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BANKING CONCENTRATION AND DEVELOPMENTS IN FYROM: A COUNTRY IN TRANSITION

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ABSTRACT

The country of FYROM belongs in the transition economies that have witnessed significant structural changes in their domestic markets during the 2000s. We examine the evolution of the banking competition from 2003 until 2011, covering a first period of economic growth followed by the acute financial crisis that still threatens European countries. We apply the HHI index and the CR3 and CR5 indicators in order estimate banking concentration on five industry variables. Our findings show that the market has been persistently operating under oligopolistic, if not monopolistic, conditions where the leading three or five institutions dominate the market. Foreign newcomers and legislative developments have not changed the situation during the past ten years and bank customers seem to keep their preferences unaffected, staying loyal to their prior choices. We analyze the banking sector profitability since 2008 and during the economic crisis, as well as the operational performance and the future trends concerning this sector.

Keywords: Banking concentration, banking efficiency, liberalization, CEE countries

1. INTRODUCTION

Competition and concentration in the banking sector has attracted the interest of practitioners and academics mainly due to its significance in the economy in general. The level of concentration plays a catalytic role in the operations of each financial institution, since it affects its managerial decisions on the cost of services offered to their customers. Low levels of competition result in oligopolistic market structures, where customers cannot enjoy competitive products. In addition to the high cost of services, low competition leads to low interest for innovation and for covering the true needs of the consumers, whether households or companies.

FYROM is small country that has a developed and organized banking industry, which has gone through a process of modernization through the past fifteen years. Just like most European countries in transition, the country has made steady and firm steps in increasing market liberalization by applying the necessary legislation. This has led to foreign investors in the banking industry that have been attracted by the potential of the local market. Most foreign capital comes from the neighboring Balkan countries since the geographic capacity of the country is important yet limited due to its relative size.

The issue of banking concentration and competition has gained new interest especially after the beginning of the contemporary financial crisis in 2008 that has practically reached the region in the year of 2009. Most countries in the region rely heavily on their banking sector and the survival of the financial institutions has become an issue of fundamental value in domestic economies. Although the country is not a member of the Eurozone, the majority of its trade in goods and services is Euro related and in general keeps very close ties with countries that belong in the monetary union. Analyzing the banking system in this country, we witness that the concentration in the banking system is relatively high in terms of all segments of banks operations. High concentration is registered in several important banks with performances that played a dominating role for the total banking system, and broadly speaking for the domestic economy. On the other hand, the role of small-size banks is almost insignificant. Some of them face low volume of activities and passive presence on the market. In a longer run, the future of these institutions is in the further market consolidation. The examination of the banking industry of FYROM offers useful insight as it is a case of an economy in transition with specific characteristics that will be analyzed below.

2. LITERATURE REVIEW

The market structure of the banking sector has attracted plenty of attention from researchers around the globe in order to determine the level of competition and efficiency that applies in each country. In the case of the emerging countries and especially those newcomers from the Eastern European region that switched their regime to the open economy, there has been an increased interest in the analysis of their domestic markets as well as the cross-border implications. The story in most countries is similar: first, deregulation took place followed either by privatizations of state banks or entrance of foreign banking institutions that tried to capture market shares.

In their work Andries and Capraru (2011) examine the liberalization and the reforms that took place in seventeen central and eastern European countries, during the period 2004-2008. Their findings suggest that EU-member countries have managed to further increase their financial liberalization levels resulting to more efficient and competitive services to their clients. On the other hand, non EU-member countries have seen their efficiency levels remain relatively unchanged resulting to higher productivity growth figures for their financial institutions. Barisitz (2008) concentrates in the Balkan region countries and distinguishes two banking reform waves: the first focused on liberalization and the second on restructuring. The banking concentration figures however did not seem to follow the initial trend, with percentages remaining high for the major banking institutions.

In a paper dedicated to the country of FYROM Giustiniani and Ross (2008) of the IMF examine the domestic case from the mid-90s when initial changes took effect. Their analysis covers up to the year of 2005, applying the Panzar and Rosse (1987) test on market structure and the H-statistic. Their findings suggest that the market competition is not high enough, resembling more a monopolistic or a perfect cartel situation, since the H-statistic is close to zero. In general the banking sector remains relatively underdeveloped leading to a weak competition probably due to legal and institutional limitations. According to the authors, the major banks do not seem to have changed their preference to high profits, expecting the smaller “pocket banks” to compete for potential market shares with lower profit margins.

