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**Article**

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CES Working Papers

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*Suggested Citation:* Popovici, Andreea Nicoleta; Turliuc, Dragos Gabriel (2014) : M&A, Competition and Performance in the Slovenian Banking System, CES Working Papers, ISSN 2067-7693, Alexandru Ioan Cuza University of Iasi, Centre for European Studies, Iasi, Vol. 6, Iss. 1, pp. 137-145

This Version is available at:

<https://hdl.handle.net/10419/198295>

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# M&A, COMPETITION AND PERFORMANCE IN THE SLOVENIAN BANKING SYSTEM

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**Abstract:** *The process of mergers and acquisitions is the main method used by financial institution to grow and to obtain better performance. The main effect of the implication of banks in mergers and acquisitions (M&A) translates into a higher degree of market share of the banks and also that the small banks will soon become global banks. This article underlines the relationship between bank performance and degree of concentration of the Slovenian banking sector during 2006-2012 using a simple linear regression model.*

**Keywords:** banks; M&A; concentration; performance.

**JEL Classification:** F30; G34; L 10.

## INTRODUCTION

The European banking sector had a rapid series of M&A's (mergers and acquisitions) beginning with the 1990s. Similar to the M&A's in other economic sectors, the economic rationale, such as the importance of value creation, efficiency and market power, has motivated the process of M&As in EU banks. Several factors have combined to facilitate the consolidation in the EU banking system, which include the globalization of the international financial system, technological development, regulatory reform, the introduction of the euro and the shrinking of country-specific barriers such as language and culture.

Another key factor facilitating bank M&A is the technological developments, in particular, the advance in information technology, which reduces banks' costs for collecting information, storage, processing and transformation. In addition, technological changes have also broadened banks' activities from their traditional banking activities such as loans and brokerages. As a result, new technologies are said to have increased the optimum bank size, providing a powerful rationale for consolidation.

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In order to obtain growth through M&A, many European banks looked at new opportunities in different geographical areas to benefit from the effects of geographical diversification. Many European banks entered into cross-border bank M&A deals both within and outside Europe.

The main effect of the implication of banks in M&A is the descending number of banks that do business into a country, and this translates into a higher degree of market share of the banks and also that the small banks will soon become global banks.

Considering these aspects, in this paper we want to seek a connection between the performance and the degree of concentration of the Slovenian banking system.

## **1. MARKET STRUCTURE CONDUCT PERFORMANCE HYPOTHESIS**

The market structure conduct and performance (SCP) framework was derived from the neo-classical analysis of markets. There are two competing hypotheses in the SCP paradigm: the traditional “structure performance hypothesis” and “efficient structure hypothesis”. The structure performance hypothesis states that the degree of market concentration is inversely related to the degree of competition. This is because market concentration encourages firms to collude. More specifically, the standard SCP paradigm asserts that there is a direct relationship between the degree of market concentration and the degree of competition among firms.

This hypothesis will be supported if positive relationship between market concentration (measured by concentration ratio) and performance (measured by profits) exist, regardless of efficiency of the firm (measured by market share). Thus, firms in more concentrated industries will earn higher profits than firms operating in less concentrated industries, irrespective of their efficiency.

The efficiency structure hypothesis states that performance of the firm is positively related to its efficiency. This is because market concentration emerges from competition where firms with low cost structure increase profits by reducing prices and expanding market share. A positive relationship between firm profits and market structure is attributed to the gains made in market share by more efficient firms.

Traditionally, these hypotheses have been examined using the traditional measures of profit/profit margin as indicator of performance.

In this paper, we will explore the traditional hypothesis and we will try to demonstrate it using a sample data from Slovenian banking sector, taking into consideration data included in 2006-2012 interval.

It is important to see how the mergers and acquisitions have an impact on the degree of concentration in a banking system. To fulfill that, we want to take into-considerations the results that the next authors had in their studies. Dermine (2003) concludes in his study that the domestic consolidation has contributed significantly to operating efficiency and has increased the degree of concentration in several EU countries.

Altumbas and Marques-Ibanez (2008) point out in their paper that an increase in banking concentration tends to drive loan rates up in many local markets thereby probably hampering, to some extent, the pass-through from market to bank lending rates.

Ayadi and Pujals (2005) utter about the importance of the evolution of cross-border mergers and acquisitions and their contribution to the increased levels of concentration within individual European banking markets.

Hernando and Nieto (2008) show in their paper that Cross-border banking in Europe remained rather limited until the launching of the Euro and that banks operating in more concentrated markets are less likely to be acquired by other banks in the same country but are more likely to be acquired by banks in other EU-25 countries.

Therefore, it is questionable whether large banks made big profits are a consequence of their operations concentrated markets and adopting pricing practices, or superior production and management techniques that reduce costs, resulting in high profitability.

