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„Valuation of a commercial bank: Banca Comerciala
Romana“

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1 Introduction

One is confronted every day in the media with different financial processes like mergers, acquisitions, takeovers or initial public offerings. In order to be successful, all these processes have one thing in common: there has to be an accurate financial valuation of these companies in order for the market should invest in them. A vast body of literature has been written for deriving the best valuation method, according to the industry of these companies and to the markets where they conduct their business.

The present thesis is intended to perform a valuation process of the biggest Romanian bank, Banca Comerciala Romana (BCR) back in 2005, the year where it was privatized. This is a very important topic both for Romanians and Austrians since Erste Bank AG was the winner of the privatization process.

At the end of 2005, when the price paid for BCR was made public, most of the Erste Bank shareholders were very pleased that Erste Bank gained control over the biggest Romanian bank, and considering the expected growth in Romania in the upcoming years, it should have been a profitable deal. There were only a few investors who criticized that, when compared to the privatization of Ceska Sporitelna (Czech bank) 5 years before, the acquisition price paid by Erste for BCR seemed very high. Nobody gave much attention to this criticism, but when the world economic crises began, and Erste had to write off from their balance sheet a big part of BCR's goodwill, most concluded that the Austrian bank overpaid in the case of BCR.

My goal in this thesis is to estimate as accurate as possible what was the fair value of BCR at the end of 2005, and to answer the following questions:

1. Did Erste overpay in the case of BCR?
2. If yes, what was the purpose of doing so?
3. Was it still a good deal for Erste?

This paper is structured in 5 main chapters. The introduction outlines the motive of this thesis: valuation of a commercial bank and the importance of this privatization process. The second chapter, describes the economical and social disturbance in

which the Romanian economy was struggling following the first privatization steps which were made in the banking industry. This chapter finishes by describing Romania's economic status at the end of 2005 with all her positive aspects. In the next chapter, in order to have a overview on BCR, the bank with all her subsidies and the financial results obtained in the last years, as well as the whole privatization process will be described. In the fourth chapter of this paper, after choosing from the literature the best valuation method for a bank, a valuation of BCR's equity is performed, in order to obtain a fair value of the company. Important figures such as forecasted balance sheet and income statement can be found in this part. Last but not least, the paper will conclude with the results obtained, and based on them, attempt to answer the afore-mentioned questions.

2 Privatization in post communism Romania

2.1 Communism in Romania

"The substance of the eminent Socialist gentlemen's speech is that making a profit is a sin. It is my belief that the real sin is taking a loss!" (Winston Churchill)

After the end of the World War Two, most of the countries in the Eastern part of Europe were turned into communist countries, due to the pressure exercised by the Soviet Union. For a period lasting more than 50 years this centralized type of economy decided the economic and social wealth of these countries and of the people living in it. Due to a social, political and economic disaster (politicians of the anticommunist parties were killed or thrown in jail; people would not find anything to buy in stores and did not have the right to free movement or free expression) it was clear for everybody that this big difference between east and west and the difficulties which the Romanians were experiencing will bring social unrest. The inevitable happened at the end of 1989. The revolution put a big end to a period of more than half of a century of totalitarian ruling, where normal western values such as free elections, rule of law and respect for human rights were missing completely. This despotic art of ruling a country, concentrated around one person who with the help of the security apparatus was able to control more than twenty two million people, ended in a brutal way for many innocent people who has lost their lives in order to

bring the system down. (Stefan, 2009)

Starting December 1989 Romania had to develop to a market driven economy from a closed one. But this process suffered a lot due to the remains of the communist system. Although there were a lot of people who were against the communism, the ones who brought the wind of change were born and educated on the same old values and did not have enough (western) experience to influence the process in a better way. On the one hand they had to find a way in order to supply the interest of the public and on the other hand to start influencing the emergent economy to a developed economy. (Stefan, 2009)

Starting with the 1990s, Romania was ruled by politicians from the old (communist) generation, which inoculated even the younger ones in not changing the structure and following only their private interest. Because of this, all the processes which were started in the 1990s had a severe lack of efficiency so the expected result was not satisfactory. (Private and confidential information)

The process of privatization, a key point for restructuring the large communist structures, started already in Romania at the beginning of the 1990s but did not have the flair of a mass privatization as we know it from other ex-communist countries such as the Czech Republic, Poland or the Slovak Republic. The dearly needed decision from the Romanian government in order to speed up the transition to a developed market economy was missing completely. This brake, which was mounted to the Romanian economy in the last two decades, is responsible for the Romanian economy suffering even today more than the economies from different ex-communist countries. (Pohl, Anderson, Claessens, & Djankov, 1997)

2.2 Romania after the fall of the Iron Curtain

Due to improper legislation, internal political conflicts as well as the (normal) lack of experience of the governments how to handle the situation, the Romanian society found itself in turmoil after the revolution. So the governments at the beginning of the 1990s had as a first goal the maintenance of social peace and stability. As a consequence, reforms were sacrificed and the hope of any evolution of the economy

postponed.

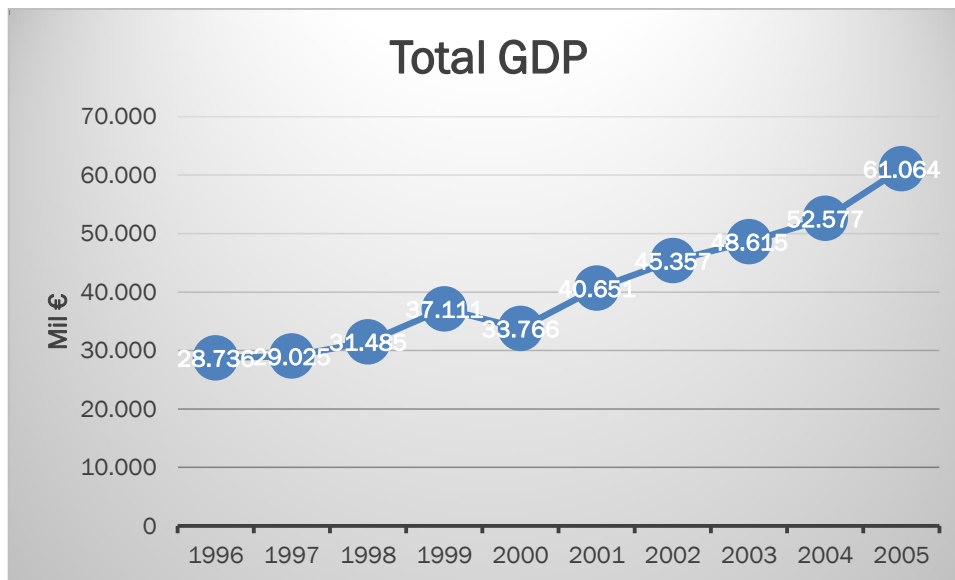
The first government of the new Romania was the one of the Prime Minister Petre Roman, which ended up quickly in 1991 due to violent protest of the miners, a very important and powerful group at the beginning of this decade. Starting 1992 until 1996 the social democrat party was governing Romania. Although they could maintain social peace, they did not start the real process of reforms. The same happened in 1999 under the government of the Prime Minister Radu Vasile. They were rejected by the population and had to resign. The Romanian governors understood that they had to artificially keep the heavy industry going, in order to keep unemployment rate low and avoid social disturbance. Following this government, the head of the NBR was being proposed by the President for Prime Minister. Mr Isarescu accepted the challenge and formed at the end of the 1990s a government of technocrats which despite of the deep and prolonged recession starting in 1996 was able to implement some reforms. (Private and confidential information)

This center right coalition government, called CDR was able to bring some reforms into the Romanian lethargy and the privatization process worked very well, especially in the banking system. Due to an economic crises starting in 1996 (which lasted until 1999) the need of developing economic and political reforms was getting even higher. There were continuing pressures made on the currency, the deficit in the account balance was achieving heights never seen before so the economic crises was knocking on the door. As always in a crisis there are many causes, but by far the most important one was the lack of structural reforms from a social and an economic perspective. The real problems were: no stability for the government in the parliament, very weak capital market, almost no competitive environment, very high fiscal evasion, no effective supervision of the financial system as well as unclear legislation. (Stefan, 2009)

This so called emerging market crises affected all CEE countries and was marked by a fall in GDP and the depreciation of the national currency. It had the same effect on the Romanian currency, Lei, driving as a consequence the inflation to new peaks. Romania's GDP increased back in 1992 by 8,8%, hustled in 1993 to 1,5% and in 1995 by 6,9% but suffered a dramatic fall in 1997 by -6,6%. This uneven trend

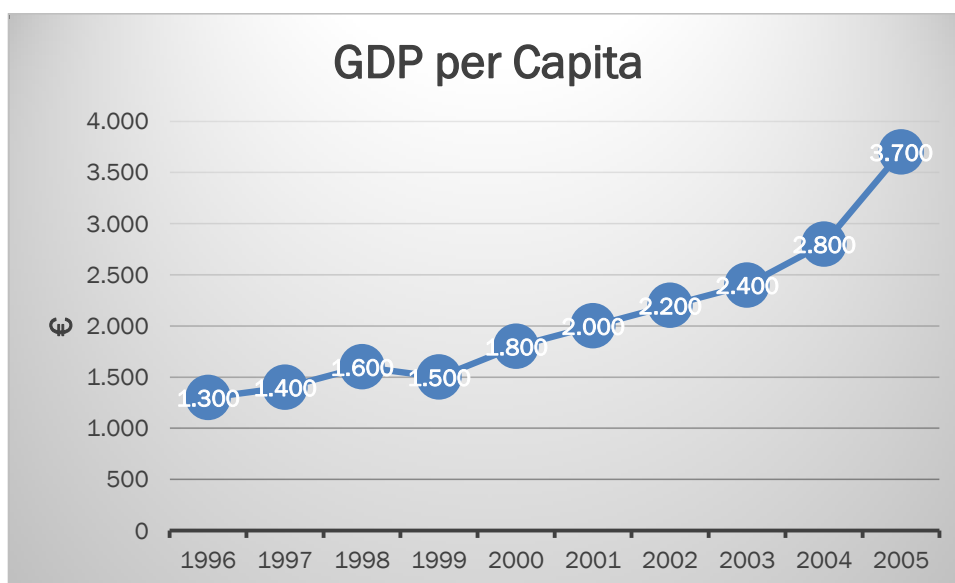
remained the same until the end of the year 2000. In all these years, the mix of the effect of the crises as well as the closing or restructuring of important state companies (Siderurgica SA Hunedoara, Combinatul Siderurgic Galati) brought the GDP to only 74% of its 1989 level or GDP per capita only 80% of the 1989 level so as some Romanians claimed by that time, they had a better living standard in the communism. (country economy, 2013)

Figure 1: Evolution of the GDP



Source: country economy, 2013

Figure 2: Evolution of the GDP per Capita



Source: country economy, 2013

In order to keep the heavy industry alive, the government decided to finance these deficient companies with the help of the sector banks. This had a dramatic final, ending with a banking system crisis, where banks from the private sector (Banca Comerciala Romana, Bancorex, Banca Agricola and the CEC) sold their inefficient credits to the state banking recovery agency (AVAB) in order to reinforce the system. The private sector suffered a lot because of the crises and the biggest problem was not getting easy loans from the banks. The National Bank of Romania started supporting these companies by special refinancing lines. At the end of the communism era, Ceausescu managed to dissolve the Romanian external debt, but due to this emerging market crises this debt was getting again higher and the (expensive) interest paid on this debt was issuing difficulties. (Private and confidential information)

In the communism period the National Bank of Romania played two different roles. Starting with the normal functions of a central bank, it extended its operation by financing the purchases for the state sector clients of different banks like Banca Romana de Investitii, Banca Romana de Comerț Exterior and Banca pentru Agricultură și Industrie Alimentară. With the beginning of the new decade the rise of capitalism split the roles of the NBR: the central bank played her role as in an open economy and the financing was being taken by the successor banks. Banks such as BCR were formed in 1991 according to the Banking Law and the Commercial Law as joint stock companies. The next step was to allow private sector banks to enter the market. This happened very quickly but most of the new banks were under strong influence by domestic entrepreneurs, which were linked to political parties. Important foreign banks like ABN Amro, ING, Citibank waited until 1995/1996 to penetrate the Romanian market. (Iatridis & Hops, 1998)

2.3 Banks privatization in Romania

Romanian politicians were convinced that the state controlling the banking sector was the best option. But as the crises begun in Romania in 1996, it started mirroring the flourishing corruption the system was living in and the huge advantage that domestic entrepreneurs were being given by political parties in exchange for money

and influence. But by seeing the poor management in which the banking sector was struggling, the privatization process had to be started once again. The biggest problems of the system were underdeveloped system infrastructure, insufficient capitalization, very weak regulatory and supervisory structures, the absence of a strategic move for the banking system and a high part of the market controlled by the state banks. The reforms that were needed more than ever, were concentrating on more regulatory and supervisory power over commercial banks by the NBR and the stop of equilibrating the budget deficit through the NBR. The idea of the politicians was to create a company, called in this case AVAB (banking recovery agency) which took over on the most inefficient loans of banks such as BCR, Bancorex, Banca Agricola and CEC. By cleaning their balance sheet these banks should become more appealing to foreign investors. In the same period, negotiations were making further steps in the privatization of Banca Romana pentru Dezvoltare, also known as BRD. The French Group Societe Generale showed big interest in penetrating the Romanian market so in March 1999 the acquisition took place, being by that time the most important privatization in Romania. (Iatridis & Hops, 1998)

Very interesting in this matter is the price paid for the bank. Although Romania was still an emerging economy with no guaranties that in the upcoming time the economy will boom (no NATO or EU member yet; hyperinflation), the investors were willing to pay the sum of 400 M USD which was considered by analyst by that time for far too high considering the assets and the market share the bank had by that time. 10 years later BRD had a profit of more than 370 M EUR, and even today it is the second biggest bank in Romania. (Banca Romana pentru Dezvoltare, 2013)

Another huge reform in the banking sector was been made in 1999. In order to improve the auditing procedures and to give the possibility to foreign investors to be able to make a "fair" comparison, the International Accounting Standards (IAS), often referred to as International Financial Reporting Standards (IFRS) had to be used by all the banks in the country. This change also helped the NBR in increasing its control over the banks. These steps taken in 1999 led to important privatizations in the banking sector: Banc Post was first bought by the General Electric Capital Corporation and Banco Portugues de Investimento back in 1999 and by 2003 EFG Eurobank Ergasias from Greece managed to gain majority in the bank through the

acquisition of stakes from the Romanian government as well as the two investors mentioned above. In 2001 the privatization of Banca Agricola took place which was bought by the Austrian Raiffeisen Zentralbank. By the merger of Raiffeisenbank Romania which started operation already in 1998 and Banca Agricola Raiffeisen, it managed to be an important player in the Romanian banking system. But by far the biggest and most important privatization in the Romanian banking sector, the privatization of BCR, took place at the end of 2005 and will be the one which is worth looking at after the recent development in the European economies. (Carey & Manea, 2004)

2.4 Romania at the end of 2005

Having a population of 21.6 Millions, Romania was a high performing economy at the end of 2005. By becoming a full member NATO at the end of March 2004 Romania became more and more interesting for foreign investors.

