

Lidija Barjaktarović

University Singidunum Belgrade
Department Finance and Banking, Serbia
E-mail: lbarjaktarovic@singidunum.ac.rs

Dragan Ilić

Business Academy Novi Sad
Faculty of Economics and Engineering Management
Department Marketing, Serbia
E-mail: prof.dragan.ilic@gmail.com

Ana Vjetrov

University Singidunum Belgrade
Faculty of Economics, Finance and Administration
Department Finance and Banking, Serbia
E-mail: avjetrov@feffa.edu.rs

RESULTS OF APPLIED COLLECTION MANAGEMENT MODEL – SERBIAN CASE

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Abstract

The main aim of establishing collection management model (CMM) is to minimize non-performing loans (NPL) in credit portfolio. Furthermore, efficiently organized collection management has direct impact on profit of the bank, via the level of provisions. The subjects of the analysis are the results of applied CMM on corporate credit portfolio of Erste bank and Banca Intesa Serbia in the second quarter of 2010. Consequently, the focus of this paper will be the period within 2011 and 2013. Elements of implemented CMM in both banks are the same, i.e. Aim, Architecture and Instruments in both models are similar. However, Organization, Control and Monitoring within the model are different due to the different risk management policies and organization in accordance with business needs. The authors focus on the following indicators: NPL, CAR (Capital Adequacy Ratio), ROE (Return on Equity) and quality of corporate credit portfolio. Finally, these results will be compared with the performance of the whole group to which Serbian banks belong, i.e. Italy and Austria.

Key words: NPL, collection management, credit risk

1. INTRODUCTION

The basic banking risk, immanent to specific of money management is credit risk i.e. the probability that the bank will not be able to collect the overall level of credit receivables from customers (principal amount or/and related interest rates or/and fees) (Barjaktarovic, 2013).

Crucial part of the whole process related to managing credit risk is collection management. Thus, collection management has direct impact on bank's profitability, level of provisions and quality of credit portfolio. It means that the key effect related to collection management is the decrease of provisions (in Income Statement or Equity in Balance Sheet) which consequently leads to the increase of profitability or reduction of the equity (Barjaktarovic, 2013; Barjaktarovic et al., 2011).

Accordingly, the bank may achieve successful results in case it follows the next criteria (1) volume of new approved loans and increase of the credit portfolio in accordance with the defined targets, (2) profitability of the bank, and (3) the level of non-performing loans (NPL). Consequently, the conclusion may be that efficient collection management is one of the most important issues for the bank and one of the preconditions for bank's lucrative and prosperous performance.

However, it is important to stress out that this paper represents further analysis which relies on the previous research (Barjaktarovic et al., 2015). The previous research focused on the results related to the applied collection management model (CMM in the text) on corporate credit portfolio (in the second half of 2010 as group strategy) of Erste bank a.d. Novi Sad (EB in the text) and Banca Intesa a.d. Belgrade (BI in the text), within the period from 2010 to 2013. Additionally, those results will be compared with the performance of the whole group, to which Serbian banks belong, i.e. Italy (Intesa San Paolo Group/ IG) and Austria (Erste group / EG) in the period from 2007 to 2013. This part of the analysis represents the deepening of the previous research and the main aim is to see whether there are some crucial differences between local and global performance of both banks including the comparison of performance indicators related to profitability, level of provisions and quality of credit portfolio.

Both IG and EG are present in Central and Eastern European (CEE) countries. They are active leading players in mergers and acquisitions of CEE region, so risk management procedures are crucial for establishing business in acquired banks. The aim of the research is to determine the impact of implemented CMM on banks' business comparing to the market where they perform activities.

The main hypothesis of the paper is that good CMM provides satisfied quality level related to credit portfolio and profitability of the bank. The value added of the paper is the comparison of this implementation on both levels: global and local. The main indicators used for confirming of the hypothesis are NPL (Non-performing Loans), CAR (Capital Adequacy Ratio) and ROE (Return on Equity). Consequently, these indicators should be more successful in comparison to

overall indicators related to banking sectors in Serbia, Austria and Italy. This paper consists of four chapters. The first chapter is introduction. Within the second chapter, the methodology is presented. Results and discussion are in the third chapter. Conclusion presents the last chapter of the research.

