own efforts only the costs, which are independent of the market. The indicated operating costs express the ability of management to “tune the organization-bank” and set it in sync with the requirements of the environment, the internal organizational processes, the business processes and adaptive changes. Also banks do not include the interest costs in the group of operating costs, which is clear from the levels of the indicator.

Indications of problems with the calculation and interpretation of the indicator are aroused also by its second part – the denominator, expressed by means of the gross income of the bank and the net income of the bank, in which there take part income from interest and commissions and expenses on interest payable and commissions. In some studies with the group of incomes there are placed the total incomes of the bank, in other there are specified net indicators of earnings – net interest income and net non-interest income, which predetermines the different values in the statistics that are kept. Under the indicator “operating income (to reserves)” there are included the net interest income, the net commission income, as well as the other incomes.

The presented peculiarities and characteristics of the elements of the indicator of operating efficiency lead to the following conclusion. Variant 1 of the indicator presents the accounting for the net interest income, which entails also the inclusion of interest costs in its calculation. The opposite view – Variant 2 – excludes interest costs. To interest costs there are usually added payments on borrowed funds in the form of current accounts or deposits of natural and legal persons, interbank credits, credits from the central bank, bond issues and other debt securities. Since a key source of liquidity are the funds borrowed from customers in the form of current accounts and term deposits, often banks do not have sufficient capability of lowering interest costs due to competitive pressure on the part of other banks. Furthermore, commercial banks do not have the ability to sharply lower interest rates on current accounts either, especially on time deposits, since that would cause a mass withdrawal of funds from the bank, doubts as to its financial stability, and would create an unfavourable information background, especially in cases of take-out towards parent banks.

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5 See Tripe, D. Cost to income ratio in Australasian banks, http://centre-banking-studies.massey.ac.nz/fileadmin/research_outputs/costtoincome.pdf. An important point in determining the value Cost/Income is also the exclusion of risky and doubtful exposures. This is explained with the fact that the reason for these exposures is in a past period, while the indicator estimates the current performance of the bank. What is more, with the addition of these exposures and with their possible writing off, the values Cost/Income will vary within wide limits, and this will not provide the necessary information to and about the bank. In the estimation of income and costs there are excluded impairments, provisions, the net indicators of realized profits (losses) from financial assets and financial liabilities, unestimated in fair value in the profit or loss; the net profits (losses) from financial assets and liabilities held for trading; the net profits (losses) from financial assets and liabilities assessed in fair value in the profit or loss; the net profits (losses) from accounting for hedging; the net foreign exchange differences; the net profits (losses) from assets that have been written off, different from those held for sale, the provisions and the impairment. The reason for their exclusion is that they express net values, and also with most banks they would not have significant effect on the dynamics of the indicator, since their values are insignificant. Impairments are also a net indicator and because of that they cannot be accounted for in the gross indicators of income and expenditure.
3. Factor impact on efficiency

The study of Cost/Income requires the outlining and systematization of the set of factors that affect its value. Broadly speaking, determinants can be systematized in three groups – those affecting the operating costs, the interest income and expenditure, and regulatory ones. In this case within the scope of factors influencing operating costs we ought to include all those which do not have any connection with the formation of interest rates and are affected only by the way the bank functions, the processes, structures and the management.6

The leading element for the change of interest income and cost is economic growth, followed by the interest rate spread. The latter is influenced by a number of factors also affecting efficiency itself.7

The group of regulatory determinants includes capital adequacy, bank liquidity and the level of minimum required reserves.

For the purposes of the study there have been chosen the following determinants: economic growth (expressed through the change in gross added value), market power concentration (Herfindahl-Hirschman Index and coefficient of market power concentration)8, bank liquidity (credits and advance payments (without those to credit institutions) with respect to deposits (without those from credit institutions)), capital adequacy9, amount of assets, amount of deposits and interest spread (the differences of the ratios interest income/total loans and advances and expenses on interest payable/total deposits (without subordinated term debt)).

To these indicators one can add others as well, for example return on equity (ROE) and return on assets (ROA)10. It is a fact that the better the bank exploits its resources, the better efficiency it should have, since the profit made also reflects the incurred operating costs.