The most important goods which Romania was exporting were cars, electronic devices as well as iron and steel-based products having Italy, France and Germany as important customers. In the last years the government in Romania did great efforts in order to increase foreign investments and to form an attractive market also for domestic investors.

Romania was governed at the end of 2005 by an alliance of the National Liberal Party (NLP) and the Democratic Party (PD). The chances that these two parties would want to continue their alliance after the election in 2007 were not very high. This was a crucial matter for the incoming reforms which still had to be made in order to join the European Union. Romania was permanently under the strict supervision of the European Commission.

2.4.1 Economic development

As mentioned before, the implementation of reforms in Romania did not have the same acceleration as in the others countries who joined the EU in 2004. This happened due to a lack of structural reforms in several industries such as heavy

industry, agriculture or financial sector by the politicians who governed before the year 2000. But starting 2004 there were several reforms concerning the tax and labor law as well as the capital market. It was expected that Romania will join the EU in 2007.

The Romanian GDP increased in 2005 by 4,1% and was expected to grow by 7% in 2006 due to a pro-cyclical fiscal policy, increase in real wage growth, further credit expansion and an increase employment rate. It was not really realistic that Romania's GDP would keep the same growth rate for the years to follow. The IMF was still expecting an increase in GDP by 4,8% until the end of 2010 and afterwards approximately 3,5%. The inflation should also fall down to 3% till 2011. (Nicolau, 2006)

Table 1: Romania's economic development

Historical development	2001	2002	2003	2004	2005	CAGR
Population (Mio)	21,8	21,7	21,7	21,6	21,6	0,2%
GDP (MEUR)	48 395	52 544	60 833	78 173	92 671	17,6%
Real GDP growth	5,1%	5,2%	8,4%	4,1%	7,0%	8,2%
GDP/Capita EUR	2 220	2 418	2 803	3 616	4 281	17,8%
Disposable Income (MEUR)	31 871	32 283	38 789	53 832	63 170	18,7%
Disposable Income/Capita (EUR)	1 462	1 485	1 746	2 490	2 918	18,9%
Inflation rate	22,5%	15,3%	11,9%	9,0%	6,6%	26,4%
Unemployment rate	8,4%	7,4%	6,3%	5,9%	5,5%	10,0%
Fiscal budget balance/GDP	2,6%	2,2%	1,0%	0,8%	1,5%	12,5%

Source: EIU

Table 2: Romania's economic forecast

Expected development	2006	2007	2008	2009	2010	CAGR
Population (Mio)	21,6	21,6	21,6	21,6	21,5	0,2%
GDP (MEUR)	104 506	116 114	131 078	143 967	159 401	11,1%
Real GDP growth	5,9%	5,2%	4,6%	4,6%	3,6%	8,2%
GDP/Capita EUR	4 832	5 373	6 068	6 668	7 414	11,3%
Disposable Income (MEUR)	71 191	77 165	84 681	90 961	99 255	8,7%
Disposable Income/Capita (EUR)	3 291	3 571	3 920	4 213	4 617	8,8%
Inflation rate	5,6%	5,1%	4,1%	3,2%	3,0%	26,4%

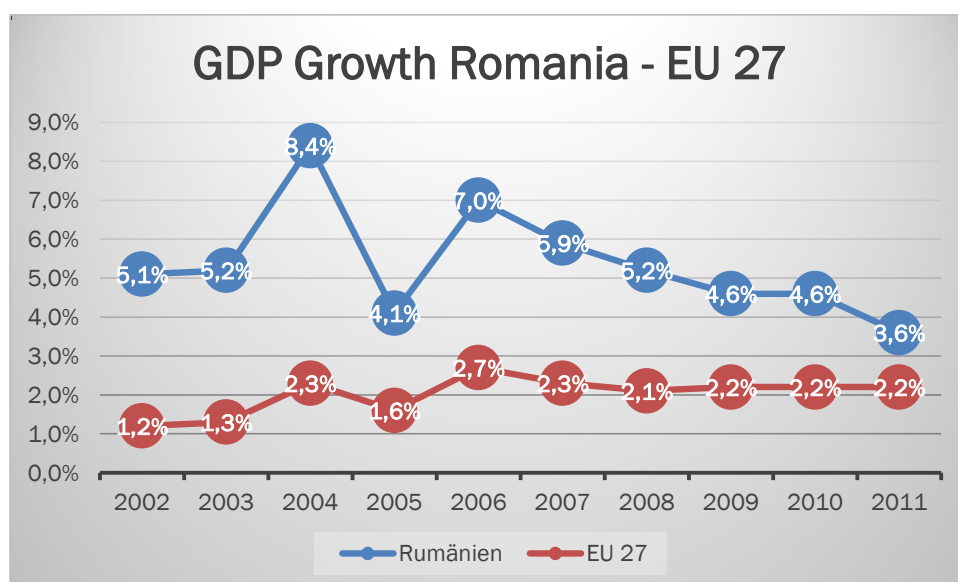
Unemployment rate	5,3%	5,2%	5,1%	5,1%	4,7%	10,0%
Fiscal budget balance/GDP	3,1%	3,0%	2,7%	2,2%	2,2%	8,2%

Source: EIU

2.4.2 GDP

The strong economic growth in recent years is mainly due to a rational economic policy, significant disinflation and necessary structural reforms. This growth has as a fundament the strong domestic demand, especially private consumption and the pro-cyclical fiscal policy as well as the general positive economic climate around the EU-admission.

Figure 3: GDP Growth in Romania vs EU 27

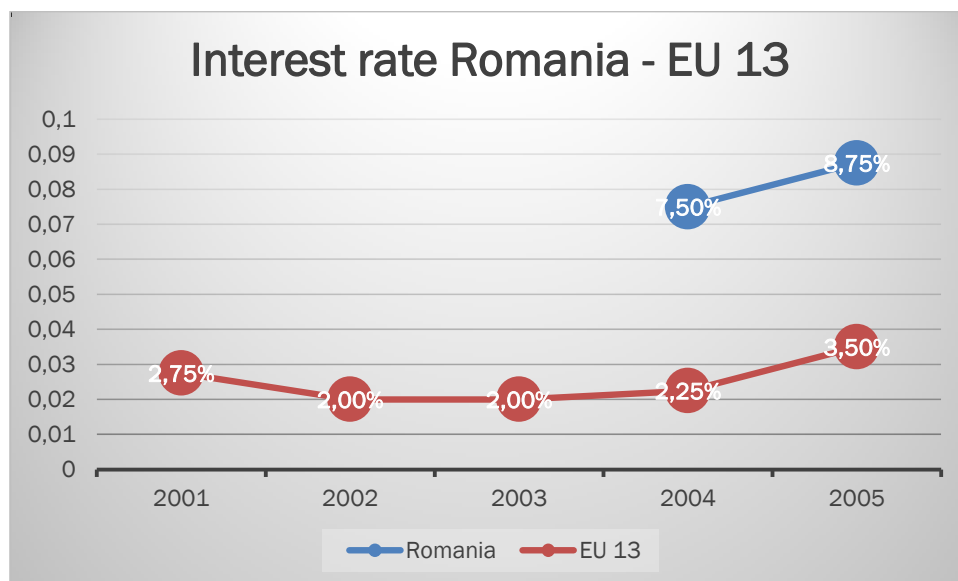


Source: EIU

2.4.3 Monetary Policy

Following a tighter monetary policy the NBR increased the base rate to 8.75%, but even other interventions are expected. Generally one can observe that the NBR is acting very carefully in order not to overrate ROL (Romanian LEU), increasing the competitiveness of Romania's exports. But at the same time the attractiveness of imports increased, having as a consequence an increase in the budget deficit, a trend that is expected to continue.

Figure 4: Interest rate in Romania vs EU 13

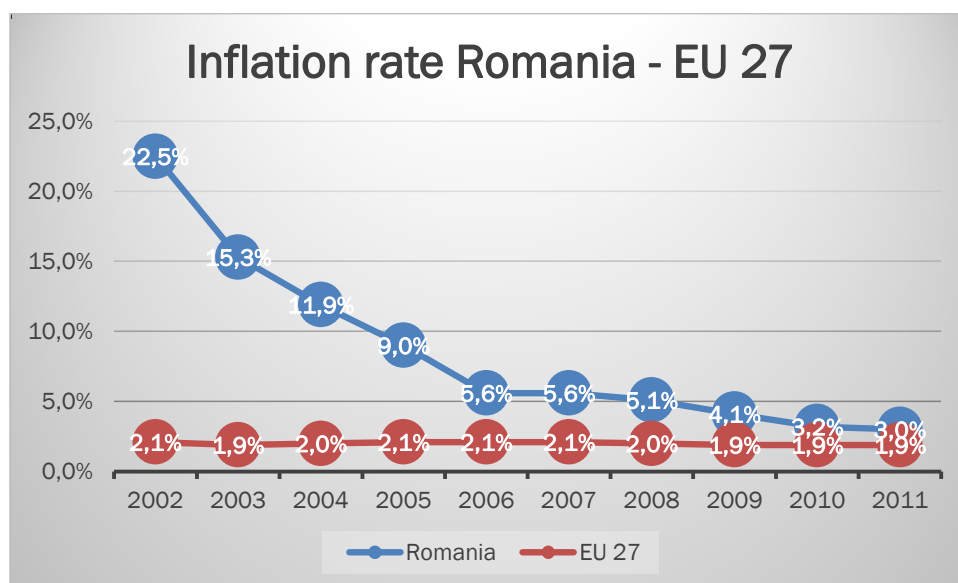


Source: EIU

2.4.4 Inflation

Sinking prices for petrol and food in the previous year brought a significant decrease in the inflation rate. Due to a slackening of the fiscal policy and as well as important infrastructure projects, the analyst expect an increase in the inflation rate for the upcoming year. This will be supported by higher taxes on alcohol and tobacco, as well as rising labor costs.

Figure 5: Inflation rate Romania vs EU 27

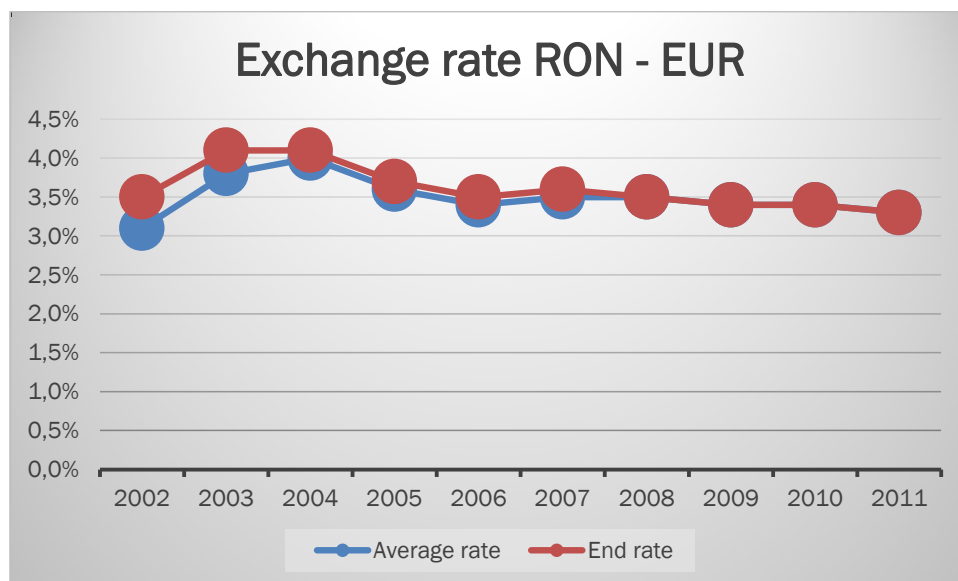


Source: EIU

2.4.5 Exchange rate

Higher interest rates, the full liberalization of the capital market and the general positive economic climate in Romania are expected to bring even more foreign speculative investments in the upcoming years. An appreciation of the ROL already caused a significant loss of efficiency in the export industry. Considering this, there is a big need of an efficient wage policy in order to countermeasure this development. (Private and confidential information)

Figure 6: Exchange rate RON vs EUR



Source: EIU

2.4.6 Banking market

In comparison with other eastern European countries the banking market in Romania is not very large. After the financial crises in the years 1997-1999 the government implemented several reforms in order to strengthen the competition and to increase the supervision in the sector. Starting with 1999 several privatization processes helped to stabilize the sector. The Romanian banking sector is very profitable in this period, but due to declining interest margins, higher risk provisions and rising operating costs it is expected not to perform in the same way in the future. Despite impressive credit growth, the industry has still to recover, proven by the intermediation quote, which compared to other countries is very low. The credit business focused on SME and on private clients, having as collaterals mortgages. Due to lack of expertise in the assessment of business risks banks are reluctant to issue loans to enterprises. Due to the high proportion of foreign currency loans in 2005, the NBR introduced corrective measures in order to reduce the currency risk of the banking sector. At the end of 2005 there were 39 foreign banks in the market, with 30 of them in foreign ownership and 7 were registered offices of foreign banks. For the next years a further consolidation of the sector is expected. (Private and

confidential information)

Table 3: Structure of the banking industry

Historical development	2001	2002	2003	2004	2005
Number of banks	41	41	39	38	39
Number of employees	24 011	22 266	21 616	20 997	n.a.
Number of units	n.a.	n.a.	n.a.	n.a.	n.a.
Total assets/number of employees	n.a.	694	758	1093	n.a.
Population/branch office	n.a.	n.a.	n.a.	n.a.	n.a.

