Market concentration in the banking sector: Evidence from Albania

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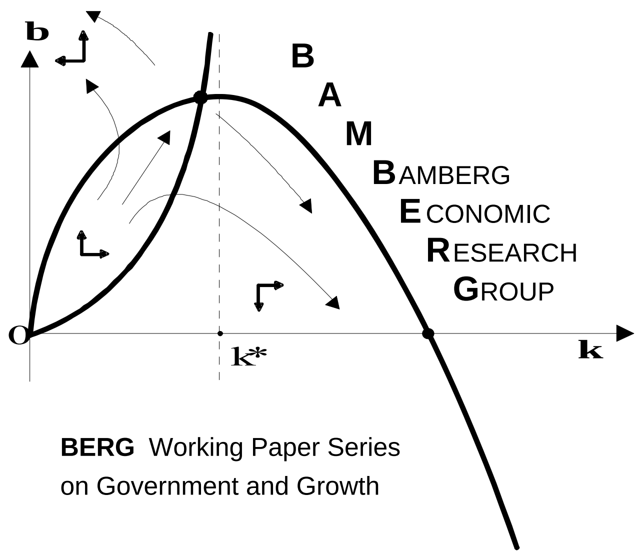

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Market concentration in the banking sector: Evidence from Albania[1]

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Abstract

The market structure can be described by concentration ratios based on the oligopoly theory or the structure – conduct – performance paradigm. Measures of concentration and also competition are essential for banks conduction in the banking industry. Several researchers have proved concentration level to be major determinants of banking system efficiency. Theoretical characteristics of market concentration measures are illustrated with empirical evidence. The market structure of the Albanian Banking Sector has changed dramatically in recent years. On 1990s, our country has experienced deregulation, foreign bank penetration, and an accelerated process of consolidation and competition in the banking sector. Particularly, the working paper examines the nature and the extent of changes in market concentration of Albanian banking sector. It focused primarily on a descriptive and dynamic analysis of change in the concentration indices in banking sector from year to year. Also it examines how the inherited structure of the banking system affects the way of the distribution of market shares amongst the different banks that comprise on the banking sector.

Key Words: Bank Concentration, Concentration ratios, HHI index, Market Structure
JEL Classification: A20, G09

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Content

ARJAN TUSHAJ

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1 Introduction

The changes in the market structure of firms could be examined through various measures. In order to analyze the market structure on banking industry, sometimes we focused on banking concentration. Market concentration is one of the most important determinants of competitiveness (Nathan and Neavel, 1989). There are numerous ways of measuring banking concentration. While Rose (1999: 687) states: "the degree of concentration in a market is measured by the proportion of assets or deposits controlled by the largest banks serving that market", Demirgüç -Kunt and Levine (2000) measure banking system concentration via the fraction of bank loans controlled by the three largest banks in a banking system. According to Bonin (2004), former centrally planned economies used to be characterized by a noticeable structural segmentation (i.e. large specialty banks monopolizing specific market segment), state ownership of a significant proportion of banking assets and high concentration ratios.

First of all, we have to present the development of banking sector in Albania. Banking sector in Albania has undergone a deep transformation since 1992 and witnessed an impressive growth over recent years. The banking industry remains the largest and the most development segment of the Albanian financial market. The banking sector plays an important role in economy but it cannot be considered isolates from historical political and economic environment.

The banking sector before the '90 was a mono bank. Bank deposits were the only officially available savings / investment instruments for individuals in socialist Albanian economy. The exclusive source of external financing for the enterprise sector was credit provided on the basis of investment and production decisions by central planning bodies. State Bank of Albania the only bank that functioned did not take credit allocation decisions and did not need to evaluate credit risk. State Bank of Albania performed both central bank and the commercial bank functions. As a central bank, it was responsible for issuance of currency, supervision of monetary policy and it assisted the needs of state enterprises for credit and money depositing by keeping their accounts. Another bank that operated in agricultural sector was the Agrarian Bank like depositing and lending institution.

The first important step in the reformation of the Albanian banking system was the creation of a two-tier banking system. This transformation was only made possible in Albania through the law of the Bank of Albania passed by the parliament in April 1992. The law of 1992, installed from the independent point of view, a broad autonomy for the Bank of Albania. This bank retained all traditional functions of the Central Bank (direction of the monetary policy, credits, interest rates, exchange rates and emission), while the new commercial banks recently born, were in charge of all transactions of credit allocation and acceptance of deposits from businesses and individuals.

So the approval of new legal framework of banking system on 1992 marked the establishment a new banking system. It acclaimed Bank of Albania as a central bank as the existence of three state- owned banks; Saving Bank (SB), National Commercial Bank (NCB) and Agriculture Commercial Bank (ACB). The second level banks inherited the activity of formers bank (two banks and one saving – insurance institute).

After two decades of transition process, Albanian financial sector belongs to the type of model that is “The financial sector dominated by the bank sector”.

The paper is organized as follows. The following section provides a review of the relevant literature. Section 3 gives an overview of dynamic changes on Albanian banking sector. Section 4 presents the relevant literature on the measures of concentration in banking industry. Also it presents and discusses the empirical results of market concentration in Albanian banking sector. And finally Section 5 concludes the working paper.