Maniatis (2006) examines the relationship of banking concentration and profitability in the Greek market, suggesting that monopolistic competition is dominant, with major state and private owned banks dominating the industry. Yildirim and Philippatos (2007) investigate fourteen central and eastern European countries in transition, concluding that with the exception of FYROM and Slovakia the rest operate under conditions of monopolistic competition. Applying the H-statistic methodology the researchers are led to the conclusion that FYROM has weak competition levels similar to those of monopolistic markets.

In a paper that focuses on the South-Eastern European region Athanasoglou et al (2008) examine the markets of Albania, Bosnia-Herzegovina, Bulgaria, Croatia, FYROM, Romania and Serbia-Montenegro. In a period of rigorous financial reforms (early 2000s) the markets of these countries have set the basis for more efficient banking systems, boasting however different levels of market concentration. Delis (2009) applies the Panzar and Rosse methodology in twenty two central and eastern European countries finding significantly different levels of banking concentration across the borders. The banking system of FYROM again exhibits low H-statistic figures, showing monopolistic type of market structure. Dumicic et al (2008) analyze the banking concentration in the ex-Jugoslav republics of Bosnia-Herzegovina, Croatia and Serbia-Montenegro applying the Herfindahl-Hirschman index and other concentration ratios. The authors conclude that the levels of concentration vary with Serbia and Croatia being the most efficient markets of the sample.

Berger et al (2004) offer a brief literature review on banking concentration articles around the world. As far as the developing markets in particular are concerned, the literature suggests that although greater concentration relates with less favorable prices for consumers (and thus is not good from the social perspective) the evidence is not robust enough. Smaller countries with less regulation witness lighter effects and have higher possibility for foreign bank entry. In their research Claessens and Laeven (2004) analyze a huge sample of 50 countries using the Panzar and Rosse methodology. The range of the H-statistic and the five-bank concentration ratio vary across the banking systems reflecting different levels of competition, market liberalization and structural forms. Martinez Peria and Mody (2004) examine five Latin American countries, i.e. Argentina, Chile, Colombia, Mecixo and Peru in an effort to explain the effect of market concentration on bank spreads. In all cases, the market share of the top three and five banks exceeds 40% and the Herfindahl-Hirschman index is above 650 and in some cases above 1000. The concentration in these markets came as a result of the banking consolidation process that was materialized either by acquisitions of domestic by foreign banks or by mergers of domestic banks to withstand the competition.

Tsiritakis and Tsirigotakis (2011) examine a large sample of 20 EU and Eurozone member countries using the Herfindahl-Hirschman and the top three and five concentration indicators. Their general conclusion is that the European markets are characterized by levels of concentration that allow a monopolistic competition type of market structure, having a favorable effect on prices for consumers and credit access for firms. Monopolistic competition behavior is also found by Fosu (2013) who examined banking competition in African subregional markets using a dynamic version of the classical Panzar and Rosse model. Staikouras and Fillipaki (2006) examine a sample of old and new EU member countries and their empirical results suggest a monopolistic competition market structure. Nevertheless, the evidence is mixed when it comes to the revenues: interest revenues have been earned under higher competition in new EU countries whereas the opposite holds for total operating revenues. Likewise, small banks seem to earn their interest revenues under less competition than larger banks, whereas the opposite again holds for total operating revenues.

The major contribution of this paper is that it covers a long period of the 2000s, in particular from 2003 to 2011, when significant changes have taken place both in and outside of the country. This period is divided into two sub-periods with completely different macroeconomic characteristics, having the contemporary financial crisis covering the second half from 2008 and onward. Our intention is to offer a comprehensive picture of the condition of the domestic industry by using different approaches to evaluate banking concentration.

3. DATA AND METHODOLOGY

The economic literature offers several methods for estimating market concentration and competition levels across the industries. The most widely accepted tools applied in the banking industry are the Herfindahl-Hirschman index and the CR3-CR5 indicators, and these are the ones selected for the current analysis of the domestic banking market of FYROM.

