Measuring the new EU member states banking integration process in a crisis environment

Bogdan ILUȚ, PhD. Candidate
University "Alexandru Ioan Cuza" University of Iași
Faculty of Economics and Business Administration, Doctoral School of Economics
B-dul Carol 1 nr.22, Corp C, Et. 6, C803
Iași, 700505
Romania
e-mail: ilut2k@yahoo.com

Associate Professor Dan CHIRLEȘAN, PhD.
University "Alexandru Ioan Cuza" University of Iași
Faculty of Economics and Business Administration, Department of Business Administration
B-dul Carol 1 nr.22, Corp C, Et. 6, C803
Iași, 700505
Romania
e-mail: danch@uaic.ro

Abstract
The European banking sector still represents one of the least integrated parts of the European financial system. Also, the academic literature underlines the fact that this process tends to be divided between the EU-15 and the new member states. Taking into account the relative homogeneity of the new member states, regarding their transition from centralised economies to market economies and afterwards their EU ascension, the aim of our paper is to analyze if the return on assets of the banks from these states converge toward a common value, this fact underling a deepening of the banking integration process, despite the unfavourable macroeconomic environment, which has been deeply affected by the financial crisis. In order to achieve this we have used a modified version of the partially adjustment equation, measuring the speed of convergence toward a common value, while also testing the statistical significance of the obtained results.

Keywords: financial integration, new member states, convergence, returns on assets
JEL codes: G21, F36, N24

1. Introduction

In the last two decades at the European Union level there has been a strong process of integration both political and economical. In this context, it has become clear that the importance of a fully functional common market in the European Union in the case of all the sectors from the economy. Thus, the integration of the financial sector has become both a necessity in order to deepen and stimulate the economic integration process in the European Union but also a method for achieving a long term sustainable economic growth.

The importance of the banking sector integration as a component of the European financial system, is determined in our opinion on the one hand, because of the fact that the banking sector represents the main channel which finances the European economy and on the other hand, to the fact that the benefits which would arise from the enhancement of the quality of the banking products and services and the diminishing of their prices would be directly felt by every EU citizen as most of them are clients of at least one banking institution.

If in the academic literature of the late '80 and of the early '90 presented a somehow direct path regarding the integration of the banking sector of the European Union, this process being stimulated by the adoption of the single currency and of some EU directives, the later evolutions have marked an unforeseeable evolution of the European banking integration process, the somehow limited results of the adoption of the single currency and the extension of the Union to 27 members blurring the perspectives of this process.

The extension to 27 member states has represented a huge step in the economic and political dynamics of the European Union. Thus, if in the case of the EU-15 countries, these economies had already a series of common mechanism and functioning principles, in the case of the new EU member countries, most of these economies had to undergo through a process of transition from centralised to market economies, which has determined implicitly a series structures and dynamics, including in the case of the banking systems, which were are different from those of the EU-15 countries but also between the new member states.

The problem that appears in this case is represented by the way in which the banking sectors of the new EU member states, which haven't benefited from the same convergence period like in the case of the EU-15 countries, would be able to be integrated and implicitly generate benefits at macroeconomic level for the these economies.

Moreover, the adverse conditions that exist at this moment due to the financial and economic crisis which started in 2007, have determined a series of effect which have negatively impacted the integration of the banking sector from the new EU member countries. These effects have disturbed the normal formation of the interest rates and thus, hinder the correct measurement of the integration level reached through the testing of the law of one price.

In this context the question appears regarding the way in which the progresses regarding the integration of the banking sectors from the new member states can be underlined taking into account the adverse macroeconomic environment which has characterised these countries.

The aim of our paper is to analyze if the return on assets of the banks from these states converge toward a common value, this fact underling a deepening of the banking integration process, despite the unfavourable macroeconomic environment, which has been deeply affected by the financial crisis.

Our research objectives are represented by the 1) underling of the limits regarding the usage and testing of the law of one price for the measurement of the progresses registered in the European banking integration process and 2) the testing of the evolution of the banking integration process in the case of the new EU member countries using an alternative method like the convergence of the rate of returns.

In order to achieve this the paper is structured as follows: the first part is dedicated to the introductory remarks, the second part contains a literature review on this topic, the third part contains the methodological considerations, part five being dedicated to the data used, while part six presents the empirical result, part seven being dedicated to the concluding remarks.