2 Literature review

2.1 Controversial results: Pro and cons banking concentration

The degree of banking market structure matters for competition and performance has been a “hotly debated topic”. The outcomes of numerous researches have resulted in the existence of numerous bank concentration theories in the literature. These theories could be classified into pro-concentration and cons concentration theories. Concentration refers to the degree of control of economic activity by large firms (Sathye, 2002: 10). The increase in concentration levels could be due to considerable size enlargement of the dominant firm(s) and/or considerable size reduction of the non-dominant firm(s). Conversely, reduction in concentration levels could be due to considerable size reduction of the dominant firm(s) and/or considerable size enlargement of the non-dominant firm(s) (Athanasoglou et al., 2005: 25).

Proponents of banking sector concentration argue that economies of scale drive bank mergers and acquisitions (increasing concentration), so that increased concentration goes hand-in-hand with efficiency improvements (Demirgüç -Kunt and Levine, 2000: 1). Some theoretical arguments and country comparisons suggest that a less concentrated banking sector with many small banks is more prone to financial crises than a concentrated banking sector with a few large banks. This is partly because reduced concentration in a banking market results in increased competition among banks and vice-versa. Proponents of this ‘‘concentration-stability’’ view argue that larger banks can diversify better so that banking systems characterized by a few large banks will be tend to be less fragile than banking systems with many small banks (Allen and Gale, 2003). Concentrated banking systems may also enhance profits and therefore lower bank fragility. High profits provide a buffer against adverse shocks and increase the franchise value of the bank, reducing incentives for bankers to take excessive risk. Furthermore, a few large banks are easier to monitor than many small banks, so that corporate control of banks will be more effective and the risks of contagion less pronounced in a concentrated banking system (Beck, Demirgüç -Kunt and Levine, 2003: 1).

Cons concentration, there is evidence linking increase in banking concentration to reductions in credit supply. In the United States, Berger et al (1995) find evidence that the increase in the proportion of banking industry assets controlled by the largest banking organizations in the 1990s, due to the liberalization of geographic restrictions on banking in the United States, may have been responsible for part of the credit crunch observed in 1989-92. It has also been argued that the higher the concentration in the local bank market; the higher prices are for financial services, and consequently the higher the banks’ profits. This is because banks in less competitive environments charge higher interest rates to firms. If concentration is positively associated with banks having market power, then concentration will increase both the expected rate of return on bank assets and the standard deviation of those returns (Beck, Demirgüç-Kunt and Levine, 2004: 2). The policy implication is that higher market concentration is associated with lower socio-economic welfare and, therefore, higher concentration is undesirable. Another cons concentration position is that a more concentrated banking structure enhances bank fragility. Advocates of this “concentration-fragility” view note that larger banks frequently receive subsidies through implicit ‘‘too big to fail’’ policies that small banks do not enjoy (Boyd and Runkle, 1993). Proponents of the concentration-fragility view disagree with the proposition that a few large banks are easier to monitor than many small banks. If size is positively correlated with complexity, then large banks may be more opaque than small banks, and therefore more difficult to monitor. This would tend to produce a positive relationship between concentration and fragility.

Theoretical results demonstrate that monopolistic market power of banks raises the opportunity costs of capital and thus, tends to make financing more expensive (Smith, 1998). Lack of adequate competition in banking could thus, adversely affect economic development.

2.2 Relationship between market concentration and banking competition

The literature on the measurement of competition may be divided into two mainstreams, called the structural and the non-structural approach. The structural approach to model competition includes the Structure-Conduct-Performance (*SCP*) paradigm and the efficiency hypothesis, as well as a number of formal approaches with roots in Industrial Organization theory. The *SCP* paradigm investigates whether a highly concentrated market causes collusive behavior among larger banks resulting in superior market performance; whereas the efficiency hypothesis tests whether it is the efficiency of larger banks that makes for enhanced performance. In reaction to the theoretical and empirical deficiencies of the structural models, non-structural models of competitive behavior have been developed: the Iwata model, the Bresnahan model, and the Panzar and Rosse model. These New Empirical Industrial Organization approaches measure competition and emphasize the analysis of banks' competitive conduct without using explicit information about market structure.

If we accept the theoretical proposition according to which a more concentrated market implies a lower degree of competition due to undesirable exercise of market power by banks. Other theories (e.g. contestability theory) maintain that, under particular conditions, competition and concentration can coexist.

To analyze competitiveness in any sector, an in-depth analysis of the structure of the market is essential. While highly concentrated markets do not necessarily imply lack of competitive behavior, it is generally agreed that market concentration is one of the most important determinants of competitiveness (Nathan and Neavel, 1989). For banking sector, the relationship between market concentration and competitiveness has been examined in detail for many countries and the results indicated that a high concentration tends to reduce competitiveness in this sector (Gilbert, 1984).