The Herfindahl index (also known as Herfindahl-Hirschman index, HHI) is estimated as follows:

$$HI = \sum_{j=1}^{n} \left(S_j \right)^2$$

Where S denotes each bank's share in the total amount of analyzed category, i.e. total assets, total deposits etc. while n denotes the total number of banks in the system. The values of the index usually range from 500 to 2000, with values around 500 revealing a highly competitive market, thus a low level of banking concentration. As the values approach the 1000 unit level the market is characterized as monopolistic competition and beyond the 1500 level the concentration in the banking system is approaching the monopolistic – high concentration market structure.

In our current analysis we have estimated the Herfindahl index on five banking variables, in particular:

- Household deposits
- Corporate deposits
- Household loans
- Corporate loans
- Total assets

In addition to the above, we are also applying the CR3 (CR5) indicators that refer to the market share that the biggest three (five) banking institutions have in each variable. Bearing the same concept as the HHI index we are estimating the above mentioned indicators for the same five banking variables.

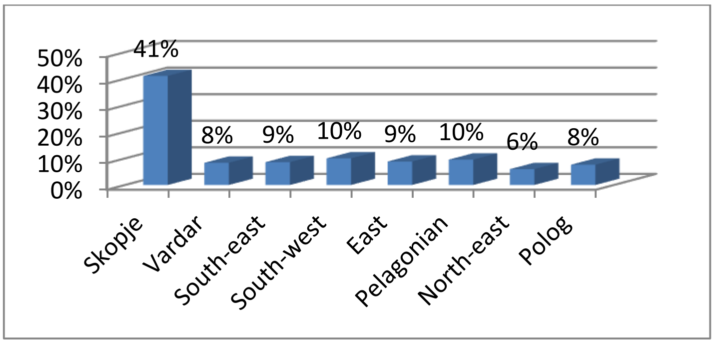
The dataset covers the period from 2009 to 2011 and has been drawn from the central banking institution of the country, namely the National Bank of the Republic of Macedonia, as well as the individual figures that are reported by the banks operating in the country.

4. ANALYSIS

The size of the banking sector in the country is relatively small for many reasons, both historical and practical. On the one hand, the republic has recently proceeded into legal reforms and regulations that led to market liberation and offered the necessary ground for increased market competition among the participants (both domestic and international). Likewise, the customer base has improved its financial condition and both households and corporations increased their banking operations as lenders and creditors, adopting the banking behavior of the central and western European markets. Still, the country size is relatively small, leaving little space for large scale banking operations; the same holds true for the income per capita and the total corporate activity. All the above combined lead to characterizing the market in a transition stage, which moves away from its protective-closed condition of the past.

In order to have a more comprehensive picture of the characteristics of the banking industry in FYROM we first offer some basic statistical figures before we estimate and evaluate the HHI index and the CR3-CR5 indicators. The first distinctive attribute of the domestic market is the geographical concentration of the branches. Figure 1 shows that almost half of the branches are located in the region of the capital city of Skopje, in particular the 41%. There is no other region that boasts an equally high concentration of bank branches, with most remaining regions having about 10% each. This is contrary to the real population breakdown as the capital city accounts only for about 25% of the country's population.