Source: EIU

Table 4: Development of banking assets

Historical development	2002	2003	2004	2005	2006e	CAGR
Total assets (MEUR)	15 447	16 378	22 955	33 174	49 555	33,8%
Intermediation rate	31,9%	31,2%	37,7%	42,4%	53,5%	13,8%
Loans (MEUR)	4 916	6 569	9 192	11 247	17 832	38,0%
<i>in % des GDP</i>	10,2%	12,5%	15,1%	14,4%	19,2%	n.a.
Deposits	10 882	10 162	14 412	17 293	23 585	21,3%
<i>in % des GDP</i>	22,5%	19,3%	23,7%	22,1%	25,5%	n.a.

Source: EIU

Table 5: Forecast of the banking industry

Future development	2007e	2008e	2009e	2010e	2011e	CAGR
Total assets (MEUR)	64 575	86 193	116 881	152 212	198 429	32,4%
Intermediation rate	51,80%	74,20%	89,10%	105,70%	124,50%	19,1%
Loans (MEUR)	24 206	32 854	45 364	59 899	79 964	38,0%
<i>in % of GDP</i>	23,2%	28,3%	34,6%	41,6%	50,2%	n.a.
Deposits	28 775	35 028	43 652	51 672	62 664	21,5%
<i>in % of GDP</i>	27,5%	30,2%	33,3%	35,9%	39,3%	n.a.

Source: EIU

2.4.7 The Big Players

The Romanian financial market was essentially dominated by five large banks.

BCR was at the end of 2005 the biggest Romanian bank with assets totaling MEUR 9.305 and controlling 28% of the market. BRD-Societe Generale had a market share of 16,1%, with total assets of MEUR 5.344—thus being the second biggest

Romanian bank, followed by Raiffeisen Bank Romania with assets totalizing MEUR 3.028 and a market share of 9,1%. The table below offers an overall view of the 5 biggest banks in Romania by that time.

Table 6: Big Five

2005 MEUR	Main owner	Total Assets in MEUR at the end of 2005	Market Share
Banca Comerciala Romana	Romanian State	9 305	28,0%
BRD	Societe Generale	5 344	16,1%
Raifeissen Bank Romania	Raiffeisen International	3 028	9,1%
HVB Banca Tiriatic	Bank Austria	2 588	7,8%
ING Bank	ING Group	1 843	5,6%
UniCredit Romania	Unicredit Group	546	1,6%

Source: EIU

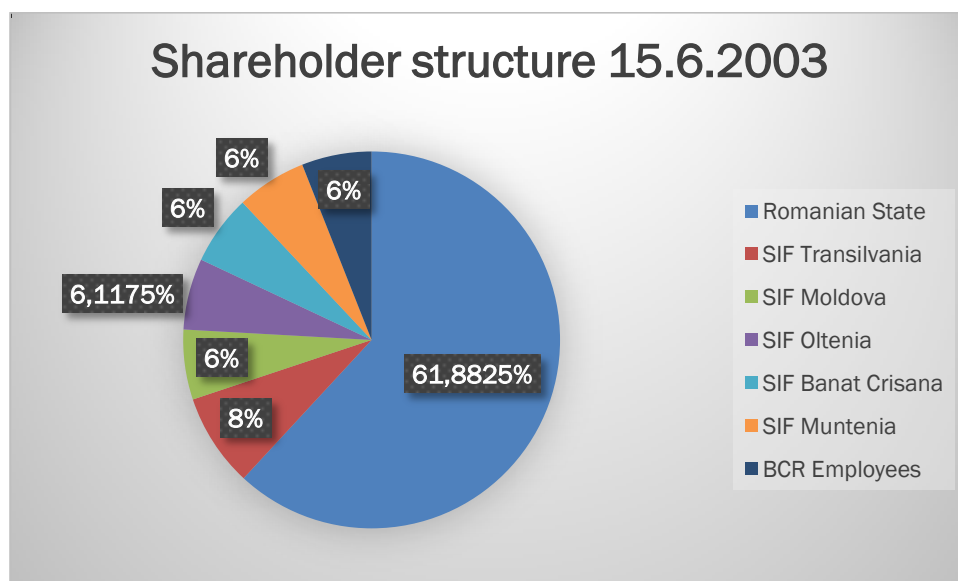
3 BCR The complete story of a privatization

3.1 How it all started

The privatization of the biggest Romanian bank did not begin with the Erste Bank AG's efforts in 2005, as many think. The first step in the process was made in November 2003 by the Romanian government by selling to each of the two partners, the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC) 12.5% plus 1 number of shares. So by the end of 2003 25% plus 2 shares of the bank were already in the hands of foreign investors. This acquisition was the biggest investment portfolio of the two international financial institutions in a bank in Romania and even in Central and Eastern Europe, fostering the principles of corporate governance and risk management, while reviewing the overall strategy and operations, in the interest of all parties involved. (Banca Comerciala Romana, 2005, p. 5)

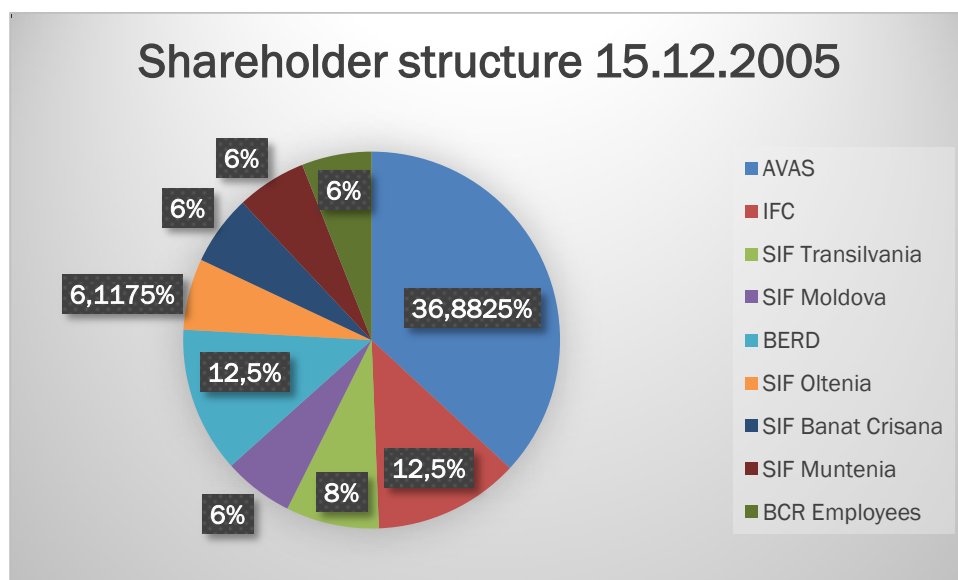
The IFC, member of the World Bank Group, founded in 1956, acts as a global investor and advisor through its involvement in major projects in member countries. True its group projects it is economically beneficial, financially and commercially supporting the environment and society. The second partner, the EBRD, was established back in 1991, becoming the largest single investor in Central and Eastern Europe and Asia, currently providing funding for projects in financial, industrial and the business sector, both in companies with business history, and in newly established companies. So BCR had on its side two strong partners which should help it in the privatization process. (Banca Comerciala Romana, 2005, p. 15)

Figure 7: Shareholder structure before the first privatization process



Source: Banca Comerciala Romana, 2005, p. 19

Figure 8: Shareholder structure after the first privatization process



Source: Banca Comerciala Romana, 2005, p. 19

In 2005 Romania's GDP was growing by 4.1% and the years to come, were seen from a growth perspective as very promising. The service sector (where the banking system activates) was even adding 8.1% from the year before, a promising growth rate for those times. So the Romanian government decided by the end of May 2005, that BCR had achieved its maturity and since the economic climate was booming, it would be a good opportunity to sell the bank. The same perspective was met by the two international partners, EBRD and IFC so the privatization process began. (Banca Comerciala Romana, 2005, p. 9)

The Romanian government decided to offer AVAB the possibility to conduct the whole process, since everybody had the interest in a rapid but fair privatization. In June 2005 AVAB published in the international press that together with its two partners it is willing to sell the shares of BCR. The importance of this privatization was mentioned in the report as follows:

"This is the most important Romanian privatization, as BCR, the market leader of the banking system, represents an extraordinary perspective for strategic investors interested to develop business in Southeast Europe and to gain additional market share". (Banca Comerciala Romana, 2005, p. 18)

Furthermore, the privatization of the largest state bank represents an important point for the transition to a market economy in Romania, contributing to the integration of the national financial sector in the European and international banking market. The package that was available for sale consisted of AVAS shares plus 25% owned jointly by EBRD and IFC totalizing more than 60% of the bank shares. The strategic investor may choose to purchase 50 % plus a share or a package of 61.8825 % of the shares and must be a reputable financial institution or group which involves at least one financial institution, and to support future development of the Bank. The successful bidder will be chosen from a negotiation process based on the selection of offers. This were the conditions put by the Romanian side in order to be sure that BCR will land in safe hands. (Banca Comerciala Romana, 2005, p. 18)

The efforts made by AVAS were successful, so until the 7th of July they received 11

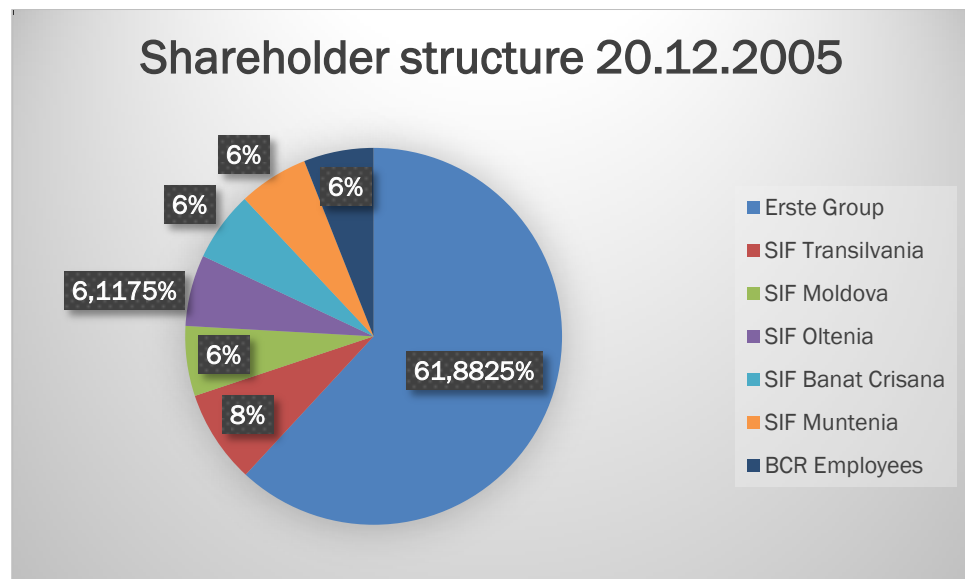
letters of intention from 10 banks and a consortium, mentioned below: Fortis, Banco Comercial Portugues Millennium, National Bank of Greece, Intesa Bank, Deutsche Bank AG, Erste Bank AG, Dexia, KBC, BNP Paribas, ABN Amro, Texas Pacific Group and Citigroup Venture Capital International. After analyzing the offers, AVAS published that all 10 banks were accepted in the process, only the consortium had to be rejected. Based on the recommendation of the NBR the consortium of Texas Pacific Group and Citigroup could not qualify for the next round because, in accordance with the Romanian law, an investment fund is not allowed to own a package of more than 10% from a bank. At the same time, ABN AMRO decided not to purchase the presentation file and retired from the due diligence process. (Banca Comerciala Romana, 2005, p. 19)

On the 25 of July the due diligence period began. For 8 weeks all the bidders had access to all information about the bank, e.g. the financial statements, state loan portfolio, employees, assets. Every investor was allowed to have a meeting with the management and to go to cities other than Bucharest, in order to visit the other offices of the bank. In September of the same year AVAS decided that the due diligence period is too short so they extended it until the 17 October 2005. On the 17th of October AVAS published that 7 out of 9 bidders are interested in buying 61.8825% shares. These are: Intesa Bank, National Bank of Greece, Millenium - Banco Comercial Portugues, BNP Paribas, Deutsche Bank, Dexia and Erste Bank AG. (Banca Comerciala Romana, 2005, p. 19-20)

On the 26th of October AVAS published the names of the two banks who have qualified for the next negotiation round: Erste Bank AG and Millenium – Banco Comercial Portugues. The two bidders got additional two weeks for due diligence in order to get even more access to updated data.

The "D" Day for BCR was the 20th of December when AVAS announced that Erste Bank AG is the winner. Erste bought a total of 61.8825% of shares at a price of EUR 7,65 per share, totalizing EUR 3.751.554.805. This was an unprecedented transaction for Romania (after the privatization of Petrom to the Austrian OMV), which helped to strengthen the financial sector and facilitated the EU integration process. (Banca Comerciala Romana, 2005, p. 21)

Figure 9: Shareholder structure after the merger with Erste Group AG



Source: Banca Comerciala Romana, 2005, p. 21

3.2 BCR business model

"A bank is a place where they lend you an umbrella in fair weather and ask for it back when it begins to rain." (Robert Frost)

Analyzing and understanding the business model of a company is indispensable in performing a valuation. A consequent analysis of the internal organization of the firm as well as the industry and the markets where they perform is vital in evaluating the financial and operating risk, and permits an accurate measuring of the future estimations.