Given the current wave of mergers in the EU banking market and the expectation of continued or even accelerating consolidation, concerns have been voiced as to competitive conditions in the EU banking markets, especially in some market segments, such as local and retail markets. More precisely, the question emerges whether market concentration might affect the conduct of banks or the degree of competition. Theoretically, the existence of a relationship between market structure and banks' behavior is indicated by, among others, the Panzar-Rosse model. Where, in the literature, the impact of the banking market structure on bank performance has been examined exhaustively - employing the Structure-Conduct-Performance (SCP) paradigm - the relevance of market structure for conduct or competitive conditions has been almost entirely ignored[1]. This section aims at presenting this disregarded relationship and seeks to assess a possible impact of the number of banks and the banking market concentration on competition. However, as a description of the market structure, the number of banks is a rather limited concept. Empirical studies concerning the impact of market structure on banks' conduct are rare. In order to investigate this relationship, the estimated *H*-values[2] indicating competition are used as proxies of conduct and are related both to the concentration indices considered and to the absolute number of banks operating in these markets, acting together as a proxy of the market structure. The impact of both market structure measures on competition appears to be significant, most markedly so when the *k*-bank concentration indices are used. The latter confirms the observation that a few large (cartel) banks can restrict competition and that a multitude of fringe competitors is unable to engender competition. Casu and Girardone (2006) examine banking markets for 15 European Union countries over the period 1997-2003 and find no evidence that their calculated H-statistics are related to concentration measures. Similar results are found by Claessens and Laeven (2004) in a study of 50 countries over the period 1994-2001.16 Yildirim and Philippatos (2007) find no significant link between concentration and competition (using the H-statistic) for eleven Latin American countries for the period 1993-2000, but do find evidence that openness to foreign entry increases competition.

[1] See Calem and Carlino (1991) for an example of the empirical approximation of conduct.

[2] See Bikker and Haaf, 2001b.

3 Structural changes in Albanian banking sector

3.1 The first phase 1992-1997: Banks under "State Monopoly"

In this phase, banking sector was associated with several shortcomings and positive developments but however fragile. The most important evolution was the creation of a two-tier banking system. This transformation was only made possible in Albania through the law of the Bank of Albania passed by the parliament in April 1992. The law of 1992, installed from the independent point of view, a broad autonomy for the Bank of Albania. The new legal framework acclaimed Bank of Albania as a central bank as the existence of three state- owned banks; Saving Bank (SB), National Commercial Bank (NCB) and Agriculture Commercial Bank (ACB). The second level banks inherited the activity of former bank (two banks and one saving –insurance institute). But the level of financial intermediation was limited. State banks that dominate about 90% in the deposit market, carry out limited functions of financial intermediaries, while new private banks were limited in number (only 4) and uninterested to attract deposits in leks. The lowest level of crediting to the economy (only for state enterprises) was a expression of low-level mediation in addition to the low level of payments' system. For example, at the end of 1996, the implementation of payments for transactions through accounts in different branches of the same bank required on the average of 5-6 days, while transactions between different banks required over 15 days. Because of it, the levels of money outside banks were extremely high. The numbers of banks were growing up 3 to 6 respectively till 1992 to 1996.

3.2 Second phase 1997–2002: Banks under Privatization

Privatisation of the banking system means, weakening the role of the state in existent banks, creating new private banks, and also increasing competition. Privatization of the state-owned banks can contribute to this restructuring. In 2002 after 10 years of privatisation the Albanian Banking sector was still dominated by the last state-owned bank, Saving Bank. Saving Bank was dominant in the overall performance of the Albanian banking system, network extension, deposit market and T-bills market. Some of the main indicators of the SB in that period were (Bank of Albania, 2003):

- Territorial expansion with over 200 branches and agencies
- About 60% of total deposit of banking system
- About 75% of T-bills market
- Over 70 % of the retiree payments

- Over 90 % of the payments volume for state budget accounts
- The total of assets was 170 billion leks. (1 euro = 143 leks)

The financial crisis of 1997 caused of pyramid schemes lie ahead to be solve the *dilemma: Liquidation – Reconstruction – or Privatization for the state owned capital banks.* Agricultural Commercial Bank went into liquidation and part of its assets was distributed to other state –owned banks while bad loans, were transferred to the Agency of Credit Restructuring. After a long discussion to be liquidated or to be privatized, lastly was decided that the other state-owned banks National Commercial Bank to privatized too. The inefficiency of these banks showed that the first steps of restructuring the system were inadequate. So Saving Bank before privatization underwent a structuring process. Reforms on financial sector had recorded significant progress related to the privatization of state banks, thus reducing their dominance in the market. In 1997-2002, the composition of banking sector was formatted *according to ownership* and presents as following:

- state - owned bank, Albanian Savings Bank (G1)
- joint -venture banks (G2)
- private banks (G3)

Banking activity expanded to the expansion of banks in the market, through increasing assets, financial intermediation and quality of banking services. A positive trend was improving credits' market as a steady increase of lending to the private sector. It was associated with the reduction of "bad" credits to total credits which it was 6.4 % in the September 2002 compared with 32.7 % in 1999[3]. This phase related to the entry of various private banks, particularly foreign banks. The number of second tier banks went to 14 or two more times compare to the end of 1996.

3.3 Third phase 2003 - 2007: Privatization of the whole banking system

After the privatization of the second bank of G1, National Commercial Bank (NCB) in 1999, Saving Bank (SB) was the last representative of state–owned banks. SB (actually Raiffeisen Bank) continued to keep its domination on deposit market, was competing with private banks which were raising significantly their market share, by involving more risk and profitable assets. So versus the biggest bank in the system were the private banks that had bolstered competition in the

[3] Source: Bank of Albania, 2003.

market and contributed to an increase in the range and quality of financial services in the country.