Figure 1: Geographical breakdown of bank branches

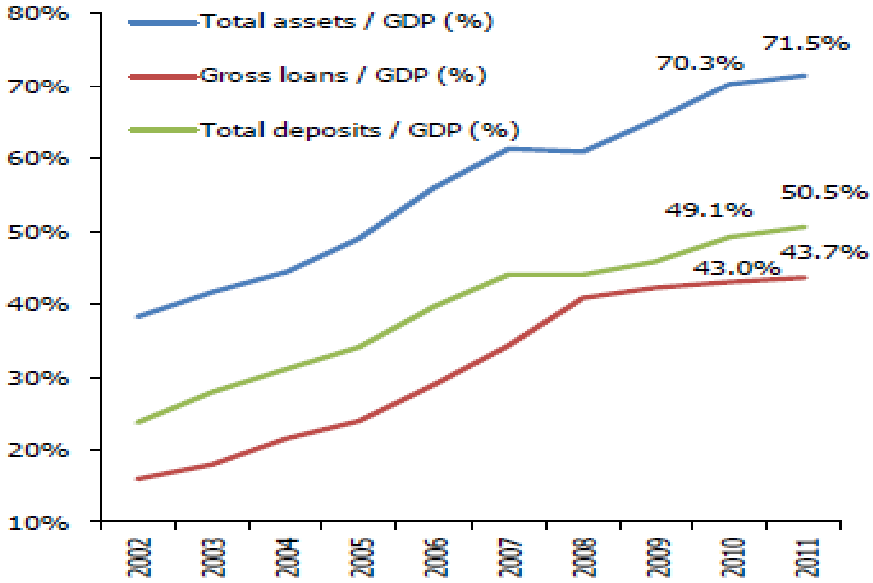


Source: NBRM, 2012

Analyzing the bank activities during 2011 and 2012, they kept on increasing although at a slower pace compared to the preceding years, which accelerate the uptrend of financial intermediation. The increase of financial intermediation was faster taking into consideration deposits -to- GDP ratio, due to their faster growth compared to the growth of loans of nonfinancial entities. But, banks in FYROM were still very careful when taking risks and making assessments, which is closely related to the euro area debt crisis and uncertainty surrounding the recovery of domestic economic activity.

Traditional banking, loan and deposit activity with domestic nonfinancial entities, dominate the banking business in FYROM. This type of bank business model, taking into consideration the credit risk, also creates a bank run risk and maturity mismatch between assets and liabilities, as nonfinancial entities mostly save in a short run, and borrow in longer runs. On the other hand, and conversely, usually the traditional banking is associated with low bank exposure to market risks or risks arising from operations with composite financial instruments. But, banks in this country tend to avoid market risk by including clauses in the agreements on specific financial instruments and to alter such risk in another type of risk, primarily credit risk.

Graph 1: Activities of the banking system in FYROM

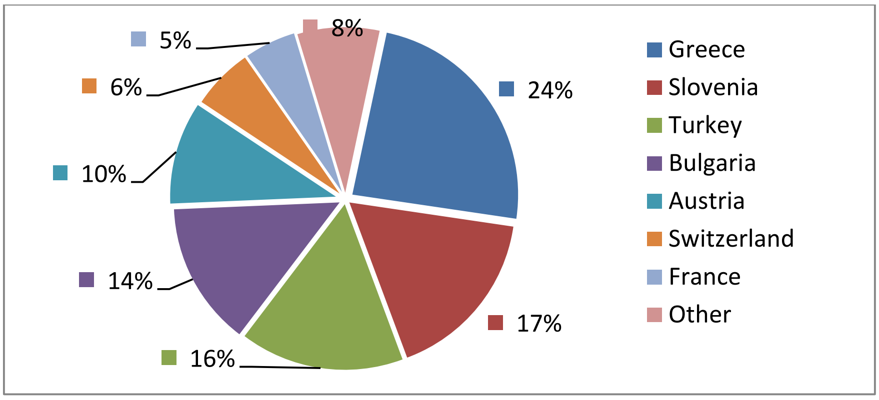


Source: NBRM and bank reports (2002-2011)

In terms of market consolidation, in 2011 the number of banks reduced by one as a result of the acquisition of one small-size bank by another bank (last event of this type happened in 2006 for the last time, when two banks merged). Usually, acquisitions or mergers of banks tend to consolidate individual institutions, improve their competitiveness in the system, increase portfolio diversification, and improve efficiency by increasing income and market share and costs. Market consolidation of the domestic banking system will continue in the period ahead. The fact that the assets of the largest bank in the system is 90 times as high compared to the smallest bank, is an illustration of the modest volume of activities and passiveness of some banks. On the other hand, there are banks that finance most of their activities using shareholder equity (as of December 31, 2011, the share of equity and reserves in the total sources of funding of one bank reached 45%) or invest most of their assets in low-risk bills issued by the government or the central bank (as of December 31, 2011, above 50% of the total assets of some banks was invested in treasury and CB bills).