## **2. THE MAIN CHARACTERISTICS OF THE SLOVENIAN BANKING SYSTEM**

At the end of 2012 the Slovenian banking system comprised 17 banks (including seven subsidiary banks), three branches of foreign banks and three savings banks. The number of banks was down by two last year. One smaller bank under majority domestic ownership merged with another bank, while one bank under majority foreign ownership ceased to operate in Slovenia.

According to the data published by ECB (2013), the total assets of all banks and savings banks stood at EUR 46.1 billion at the end of 2012, of which banks and the branches of foreign banks accounted for EUR 45.6 billion, while savings banks accounted for EUR 567 million. The banks thus accounted for 98.8% of the total assets of the Slovenian banking system. The total assets of banks and savings banks amounted to 130% of GDP. The total assets of banks and savings banks as a percentage of GDP were down 6 percentage points last year as a result of the contraction in total assets.

Regarding ownership of banking assets in the banking sector in Slovenia, there were seven banks under majority foreign ownership operating in Slovenia at the end of 2012, three of which were branches of foreign banks. Ten banks were under majority domestic ownership. The proportion of the banks' equity held by non-residents was up 2 percentage points last year to stand at 41%, of which the proportion held by nonresidents with equity holdings exceeding 50% stood at 32.3%. Government ownership as measured by equity was up minimally to stand at 22.9%, as it can be seen in table number 1.

**Table 1 - Ownership structure of the banking sector (in terms of equity)**

(%)	2006	2007	2008	2009	2010	2011	2012
Central government	17.9	15.1	17.7	20.5	20.1	22.7	22.9
Other domestic entities	44.4	47.2	44.1	43.0	42.9	38.1	35.8
Non residents, from which	37.7	37.8	38.2	36.6	37.1	39.3	41.3
Non-residence (over 50% control)	27.7	26.8	27.6	26.8	27.9	30.1	32.3
Non-residence (under 50% control)	10.0	11.0	10.6	9.8	9.2	9.1	9.1

Source: Financial Stability Report 2013, Bank of Slovenia, available at <http://www.bsi.si>, p.40

Market concentration on the banking market as measured by the market share of the largest banks and by the Herfindahl-Hirschman index (HHI) has declined in recent years, as the market shares of the largest banks have fallen, as it can be noticed in table number 2.

**Table 2 - Market concentration of the Slovenian banking market as measured by the Herfindahl-Hirschman index and market share of the top three/five banks**

Index	Calculation method	2008	2009	2010	2011	2012	Change (2012/2011)
HH	Total assets	1.275	1.262	1.149	1.11	1.041	-68
	Loans to non-banking sector	1.218	1.164	1.122	1.067	1.042	-26
	Liabilities to non-banking sector	1.578	1.278	1.471	1.392	1.256	-136
	Liabilities to banks	1.217	1.047	1.243	1.209	1.179	-30
Market share of the top three banks	Total assets	47.7	47.7	45.7	44.7	43.2	-1.5
	Loans to non-banking sector	46.7	46.0	45.9	44.4	43.5	-1.9
	Liabilities to non-banking sector	55.9	55.7	54.3	53.1	49.7	-3.4
	Liabilities to banks	48.0	46.3	53.9	53.6	52.3	-1.3
Market share of the top five banks	Total assets	59.1	59.8	59.2	58.9	57.1	-1.8
	Loans to non-banking sector	59.2	58.5	59.0	58.2	56.7	-1.5
	Liabilities to non-banking sector	68.2	67.9	66.7	65.5	62.5	-3.0
	Liabilities to banks	63.6	61.3	67.9	67.9	67.5	-0.4

Source: Financial Stability Report 2013, Bank of Slovenia, available at <http://www.bsi.si>, p.40

Regarding the performance indicators of the banking sector in Slovenia, as shown in Table 3, the values of ROA and ROE were evolving, an increase from 2006 to 2007, and in 2007 a downward trend with a steep slope for ROE.

**Table 3 - Bank performance indicators in percentages**

%	2006	2007	2008	2009	2010	2011	2012
ROA	1.24	1.35	0.67	0.32	-0.19	-1.06	-1.59
ROE	15.14	16.28	8.15	3.87	-2.3	-12.54	-18.85
Costs/gross income	57.91	52.94	57.27	53.95	52.2	53.68	47.42
Interest margin on interest bearing assets	2.35	2.32	2.21	1.98	2.14	2.13	1.93
Interest margin on total assets	2.19	3.79	3.01	2.88	2.88	2.87	3.23

Source: Financial Stability Report 2013, Bank of Slovenia, available at <http://www.bsi.si>, p.57

### **3. IMPLICATION OF THE CONCENTRATION ON THE PERFORMANCE OF THE BANKING SYSTEM**

After obtaining data from official reports of the Bank of Slovenia, during the analyzed period 2006-2012, we proposed an econometric study to show the relationship between profit and concentration in the banking system using Econometric Views 5.0 software.