In 2003-2007, the composition of banking sector was formatted *according to asset share owned by banks* in percentage. Thus, we distinguish three main peer groups:

- Banks that have less than 2 % of assets volume (G1);
- Banks that have less more than 2 % of assets volume but less than 7% (G2);
- Banks that have more than 7 % of assets volume (G3);

During this period happened privatization of the state's largest bank, the Savings Bank which it purchased by a large international bank as Raiffeisen International. This transaction turned entirely banking sector into private ownership. It would have the direct effects on banking competition. However the moment of privatization of the Savings Bank coincided with the entry into force of Law no. 9121 "On protection of competition", which does not prevent possession of a dominant position, but only abuse this dominant position. Meanwhile, three new private banks: Credins, People's Bank and Union Bank with Albanian ownership entered into banking system. Thus they reduced the foreign shareholders into banking system which it was dominated by them until now. From an oligopolistic market structure in the last decade, it went towards market of monopolistic competition. Banking sector is associated with several mergers of foreign banks during 2007. These developments have had a major impact on market concentration and threaten domestic capital ownership. In recent years, the Albanian banking system is characterized by a continued increased trend, both in terms of number of banks and in the expansion of banking activity. These trends are accompanied by an increase of lending activity and expansion of the range of products offered by banks, too. At the end of 2007, there were 17 second level banks on banking market.

4 Measures of banking concentration

4.1 Literature review on measures of concentration in banking industry

The concept of industrial concentration has been comprehensively treated and debatable in the economic literature. Structure – Conduct – Performance (SCP) paradigm can be based on any concentration ratio. Two formal derivations of the competition – concentration relationship based on oligopoly theory each exactly define the relevant concentration ratios. The significance of concentration ratios comes due to their ability to capture structural features of the market. Concentration ratios are also able to reflect changes in concentration as a result of the bank’s entry into the market or its exit from it, or caused by a merger. Despite the several various approaches related to its measurement, the principal elements of concentration measures are number of banks and the distribution of bank size in a given market. Like indices of inequality, various concentration indices put different weights over different parts of the distribution of market shares across firms and may give ambiguous results. Let there be *n* firms in an industry with market shares $s_1, s_2,.. , s_n$. A simple but general linear form of an index of industrial concentration (*IC*) is:

$$CI = \sum_{i=1}^{n} s_i w_i$$

whereby w_i (i=1,2, …, n) are the weights attached to the market share.

Marfels (1971) and Dickson (1981) discussed the weighting schemes of a number of concentration ratios. Following the taxonomy of Marfels (1971), there could be four broad classes of weighing schemes: (i) unity to top *k* firms and zero to the rest, (ii) individual ranks of firms, (iii) firms' own market shares or their power, and (iv) the negative of the logarithm of market shares. The weighing scheme reflects different assessment regarding the relative impact of larger and smaller firms. Depending upon the weighing scheme, the individual measures may vary, but they may lead to similar orderings.

There are several indicators to concentration ratio of k-banks. Amongst of them emphasize[4]: the concentration ratio *(CR_k)*; Herfindahl - Hirschman index *(HHI)*; Hall - Tideman index *(HTI)*; Rosenbluth index *(RI)*; Comprehensive Industrial Concentration Index *(CCI)*; Hannah and Kay index *(HKI)*; The index *(U)*; multiplikativ Haus index *(Hm)*; additive index Hausa *(ha)* and the entropy measure *(E)*.

The most common measure used in the literature on market concentration has been a simple concentration index, aggregating such shares of a few top firms (say, *k*). These measures for banking firms are called *k*-Bank Concentration Ratios. There is no rule for choosing an appropriate value of *k*. So, the number of firms included in the concentration index is an *ad hoc* and an arbitrary decision. The index ranges from zero to unity. The index approaches zero for an infinite number of equally sized banks and it equals unity, if the firms included in the calculation of the concentration ratio make up the entire industry. It takes the forms:

$$CR_k = \sum_{i=1}^{n} s_i$$

[4] See Bikker and Haaf, 2001a

This indicator ignores many small banks in the market. If the industry consists of "*k*" banks with the same size,

$$CR_k = \sum_{i=1}^{n} s_i = \sum_{i=1}^{n} \frac{i}{n} = \frac{k}{n},$$

which is an ascending function of the banks' number in the market, from which flows an equivalent number: $\mathbf{n_e = k/CR_k}$ (White, 1982).

Another popularly used measure is the Hirfendahl-Hirschman index (HHI). In the United States, HHI plays a significant in the enforcement process of antitrust law in banking sector. It often called the full-information index because it captures features of the whole distribution of bank sizes. For *n* firms in an industry with market shares s_i , (*i=1,2, ... , n*), the HHI is defined as:

$$HHI = \sum_{i=1}^{n} s_i^2$$

By definition (1/*n*) <HHI <1, where *n* is the number of banks in banking industry. The maximum concentration of unity occurs in the case of monopoly. Minimum of concentration (*1/n*) occurs when each bank has an equal share of *1/n*. Despite its popularity, HHI suffers from a few limitations. A major limitation is that distributions of market shares with radically different tail properties may have HHI of similar magnitude (Rhoades, 1995). Recently, Maasoumi and Slottje (2002) have argued that common economic phenomena like mergers between a strong and a weak bank or entries and exits only change certain parts of the distribution of market share – often the tails only. Indices based solely on "dispersion'' or variance, (e.g., HHI, Gini, *etc.*) may miss such changes.

Davies (1979) analyzed the sensitivity of HHI into two compound parts: the number of banks in the market and the inequality in market shares among the different banks. He found that the index becomes less sensitive to changes in the number of banks, to the larger number of banks in the industry.