Another significant characteristic of the domestic banking market is the ownership share of foreign investors. As of December 2011, thirteen out of a total of seventeen banks in the country were mainly owned by foreign shareholders. This has been achieved mainly through the acquisition of local existing institutions by foreign capital and less with direct entrance of new institutions, as a result of the liberalization that took place in the second half of the 2000s. Figure 2 shows the country origin of the major shareholders of the domestic banks, with Greece representing about a quarter followed by Slovenia and Turkey. Nevertheless, these ownership shares have not been constant the last few years; Greek participation in particular has been falling from a high of about 30% in 2008 to 24% in 2011 (further reduced in the end of 2012 according to unofficial data) due to the financial crisis in the Greek economy. Turkey on the other hand, has seen its participation increasing steadily the last four years starting from less than 5% in 2008 to 16% in 2011. As a result, the situation is still under formation and remains sensitive to the developments in the country-origin of each major shareholder.

Figure 2: Capital ownership by country



Source: NBRM, 2012

The HHI index is reported in Table 1 for the five banking variables that we tested in our analysis. The first observation leads to a rather clear conclusion: the banking market in FYROM is generally highly

Table 1: HHI index for five banking variables

Year	Household deposits	Corporate deposits	Household loans	Corporate loans	Total Assets
2003	2680	2080	1580	1790	1820
2004	2590	1985	1790	1690	1730
2005	2410	1850	2060	1755	1710
2006	2230	1800	2015	1800	1640
2007	2105	1790	2090	1810	1670
2008	2095	1640	1950	1860	1580
2009	2100	1300	2060	1900	1600
2010	2080	1600	2050	1850	1580
2011	2010	1530	2010	1820	1520

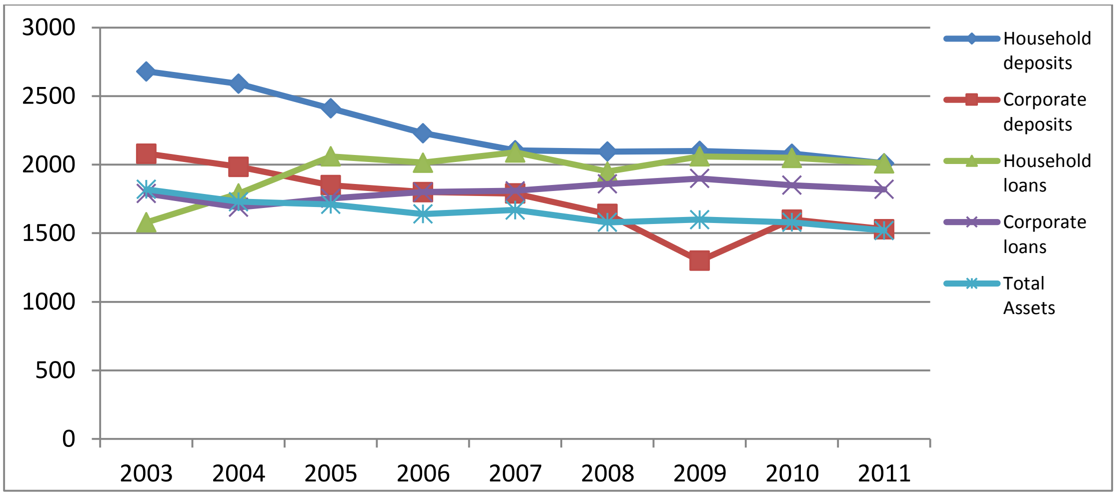
Source: NBRM and individual bank reports, 2004-2012

concentrated with HHI figures in some cases exceeding the 2000 units level. First, the household sector both in deposits and in loans appears to have the highest HHI scores, staying between the high levels of 2000-2100 units during the whole period under examination. There seems to be a marginal downward trend through the years (revealing a slight improvement in competition status) but the figures remain still too high. Individuals in the country appear to have more trust in a few banks and thus feel more confident with them, depositing their savings to these few and selecting to take credit through them. Smaller banks fail to attract deposits and seem unable to convince individual customers that they are equally competitive and worth doing business with.