2. Literature review

Measuring the integration level of the European banking system in general represents a problem of great interest for most of the European authorities. For example in its mission statement the European Central Bank states that it main objective is to ensure the stability of the prices for the general good. Acting at the same time as a main financial authority figure in order to protect the financial stability and promote financial integration at the European level. The European Central Bank defines a fully integrated market as a market where all the participants are: 1) subject to a single set of regulation at the point when they decide to use the products and services offered on this market, 2) have equal access (without any discriminations) to these products and services and 3) are traded the same at the moment when they decide to operate in this market.

This definition has a direct effect on the way in which financial integration of the European banking sector must be measured. For example, if we are focusing on the equal access criterion (without any discriminations) to products and services offered on a given market, this criterion starts from the premises that the supply of these products and services is profitable all the time in all the market. In other words, this criterion supposes that anyone who demands a certain financial product or service in that economic area, must receive the best offer at the lowest possible price that exist in that whole area. This approach is extremely useful in the testing of the integration level in the case of the bonds market or the money market, but is rather inappropriate in the case of the banking system which is mainly focused at the local level. Excepting the case in which the cost structure is the same in all of the local communities from an economic area, certain goods and services may not be supplied in

certain local communities. In this case, this approach loses it informative value on the dynamic of the integration process of the banking sector.

In regard to the equal treatment criterion, this is also an unusual approach, because it doesn't include a benchmark in order to test the efficiency of these actions. A very easy and good example in this case is represented by a monopoly, which can offer the same products and services in the whole economic era but a price wheal above the marginal cost. In this case the definition of the European Central Bank will be respected, meaning that financial products and services will be offered without any discrimination in an economic area, but we consider this situation rather undesirable by the policy makers involved because of the huge profits that this monopoly would make.

The common problem of both examples that we have provided is that the determination of certain market conditions depends equally on the supply and the demand possibilities that exist. Taking this into account, we can consider that the definition of the European Central Bank puts too little emphasis in the problems relating to the offer that exist on a certain market, this opinion being shared also by other studies (Gropp et Kashyap, 2009). Despite this consideration, most of the empirical works undertaken so far tend to suffer from a unilateral approach of the banking integration process (e.g. Cabral et al., 2002; Baele et al., 2004; Adam et al., 2002, ECB 2008).

The researches undertaken so far regarding the dynamic of the European banking integration process have been focused on mainly three directions. Thus, a first set of researches is focused on the study of the volume of banking operations undertaken at cross-border level by the European banks (e.g. Gual, 2004, Perez et al., 2005). Most of the data employed in these researches were provided by the Bank for International Settlements, and are underling the fact that while in the bonds market and the money market of the European Union the level of cross-border operations are high, in the case of the banking sector, and especially of the retail banking segment least than 1% of the total transactions are undertaken at cross-border level. In general, this situation is used in order to emphasis the fact that in the case of the banking sector, and especially of the retail banking segment, the level of integration is very low, this approach didn't providing in our opinion sufficient and irrefutable arguments for such a statement. We consider that is relatively easy to provide arguments for a banking system perfectly integrated at European level in which cross-border transactions are inexistent. For example, the threat of cross-border transactions could represent a sufficient strong reason for all the banks to rethink and re-price their products and services so that such operations would not be needed.

A second set of papers in focused on underling the cross-border mergers and acquisitions as a measuring element the integration of the European banking sector (se the researches of Köhler, 2007 and Köhler, 2009). The lack of mergers and acquisitions at cross-border level in the case of the European banking sector, comparatively with the mergers and acquisitions at domestic level represents another argument broth in favour of the low level of banking integration that exists in the European Union. Still, we consider that here also we can provide the same argument as in the case of the cross-border provision of products and services, the lack of a significant number of mergers and acquisitions at EU level in the case of the banking sector doesn't represents a sufficient and neither necessary argument for the existence of a low level of integration.

A third set of researches if focused on the study of the convergence level of interest rates as the main indicator for the evolution of the European banking integration process, the research undertaken by Adam et al. (2002) representing a good landmark in this area. In this research the authors study the interest rates for corporate and mortgages loans for a period of five years, concluding that after 1999 there is very little convergence for these types of loans. In their partial adjustment model they underline that the annual convergence speed for corporate loans is 2% while in the case of the mortgages is 7%. Taking into account this very low convergence rate Adam et al. (2002) conclude that the banking sector from the European Union are far from a full integration and more over there are any signs that could point out to a deepening of this process.