HHI can be written as an increasing function of the population variance of market shares.

Various authors propose connecting the Herfindahl-Hirschman Index to distributional theories by presenting it in terms of the moments of the underlying bank size distribution. The first attempt to present the HHI in terms of distribution's mean and variance has been undertaken by Adelman (1969). Kwoka (1985) rewrote the Herfindahl-Hirschman Index as:

$$HHI = s + \sum_{i=1}^{n}\left(s_i - s\right)^2$$

by defining the mean market share as $s = 1/n$.

Re-arranging yields the HHI as an inverse function of the banks' number in the industry and a direct function of the market shares' variance about the mean:

$$HHI = \frac{1}{n} + n\sigma^2$$

This presentation picks up two features of the Herfindahl-Hirschman Index. First, the relation between the number of banks and HHI value is not a simple one. For given number of the banks in the market, the HHI increases with the variance, which it is itself a function of the number of banks in the market (Adelman, 1969). Secondly, it is ambiguous because of a variety of combinations of the number and size of banks can produce the same HHI (Kwok, 1985).

In the context of the hypothetical market analysis, Rhoades (1995) argued that inequality of market shares to banks can change substantially in different markets and keeps the same value of HHI. It is possible to compute an equivalent number of HHI as:

$$n_e = \frac{1}{HHI} \text{ per value of HHI}$$

(since $HHI = \sum_{i=1}^{n}\left(\frac{i}{n}\right)^2 = n\left(\frac{1}{n}\right)^2 = \frac{1}{n}$ proving evidence that at least two different bank size distributions can generate the same HHI).

Hart (1975) took a somewhat different approach to insert the HHI into distributional theory. He emphasized that there are some cases where the exact number of banks in an industry is unknown, but information is available about both the banking market size and banks' size classification. He proposed to separate the total distribution of banks sizes into classes and to calculate the parameters of the original distribution from the parameters of the first moment of distribution if the relationship between the distributions is known. He obtained a definition of HHI given by:

$$HHI = \frac{\eta^2 + 1}{n}$$

where η^2 is the coefficient of variation of the original distribution. As long as the coefficient of variation does not change, an increase in *n* will result in a decrease of

HHI. Hart considered the sensitivity to the entrance of the smallest banks in a oligopolistic market as the greatest disadvantage of the index.

4.2 Measures of market concentration in Albanian banking sector

The dynamic developments in banking sector have had a major impact on market concentration. Let's analyze the empirical results of banking concentration in the Albanian banking market, referring to the concentration ratios, CR_3 and CR_5 and the Herfindahl-Hirschman Index during 2000-2008. Concentration indices are calculating for four components of banking activity: assets, deposits, credits, treasure bills.

4.2.1 Market concentrations on banking assets

The banking sector in Albania has generally been described by the dominating position of the large five banks. An important indicator for measuring the concentration level is the CR_5-Concentration ratio-calculating the weight of 5 largest banks in the system to total assets of the system. The share of these 5 banks in overall assets of banking system was 83 percent by the end of 2004 - a year when SB began to act as private bank-to 74 percent in the end of 2007. During the last years, this indicator has shown a continuous falling trend, with a deviation in 2008, due to the merger of two banks. The structure of banking sector has evolved substantially. The increase in number of banks and expansion of activities has slightly reduced the dominance of banking system by G3 banks, although the market share of this group continued to be high. In December 2008[5], the shares of peer bank groups to total assets of the system are 3.9 percent, 31.0 percent, 65.1 percent for G1, G2 and G3, respectively, versus 3.6 percent, 30.3 percent and 66.1 percent at the end of the third quarter of the year; and 3.4 percent, 27.9 percent and 68.7 percent at the end of 2007.

However the Herfindahl-Hirschman Index to total assets showed stable levels. In recent years, there has been great progress towards optimal concentration level, although still far from it. Despite the incident trend of concentration indicators during this period, assets' market in the Albanian banking sector continues to be highly concentrated. Table 1 presents the empirical results for banking assets during 2000-2008. HHI calculations for all components are based on Kwoka version (1985). See subsection 4.1.

[5] Bank of Albania, Supervision Annual Report, 2008.

Table 1. *Concentration ratios (%) and HHI for assets*

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
CR_3	80	75	72	70	69	64	62	56	55
CR_5	89	87	86	85	83	78	76	72	74
HHI	0.44	0.37	0.32	0.30	0.27	0.21	0.18	0.15	0.15

Source: Bank of Albania, 2000-2008, own calculations

4.2.2 Market concentrations on banking deposits

Saving Bank had a dominant position in the deposit market too, holding about 60 % of it. There was the largest concentration in the deposits market. It is important to mention that private banks were more active in foreign currency deposits market and current account deposits, where SB had no dominance. At the same time SB had monopole position in leks deposits. It has about 80 % of them. After the privatization of Saving Bank, the dominant position of SB in the deposits market substituted by the dominating position of the 5 largest banks. During the last years of this period, we see that deposits structure, expectations and preferences of clients changed as a result of increasing competition among banks of G1 and G2. Analyzing deposit concentration by number of depositors, we note that G1 small-sized banks have the highest number of depositors. The Albanian banking system shows a high degree of deposit concentration, where the 5 largest banks in the system comprised 78 percent of total deposits, at end-December 2008.