On the other hand, the situation in the corporate world is a little different. The concentration levels are not identical as far as deposits and credit are concerned, with deposits appearing to have significantly lower HHI values than loans. The deposits HHI figures are at about 1500 during the period, showing no steady trend through the years; the loans HHI figures remain almost constant at about 1850-1900 units. Clearly the market for corporate deposits is less concentrated than the one for corporate credit. In fact, the corporate deposit market appears to be the most competitive out of the five market segments examined in this article. However, bigger banks manage to attract higher shares than smaller ones in corporate credit, which is a quite profitable market segment. Higher market concentration in this segment also leads to a circular event since it creates stronger business ties and safeguards further future cooperation between each bank and its professional customers. In other words, the current situation of market concentration will most probably be maintained in the near future, since companies develop professional relationships and it is difficult to switch banking partners.

Finally, as far as the total assets variable is regarded, the HHI figures are showing a marginal downward trend during the period. Values are at the 1500-1600 range revealing lower concentration in the market. Compared to the previous four variables there seems to be a contradiction: the few banks that dominate the market in deposits and loans do not also boast equally high levels in total assets. Thus, bank size (expressed by total assets) does not seem to influence the operations and the market share in each variable. This unavoidably leads to other reasons that could justify the high concentration values in deposits and loans, for instance interest rates policies, bank reputation, marketing and geographical presence.

Graph 2: Development of HHI index for all banking variables 2003-2011



Source: NBRM and individual bank reports, 2004-2012

Another method to evaluate the banking concentration is the CR3 and CR5 indicators that report the percentage that the first three and five institutions hold in each banking variable. Table 3 reports the respective figures for CR3 from 2009 to 2011 and for CR5 from 2003 to 2011. Data was not available for the CR3 indicator in earlier years; nevertheless it is made obvious that the percentages of CR3 and CR5 are quite close. This verifies the fact that the leading three institutions in the country account for the majority of the market share in each sub category, followed by the next two institutions in smaller terms, thus yielding the CR5 indicator.

Table 3: CR3 and CR5 indicators

Indicator	Year	Household deposits	Corporate deposits	Household loans	Corporate loans	Total Assets
CR3	2009	76,4%	71,1%	68,3%	71,4%	67,5%
	2010	76,7%	62,5%	68,6%	69,2%	66,0%
	2011	75,0%	57,5%	67,7%	67,4%	64,0%
CR5	2003	87,5%	82,2%	73,8%	82,1%	76,0%
	2004	85,9%	83,9%	76,0%	79,9%	76,1%
	2005	84,0%	81,1%	78,0%	78,2%	75,0%
	2006	82,5%	81,2%	78,3%	78,1%	74,7%
	2007	84,0%	81,8%	80,0%	78,9%	75,9%
	2008	84,8%	79,9%	80,5%	79,2%	76,0%
	2009	85,7%	81,5%	81,2%	81,3%	77,4%
	2010	84,9%	83,3%	79,3%	81,1%	77,2%
	2011	82,9%	83,5%	78,8%	81,7%	76,6%

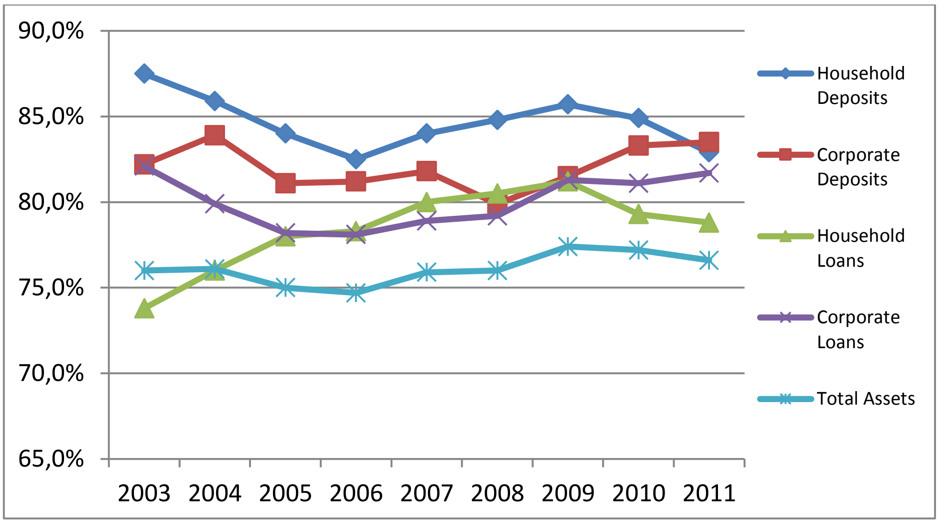
Source: NBRM and individual bank reports, 2004-2012