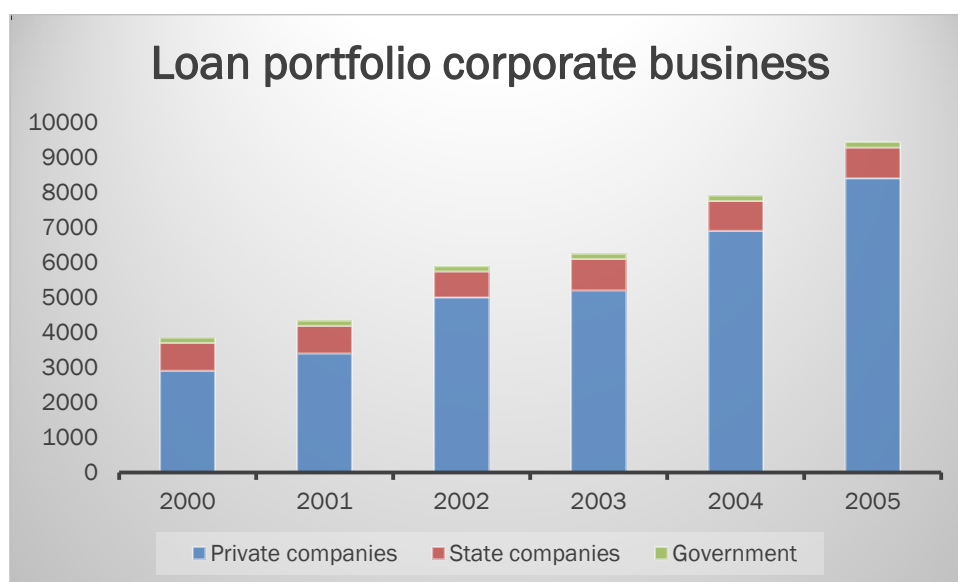
This section will analyze the company profile of BCR, and try to understand the business model they are applying. Since the privatization took place at the end of 2005, the results from this year will be included too

3.2.1 Company profile

As a commercial bank, BCR was active in retail as well as corporate banking. The bank concentrated its effort mostly in the corporate sector. Here one can find a diverse client portfolio starting with SME, continuing with bigger private companies as well as state companies. A small part but still a very active one is the Romanian government.

The tables below will offer a better illustration of the portfolio spread in the bank:

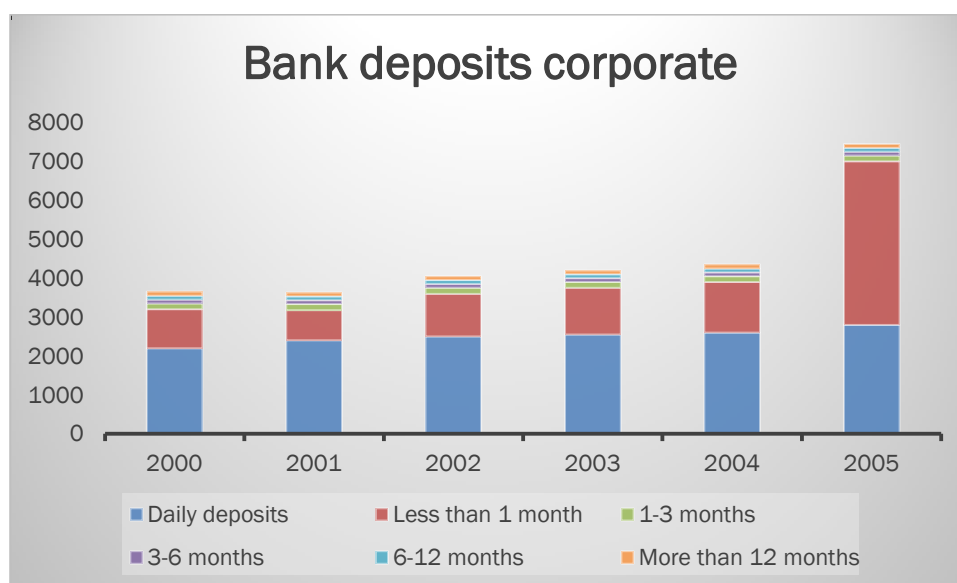
Figure 10: Structure of the corporate loan portfolio



Source: Banca Comerciala Romana, 2005, p. 37

The bank deposits from these companies increased by 20% from the year before as well as the loans which climbed up to more than 34% since 2000

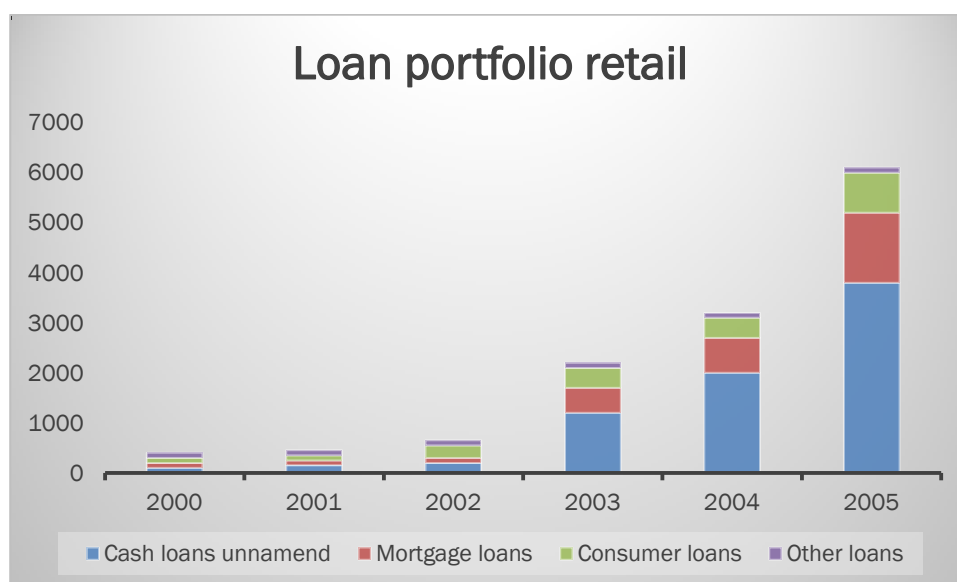
Figure 11: Structure of bank deposits



Source: Banca Comerciala Romana, 2005, p. 39

The retail banking, the base of every commercial bank, achieved promising results in 2005. The bank developed its bank branches to 372 unites, totalizing a number of 3.836.368 clients. The volume of the loan portfolio almost doubled itself to a 6800 Mil RON, so the financial boom was there.

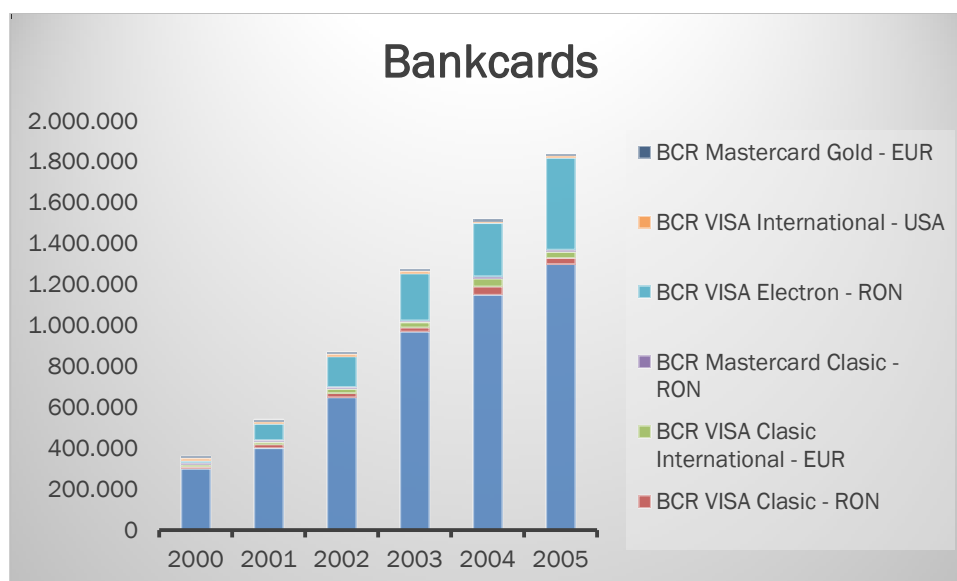
Figure 12: Structure of loan portfolio retail



Source: Banca Comerciala Romana, 2005, p. 45

Another solid increase was made on the debit and credit cards market where the increase was 15%.

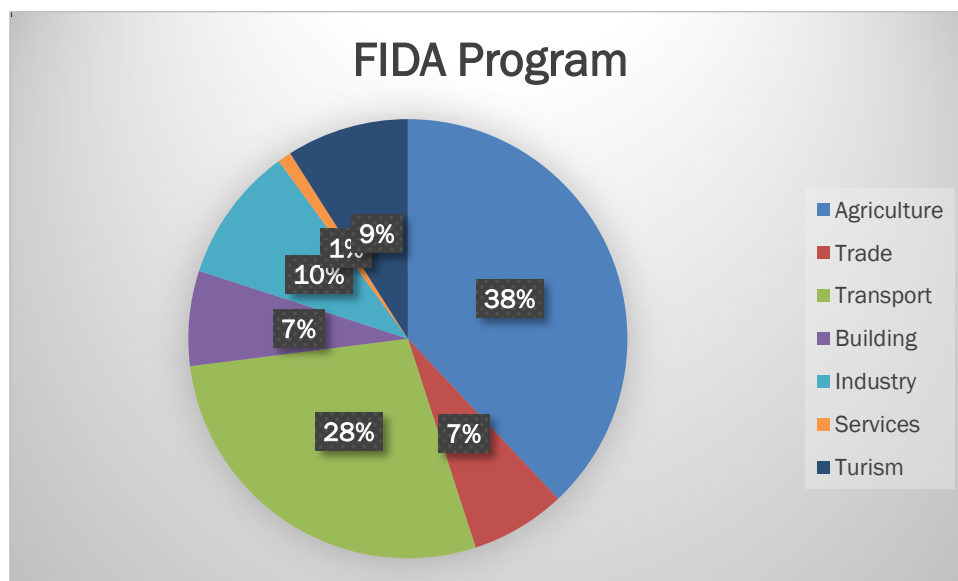
Figure 13: Structure of the bankcards



Source: Banca Comerciala Romana, 2005, p. 46

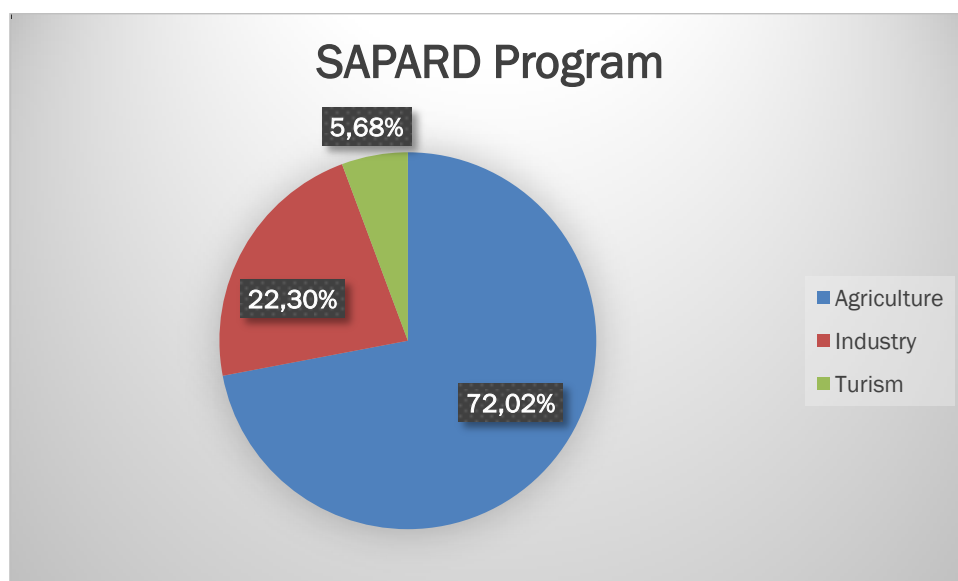
The financial branch of the bank manages the securities portfolio of the bank on the domestic capital market as well as on the international market (stocks traded on the Bucharest Stock Exchange, municipal bonds, corporate bonds, sovereign bonds and various other instruments traded on the international capital market). Furthermore, it initiates and actively participates in various consortia with prestigious investment banks to offer customers a wide range of investment banking and financial advisory, including mergers and acquisitions, privatizations and IPOs. BCR was an important partner of the EU financing projects in more than 81 funds, such as: PHARE, SAPARD, ANOFM, FIDA totalizing an investment volume of 4.1 Bil. USD. (Banca Comerciala Romana, 2005, S. 53)