After 2003, according to the HHI for deposits continued to be high that it indicates the market is more concentrated on G3, otherwise the trend is decreasing. The main reason was the inherited structure of banking sector. Table 2 presents us a view on banking deposits concentration in the market.

Table 2. *Concentration ratios (%) and HHI for deposits*

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
CR_3	84	80	77	75	73	68	65	60	62
CR_5	92	90	88	87	85	81	79	76	78
HHI	0.50	0.43	0.37	0.35	0.31	0.24	0.20	0.17	0.17

Source: Bank of Albania, Supervision Annual Report, 2000-2008, own calculations

Deposit market remains concentrated compared with the assets market. Although the level of concentration of deposits among the years has fallen, the figures are greater than optimal value, which shows a high concentration of market deposits in the banking sector. This may come as a result of a combination of several factors: use of high levels of capital and disengagement of deposits as a source of funds by some banks (mostly new banks); preferences of customers; facility in access of customers if we take into account the geographical distribution of bank branches and agencies.

The Herfindahl-Hirschman Index is correlated to the number of banks and monetary aggregate, M2. This relationship relies on an econometric estimation. The econometric analysis gives the following linear model:

$$\mathbf{dHHI = 4.675 - 0.684 * M2 - 0.036 * nr}$$

Results are significant (because $R^2 = 0.97$), but the coefficients of variables are significant, too ($p<0.05$). Meanwhile the effect of the number of banks on HHI for deposits is consistent to the theory. As we see in the model, the sign of number of banks is negative. That means a negative relationship between HHI for deposits and the number of banks. If we refer to the effect of monetary aggregate, M2, is also negative. That means the increasing of M2 which compounded by several kinds of deposits, associated with decreasing of HHI for deposits. Growing up of deposits volume linked to the prospect of depositors to put down their deposits in different banks.

4.2.3 Market concentrations on banking credits

Analysing the concentration ratios for total credits we conclude that SB had a dominant position like as on the other activities. At 2001-2002 SB not only had dominant position but its percentage of credits represents minimal figures. What's happened?

During the last decade, lending activity from banking sector depended by political and economic factors as well as by other phenomena characteristic for transition period in Albania. During 1993-1999 Bank of Albania (Central Bank) applied direct instruments of monetary policy, establishing limitations on lending from banking system. But this instrument had not prevented the banks from crediting of economy. Till end of 1996, credit market was dominated by three state owned banks. In views of various factors, these banks did not select efficiently their clients and bad loans occupied the credits system. In 1997 it reached to 60%. For this reason Bank of Albania suspending lending activity of banks whose bad loan ratio was above 20%. In this period SB was impeded to extend credits till its privatisation and had no influence in credits market. Its dominant position from 1997- 2000 has been results of inherited excess of credits.

Analysing the concentration index for total credits, we conclude that till of end 2007, 5 banks of G3 that we mentioned above have a dominant position like as in the other activities. During this period H-index has been almost the same, with some small changes. The credit indicators have not evidenced any change, reflecting the greatest stability in years. Table 3 presents the empirical results on concentration of credits market.

Table 3. *Concentration ratios (%) and HHI for credits*

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
CR_3	78	69	62	54	46	43	43	45	47
CR_5	91	86	83	79	69	63	64	66	68
HHI	0.27	0.20	0.17	0.15	0.11	0.10	0.11	0.11	0.12

Source: Bank of Albania, Supervision Annual Report, 2000-2008, own calculations

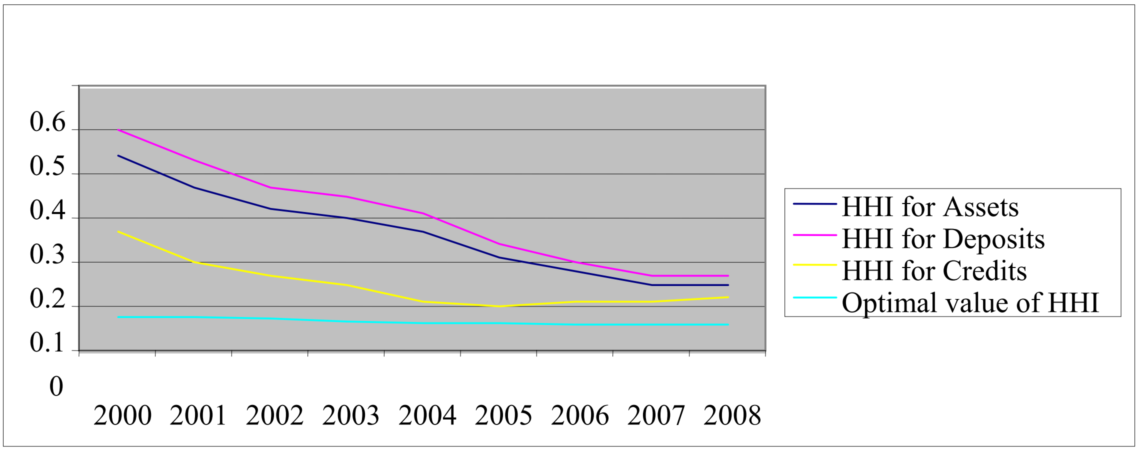
The lending activity is less concentrated in Albanian banking market, also showing the incident on the concentration trend. Credit market is characterized by a moderate level of concentration during the years 2002 - 2008, with HHI within border 0.1-0.18, which corresponds to a moderate level of concentration. Although, the low values of concentration indicators of credit market, in 2008; put a slight increase of these indicators compared to 2006 and 2007.