2. METHODOLOGY

Both banking groups introduced CMM in 2010 in accordance with their organization and type of customers. Elements of CMM model are the same: Aims, Organization, Architecture, Instruments, Control and Monitoring within the model (Barjaktarovic et al., 2011; Barjaktarovic, et al., 2015; BI, 2012). It is important to stress out that this exact model was used in previous relevant researches related to local banks; however it will be implemented on global level as well within this paper. The aim is to see whether there are any differences and discrepancies between local and global performance of the banks and its comparison to overall country banking indicators. This is the main contribution to the previous research. All the components of the model are presented on Table 1 for both banks globally (EG and IG).

Table 1

The components of CMM model – EG and IG

Elements	EG	IG
Aims	1) Regular and successful servicing of the credit commitments of the customers, 2) Minimizing the delay in servicing the credit commitments toward the bank, 3) Decreasing the overall number of NPL in credit portfolio.	
Organization	Rating of the customer and delay basket; Corporate division, Risk management division (Corporate credit risk management, Collateral management and Collection management), Credit committee, Legal division and Back office (credit administration).	Segmentation of the customer and delay basket (cluster data); Corporate division, Risk management division (Corporate credit risk management, Collateral management and Collection management), Work out, Legal division;
1) Classification of the debtors 2) Participants	PL and NPL clients are the main subjects of control and monitoring within the collection management model. The model consists of two analyses: quantitative analysis and qualitative analysis. Quantitative analysis represents changes, which have already appeared in customer's business and may affect the regular	

	<p>repayment of the loan and core business of the customer. All early warning signals can be categorized in the following ways (significant changes in customer's behavior, market data, problems in daily business and signs of fraud).</p> <p>Qualitative analysis represents a portfolio analysis using historical data. Historical data can be internal (internal database) and external (market data available to all relevant stakeholders). Internal indicators are days of delay, rating, industry and t/o through the account within the bank. External indicators are: blockade of the account, financial data (t/o, gross profit margin, EBIT, net profit, total assets, equity, short term loans, long term loans, receivables, payables, inventories).</p>	
Architecture	<p>Creditors and debtors; Collection management process for PL portfolio and NPL portfolio</p>	
Instruments	<p>Source of repayment can be cash flow from regular (core) business, i.e. primary source of repayment (CF1) and collateral of the loan i.e. secondary source of repayment (CF2).</p>	
Control and monitoring	<p>All credit customers of the bank are divided in 3 zones in accordance with the risk level:</p> <ol style="list-style-type: none"> 1) Red zone – the most risky customers of the portfolio, 2) Yellow zone – the zone of medium risk, 3) Green zone – zone of the low risk. 	<p>Basic principle: Continuous improvement; Review credit collection process; Key initiatives for Corporate: 1-90 days - Early due payment day management (PL) 90-180 days - Soft collection (NPL) 90-180 days - Rescheduling & agreed sale of client non-core asset (NPL) 180 + days - Distressed restructuring (NPL) 180 + days - Legal execution (NPL); Campaign consist of: target group of PL or NPL; campaign parameters and expected key drives;</p>

Source: Bank's Internet site (2015) Annual reports and Disclosure of data and information (3rd Pillar of Basel II) for the period of 2007 to 2013.

As it can be seen in the previous table, **the aims** are the same in case of both banks. Furthermore, if we analyze **the organization**, within the model classification of debtors and participants is covered. Both banking groups use days of delay for explaining this component of the model. However, it is important to stress out that there are certain discrepancies related to prime classification of the customer if we analyze the banks globally: (1) EG is using customer rating and for the final classification of the customer in the portfolio, expert opinion is relevant (built on individual assessment of risk management division of the bank);(2) IG is using classification influenced by the type of the customer (turn over, ownership structure and geographical presence are taken as the most important criteria). We may add that results are similar to the findings and differences we have found out in the banks operating locally.

Furthermore, component **participants** are similar within the model in both banks. However, main difference is related to the effects of internal organization. The most important thing is that all involved departments should cooperate successfully and have efficiently developed information flow among each other.

The model consists of both qualitative and quantitative analyses using both current changes in customers' performance and historical data related to customers' business behavior. Thus, the role of risk management division is immense. Risk management division is the main unit in charge of individual credit risk assessment in the following segments: initial crediting, collection management and collateral management. Consequently, one of the main task of risk management division are: (1) restructuring, which includes business renewal or refinancing, monitoring of the problematic loans, watch lists, stress renewal or refinancing, (2) liquidation, involving the following crucial steps: collection from the bankruptcy, collection from the collateral, sale of business, sale of receivables, (3) reporting and analysis involving delay reports, work-out reports, provisioning management, and assistance in budgeting process.