The annual report of the European Central Bank regarding the Financial Innovation (2011) contains a multitude of data and information, like the cross-country standard deviation of the interest rates for different banking products offered by the banks in the euro zone, through which it is argued that the European banking sector is far from being fully integrated. Despite this, Affinito et Farabullini (2009) show that the interest rates dispersion is reduced one the variables that reflect the characteristics of the domestic lenders are tacked into account, like the exposure to risk, the available income or the dimension of the analysed banks. Also, they demonstrate that the interest rates

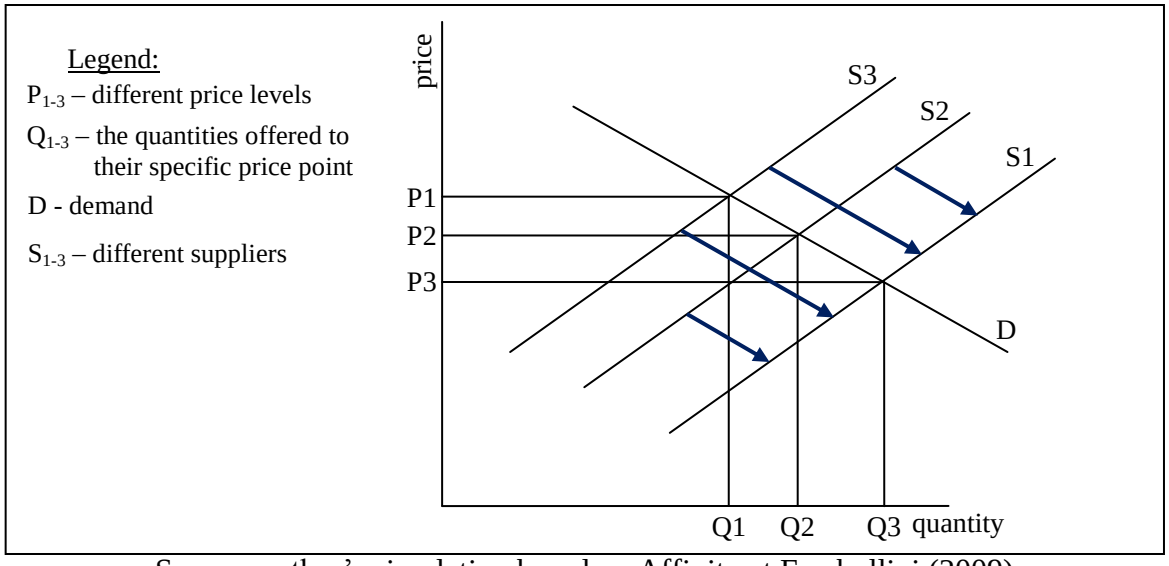
dispersion is higher in the case of the euro zone that in the case of the different Italian regions. They concluded that: "*the interest rates in the case of the euro zone tend to be different because the banking products and service are different in each country and are determined by a series of national factors*". Taking into account these aspects we can conclude that the dispersion of the banking interest rates in not the most exact indicator for the integration of the European banking sector.

3. Methodological approach

The starting point of our research is represented by the reconsideration of the "law of one price", taking into account the current economic context and the characteristics of the new member states of the European Union. The argument that we are bringing forth is represented by the fact that the usage of the "law of one price" in previous researches didn't constituted a sufficient or necessary argument in order to fully underline the evolution of the banking integration process in the case of the new member states. The reason for this argument is that the banking sector, especially the ones from the new member states, are characterised by a extremely high level of heterogeneity regarding the supply and demand of products and services, these differences being determined by the taxing systems, the preferences of the clients, the risk characteristics and a series of collateral factors which directly affect de supply and demand of banking services. These differences are enhance in the current context of economic and financial turbulences, as the effects of the crisis were different on the new member states, ranging from little adverse reactions in the case of Poland (with a GDP growth of 1,7% in 2009) to a hard landing in the case of Romania (with a GDP drop in 2009 of 7,1%).