Herfindahl-Hirschman Index is correlated to the number of banks and the annual interest rate of credit. The econometric analysis presents the estimation of following linear model:

$$\mathbf{cHHI = 0.438 - 0.023 * nr + 0.50 * cr}$$

Results are significant (because $R^2 = 0.96$), but the coefficients of variables are significant, too ($p<0.05$). In the meantime, the effect of the number of banks on HHI for credits is consistent to the theory. As we see in the model, the sign of number of banks is negative. That means a negative relationship between HHI for credits and the number of banks. If we refer to the effect of the annual interest rate for credits is positive. That means the increasing of annual interest rate of credits associated with rising of HHI for credits. Growing up of annual interest rate for credits linked to the prospect of banks’ behavior in the market. The impact of their behavior inclined to the market concentration, referring to SCP paradigm.

Figure 1. *Development of HHI during 2000 - 2008*



Source: Supervision Annual Report of Bank of Albania, 2000-2008, own calculations

Let us see the problem from another point of view. The figure 1 presents the graph of HHI for assets, deposits and credits compare to optimal value of HHI during 2000 – 2008. As we see, we conclude the trend of HHI for assets and deposits is the same, while the trend of HHI for credits is different from assets and deposits. The tendency of these indices is towards optimal concentration level[6] (that means the competition market), though the latter one is still far from being achieved. Reduced banking system concentration level is attributed to reorganization of this sector. Banks of G2 peer group are benefiting from loss of terrain of large banks of G3 peer group. The Albanian banking market comparing to the optimal value of HHI (as we see in figure 1, it is approximately straight line) is considered to be highly concentrated in terms of assets and deposits, and moderately concentrated, close to perfect competition, in terms of lending.

4.2.4 Market concentrations on Treasure bills

Because of missing data for T-bills in the same period of other components, we are going to make the comparative analysis of H-index just for three years from two terms of period. In Albania Tirana Stock exchange doesn't exist and is still one of the main challenges of the financial system. The attempts to develop this market have been focused on the formulation of laws and constructions of institutions that will participate in it. The result is: there are no shares listed in the stock market and an official stock market doesn't exit. The only securities that are trading are T-bills. In absence of stock exchange T-bills are traded from Bank of Albania .Thus T-bills activity evaluates as indicator of competition. From the data according to the distri-

[6] Market share of each bank is equal to others, equal to 1/n (n- number of banks). This reduces HHI=1/n because market share of each bank and the mean market share are equal. See subsection 4.1

bution of T-bills portfolio, results that SB had dominant position. HHI-index was high continuously, the nearest 1, and it means that SB had monopole position in this market. Market structure of T-bills in Albanian banking sector was monopoly. This dominant position at 2007 belongs to 5 banks. Also treasury bills market is accompanied by very high concentrations ratios, but the trend is incident. CR_3 and CR_5 values are respectively 90% and 96% in 2003, while in 2007; CR_3 and CR_5 are 69% and 76%. Table 4 presents the empirical results.

Table 4. *Concentration ratios (%) for treasure bills*

Year	2003	2005	2007
CR_3	90	82	69
CR_5	96	86	76

Note: Seri is smaller than the other components due to lack of data for treasure bills by BoA

Source: Supervision Annual Report of Bank of Albania, 2003, 2005, 2007.

If we refer to table 5, the value of HHI is 0.86, the nearest 1, in 1999. High values of concentration indicators speak for the more concentrated of treasury bills market, this comes as a result of the inherent structure of the banking sector where the Savings Bank (now Raiffeisen Bank) dominated the market of treasury bills (before its privatization). Recently noticed a diversification of treasury bills market between the banks of the sector, but still remains a market with high concentration. This situation demonstrates again the concentration in favor of G3 banks. HHI for treasure bills is decreasing significantly until 2007, but it notes a slight increasing at 2008 due to occurring of several mergers of foreign banks during 2007 and their impacts on concentration showed in 2008.

Table 5. *Value of HHI for treasure bills*

Year	1999	2000	2007	2008
HHI	0.86	0.76	0.55	0.62

These calculations of HHI for T-Bills are calculating by dividing banks into peer group: G1, G2, G3 but the composition of banking sector has a different formatting for period 1999-2000 and 2007-2008. HHI is calculated to consider each group and then apply Kwoka version (1985). Source: BoA.