As it can also easily be seen on the table, both the architecture and instruments are the same in the case of both models.

The results also indicate that the control and monitoring within the model are similar within both groups. EG divides credit customers in 3 zones depending on the risk level: red, yellow and green zone. Furthermore, red zone relates to the most risky customers of the portfolio, yellow zone indicates the zone of medium risk and green zone represents the zone of the low risk. Having classified client in the appropriate zone, the corporate credit risk manager immediately sends information to the responsible account manager in order to organize the meeting with potentially problematic customers and prepare adequate strategy for the customers i.e. collection of the receivables in order to diminish the chances of default. In other words, it means preparing of review application. Generally, the main task of the risk management division is monitoring of credit portfolio on permanent basis. However, if problem occurs, they can track the credit risk related to specific customer i.e. loan. Finally, the results do not differ from the previous results acquired locally.

Furthermore, IG is organizing permanent campaigns for targeting group of customers - PL or NPL, and the same goes both on local and regional level. Furthermore, the campaigns' key parameters are: Gross Exposure included and Current Provisions. Expected and key drivers of campaigns are: (1) Provisions realized, (2) Provisions avoided and (3) NPL back to performing (consequently, action plan for NPL customer is part of this phase). It is important to stress out that the same thing is done locally.

All banks that are the main subject of analysis use internal rating for credit risk. Furthermore, banks in Serbia and IG use Basel II rules, while EG Austria uses Basel 2.5. It is important to emphasize that the main criteria for choosing those banks was the fact that the authors were involved in introducing CMM in the banks in Serbia. Moreover, both banking groups are present in same countries in Europe (IG has more speeded network all over the world – five continents) and have similar number of customers. Nevertheless, average number of customers related to EG is 17 million customers, while IG has approximately 19 million customers, in accordance with the data available in Annual reports of both groups. However, the same sources indicate that the approach to insurance business is different – IG keeps it as part of own business, while EG sold their insurance house (Wiener Staditsche).

The key indicators analyzed within the paper are NPL (%), CAR (Capital Adequacy Ratio), ROE (Return on Equity) and quality of credit portfolio. NPL, CAR and ROE will be compared with an average number related to Austrian, Italian and Serbian banking sector. Having in mind applied risk management regulation in those countries it is important to emphasize that in Serbia banks calculate CAR, however in Austria and Italy banks calculate Core Tier 1 ratio. Thus, this indicator in Austria and Italy will be considered as CAR for the purpose of the analysis.

Quality of credit portfolio has following baskets in Serbian banking regulation: performing loans (PL), past due loans, substandard loans, restructured loans and doubtful loans (prescribed by official regulation). According to the official data of Serbian banks, performing loans, past due and substandard loans belong to healthy part of the portfolio, which is collected up to 90 days. Consequently, the focus of analysis will be Serbian banks, having in mind the fact that relevant information regarding group level have not be found.

The main source for acquiring the relevant information were the official financial and annual reports of EB, BI and their groups, disclosure requirements for Pillar 3 of Basel II (BI and EB), supervisory report of National bank of Serbia and reports of International Monetary Fund (IMF) available on their sites. The relevant period of analysis is within 2007 to 2013.

However, there is the difference in the quality of information announced in official reports regarding analyzed banks. For example, regarding Serbian banks we have discovered that EB has better and more transparent risk management report comparing to BI in terms of available data related to accepted risks. Furthermore, analyzing Group (European) level, different regulation is applied. For instance, banks present in annual reports wider range of profitability and risk indicators (such as Net

Interest Margin, Cost to Income Ratio, Loan to Deposit Ratio, Core Tier 1 ratio, Tier 1 ratio, Total Capital Ratio, Risk Weighted Assets) comparing to the reporting of daughter banks in Serbia. IG gives more information about the quality of credit portfolio in comparison to EG. Finally, there is a difference in the segmentation of customers in terms of criteria which are used for it.

At the same time this is limitation of the analysis. Finally, indicators used in the analysis are common for both banks, all acquired in annual reports of banks.