6 The strongest effect on the behaviour of operating costs have the specific character of the business model, the variable employment of personnel, the high level of fixed costs, the mass character of bank operations and the possibility for standardization, the nature of banking services, the low traceability of costs.

7 The size of the bank, ownership of the capital, the quality of the credit portfolio, the level of capital adequacy, the levels of overhead costs and other operating costs and the share of the liquid and the fixed assets, bank fraud, the bad management of credit risk, corporate governance, the market power concentration, the degree of development of the banking sector, the burden of taxation, etc.

8 Author’s own calculations based on data on assets in the reports of the banks with the BNB. In the analysis there are included the 23 banks as an entire market, there being excluded from the market branches of foreign banks, and the market power concentration is estimated only with those 23 banks.

9 Due to lack of information by way of quarterly data on capital adequacy by individual banks, the estimation is done on the basis of averaged quarterly data on the total capital adequacy (in %) and the ratio of capital adequacy of the I tier. See Банките в България, тримесечен бюлетин на БНБ, 2007-2011.

10 For comparability of the analysis and appraisal of factor influence, returns are estimated on a quarterly basis, without accumulation of profit, but with accounting for the profit per quarter and the formation of an average quantity of owners’ equity (OE) from the quarterly data. See Beyond ROE – how to measure Bank performance, http://www.ecb.europa.eu/pub/pdf/other/beyondroehowtomeasurebankperformance201009en.pdf.
The amount of assets and liabilities and the abovementioned factors take part in the formation of the regression equation for estimating the factor influence on the indicator of efficiency with Variant 1 and Variant 2.

The last element of estimating efficiency is operating costs. They are also presented by quarter and by respective institution.

For the purposes of the econometric analysis the regression equation has the following form:\footnote{By taking logs there is overcome the great variation in source data. The reason is that some banks are smaller, have fewer customers and, accordingly, the estimations which have produced these results are fewer in number, while the great variation in source data leads to serious differences.}

\[ Lnyi = \alpha 1 + \alpha 2 Lnxi2 + \cdots + \alpha k LnxiK + \epsilon, \]

where:

- \(U\) is the dependent variable;
- \(X\) is the independent variable;
- \(\epsilon\) – the extent of the error;
- the coefficients \(\alpha 2\) to \(\alpha k\) are the parameters, which indicate the effect of \(X\) on \(U\);
- \(\alpha 1\) is the remainder (the constant).

The greatest effect in Variant 1 goes to Assets, Liquidity, HHI, IntSpread, OPERCOST\footnote{The proof rejects the existence of multicollinearity and heteroskedasticity.}.

The coefficient of determination is 0.664 (the adjusted coefficient of determination of 0.660 (66%)), i.e. the weight of these factors in the formation of the value of the indicator is 66%.

Rejected as probabilistic factors of influence are changes in gross added value (economic growth), the levels of capital adequacy, the returns on assets and equity, part of which are in strong correlation with other independent variables. The results with respect to the coefficients \(\alpha\) and the standard error, the significance and t-statistics are presented in Table 1:

\[ Lnyi = \alpha 1 + \alpha 2 Lnxi2 + \cdots + \alpha k LnxiK + \epsilon, \]

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
\textbf{Indicators} & \textbf{B} & \textbf{Std. Error} & \textbf{Beta} & \textbf{t} & \textbf{Sig.} \\
\hline
(Constant) & 7.369 & 3.373 & 2.185 & .029 \\
LnLiquidity & -.247 & .027 & -.272 & -9.333 & .000 \\
LnHHI & -.816 & .411 & -.083 & -1.987 & .048 \\
LNIntSpread & -.366 & .163 & -.093 & -2.244 & .025 \\
LNOPERCOST & .656 & .033 & 1.603 & 20.151 & .000 \\
LNAssets & -.707 & .030 & -1.871 & -23.223 & .000 \\
\hline
\end{tabular}
\caption{Results of the econometric model – Variant 1}
\end{table}