Figure 14: FIDA Program



Source: Banca Comerciala Romana, 2005, p. 54

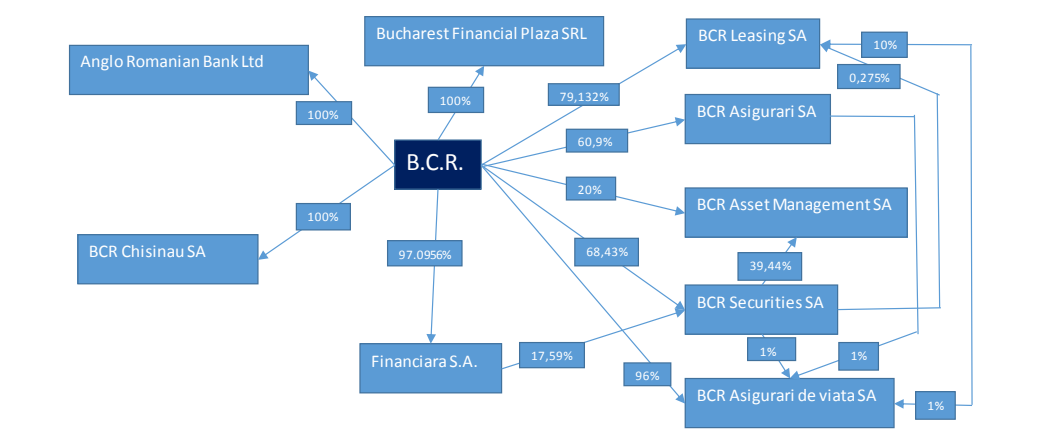
Figure 15: SAPARD Program



Source: Banca Comerciala Romana, 2005, p. 57

But by far the most important activity of the financial branch of BCR is the coordination and supervisory of its subsidiaries. BCR has a total number of 9 subsidiaries

Figure 16: BCR Organizational chart by 15.12.2005



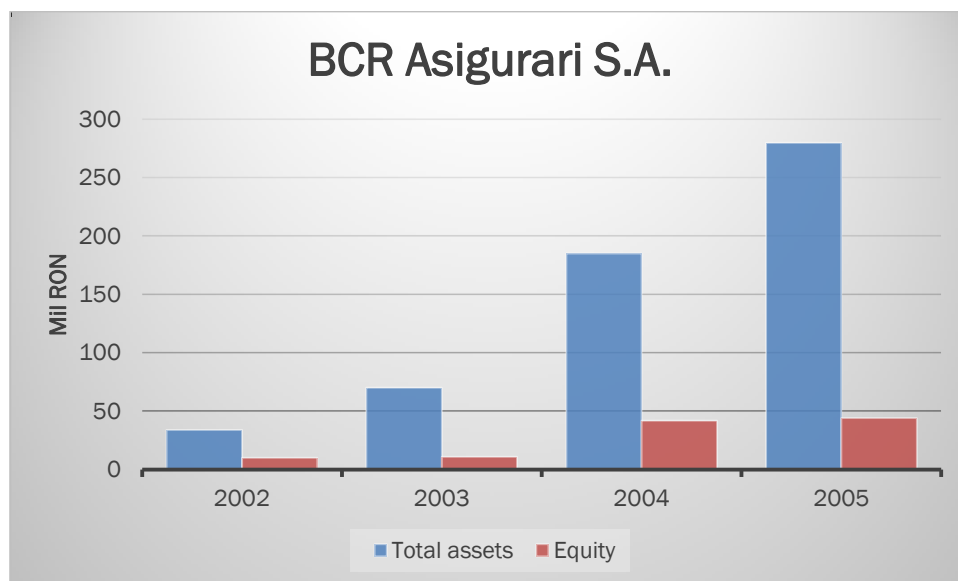
Source: Banca Comerciala Romana, 2005, p. 58

All the subsidiaries managed to have excellent financial results in 2005, consisting in increased business potential and large market shares. Let's take the subsidiaries one by one and look at the results of the year 2005.

3.2.2 BCR Asigurari

BCR Asigurari (insurance) had an increase of 104% of gross premiums compared to 2004, and was ranked 7th among general insurers and 5th among life insurers. It had also increased its insurance branches to 150 units.

Figure 17: BCR Asigurari

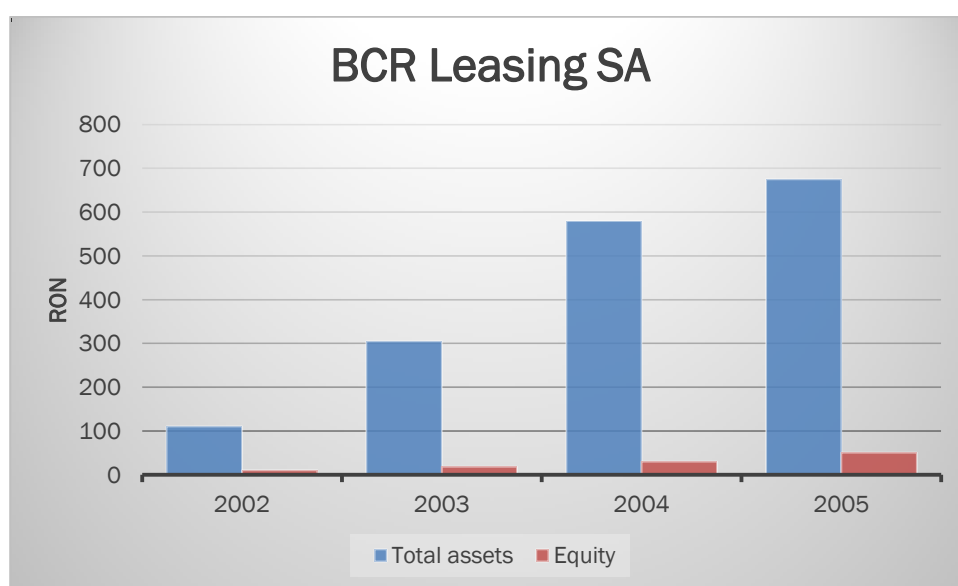


Source: Banca Comerciala Romana, 2005, p. 59

3.2.3 BCR Leasing

Achieved a value of leased assets of 195 million in 2005 alone, to a value of 234 million contracts. Had an 80% increase in sales the year before, resulting in a 11% market share.

Figure 18: BCR Leasing

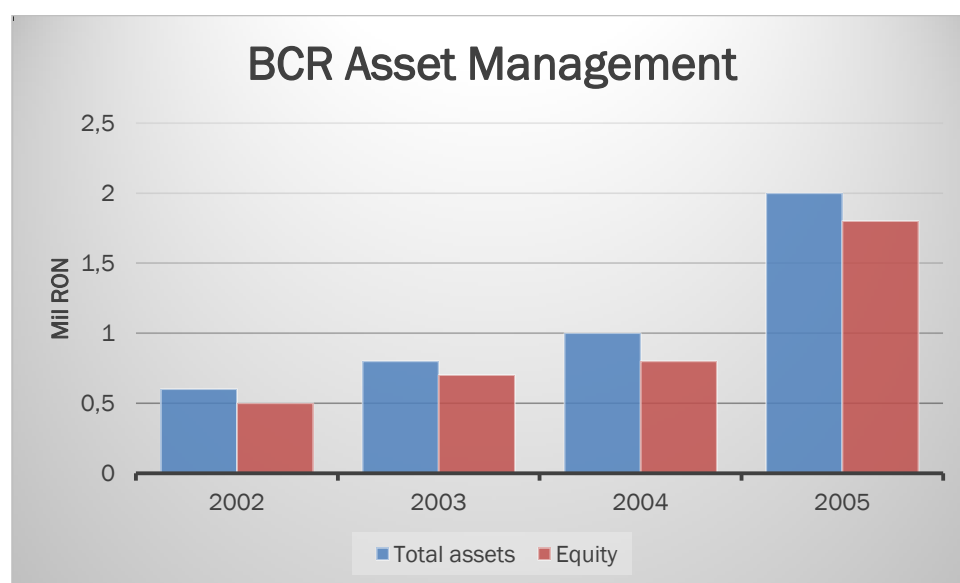


Source: Banca Comerciala Romana, 2005, p. 59

3.2.4 BCR Asset Management

Earned the biggest net profit increase in the group: five times higher than in 2004, and additionally marked an increase of 3 times the net asset value of its investment funds.

Figure 19: BCR Asset Management

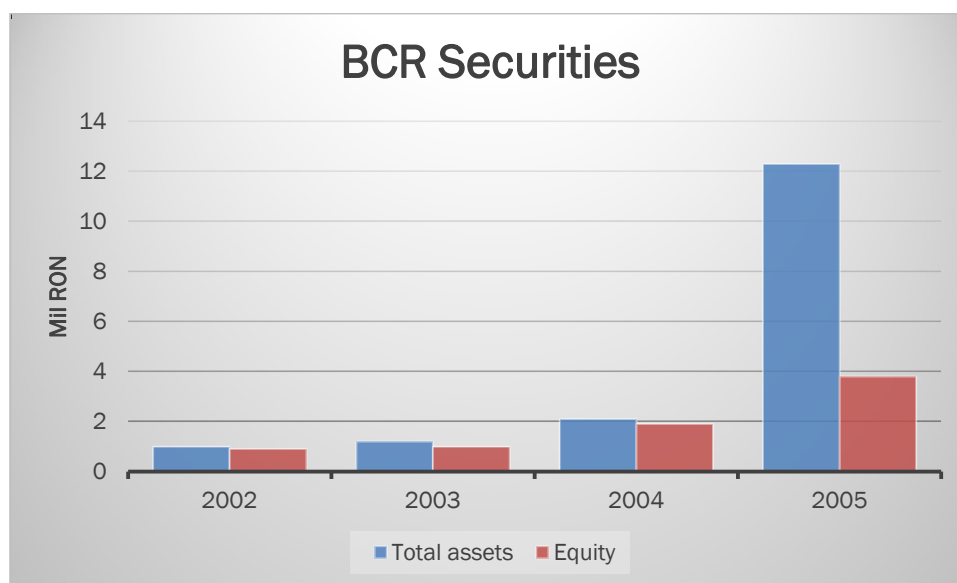


Source: Banca Comerciala Romana, 2005, p. 60

3.2.5 BCR Securities

Recorded a historic high in terms of operational activity and made an increase of 242% in commissions from trading activities. It intermediated 4 out of 6 issues of municipal bonds, having a market share of 45.68%.

Figure 20: BCR Securities



Source: Banca Comerciala Romana, 2005, p. 6

3.3 Corporate Governance

In 2004 BCR was the first bank in Romania who started working under a Corporate Governance agenda. By respecting the Corporate Governance Code, the bank assures the stakeholders that it is applying international well known practices, and it required from the bank side a complete transformation of how the bank identifies its goal and responsibilities.

In the privatization process—because only the big shareholders: AVAS, BERD and IFC were selling their shares--the bank was always trying to ensure transparency and information, while still providing care and concern for minority shareholders, and thus also acting in their interest. For an even better transparency, BCR established the Remuneration Committee which with the help of an international consulting firm specialized in HR, developed a fair principle of remuneration for the Executive Committee members, based on corporate governance principles of the European market. (Banca Comerciala Romana, 2005, p. 13)

The second organization, Compliance of Audit Committee, oversees the policy making mechanisms of the bank, as well as the adequacy of its financial control systems. Specifically, they were responsible for the work of internal control, financial reporting, annual financial statements, internal and external audit in accordance with

laws and other regulations. Both of these committees helped the bank improve its international image. (Banca Commerciale Romana, 2005, S. 15)

As a conclusion, the bidders were offered for sale a large bank with subsidiaries in all important financial industries, which was performing very well in a so called "boom" economy.

4 Valuing a Financial Institution

*"I conceive that the great part of the miseries of mankind are brought upon them by false estimates they have made of the **value** of things."* (Benjamin Franklin)

In this chapter, having as a purpose to derive an estimate of BCR equity value, I will first show why, when valuing a financial service firm, one should always choose an equity valuation model, rather than an enterprise model, using the actual as well as the potential dividends paid by the company and not the free cash flow. As a cross-checking I added a comparative company valuation.

When starting to evaluate a financial services firm, one has to keep two key characteristics in mind. First, the estimation of the cash flow of a financial service firm cannot easily be done, because important items like debt, capital expenditures or working capital are difficult to describe. Second, this industry is under a strong influence by regulatory organs, which automatically influences their capitalization, their investment fields as well as their growth rhythm. Based on these facts, even a small change in the regulatory environment can lead to an important variation in the valuation process. (Damodaran, Valuing Financial Service Firms, April 2009)

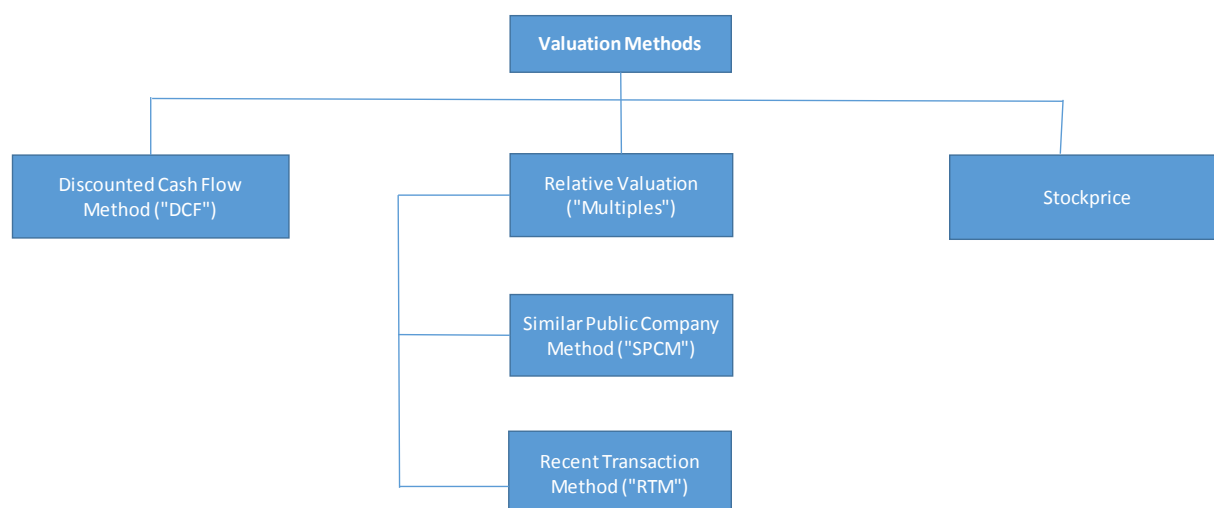
Financial institutions are highly leveraged companies, because of the nature of their businesses. This particularity makes valuation highly sensitive to changes in its key drivers. Because this type of companies are analyzed from the outside to the inside, there is a lack of critical information about the company's economics (e.g.: credit

losses), so an analyst has to rely on the correct accounting by the management. The two most important key numbers that influence the value are the cost of equity, which should reflect the risk that the company has taken, and the return on equity, which is driven by the business choices the company has made as well as the restriction imposed by the regulatory commission. (Koller, Goedhart, & Wessels, 2005, p. 681)

4.1 Selection of the valuation method

For the purpose of valuation, it is generally assumed that a company's potential future performance determines the value of the company. There are various methods of business valuation described by theoreticians as well as practically applied. None of them are absolutely precise, because each individual component has a different economic root, namely social, legal, technical, and also firm specific such as market position, merchandising of products, quality of management, etc. For this reason, there is no valuation method imposed by law, and no compulsory jurisdiction obligatory valuation method.