3. RESULTS

The results revealed the fact that both Serbian banks have accomplished better results in managing credit risk in comparison to overall Serbian banking sector, since 2011. Furthermore, the credit portfolio has been increased in both banks (for example IB had five times bigger volume of loans in use comparing to EB), where corporate customers have the biggest percentage of the overall portfolio (for instance IB had four times bigger volume of approved loans to corporate customers in comparison to EB). Nevertheless, results regarding NPL and ROE level are satisfactory. The results involving CAR indicators of both banks show that the acquired level is similar to overall level in the Serbian banking sector. Finally, the research unanimously points out that BI introduced better CMM, thus achieving lower level related to NPLs in comparison to both EB and the Serbian banking sector (Barjaktarovic et.al, 2015). The previously said can be seen on the following graph:

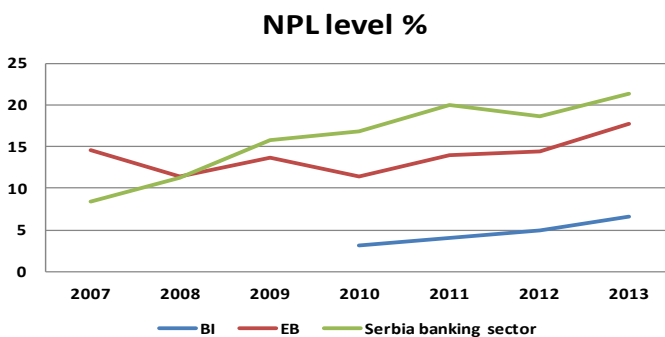


Figure 1: NPL level in% related to BI, EB and the overall Serbian banking sector

Source: Bank's Internet site (2015) Annual reports and Disclosure of data and information (3rd Pillar of Basel II) for the period of 2007 to 2013., National Central Bank (2015). Quarterly reports on Performance of Serbian banking sector in the period of 2007 to 2013.

If the analysis is applied on the group level, we can conclude that NPL on group level is proportionally lower in comparison to the level related to daughter banks in Serbia. However, there are differences in results of applied CMM. IG implemented better CMM model, because the NPL level was lower. Furthermore, IG had NPL level lower than overall Italian banking sector had (while EG had NPL above the overall Austrian banking sector level). Finally, BI has achieved lower NPL comparing to IG since 2010.

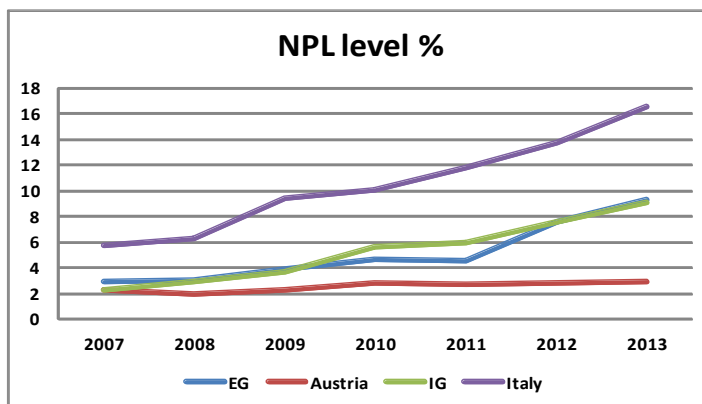


Figure 2: NPL level in% related to EG, IGB and the overall Italian and Austrian banking sector

Source: Bank's Internet site (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) for the period of 2007 to 2013.*

Furthermore, ROE indicator values had decreasing trend on the group level, while it had increasing trend values for Serbian banks. Reasons are connected to the appliance of different risk management regulation and current country risk where groups perform their business activities. However, if we compare banks performance on both local and group level, we can see that financial institutions are more successful in comparison to average country indicators, which can be seen on the following graphs. Moreover, ROE level related to BI increased to 8.7%, while EB had ROE of 10.42%, which present better results in comparison to the general level of the Serbian banking sector (3.81%) in 2013. Undoubtedly, the conclusion can be made that the implementation of CMM influenced banks performance on both level, resulting in better results related to overall profitability indicators in all three countries: Serbia, Italy, and Austria.