The statistical significance of the above factors ranges from 0.05 to 0.1 (i.e. they are statistically significant). With the use of the coefficients the regression equation becomes:
\[ LnY = 7.369 - 0.247 \times LnLiquidity - 0.816 \times LnHHI - 0.366 \times LnIntSpread + 0.656 \times LnOpercost - 0.707 \times LnAsses \]

or the standardized:

\[ LnY = -0.272 \times LnLiquidity - 0.083 \times LnHHI - 0.093 \times LnIntSpread + 1.603 \times LnOpercost - 1.871 \times LnAsses \]

From the data it is clear that most coefficients are with a minus sign, i.e. they are a factor for a negative effect on the indicator. Yet, as long as the indicator is negative (an increase in its value will worsen the condition of the bank), that would lead to slightly different reasoning.

Liquidity is the ability of banks to perform at any moment without delay their day-to-day duties, both in normal bank environment, and in times of crisis. This means that in order to increase its liquidity, the bank must possess sufficient funds with which to satisfy the chargeability of deposits at short notice in accordance with the wishes of depositors. In that sense, such stability insurance should lead to shrinking the profit, and thence also to a rise of the indicator of operating efficiency (as an expression over the net interest income, since at a constant numerator its denominator decreases). The worsening of the indicator is shown by the rise in its value at constant levels of operating costs and a fall in the level of profits, expressed largely by the net income of the bank. In other words, the restraint in the synchronization of cash flows and the formation of liquidity is of great importance for the improvement of efficiency.

The level of market power concentration also limits the possibilities for the bank to reveal its potential. Under conditions of saturated market this leads to the formation of a marginal limit for the business (not imposed by production capabilities, but by the capacity of the market), since the achieved optimum levels of income depend on what market share the bank has compared to its competitors. In cases where banks do not adapt to the environment, keep the old structures as regards business, premises, personnel, etc., an impaired state of efficiency is observed. Competition is supposed to push banks towards perfection, but specifically the coefficient of concentration of banks in this country shows that four banks share out half of the market for the period considered, and that inevitably confirms the connection between efficiency and market power concentration.

The effect of the interest spread has a direct relation to the accounting for the net income of the bank’s business. The greater the interest spread, the bigger the income the bank receives. With the unfolded potential of the market this leads to high profits and extremely good efficiency (low values of the indicator). The high interest spread, however, is also an indicator, which on a contracted market drives the clientele back. The possible measures with regard to the behaviour of banks in order to keep efficiency are the reduction of operating costs and contraction of the interest spread in order to control the impairment of efficiency.

The positive connection between operating costs and the efficiency of the bank with Variant 1 is predetermined by the nature of the indicator. It proves that operating costs serve as the basis for forming the indicator Cost/Income’s value.
The amount of the assets is the last possible factor for improving efficiency. The more assets grow, the more income from interest rates will grow (provided there is no significant increase in loans overdue), and if banks keep their organizational structures and do not expand the factors of production, the efficiency of the bank will improve. It is clear that the indicated determinants are of utmost importance to the banking business.

Variant 2 of calculating the indicator takes into consideration the gross income of the bank. The main results for the connection coefficients are presented in Table 2. The adjusted coefficient of determination is 0.776, or 77.6% of the value of the indicator is predetermined by these factors. The tests confirm the absence of multicollinearity and heteroskedasticity, which supports the model. The value of the error is again below the minimum significance lower limit of 0.05.

### Table 2

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>7.247</td>
<td>1.335</td>
<td></td>
<td>5.427</td>
<td>.000</td>
</tr>
<tr>
<td>LnLiquidity</td>
<td>-.101</td>
<td>.019</td>
<td>-.128</td>
<td>-5.443</td>
<td>.000</td>
</tr>
<tr>
<td>LnHHI</td>
<td>-.620</td>
<td>.192</td>
<td>-.072</td>
<td>-3.223</td>
<td>.001</td>
</tr>
<tr>
<td>LNOPERCOST</td>
<td>.707</td>
<td>.023</td>
<td>1.990</td>
<td>30.828</td>
<td>.000</td>
</tr>
<tr>
<td>LNAssets</td>
<td>-.750</td>
<td>.021</td>
<td>-2.285</td>
<td>-34.936</td>
<td>.000</td>
</tr>
</tbody>
</table>