Figure 21: Various types of valuation methods



Source: Private and confidential information

4.2 Equity Cash Flow Approach

It is common practice to use the Entity Approach in estimating non-financial institutions value. In most of the cases it is appropriate, because of the separation between operating decisions and financing decisions. However, a bank cannot value its operations separately from its interest income and expense since, these are important parts of their income. So the most important asset in valuing this type of companies are the financing decisions (e.g.: choice of leverage). As a consequence, one should apply an equity approach. (Koller, Goedhart, & Wessels, 2005, p. 682)

This method is also known as the Dividend Discount Method ("DDM") and in this case, the free cash flow will be substituted by the generated flows to equity. There are three important arguments in doing so:

- the operating profit consists largely of the net interest income
- even on the liabilities side banks can generate income
- the calculation of the weighted average cost of capital ("wacc") is difficult and can have significant fluctuations in the valuation process

4.2.1 How is an equity cash flow calculated?

The typical calculation of the equity cash flow starts with the net income than the earnings retained in the business are subtracted. Net income is the base of every cash flow calculation because it represents the earnings theoretically available to shareholders after the company has paid all expenses, including those to shareholders. At the end the other comprehensive income should be added.

Equation 1: Equity cash flow formula

$\text{Equity Cash Flow} = \text{Net Income} - \text{Increase in Equity} + \text{Other Comprehensive Income}$

Source: (Koller, Goedhart, & Wessels, 2005, p. 664)

Since the obtained FTEs are solely at the disposal of the equity holders, they can be discounted at the rate of return which shareholders would earn for the indebted company.

4.3 Understanding a Company's Equity Needs

As mentioned before, in the valuation process of a bank one needs to estimate the equity cash flow. This is far more complicated than for the future cash flow because of the need to raise the equity when the company starts to grow. This procedure plays an important role because in a financial institution, managers invest or lend other people's money. In doing so, prudent (outside) managers or regulators want to see that the company puts some of its own equity at risk in order to be sure that the company keeps a sustainable level of leverage. But the question always is how much equity should a financial company possess in order not to be classified as risky? (Koller, Goedhart, & Wessels, 2005, p. 683)

A problem can appear during a growth phase of a financial institution when it is crucial to the company to increase its equity, otherwise regulators and customers would get suspicious about the company's solvency, since its debt to equity ratio would rise. But this process of increasing equity will automatically decrease the amount of cash which could be paid out to shareholders. (Koller, Goedhart, & Wessels, 2005, p. 682)

4.4 Cost of equity / CAPM

The obtained Flow to Equity are being discounted with the cost of equity. A company's cost of equity represents the benefit that the market demands in exchange for owning the asset and taking the risk of ownership. This rate has to be equivalent with the FTEs in terms of maturity, risk and taxation. As a starting point one can use the capital market yield on corporate investments (as a portfolio of shares). This rate has two important components: a risk free rate, which an investor can obtain without putting his investment at a risk, and the so called risk premium which an investor has to earn in order to be ready to invest in the new (not riskless)

business. (Private and confidential information)

The most used method in theory as well as in practice for this type of calculation is the Capital Asset Pricing Model ("CAPM"). The basic idea in this theory is that between the risk and the expected return there is linear correlation. The risk would be then quantified with the help of the covariance, the so called Beta Factor ("β"). With the help of the CAPM formula, one can easily calculate the return on equity. (Mandl & Rabel, 1997, p. 89)

Equation 2: CAPM Formula

$$r_a = r_f + \beta_a * (r_m - r_f)$$

Where:

r_a = discount rate

r_f = risk free rate of return

β_a = investment beta

r_m = market rate of return

Source: Private and confidential information

In the case of BCR the estimated return on equity will be **10,5%**. The following pages will offer further explanations how to obtain this value.

4.4.1 Risk-free rate

The risk-free rate is the minimum return an investor wants to earn from any investment. The investor will not accept any additional risk unless the potential rate of return will be higher than the risk-free rate. In theory, this is also known as the rate of return of an investment with zero risk. But in reality, there is no risk free investment, because in every business/company there is always a small amount of risk. (Koller, Goedhart, & Wessels, 2005)

In this case, taking into account the fact that the bank activates in Europe, the best way to estimate the risk free rate is by taking the 30 year spot rate for German bonds. The German economy is "Triple A" rated, so from a valuation perspective it does not bear any risk (or better said the smallest possible risk). With the help of the Svensson - Model, the German National Bank is calculating this rate every day. Since there is no other national bank in Central or Eastern Europe making this daily base calculations, one has to choose this one. On the 20.12.2005 the spot rate was estimated at **4,13%**. This expected rate will be used in the future calculations in this paper, because it fits best in the model. (Deutsche Bundesbank, 2013)

Equation 3: Spot rate in Svensson model

$$z(n, \beta, \tau) = \beta_0 + \beta_1 * \frac{1 - e^{\left(-\frac{n}{\tau_1}\right)}}{\frac{n}{\tau_1}} + \beta_2 * \left(\frac{1 - e^{\left(-\frac{n}{\tau_1}\right)}}{\frac{n}{\tau_1}} - e^{-\frac{n}{\tau_1}} \right) + \beta_3 * \left(\frac{1 - e^{\left(-\frac{n}{\tau_2}\right)}}{\frac{n}{\tau_2}} - e^{-\frac{n}{\tau_2}} \right)$$

Source: (Deutsche Bundesbank, 2013)

Table 7: Calculation of the 30 years spot rate

Laufzeit	Parameter			
n	β_0	β_1	β_2	β_3
30	4,206	-0,846	0,023	-0,832
	τ_1	τ_2		
	0,28	2,492		
z₃₀	4,13%			

Source: Bundesbank 2013

4.4.2 Beta factor

An essential factor in the determination of company-specific cost of equity is the assessment of the risk position of the company in comparison to the overall market. This assessment is expressed by the so-called beta factor.

The beta-factor is the extent of the changes in the yield of a particular security at a change of the rate of return of the market portfolio. The beta factor is thus a measure of the systematic risk of a particular stock and is mathematically expressed as a normalized covariance. A stock with a beta factor greater than 1 reacts disproportionately to the development of the market risk. The greater the beta factor for a specific business is, the greater is the risk of the investor if he invests in this company in relation to an investment in the market portfolio and so the required risk premium. If a stock has a beta factor between 0 and 1, it possess a smaller risk than market risk. The market portfolio itself has a beta factor of 1, since the overall market fluctuation is the sum of all the individual variations. (Koller, Goedhart, & Wessels, 2005)

In practice, the determination of the beta-factor for listed companies is calculated with the help of a linear regression, in which the yields of the respective company are regressed on the return of the relevant market portfolio. If the company is publicly listed, one can use already published betas estimates from Bloomberg, Reuters or Capital IQ.

A company has to be publicly listed in order to be able to determine the risk premium with the CAPM. If there is a lack of observable yields, a calculation of the beta factor is not possible. However, one can estimate the beta for a non-listed company by selecting comparable companies (peer group) and building an average of this one. When using the beta factors of publicly listed companies, one has to keep in mind that this represents the systematic risk of each comparable company, or the average of the industry. The relevant systematic risks may include both industry risks as well as financial risks. As a result, the companies chosen in the peer group have a similar capital as well as financing structure so unlevering and relevering of the beta-factors is not necessary. (Private and confidential information)

Because BCR was not a publicly listed company I decided to form a peer group of 20 European banks, with similar assets and capital structure. Back in 2005, most of the Romanian banks were not listed at the Bucharest Stock Exchange or at any other international stock market, so I had to choose other commercial (international) banks.

The median of this peer group is **1,04**.

Table 8: Overall view Beta Peer Group

Beta calculation based on comparables	Country	Applied Beta	R ²
Allied Irish Banks	Ireland	0,87	0,51
Alpha Bank	Greece	1,09	0,79
Danska Bank	Danish	0,65	0,28
EFG Eurobank Ergaslas	Greece	1,02	0,76
Intesa San Paolo	Italy	1,40	0,62
KBC	Greece	0,90	0,49
National Bank of Greece	Hungary	1,30	0,86
OTP Bank RT	Greece	1,06	0,67
Piraeus Bank	Greece	1,06	0,66
SEB	Sweden	0,79	0,52
Societe Generale	France	1,12	0,71
Swedbank	Sweden	0,79	0,56
Average (overall)		1,02	0,62
Median (overall)		1,04	0,64

Source: Bloomberg

4.4.3 Risk premium

The risk which an investor is bearing to take by putting his money in a company and not in a risk free investment is being compensated with the risk premium. This premium is the difference between the expected yield from the (full diversified) market portfolio and the risk free rate.

The risk premium does not include the whole risk of a security, but only its systematic risk, which cannot be excluded by diversification. Factors which have an important influence on the risk premium are the value of the risk free rate, economic forecasts, expectations about the behavior from the competition as well as tax policy measures. In contrast to the systematic risk, the unsystematic risk based on the CAPM can be eliminated by a sufficient diversification of the portfolio. Risk such as quality of management and of the employees, the age and the quality of the financial assets of the company or the individual competitive market are unsystematic risk. The unsystematic risk is not due to capital market influences, so it is not compensated by the market and thus it is not considered when determining the cost of equity of a

company. (Damodaran, Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2010 Edition, 2010)

For the estimation of the risk premium I used the country risk premium-model of *Erb/Harvey/Viskanta*. This model is widely used in practice and is the starting point for many other published data such as Ibbotsson, Damodaran. It computes the difference between bonds from the respective country and risk free rates or risk free bonds. The obtained difference will then be added to the country risk premium from a developed economy. (Erb, Harvey, & Viskanta, 1997)

As a conclusion I used in my calculation a risk premium of **6,125%**.

4.5 Risk capital vs. book equity

Regulators decided that the risk that a company has in its portfolio should decide the amount of equity it has to possess. Established already in 1988, Basel I was the first accord which developed rules indicating how much equity a bank has to possess based on its level of risk-weighted assets (RWA). These so called RWAs were the measurement scale of risk in the loan portfolio of a bank: all the loans were classified after the different classes of borrowers. In the same accord regulators mentioned the amount of straightforward shareholders' equity as well as other forms of (risky) financing, such as complex subordinated debt instruments. (Koller, Goedhart, & Wessels, 2005, p. 684)

Anticipating that the NBR will force all the banks in the system to submit to the Basel II criteria in 2008, BCR did great efforts in 2005 in order to satisfy the first matter conditions for Basel II, estimating that at the end of 2006 it will fulfill all the conditions requested. This ensures on the one hand that the bank is taking good care of people's money and on the other hand proves professionalism from the bank management's side. (Banca Comerciala Romana, 2005, p. 6, 33)

Every bank estimates what is the maximum amount of risk capital it can have, in

order to operate prudently without assuming a too high risk. Since we are valuing from the outside, it is impossible for us to know the exact value of risk capital per business unit. The interesting point here is that this amount of capital is most of the time different than the one required by regulators or by investors. So in performing a valuation from the outside in, it is necessary to make the assumption that the risk capital that the bank already invested is equal to the book value of its equity. (Koller, Goedhart, & Wessels, 2005, p. 666)

4.6 Basic Bank Economics

The typical ways for a bank to earn money are lending activities and fees for services rendered. As a consequence the most important income categories are net interest income and fee income.

Net interest income is the difference between the interest income a bank earns from lending and the interest expense it pays for borrowing the necessary funds. For the calculation needed, analyst speak of the "Income" model. This method subtracts interest expense from interest income, and then subtracts other expenses and taxes. Also, analyst recommend this method when performing an outside-in valuation. (Koller, Goedhart, & Wessels, 2005, p. 689)

In case of a bank, fee income comes from services provided to customers, beginning with retail banking, private banking services, Mergers & Acquisition, Initial Public Offerings or asset management. In comparison with the net interest income, this type of revenue is a typical service offered to customers and does not depend on the financing decision.

In our case, BCR earns most of its money by retail banking and private banking services. M&A or IPOs do not play such an important role, though its subsidiaries such as BCR Securities increased its revenue by coordinating the issue of municipal bonds. Other subsidiaries such as BCR Leasing, BCR Asigurari (Insurance) or BCR Asset Management offer the customers an even brighter spectrum of services.

The second important view in valuing any company is the significant cost. Among

these, the provision for loan losses is the most important one. A customer paying his loan back respecting a timely basis is a very important value driver for a bank. But by performing an outside valuation it is very difficult to estimate the quality of a bank's loan portfolio. Besides the cost, the second major category is made up of the noninterest expenses, which are administrative expenses such as rent or different renovation costs, then selling and general cost such as salaries or marketing costs. These costs can be estimated very easy.

When we analyze BCR balance sheet, it appears that its major assets are the loan portfolio, and the cash reserves they possess. Fixed assets and working capital do not play such a significant role. On the liabilities part we can observe typical items such as deposits, debt and equity.

4.7 Forecasting Flow to Equity

Because we have access to book equity, we need a method in order to estimate the equity the company will need. The key drivers in forecasting a financial institution are growth and return on equity, which at this level drive the equity cash flow. In order to estimate how much cash a firm can return to its shareholders, we have to measure how much cash is still available after meeting different criteria's like: reinvestment needs.