4.3 Concentration and ownership in Albanian banking sector

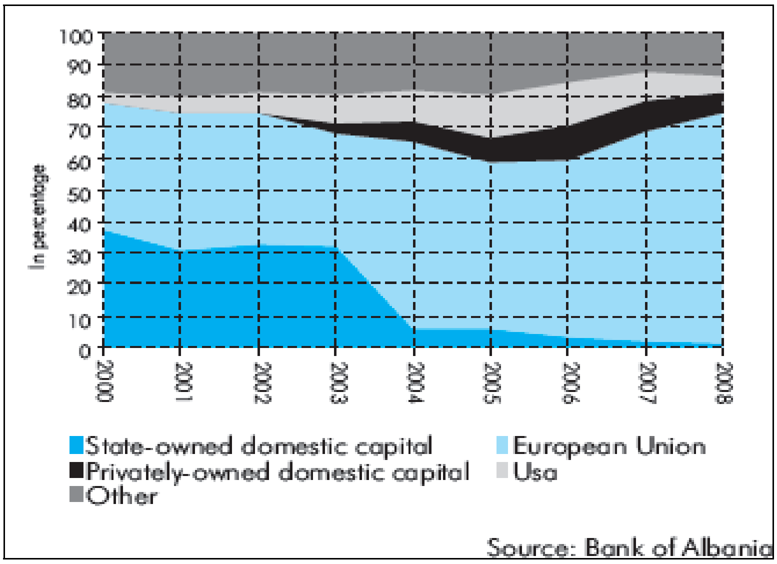
Despite the pre-transition historical differences, during the past decade the banking systems in SEE-6 have been transformed by three major trends - privatization, consolidation and the entry of foreign banks on a large scale (Turner, 2006). The role of foreign-owned banks has become dominant in Central and Eastern Europe, including in the SEE-6 countries. Foreign banks penetrated these markets either directly by establishing Greenfield operations or by participating in privatization of domestic state owned banks. During this period, Albanian banking sector is characterized by domination of foreign capital. In recent years it has emerged a new trend of ownership changes or control to banks' shareholders through stocks' transactions.

During 2008, the banking system's capital incurred important structural changes, which brought about the increase of foreign capital domination in the system. With regard to Credins Bank, the sale of common shares, owned by a private Albanian shareholder, to two foreign investors raised the share of foreign capital in this bank to 33.34 percent, as compared to 5 percent in 2007. Regarding ProCredit Bank, two of its shareholders, FEFAD (domestic capital) and IFC (capital from the USA) sold all their shares, 25 percent and 11.25 percent respectively, to Procredit Holding, thus turning this bank into a bank entirely owned by foreign capital originating from the European Union. At Union Bank, during 2008 the European Bank for Reconstruction and Development purchased 12.5 percent of the shareholders' capital. This development marks the entry of foreign capital to the last bank of the system that was entirely owned by domestic capital, thus decreasing the share of domestic capital in our banking system.

At end-December 2008[7], foreign capital in the system was ALL 50.3 billion, or 91.8 percent (versus 88.8 percent in 2007), while domestic capital was ALL 4.5 billion, or 8.2 percent of the total capital. Domestic state-owned capital represents 40 percent of shares owned by the Albanian Government in the United Bank of Albania (see figure 11). Based on a peer-group analysis, the large banks of G3 group continue to be supported by permanent foreign resources. The capital structure of G2 medium-sized banks and G1 small-sized banks includes both foreign and Albanian capital, where foreign capital has the highest share-88 percent and 76 percent of total capital, respectively.

[7] Source: Annual Supervision Report, 2008.

Figure 2. *Paid-in Capital of the System by country of origin in 2008*



Domination of foreign capital and its increasing tendency is also characteristic of other banking systems in the region. Comparing and contrasting our banking system with those of the region (table 6), we notice that foreign capital in our banking system has a higher share to total capital, than in any other country of the region, except for Croatia.

Table 6. *Share of foreign capital in some regional countries*

	No. of banks			Foreign capital share (in %)		
Country	2005	2006	2007	2005	2006	2007
Albania	16	17	17	86.3	85.7	88.8
Bosnia-Herzegovina	24	23	22	70.2	75.5	74.2
Bulgaria	34	32	29	74.9	72.8	72.8
Croatia	38	38	38	81.7	86.6	90.8
Slovenia	25	25	27	34.9	37.7	37.7
Serbia	40	37	35	53.8	73.1	77.2
Moldova	16	15	16	50.6	62.7	71.9
Romania	40	39	42	68.9	78.8	79.4

Source: BSCEE REVIEW 2007

5 Conclusions

After 1997 crisis, the macroeconomic environment led to important changes in Albanian banking sector which was involved in liquidation, restructuring, privatization and acquisition activities of some banks. The estimation results provide consistent evidence that as concentration in banking increases, the bank lending channel weakens, causing monetary policy to be less effective. Transmission mechanism of monetary policy demonstrates low efficiency. The monetary policy outcomes fade in the lights of two factors such as:

SB monopoly in Leks deposits market

Limited activity of interbank market.

The dominant position of Saving Bank, with over 60% of the total of deposits and the total of assets brought up distortion of banking market. The dominance of the Saving Bank in banking market resulted as the highest interest rates in the credits market too. In compliance with credits market, SB was impeded to extend credits till its privatisation and so had no influence in credits market, while loans from G2 and G3 represented only 6.1 % of total of assets of banking system. So loans represented minimal figure, hence banks had chosen easy ways to make profits while minimizing risk. This situation brought up high interest rates. These highest costs of loans meant the highest costs of good and services, which were becoming one of the most important barriers to the competitiveness of Albanian goods. After the privatisation of Saving Bank, the credits market will be developed faster. Decreasing trend of concentration in banking sector is attributed to reorganization of the sector. Banks of G2 group are benefiting from losing ground to major banks of G3 group. The market concentrations have linked to banks consolidation. The paper finds a strong evidence of change to the market structure in Albanian banking sector. Albanian banking sector has been recently characterized by important structural developments. The most important of them are:

- The enlarged number of banks
- Restructuring and privatization of state-owned banks
- Establishment of domestic capital banks
- Entrance of powerful foreign banks through acquisitions of the existing ones

which have changed the Albanian banking sector into a dynamic environment. There are more and more efforts made by banks to be better positioned in the market.

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