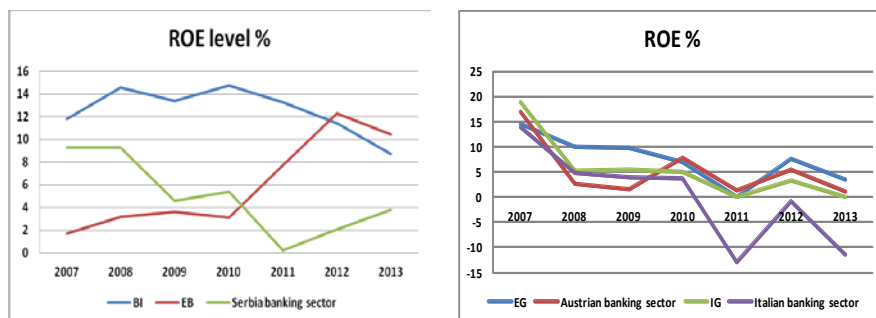


Figure 3: ROE level in% related to BI, EB, EG, IG and the overall Italian Austrian and Serbian banking sector

Source: Bank's Internet site (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) for the period of 2007 to 2013.*, International Monetary Fund (2015), *Financial Soundness Indicators*.

If we take into consideration CAR indicator, the result show that it has higher values in the case of Serbian banks (20% average), in comparison to the group level (11% average). The main reasons are connected to the appliance of different risk management regulation and different possibilities for investing money.

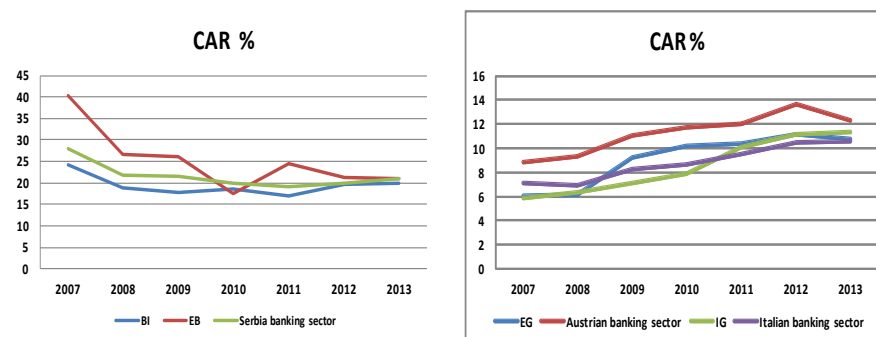


Figure 4: CAR level in% related to BI, EB, EG, IG and the overall Italian Austrian and Serbian banking sector

Source: Bank's Internet site (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) for the period of 2007 to 2013.*, International Monetary Fund (2015), *Financial Soundness Indicators*.

Furthermore, the results point out the fact that the quality of credit portfolio of both Serbian banks is quite satisfactory (shown on graph 5). The majority of loans are in the category of healthy loans which are collected in the period up to 90 days from due date of instalment. As a result, the implementation of the CMM model in both banks is influencing the quality of portfolio in 2011, where BI achieved higher volume related to restructured loans in comparison to EB.

However, EB had higher volume related to doubtful loans since 2010. Consequently, this may be used as the main reason why BI had lower NPL in comparison to EB in the period of analysis (Barjaktarovic et al., 2015; BI, 2007-2013; EB, 2007-2013).

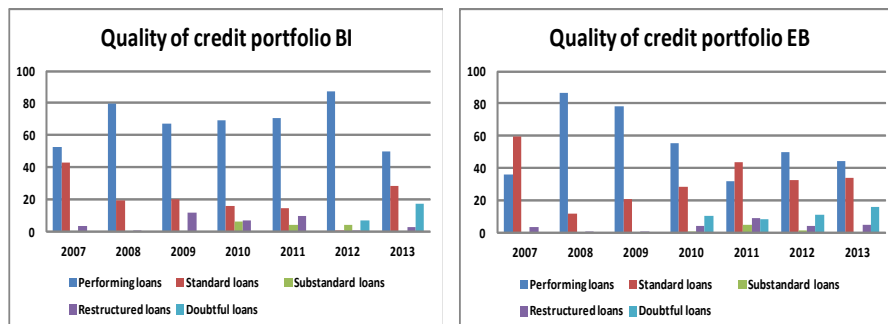


Figure 5 Quality of corporate credit portfolio in % related to BI and EB in the period of 2007 to 2013 (%)

Source: Bank's Internet site (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) for the period of 2007 to 2013.*, International Monetary Fund (2015), *Financial Soundness Indicators*.