A closer look on the evolution of the CR5 indicator shows a highly concentrated market in practically all five variables. As far as the deposits are concerned, both household and corporate, the figures stay above the 80% level during all the period; customers rely heavily on trusting their deposits on the leading financial institutions without showing any signs of changing their preferences. In household deposits there is a marginal decline from the highest 87.5% in 2003 to a 82.9% in 2011; the same applies for corporate deposits that started at 82.2% in 2003 and ended at 83.5% in 2011, demonstrating a persistent pattern for all customers. In general, the same applies for the CR3 indicator during the period, with an exception on corporate deposits' percentage, which appears to decline steadily in 2010 and 2011 for the top-three institutions, yet remaining equally high for the CR5 indicator. There seems to be a shifting of customers only within the top-five banks that maintain their aggregate market share, not leaving any room for smaller banks to grow.

The situation appears almost identical in household and corporate credit. Figures here are slightly lower, balancing around the 80% level during the 2003-2011 period. In particular, household loans seem to get even more concentrated from 2003 to 2011, since the CR5 indicator started at about 74% in 2003 and climbed at 82% in 2011. Clearly, smaller institutions not only fail to acquire market share but they appear to lose part of their penetration in favor of the leading institutions. The CR3 indicator again reveals a reallocation of market shares among the top-five institutions, excluding any of the smaller banks to threaten their market dominance.

Finally, as far as the total assets variable is regarded, the CR5 and CR3 indicators remain essentially constant during the period under examination. A fact worth mentioning is that the leading five institutions represent smaller percentages in this variable compared to the previous four, showing that they manage to acquire bigger market shares in deposits and credit without over-developing their company size (expressed by total assets). This probably means that with the same level of assets they achieve better results, thus being more efficient and profitable to their shareholders, compared to the rest of the competition that fails to take advantage of their respective size. Graph 2 visualizes the evolution of the CR5 indicator for each one of the five variables from 2003 to 2011.

Graph 3: Development of CR5 indicator for all banking variables 2003-2011



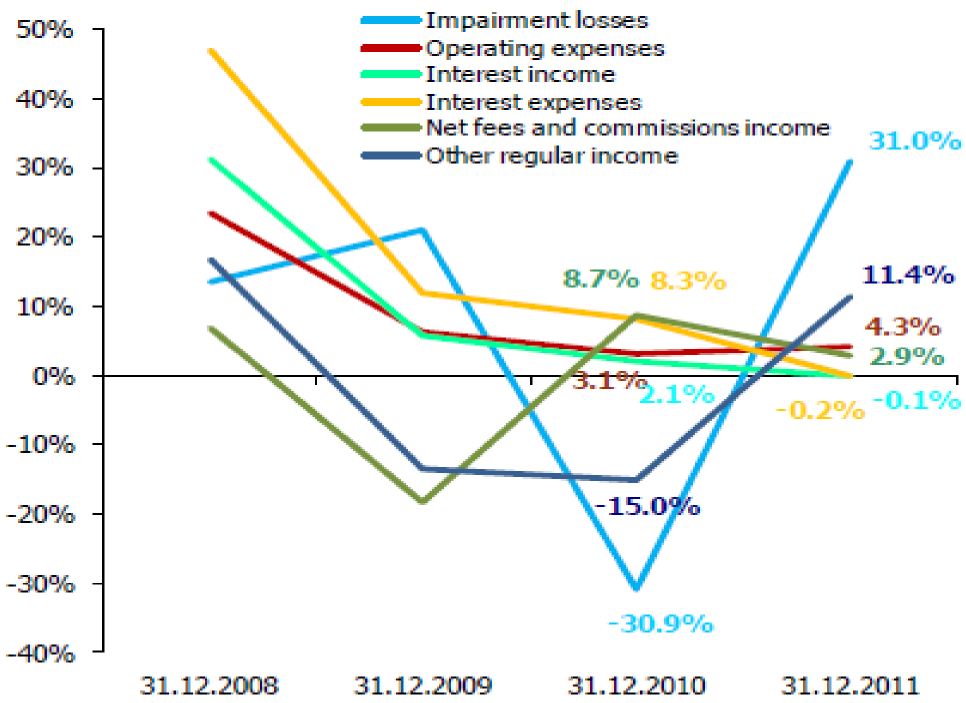
Source: NBRM and individual bank reports, 2004-2012