With the obtained results the equation of the regression becomes:

\[
LnY=7.247-0.101*LnLiquidity-0.620*LnHHI+0.707*LnOpercost-0.750*LnAsses
\]

or standardized:

\[
LnY=-0.128*LnLiquidity-0.072*LnHHI+1.990*LnOpercost-2.285*LnAsses
\]

The factors of influence on the behaviour of the indicator of efficiency with Variant 2 logically are fewer, since in its calculation the gross income of the bank is taken into consideration. From the set of factors there has been excluded the interest spread, since it is statistically negligible. The direction of influence of the factors is preserved, and the analysis of Variant 2 recognizes the significance of only four of them. However, with it, too, on account of statistical insignificance, capital adequacy, deposits[^13] and gross added value are excluded. The greatest significance belongs to the two main components – operating costs and assets. The index of market power concentration and liquidity account for the market and the share of the bank in it, as well as the parametrization of the necessary amount of resource for ensuring short-term payments on deposits.

[^13]: Due to the nature of banking in this country it is assumed that they could be identified with credits and have the same effect.
4. Prospects for efficiency

The generalized analysis of determinants leads to the conclusion that the efficiency of banks in this country is due to commercial banking. The reason for this is that the principal determinants of efficiency are directly connected with the assets and liabilities of banks, almost 80% of which are credits and deposits respectively. Factors such as capital adequacy, economic growth and return do not exert considerable influence on the attained operating efficiency. In both cases the leading factors are the amount of the assets and the level of operating costs, i.e. the bank and its operating efficiency are truly an indicator of good institutional management.

The econometric analysis indicates two main factors of influence on efficiency – assets and operating costs. In the context of their behaviour, in order to keep and improve their efficiency, banks in this country should have sufficient assets in terms of amount, access to external and internal financing, improvement in the quality of credit portfolios and optimization of business models. What does the environment offer?

In the light of the development of the global economy and the European banking sector till the end of 2011, the significance of the banks of the CEE (a market this country, too, is part of) to the growth and profitability of international players is still evident. The region continues to contribute to the increase in the flow of earnings to international bank groups also in 2011 and remains a key driver for the revival of parent banks14. To this end, parent banks should maintain the development of their subsidiaries, and that proves to be an initial support for their business.

However, in the context of what is happening in the region, Bulgarian banks report a fall in their contribution to headquarters. Profitability and the growth in the banking market in this country have long since fallen below the levels of the years of the credit boom, and the crisis has led to a change also in the attitudes of the bank’s clientele. The main cause of the falling profitability and decline of the market is considered to be mainly unemployment, followed by the level of non-performing loans, and an additional factor is the already shared out market15. In addition to that, lending in the Balkan countries is not reimbursed at rates that are desirable to parent banks, owing to the high rate of unemployment and the reduced incomes of households. As a result of the unfavourable prospects for the business, banks are forced to shift the limit of their “secure” income towards lower levels and to reorient their business towards other business fields or other markets16.

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16 In its overview of retail banking in the CEE for 2012 the consulting group Roland Berger points out that a great number of banks get reoriented to microenterprises. See: Retail banking in CEE – exploiting the potential of the micro business segment, Consulting group Roland Berger, EFMA, 2012, http://rolandberger.at/media/pdf/Roland_Berger_EFMA_Studie_Retail_Banking_in_CEE_20120606.pdf. The transfer of the activity to other business fields in this country may be done only by legalization of the capital of a greater number of the rich individuals, as a result of which there can be established the Wealth and Asset Management, typical of Western practice.
The reorientation of the business will, in turn, inevitably lead also to a variant, in which banks will also withdraw capital from their subsidiaries in order to assist their profitable business in foreign markets, or else the requirements of the regulators on liquidity and capital adequacy. The withdrawal of capital from parent banks, however, can be interpreted in a different manner. According to the chairperson of the European Banking Association\(^\text{17}\), “the withdrawal of capital is sometimes necessary, even healthy, in order to recover the vitality of the financial system and the normal financing of economic activity. Each financial crisis, particularly that generated by credit or by a housing bubble, is followed by a take-out, which leads to indebtedness of banks, and their borrowers are reduced to steady levels. At the end of the correcting process the bank system should have more capital, less debt and a more balanced liquid structure, with a low level of unstable sources of funding”.