Consequently, the main hypothesis of the research is confirmed, pointing out that efficiently applied CMM provides credit portfolio of good quality and satisfactory level of profitability of the bank. As we can see on the graph the performing loans, standard loans and substandard loans make the biggest part of the overall portfolio, indicating a good quality of the banks' portfolio. However, doubtful loans have increasing trend, correlating with the general issue related to illiquidity of the companies in Serbia, however this trend is below the country average. Furthermore, NPL level related to BI was 6.67%, while EB had NPL of 17.67% which was lower in comparison to overall level related to the Serbian banking sector (21.4%) in 2013. Finally, it is essential to emphasize that both implemented CMM assisted banks in developing an appropriate and well-established corporate credit portfolio structure.

In the end, the results unanimously revealed that on the group level, IG implemented CMM more successfully. Thus, NPL of IG is on lower level in comparison to the Italian banking sector. However, BI had lower NPL than IG, indicating a good portfolio management on local level, which can be a positive and reassuring signal to other banks operating locally for developing and implementing similar concept.

4. CONCLUSION

Within the conditions of economic turmoil, both Intesa San Paolo Group and Austria Erste group, as leaders on CEE market, implemented CMM in 2010. They introduced tailor made models, in accordance with their organization and type of customers. The purpose was clear and unambiguous: the main aim of the model introduction was to decrease NPL level and to increase profitability. Furthermore, the organization of the model is different, considering the fact that there is different group policy regarding risk management and organization of the business. Moreover, architecture (creditors and debtors) and instruments (source of repayment) are the same in both banks. However, control and monitoring within the system consistently follow internal procedures and policies, consequently indicating slightly different results in both banks.

Finally, the main hypothesis is confirmed i.e. the results regarding both applied CMM are good, due to the fact that they provide satisfactory level of NPL and profitability of banks. However the slight differences may be observed. For instance, IG implemented better CMM, considering the fact that NPL level is lower in comparison to EG. Serbian banks, BI and EB had better results in managing credit risk than Serbian banking sector in the period of 2010 to 2013, in terms of NPL, quality of credit portfolio and ROE. Finally, the results show that IG had better results in comparison to Italian banking sector in terms of NPL comparing to EG (whose NPL was above the average level of the Austrian banking sector). In the end, it is important to stress out that BI had lower NPL and higher ROE than IG (while EB had higher NPL and higher ROE than EG).

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REFERENCES

- World Bank. (2005). *Private Participation in Infrastructure Project Database*, <http://ppi.worldbank.org/reports/customQueryAggregate.asp>, [accessed 7.12.2002].
- Banca Intesa a.d. Beograd (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) of Banca Intesa a.d. Belgrade for the period of 2007 to 2013*, www.bancaintesabeograd.rs/ [accessed 02/02/2015].
- Intesa San Paolo Group. (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) of Intesa San Paolo Group for the period of 2007 to 2013*, http://www.group.intesasanpaolo.com/scriptIsir0/si09/eng_index.jsp date of access 02/02/2015 [accessed 05/02/2015].

Erste Bank a.d. Novi Sad (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) of Erste Bank a.d. Novi Sad for the period of 2007 to 2013*, www.erstebank.rs/ [accessed 05/02/2015].

Erste Group (2015) *Annual reports and Disclosure of data and information (3rd Pillar of Basel II) of Erste Group for the period of 2007 to 2013* , <http://www.erstegroup.com/en>, [accessed 05/02/2015].

Banca Intesa a.d. Beograd (2012) *Belgrade Radically strengthen Problem & Deteriorated loans management within the Group (power point presentation)*.

Barjaktarovic, L., Ilic, D. Markovic, M. (2015) Collection Management Model for Corporate Customers of Serbian Banks, *The book of proceedings, 2nd International Scientific Conference of IT and Business-Related Research "Synthesis 2015"*. Belgrade, April 16-17, 2015, pp.128-143.

Barjaktarovic, L. (2013) *Risk management*, University Singidunum, Belgrade .

Barjaktarovic, L., Popovic-Avric, S., Djenic, M. (2011) *Collection management as curtail part of credit risk management during the crisis*, 8th AFE 2011 Conference Samos, Greece, p. 182-191.

International Monetary Fund (2015), *Financial Soundness Indicators*, [http://elibrary data.imf.org/ Report.aspx? Report =4160276 &Country=122](http://elibrary.data.imf.org/Report.aspx?Report=4160276&Country=122), [accessed 05/04/2015].

National Central Bank (2015). *Quarterly reports on Performance of Serbian banking sector in the period of 2007 to 2013* , www.nbs.rs/ [accessed 05/04/2015].