As in every valuation, we begin by forecasting the company's income statement and balance sheet. In order to derive the equity cash flow we estimate first the equity in relation to other balance sheet items (total assets) and then we obtain the equity cash flow from these statements. By forecasting only the dividends and then calculating the rest of the positions in the balance sheet, one would unknowingly change the capital structure, which would lead to excess capital or excessive leverage. (Koller, Goedhart, & Wessels, 2005, p. 685)

Using the net income obtained from the income statement, which actually is the accounting profit which a shareholders would earn in a specific period, we can

convert it into cash flow by adding/subtracting the firm's reinvestment needs. On the one hand typical cash outflows are capital expenditures, like different types of acquisitions. On the other hand accounting issues like depreciation and amortization, should be added back because they just decrease our net income without having any influence on the cash reserves. *Net capital expenditures* addresses the difference between capital expenditures and depreciation, being a function of the growth characteristics of the firm. Depending on whether the firms are high- or low-growth firms they tend to have a high or a low net capital expenditure. The same applies for the working capital only in this cases a increase in working capital will decrease the firm's cash flow and vice-versa. (Damodaran, Damodaran on Valuation Second Edition, 2006)

5 Building the Cash Flow for BCR

When we start making a forecast for the BCR Cash Flow we have to make several simplifications. Points such as: the quality of the loan portfolio or whether the company has excess of equity cannot be properly estimated.

The valuation will start with the simulation of BCR income statement, will continue with the balance sheet for the upcoming 10 years and will finished with the calculation of the equity value. For the calculation of the firm value I used the Discounted Cash flow formula, only this time the expected free cash flow is the flow to equity which will be discounted with the return on equity.

Equation 4: Value of firm

$$\text{Firm value} = \sum_{t=1}^{\infty} \frac{FTE_t}{(1+r_a)^t}$$

where:

FTE_t – Flow to equity (incl terminal value)

r_a – Return on equity

In obtaining the values I did the following estimations:

- I estimated 3 growth rate cycles:
 - 2006-2010, a period of **high growth**: as estimated by the EIU the banking sector in Romania will grow by **10%**,
 - 2011-2013, a period of **accelerated growth**: the growth rate will be **8%** and
 - 2014-2015, a period of **stable profitability at industry average**: in the last period of the forecast the bank is expected to grow by **6%**
- For the terminal value I used in my calculation a **cash flow perpetuity** of **4%**
- I forecasted the values for **deposit loans** based on historical performance
- The provision for loan losses are estimated as an **average percentage** of the historical provisions build before (as percentage of the loans)
- As tax rate I used an average of the historical value but also the new by the Romania government promoted flat tax of **16%**
- All the digits used below have as currency the Romanian New Leu (**RON**) and the exchange rate by that time was 1€ = 3,67 RON (National Bank of Romania, 2006)

Table 9: Historical and Forecasted Balance Sheet 2003-2009

Historical and Forecasted Balance Sheet 2003-2009							
	2003	2004	2005	2006	2007	2008	2009
Assets							
Cash and cash equivalents	442 687	429 376	790 934	870 027	957 030	1 052 733	1 158 006
Cash and balances with central banks	5 397 515	7 148 201	7 730 927	8 504 020	9 354 422	10 289 864	11 318 850
Placements with banks	915 430	822 259	2 112 902	2 324 192	2 556 611	2 812 273	3 093 500
Financial assets at fair value	-	3 831 134	786 556	865 212	951 733	1 046 906	1 151 597
Loans for banks	170 225	84 912	337 251	370 976	408 074	448 881	493 769
Loans for customers	8 352 137	10 760 280	16 329 962	17 962 958	19 527 272	21 248 017	23 140 838
Financial assets available for sale	1 799 395	64 408	3 947 566	4 342 323	4 776 555	5 254 210	5 779 631
Tangible assets	1 864 563	1 777 804	1 822 762	2 005 038	2 205 542	2 426 096	2 668 706
Intangible assets	715 576	161 146	180 425	198 468	218 314	240 146	264 160
Deferred tax asset	0	0	13 528	0	0	0	0
Other assets	115 602	123 767	163 559	179 915	197 906	217 697	239 467
Total assets	19 773 130	25 203 287	34 216 372	37 623 128	41 153 459	45 036 823	49 308 524
Liabilities							
Deposits from banks	490 834	893 213	922 905	1 015 196	1 116 715	1 228 387	1 351 225
Deposits from customers	14 296 414	17 764 058	22 087 477	24 296 225	26 725 847	29 398 432	32 338 275
Loans from banks and other financial institutions	1 031 537	2 423 782	4 898 571	5 388 428	5 927 271	6 519 998	7 171 998
Other liabilities	204 816	387 361	2 296 659	2 526 325	2 778 957	3 056 853	3 362 538
Deferred tax liabilities	8 748	18 419	2 759	0	0	0	0
Total liabilities	16 032 349	21 486 833	30 208 371	33 226 173	36 548 791	40 203 670	44 224 037
Shareholders equity	2 119 693	2 119 693	2 119 693	2 319 816	2 319 816	2 319 816	2 319 816
Other reserves	699 224	888 626	956 015	1 051 617	1 156 778	1 272 456	1 399 702
Cumulative and other comprehensive income	842 790	692 314	905 995	996 595	1 096 254	1 205 879	1 326 467
Minority interest	79 074	15 821	26 298	28 928	31 821	35 003	38 503
Total shareholders equity	3 740 781	3 716 454	4 008 001	4 396 955	4 604 669	4 833 154	5 084 488
Total liabilities and stockholders equity	19 773 130	25 203 287	34 216 372	37 623 128	41 153 459	45 036 824	49 308 524

Table 10: Historical and Forecasted Balance Sheet 2010-2015

Historical and Forecasted Balance Sheet 2010-2015							
	2010	2011	2012	2013	2014	2015	Terminal Value
Assets							
Cash and cash equivalents	1 273 807	1 375 712	1 485 769	1 604 630	1 700 908	1 802 962	27 737 884
Cash and balances with central banks	12 450 735	13 446 794	14 522 538	15 684 341	16 625 401	17 622 925	271 121 924
Placements with banks	3 402 850	3 675 078	3 969 084	4 286 611	4 543 807	4 816 436	74 099 013
Financial assets at fair value	1 266 756	1 368 097	1 477 545	1 595 748	1 691 493	1 792 983	27 584 347
Loans for banks	543 146	586 598	633 526	684 208	725 260	768 776	11 827 319
Loans for customers	25 168 417	26 996 304	28 970 423	31 102 472	32 829 432	34 660 009	533 230 900
Financial assets available for sale	6 357 595	6 866 202	7 415 498	8 008 738	8 489 262	8 998 618	138 440 279
Tangible assets	2 935 576	3 170 423	3 424 056	3 697 981	3 919 860	4 155 051	63 923 866
Intangible assets	290 576	313 822	338 928	366 042	388 005	411 285	6 327 465
Deferred tax asset	0	0	0	0	0	0	0
Other assets	263 413	284 486	307 245	331 825	351 735	372 839	5 735 978
Total assets	53 952 872	58 083 516	62 544 612	67 362 596	71 265 163	75 401 883	1 160 028 976
Liabilities							
Deposits from banks	1 486 348	1 605 256	1 733 676	1 872 370	1 984 712	2 103 795	32 366 077
Deposits from customers	35 572 103	38 417 871	41 491 300	44 810 604	47 499 241	50 349 195	774 603 003
Loans from banks and other financial institutions	7 889 198	8 520 333	9 201 960	9 938 117	10 534 404	11 166 468	171 791 817
Other liabilities	3 698 792	3 994 696	4 314 271	4 659 413	4 938 978	5 235 316	80 543 330
Deferred tax liabilities	0	0	0	0	0	0	0
Total liabilities	48 646 440	52 538 155	56 741 208	61 280 504	64 957 335	68 854 775	1 059 304 228
Shareholders equity	2 319 816	2 319 816	2 319 816	2 319 816	2 319 816	2 319 816	35 689 477
Other reserves	1 511 678	1 632 612	1 763 221	1 904 279	2 018 535	2 139 647	32 917 651
Cumulative and other comprehensive income	1 432 585	1 547 191	1 670 967	1 804 644	1 912 923	2 027 698	31 195 355
Minority interest	42 353	45 741	49 401	53 353	56 554	59 947	922 265
Total shareholders equity	129 339	141 156	153 165	164 124	175 172	186 310	100 724 749
Total liabilities and stockholders equity	48 775 779	52 679 312	56 894 373	61 444 629	65 132 507	69 041 085	1 160 028 977

Table 11: Historical and Forecasted Income Statement 2003-2009

Historical and Forecasted Income Statement 2003-2009							
	2003	2004	2005	2006	2007	2008	2009
Interest and similar income	2 087 236,00	2 568 210,00	2 513 157,00	2 764 472,70	3 040 919,97	3 345 011,97	3 679 513,16
Interest and similar expense	-937 420,00	-1 120 543,00	-1 131 300,00	-1 244 430,00	-1 368 873,00	-1 505 760,30	-1 656 336,33
Net interest income	1 149 816,00	1 447 667,00	1 381 857,00	1 520 042,70	1 672 046,97	1 839 251,67	2 023 176,83
Fee and commission income	621 893,00	659 149,00	682 934,00	751 227,40	826 350,14	908 985,15	999 883,67
Fee and commission expense	-66 554,00	-56 647,00	-55 978,00	-61 575,80	-67 733,38	-74 506,72	-81 957,39
Net fee and commission income	555 339,00	602 502,00	626 956,00	689 651,60	758 616,76	834 478,44	917 926,28
Dividend income	1 078,00	3 480,00	3 584,00	3 248,85	3 496,01	3 845,29	4 229,82
Net trading income	65 148,00	151 810,00	222 467,00	244 713,70	269 185,07	296 103,58	325 713,93
Net gain from financial instruments other than those held for trading	32 475,00	-3 935,00	4 400,00	4 840,00	5 324,00	5 856,40	6 442,04
Other operating income	68 361,00	74 049,00	158 156,00	173 971,60	191 368,76	210 505,64	231 556,20
Operating expenses	-1 136 457,00	-1 234 991,00	-1 498 801,00	-1 648 681,10	-1 813 549,21	-1 994 904,13	-2 194 394,54
Provision for loan losses	-189 516,00	-205 086,00	-134 336,00	-147 769,60	-162 546,56	-178 801,22	-196 681,34
Adjustment hyperinflation	-181 248,00	0,00	0,00	0,00	0,00	0,00	0,00
Net income before income taxes	364 996,00	835 496,00	764 283,00	840 017,75	923 941,80	1 016 335,66	1 117 969,22
Income taxes	-90 181,00	-199 923,00	-108 553,00	-134 402,84	-147 830,69	-162 613,71	-178 875,08
Net income	274 815,00	635 573,00	655 730,00	705 614,91	776 111,11	853 721,95	939 094,15

Table 12: Historical and Forecasted Income Statement 2010-2015

Historical and Forecasted Income Statement 2010-2015							
	2010	2011	2012	2013	2014	2015	Terminal Value
Interest and similar income	3 973 874,22	4 291 784,15	4 635 126,89	4 913 234,50	5 208 028,57	5 520 510,28	84 930 927,44
Interest and similar expense	-1 788 843,24	-1 931 950,70	-2 086 506,75	-2 211 697,16	-2 344 398,99	-2 485 062,92	-38 231 737,30
Net interest income	2 185 030,98	2 359 833,46	2 548 620,14	2 701 537,34	2 863 629,58	3 035 447,36	46 699 190,14
Fee and commission income	1 099 872,04	1 187 861,80	1 282 890,74	1 385 522,00	1 468 653,32	1 556 772,52	23 950 346,49
Fee and commission expense	-90 153,13	-97 365,38	-105 154,61	-113 566,98	-120 381,00	-127 603,86	-1 963 136,26
Net fee and commission income	1 009 718,91	1 090 496,42	1 177 736,13	1 271 955,02	1 348 272,33	1 429 168,67	21 987 210,24
Dividend income	4 652,80	4 949,67	5 345,34	5 772,96	6 022,66	6 383,62	338 331,58
Net trading income	358 285,33	386 948,15	417 904,01	451 336,33	478 416,51	507 121,50	7 801 869,19
Net gain from financial instruments other than those held for trading	7 086,24	7 653,14	8 265,40	8 926,63	9 462,22	10 029,96	154 307,04
Other operating income	254 711,82	275 088,77	297 095,87	320 863,54	340 115,35	360 522,27	5 546 496,44
Operating expenses	-2 413 834,00	-2 606 940,72	-2 815 495,98	-3 040 735,65	-3 223 179,79	-3 416 570,58	-52 562 624,32
Provision for loan losses	-216 349,47	-233 657,43	-252 350,02	-272 538,03	-288 890,31	-306 223,73	-4 711 134,23
Adjustment hyperinflation	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Net income before income taxes	1 189 302,61	1 284 371,47	1 387 120,87	1 447 118,14	1 533 848,55	1 625 879,06	25 253 646,08
Income taxes	-190 288,42	-205 499,44	-221 939,34	-231 538,90	-245 415,77	-260 140,65	-4 040 583,37
Net income	999 014,19	1 078 872,03	1 165 181,53	1 215 579,24	1 288 432,78	1 365 738,41	21 213 062,71

Table 13: Flow to Equity and Valuation

Net Income 2005-2009					
	2005	2006	2007	2008	2009
Net income	655 730,00	705 614,91	776 111,11	853 721,95	939 094,15
(-) Increase in equity	196 719	211 684	232 833	256 117	281 728
Discount factor	-	1,105	1,22	1,35	1,49
Discounted net income	459 011	446 996	444 936	442 922	440 918

Net Income 2010 - 2015 and Valuation							
	2010	2011	2012	2013	2014	2015	Terminal Value
Net income	999 014,19	1 078 872,03	1 165 181,53	1 215 579,24	1 288 432,78	1 365 738,41	21 213 062,71
(-) Increase in equity	299 704,26	323 661,61	349 554,46	364 673,77	386 529,83	409 721,52	6 363 918,81
Discount factor	1,65	1,82	2,01	2,22	2,46	2,71	2,71
Discounted net income	424 481,05	414 853,07	405 467,16	382 809,84	367 197,15	352 243,33	5 471 150,17
Equity value with Flow to equity	10 052 985,13						