The withdrawal of capital from parent banks in cases where the subsidiaries have sufficient independence on the foreign markets has a positive effect for them. True, but this can also be a process of forced withdrawal, which is a demotivating and restrictive measure on affiliated companies. Such a forced withdrawal may be caused by the limited resources of parent banks outside the countries for increasing the liquidity and capital adequacy or as a means of investing in new markets. Furthermore it can be used also as a resource for their own investment markets because of improved confidence in them\(^\text{18}\).

Furthemore, while according to the European Banking Association the withdrawal of capital is sometimes healthy, a similar operation can still create a serious risk for the countries of the CEE\(^\text{19}\). The disproportion in the rate of capital withdrawal may exert considerable influence on the supply of credit in the region and threaten the process of recovery. The lack of active lending, however, shrinks income from assets, and that lowers the efficiency of the banks (subsidiaries).

As far as changes in the business model\(^\text{20}\) are concerned, studies show that\(^\text{21}\) the current model (as of 2012) of functioning of the banks is on the verge of collapse.

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\(^{20}\) An exceptionally broad overview of changes, challenges and issues in the development of business models is made by St.Vachkov. For details see: Вачков, Ст. Банковите бизнес модели – поуки от мин. дото и визи на бъдещето, изд. ук и икономик, , рн, 2011.

This situation requires changes leading to a transformation of the structures and the management – banks will become smaller, more fragmented and decentralized. The achievement of efficiency could be realized through process improvement and streamlining of the business. New technologies, too, add “speed” to the initiatives for change. They are also the most substantial element of the environment transforming business models. From the viewpoint of technology, efficiency is achieved also out of purely economic benefit – the fall in investment costs. According to the views of KPMG and PriceWaterhouseCoopers, the estimation of operating costs and the improvement of efficiency should be considered firstly, according to the operating model and according to the offer to the customer, and secondly, with respect to the channels for distribution - transformations, which require once again primarily IT innovations and innovative business models, like those of Accenture for “smart” banks.

4. Conclusion

The Bulgarian bank system remained away from “the eye of the storm”. The direct effect of the financial crisis was felt with parent banks, which, however, did not react “too harshly” in respect to their subsidiaries and did not withdraw capital in the beginning of the period. Despite the achieved lower levels of profitability, the increase in the requirements for stability and sustainability of the sector, parent banks survived the pressure and let the subsidiaries stay in this country. In order to keep and improve their efficiency, banks should rely on the transformations in business models, adaptation to new technology, introduction of IT systems and maintaining the stability of the institutions. Here they must play their role of motivators for the business, to reconsider the high interest rates and to “restart” the economy, in order to be able afterwards to keep having stable profitability from the market, and that will neutralize also the willingness of parent banks to move their capital and business.

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Abstract

The global financial and economic crisis put the banking sector to the test in countries all over the world. The negative impact of the crisis transferred itself also into the real economy, and thence onto the commercial portfolios of banks. Bulgarian banks, being part of this global

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22 According to them business models are made up of the offer to the customer plus the channels for supplying the service and the operating model (including management, risk, control, financial analysis, legal and physical structure, people, remuneration and delivery). The two parts presuppose that for achieving higher efficiency and improving the offer to the customer, the bank should optimize the elements of the operating model, using all possible approaches to innovation and reengineering. See: Operating in the future - Is your operating vision clearly defined?, PricewaterhouseCoopers, Banking and capital markets, 2009, http://www.pwc.com/gx/en/banking-capital-markets/assets/operating-in-the-future.pdf.
system, reported negative changes in their performance indicators, but not in all of those. Despite the crisis, banks preserved their efficiency and the reason for the balancing effect of the negative external influences can be found in a more profound analysis and assessment of the very determinants of efficiency. 

Keywords: operating efficiency, banks, performance indicators, business models, determinants of efficiency.