The first step was to verify the relationship between profit, measured by ROE and degree of bank concentration, the latter being measured by: Herfindahl - Hirschman, the concentration of the first three banks in the system and the concentration of the top 5 banks in the system. In the tables no.4, 5 and 6 we show this relationship.

**Table 4 - Simple linear regression equation between ROE and HH**

Dependent Variable: ROE Method: Least Square Sample:2006 2012 Included observations:7			
Variable	Coefficient	Std.Error	Prob.
C	-141.2361	14.46264	0.0002
HH	117.7946	11.89	0.002
R-Squared	0.951463	Mean dependent var	1.43000
Adjusted R-squared	0.9417	Akaike info criterion	5.4292
Log likelihood	-17.00248	F-statistic	98.014
Durbin-Watson stat	2.9790	Prob(F-statistic)	0.000179

Source: Authors' computation using Eviews 5.0

Following the Simple linear regression the following regression equation was obtained:

$ROE = 117.7946373 - 141.2361336 + * HH$ , and it is important to note is that the value of the Herfindahl - Hirschman explains 95.14% of ROE in the period analyzed in the banking system.

**Table 5 - Simple linear regression equation between ROE and the market share of the top three banks in the system**

Dependent Variable: ROE Method: Least Square Sample:2006 2012 Included observations:7			
Variable	Coefficient	Std.Error	Prob.
C	-255.7293	24.94012	0.0002
TOP 3	5.491503	0.531987	0.001
R-Squared	0.955180	Mean dependent var	1.43000
Adjusted R-squared	0.946216	Akaike info criterion	5.334159
Log likelihood	-16.72365	F-statistic	106.5566
Durbin-Watson stat	2.625059	Prob(F-statistic)	0.000149

Source: Authors' computation using Eviews 5.0

Following simple linear regression, we obtained the following regression equation:

ROE = -255.7292632 + 5.491503485 \* TOP3, and the concentration of the banking system, measured by assets held by the top 3 banks in Slovenia, explaining 95.51% of ROE developments related to the banking system.

The last equation, the corresponding relationship between ROE and the concentration of banking assets held by the top five credit institutions in the system is shown in figure no. 3, and in this case the concentration of the banking system explained 59% of ROE development.

**Table 6 - Simple linear regression equation between ROE and the market share of the top five banks in the system**

Dependent Variable: ROE Method: Least Square Sample:2006 2012 Included observations:7			
Variable	Coefficient	Std.Error	Prob.
C	-367.8361	136.8361	0.0434
TOP 5	6.206153	2.2989	0.0428
R-Squared	0.5930	Mean dependent var	1.43000
Adjusted R-squared	0.511694	Akaike info criterion	7.555574
Log likelihood	-24.44451	F-statistic	7.540120
Durbin-Watson stat	1.297045	Prob(F-statistic)	0.042809

Source: Authors' computation using Eviews 5.0

The analysis carried out, it can be said that the relationship that best demonstrates the relationship between the concentration and the evolution of ROE is the banking concentration used by the first three banks in the system. I have decided to further investigate the impact of the ROE on the concentration of the banking system, and as can be seen in the following table, we can say that there is one relationship between the two values.

**Table 7 - The relationship between the concentration and performance of the Slovenian banking system**

	HH	Top3	Top5
The regression equation	HH = 1.199592315 + 0.008077302475*ROE	TOP3 = 46.57984046 + 0.1739377431*ROE	TOP5 = 59.36334502 + 0.0955629208*ROE
R-squared	0.951463	0.955180	0.593078

Source: Authors' computation using Eviews 5.0



As can be seen in this table, the strongest relationship is obtained between ROE and the concentration of assets of the first three banks in the system, as was obtained in the first econometric study.

## CONCLUSIONS

The number of institutions has dropped significantly due to numerous acquisitions and mergers that took place both on national and international level. The first banks interested in cross-border operations were those based in developed countries, countries with a high concentration of their banking systems.

Banking institutions are now looking for new opportunities in foreign markets to replace or supplement the decreasing growth opportunities. Removing regulatory barriers in the EU financial services industry will give further impetus to the strengthening of cross-border and cross-sectoral banking M&A.

The result of these operations is the emergence of larger financial companies that offer a wider range of services and operating in multiple markets simultaneously. Acquisitions and mergers in the banking sector have the capacity to ensure efficiency, profitability and synergy, also contributing to increased shareholder value. In some cases, banks with financial problems are the subject of acquisitions or mergers in the banking sector and this type of transaction may result in a monopoly or downsizing.

The main objective of this study was to evaluate the relation between the degree of bank concentration and banking performance in Slovenia, the analyzed period being 2006-2012.

In this sense, using the financial statements of the National Bank of Slovenia and the Eviews 5.0 software we have shown that there is a strong link between the degree of banking concentration measured by the concentration of banking assets held by the top 3 banks in the system and system performance banking development measured in our case by ROE.

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