6 Relative Valuation

The relative valuation, also known as "ratio comparison" (Grinblatt and Titman) has been widely used in the last years, because of its straightforward structure, enabling analysts to explain it to external stakeholders very easily, without going into a deep fundamental valuation. The main idea in this valuation by comparison is to estimate the value of an asset by comparing it to other similar ones that are already priced by the markets. (Damodaran, 2006, p. 309)

The calculation consists of a proportionate number, which is determined from a reference variable and the corresponding value of comparable companies. By solving the equation illustrated in Equation 4 one can easily obtain the equity value. The main point on which this type of valuation is based, is that markets attach "similar prices to similar assets". (Cornell, 1993)

Equation 5: Relative Valuation

$\text{Firm Value} = \text{Multiple} \times \text{Given Variable}$
--

The first step in performing this type of valuation is to search on the market for comparable firms: the act of choosing has to be carried out very carefully; even if comparable firms have their activity in the same industry, this does not qualify them for the ratio comparison. Furthermore the analyst has to include all factors that affect firm value such as: underlying cash flow, risk and growth opportunities. (Damodaran, 2006, p. 309)

In the second approach, the analyst has to decide which of the variables can offer fair information of the asset quality. Variables such as cash flows, earnings (EBITDA, EBIT), book values, replacement values or other sector-specific variables are frequently used in practice. But in our case, multiples like Value to EBITDA or Value to EBIT are very

difficult to be calculated, because items like value or operating income are very difficult to estimate. So one should use only equity multiples when performing a relative valuation on a bank. In practice, the most used equity multiples are: the Net-Income Multiple (also known as the Price-Earnings Ratio) and the Market to Book Ratio. (Private and confidential information)

The statistical part comes in the third approach where the values of the comparable to the variable chosen are being scaled and then a mean value is being calculated. The outcome is a market value multiple, named by Prof. Damodaran a "standardized price".

For calculating the P/E Ratio, the same formula as for any other company is used:

Equation 6: P/E Ratio

$$\text{Price earnings ratio} = \text{Price per share} / \text{Earnings per share}$$

In practice it is easier to calculate the ratio by dividing the market capitalization through the net income.

For calculating the second multiple, Market to Book Ratio, one has to estimate the proportion between the market capitalization and the book value of equity.

Equation 7: Market to Book Ratio

$$\text{Market to Book Ratio} = \text{Market capitalization} / \text{Book value of equity}$$

The general problem when trying to compute these two multiples is that BCR is not a publicly listed company. As a consequence, the share price is missing. So one has to find an alternative in the calculation, in order to be able to use this type of valuation. The suggested method is to form, with the help of a peer group, a median of the two ratios and to apply them in the calculation. To get an even "cleaner" valuation method, one could decide to use the "Recent Transaction Method". By applying this type of

method the obtained price will fluctuate between two values, which is normal since this is a relative valuation. (Damodaran, 2006)

6.1 Recent Transaction Method

The Recent Transaction Method, as the name says, is using the data from recent transaction in order to calculate the two multiples I mentioned above. In this type of relative valuation the estimated value of the company also includes strategic premiums like market entry, synergies, and controlling interests, so it fits better to our company for our evaluation purposes. (Damodaran, 2006)

In order to be sure that the (relative) valuation one is going to perform achieves a fair (as possible) result, one should have 3 criteria in choosing the 8 banks:

- The target company has to be a bank
- The bank concentrates on the home market and is active in the CEE
- Financial Close of the transaction was after 01.01.2003 (2003 IFC and EBRD bought the first 25% of BCR) (Private and confidential information)

As a result, the obtained median for the Book Value Equity Multiple is **1,52x** and for the Net Income Multiple is **14,07x** (see Table 13). Most of the banks used in the peer group are not established only in the Eastern part of Europe, so the median obtained in peer group analysis below had to be adjusted. In the case of Net Income Multiple there is no adjustment needed since the growth rate expected is even higher than in the Western part of Europe. But the book value equity multiple has to be adjusted, because banks in Eastern Europe were still struggling by that time to submit to the Basel criteria, so the book value equity was less than in a western commercial bank. Unpublished research consider that one should add 0.9% to the book value equity multiple for countries in Eastern Europe to the median obtained from the peer group. (Private and confidential information)

So, when computing the equity value for BCR one will get the values between **MRON 9.226** (equity value / net income multiple) and **MRON 9.619** (book value / market value multiple), see also Table 15.

Table 14: Recent Transactions

Target	Buyer	Country	Financial Close	Deal Value in MEUR	Equity Value in MEUR	MV Equity / BV Equity	MV Equity / Net Income
Bank Austria Creditanstalt AG (23%)	Unicredito Italiano SpA	Austria	18.11.2005	2 669,0	11 993,7	1,75x	19,94x
HypoVereinsbank AG	Unicredito Italiano SpA	Germany	18.11.2005	15 371,0	15 370,6	1,17x	n.a.
Almanij NV	KBC Bank & Verzekering NV	Belgium	02.03.2005	15 597,0	15 597,4	1,78x	13,71x
WestLB AG (61%)	RSGV, WLSGV	Germany	21.10.2004	2 437,0	4 698,0	1,23x	n.a.
Almanij NV (1%)	Colvert	Belgium	23.01.2004	112,0	8 000,0	n.a.	5,93x
Unicredito Italiano SpA (1,68%)	Aviva plc	Italy	01.08.2003	430,0	25 595,0	2,01x	14,07x
Societe Generale (1,68%)	Fondazione CRT	France	01.08.2003	430,0	25 595,0	1,52x	17,44x
HypoVereinsbank AG (HVB) (4,8%)	Citigroup Inc	Germany	01.08.2003	390,0	8 125,0	0,78x	n.a.
Average				4 683,3	14 371,8	1,46x	14,22x
Median				1 433,5	13 682,1	1,52x	14,07x

Source: Mergermarket

Table 15: Valuation by multiples

Valuation BV/MV multiple	
Book value equity	4 008 001
Book value/market value multiple adjusted	2,42
Equity value with bv/mv multiple	9 699 362,42

Valuation EV/NI multiple	
Net income	655 730
Net income multiple	14,07
Equity value with net income multiple	9 226 121,10

6.2 A critical standpoint to the valuation performed

I computed in this thesis the equity value of BCR. By forecasting first the income statement and then the balance sheet, I estimated the flow to equity which shareholders would obtain in the upcoming 10 years. By adding a terminal value and also discounting all these net flows to equity, I obtained the equity value of BCR. In order to validate the obtained result, I also performed a relative valuation, which is a recent transaction method where with the help of a peer group of companies and estimated median for two multiples (the book value/market value multiple and the market value equity / net income) the company value can be estimated.

All my calculations are based on the financial results provided by the bank and since BCR is not a traded company, further key characteristics which would help to perform a market based valuation – such as capital structure or stock price – were unavailable. Furthermore, in this case we do not speak about a typical standalone bank, since the business model of the group includes also insurance, investment banking as well as a trading department. Ideally, each of these departments should be evaluated separately and then added up. But given the insufficient information about these departments as well as the objective of this thesis, this approach would not be feasible. Instead, the financial company was valued as a whole, which in this case is a rational assumption since all these small entities are part of the "mother bank".

When performing this type of valuation, similar to any other discounted cash flow model, one should be aware that the results obtained are very sensitive to variations in the parameters used as inputs. In order to support this assumption, I did some calculation to show how these numbers affects the result obtained:

- Using a beta of 1.2 instead of 1.04 we have a 9,6% loss in the company value as in the initial estimation
- If one applies a high risk free rate 4,5% instead of 4,13% the price will decrease by 8%

- By increasing the market risk premium by only 0,5%, the company value decrease by 4,7%

As a final remark, a relative valuation is defined to be accurate if comparable banks were selected proxy to the bank to be valued. Reasonably, there can be no perfect match to the company on the market but by trying to understand, control and influence (by adjusting a multiple) the differences, one can obtain a valuation "performed" by the other market players. Since in our case we had by that time no comparable transactions on the Romanian market, I had to use transaction from similar Western European banks and try to adjust these for my valuation.

Professor Damodaran also emphasizes in his book (Damodaran, Damodaran on Valuation Second Edition, 2006, p.287) that in a relative valuation the multiple calculated always "reflects the market mood". As a consequence, in a period of financial boom, the market attaches higher prices due to the positive attitude the investors have, a phenomenon which can lead to a mispricing of all assets.

When seeing the results obtained in this thesis, of course the question arises of why was Erste Bank willing to overpay so much in the case of BCR. It is already proven that in a bidding process the price paid by bidding companies is always higher than the fair value of the asset, but the will of the shareholders and the management of the bank, as well as the need of a strategic move in this part of Eastern Europe were also crucial factors in the decision making process. When Erste Bank wrote off more than 700 Mil EURO for the BCR good will in 2011, everybody was skeptic about this privatization, questioning if it had been the right decision. But the board of directors convinced most of the shareholders that it was, since BCR was one of the last big banks still to be privatized in Eastern Europe.

The final message of the performed valuation is that one should read the results obtained with caution. All the data and the methodology which were available by that time were used as inputs in this model, but a slight change in one of these assumptions

can influence the result in a decisive way.

7 Conclusion

The present thesis offers an overview of one of the most important privatization processes in Romania as well as the largest foreign direct investment (Erste Bank, 2006) from Austria.

In the first part of this thesis, I attempted to answer three key questions:

1. Did Erste overpay in the case of BCR?
2. If yes, what was the purpose of doing so?
3. Was it still a good deal for Erste?

I will summarize the results obtained below.

When the privatization process finished in 2005 there were a lot of analysts which calculated the value of BCR with the help of multiples and insisted that Erste overpaid. Erste motivated its acquisition with the arguments that BCR had a strategic position on the Romanian market and also facilitated Erste's entrance in this part of Eastern Europe. Even though Erste Bank sold to Vienna Insurance Group the insurance company BCR Asigurari for 1.445 Bil Euro in 2008, Erste overpaid in 2005 for BCR. The writing off of the good will in 2011 is a clear proof that the estimations made by Erste's valuation analysts were too optimistic.

If one only takes into consideration the current and short-term perspective – world economic crisis, small growth rates in Eastern Europe – one could say that Erste's acquisition did not pay off. But if the possible growth rates these countries will have in the upcoming years are also taken into consideration, it is clear that on the long term an acquisition like this will be successful. Other Austrian banks such as Raiffeisen or Bank Austria / Unicredit were not prepared to pay a high acquisition price, and therefore bought banks in Romania with a smaller market share, struggling later to gain additional market share. While Erste Bank chose a more expensive way to dominate the Romanian market, it was ultimately a safer one.

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Private and confidential information

Appendix

Abstract (English)

This thesis offers the reader the story of the most important privatization process in the last years in Romania. The acquisition of Banca Comerciala Romana by Erste Bank AG plays an important role for the economies in the country where I was born (Romania) and the one I live today (Austria). And because there were plenty of discussion about the price paid for the acquisition, I decided to perform a valuation of BCR back in 2005.

In the introduction part of my thesis I describe the goal for my work and the method I am using to answer my question. Second, I present the political scene in Romania and the evolution past the fall of the Iron Curtain. Here I insist on the banking system development in order to emphasize the progress it had been made in the last two decades and also the macroeconomic development of Romania in terms as GDP and GDP per Capita. The whole privatization process as well as the economic development of the BCR group (BCR Insurance, BCR Leasing) is described in the third chapter. Chapter four, five and six focuses on the valuation of the bank: starting with the selecting of the best valuation model, continuing with the estimation of the variables which are used as inputs in the model and finishing with the calculation of the equity value. In order to have a comparison for my valuation, I performed a relative valuation with the help of the recent transaction method. Last but not least, chapter seven concludes, answering the question addressed in introduction but also offering a critical standpoint on the valuation performed.

Abstract (Deutsch)

Die folgende Masterarbeit bietet dem Leser die Geschichte des wichtigsten Privatisierungsprozess der letzten Jahren in Rumänien. Der Erwerb der Banca Comerciala Romana von Erste Bank AG spielt eine sehr wichtige Rolle für die Wirtschaft der beiden Länder: Rumänien, mein Heimatland bzw Österreich, das Land wo mein Lebensmittelpunkt ist. Aufgrund der zahlreichen Diskussion über den (zu hohen) Preis den Erste Bank für die BCR gezahlt hat, werde ich auch eine Unternehmensbewertung zum Stichtag (2005) durchführen.

In der Einleitung beschreibe ich die Ziele meiner Masterarbeit und die Methode die zur Anwendung kommt, um diese zu erreichen. Weiter stelle ich die politische Szene in Rumänien vor bzw ihre Entwicklung nach der Wende. Hier konzentriere ich mich auf die Entwicklung der Bankenindustrie um den realisierten Fortschritt zu betonen bzw auch auf den makroökonomischen Umfeld in Hinsicht auf BIP und BIP pro Kopf. Im dritten Kapitel wird das ganze Privatisierungsprozess erläutert, bzw die anderen (kleineren) Unternehmen der BCR Group (BCR Insurance, BCR Leasing) und deren finanziellen Ergebnissen. Die Kapitel vier, fünf und sechs fokussieren auf die Unternehmensbewertung der Bank: beginnend mit der Auswahl der adäquaten Bewertungsmethode, folgt die Schätzung die in den Modell verwendeten Variablen und abschließend mit der Eigenkapitalberechnung. Als Vergleich für die Berechnung, wurde mit Hilfe der Recent Transaction Method eine Bewertung nach der Multiplikatorenmethode durchgeführt. Das Kapitel 7 beendet die Arbeit mit der Beantwortung der am Anfang gestellten Fragen bzw mit einer kritischen Sicht der durchgeführten Bewertung.

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