During the years of the crisis in Euro zone, banks' earnings and operational efficiency are decreasing. The number of banks that reported loss increased from four in 2010 to six in 2011. Also, the market share of the banks that reported losses increased comparing the years 2010 and 2011. If this trend continues in the next years, it is obvious that the banking system will have huge negative effects taking into consideration the long-term stability.

The positive performance of banks that cover the operating expenses with the created income has a declining trend during 2011. The net interest income remained almost unchanged compared to 2010, after the huge decline in 2008 and 2009. The growth of net income from fees and commissions is more than three times lower compared to the increase registered in 2010. Other regular income registered huge growth on the income side (primarily capital income based on sale of assets and income on other bases), that cannot be considered a stable form of income. On the other hand, the growth of banks' operating expenses accelerated, and impairment is among the balance sheet items with the fastest growth rate in 2011, due to the banks' higher credit risk. These obvious trends can be seen from the graph below.

The main component in the formation of total banks' income in FYROM is net interest income. Thus, earnings of the banking system are particularly sensitive to the changes in interest rates on interest bearing assets and liabilities, and their risk, volume and structure. There are some implications concerning this type of structure of total banks' income that can cause important negative effects to the Macedonian banking system and its earnings. There are potential problems when attracting new sources of funds or refinancing of the existing ones, materialization of credit risk, changes in the assets structure in favor of assets that bear lower interest income, pressures for downward correction of lending interest rates and no possibilities for downward corrections of deposit interest rates.

Graph 4: Operational performance of the banking system (2008-2011)



Source: NBRM and bank reports (2008-2011)

Most of the total banks' incomes are used for covering employee costs, impairment and general and administrative costs. Banks operating costs could be rationalized by broader use of e-banking. In recent years, banks in FYROM undertook a wide range of activities to introduce e-banking and make it popular to their clients. Although this trend is not reaching the level that developed European countries have, it is having a significant uptrend that can positively affect the operating cost rationalization.

5. CONCLUSION

This paper attempts to give a brief yet inclusive picture of the banking concentration and competition in a small transition economy such as FYROM's. The period covered starts in 2003 and ends in 2011, covering two distinct economic phases: the first from 2003 until 2007 was a period of global economic growth that had positive effects on the banking sector of the country, whereas the second period from 2008 to 2011 has been the time that the global financial crisis emerged and developed to a full extend. Common sense stipulates that during a financial crisis customers of all kinds (i.e. individuals and companies) become more risk avert and trust bigger and safer banks for their operations. On the contrary, during the first period, when the country has witnessed significant growth and market liberalization policies one would expect for competition to open and increase. The examination of the case of FYROM shows that the market did not show signs of progress in bank competition in general. The concentration of market shares both under the HHI index and the CR3-CR5 indicators remains high throughout the whole sample. In fact, concentration levels are so high for the leading five institutions that their market shares do not increase during the crisis period of 2008-2011, since they are already at high levels.

Foreign banking institutions that entered the market did not have an effect on concentration either. There is no instance of a new bank that succeeded in growing substantially by gaining new market shares in any of the five variables. In essence, most new entrants merged or acquired the operations and network of the existing domestic banks leading to no differentiation in terms of concentration. On the other hand, households and corporations did not change their preferences and continued to cooperate and trust the same banks as before.

Further investigation into this matter should include analysis of other qualitative factors that influence the consumers' behavior in the country. The small size of the market could be one of them since it leaves little room for new entrants and new investments. Furthermore, domestic culture could be another reason that leads to trusting only the leading banking institutions. Quality of personnel, organizational issues and geographical coverage could also be parameters that keep the existing status quo unchanged for almost decade during the 2000s. In all, the domestic market fails to improve the terms of competition despite the progress in legislation and modernization in the field, yielding most certainly a monopolistic type of services that is not beneficial at all for its customers.

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