In an intuitively way, the estimation of the banking sectors integration through the testing of the "*law of one price*" can be an extremely fruitful approach. This approach is suitable for many sectors of the financial system, like the bonds market or the money market, were it represents a standard way in order to underline the convergence level of the interest rates used. Despite these, in the case of the banking sector, the high degree of heterogeneousness that exists in the case of the European Union, and especially the new member states, regarding the supplied products and services, lead to a diminishing of the relevance value of such a comparison. The banks are offering specially designed products and service that will meet their client's desires, taking into account the existing macroeconomic and social environment from that time, the risk characteristics of their costumers and their needs. Excepting the case in which all these variables can be quantified coherently into a model, such an undertaking being almost impossible, these differences being extremely clear in a nationally segmented banking market, the law of one price doesn't provide a clear view on the banking integration level reached by that banking sector.

Figure 1: The classical view on the banking integration process

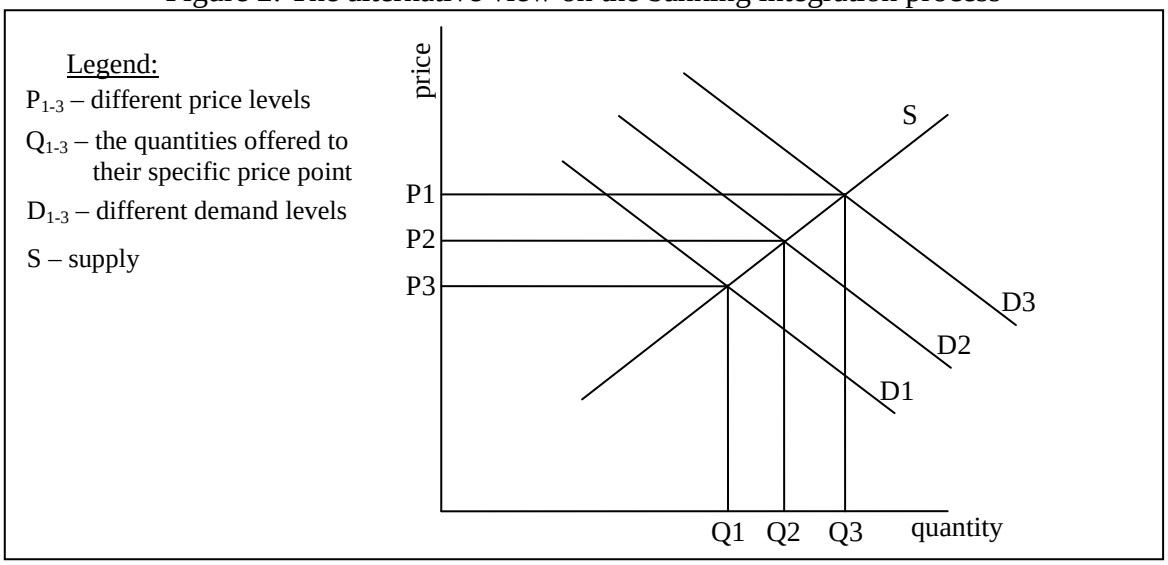


Source: author's simulation based on Affinito et Farabullini (2009)

In order to underline this we have used the methodology set forth by Gropp et Kashyap (2009) in their research. Thus, in figure 1, we have emphasised the way in which the standard banking integration process takes place through the testing of the law of one price, using a graphical representation for the equilibrium point between demand and supply. This approach starts from the premises that there is a single demand curve (that is the same in every market and for every type of costumer) and a series of different supply curves. The classical view of the European banking integration process starts from the premises that in a market there are several price levels for a single product (in our case the levels P1, P2 and P3 from graph 1), this underling the existence of a segregated market and the lack of integration. According to the definition put forward by the European Central Bank, the equal and without discrimination treatment of costumers in this market will not be possible, because similar products have different prices.

The logic behind the definition of the European Central Bank is that in the case of a common set of regulations, the supplier S1 would be the one who will capture the whole market, because is offering the lowest price for its products and services. In this context the supplier must provide the quantity Q3 and the equilibrium price would be set at the P3 level. *In this context we consider that the testing of the law of one price should provide and comprehensive look on the financial integration process*.

Figure 2: The alternative view on the banking integration process



Source: author's simulation based on Affinito et Farabullini (2009)

If we analyse figure 2 we can observe also the existence of several price levels (P1, P2, P3). But in this case there is a single supply curve, and the breach of the law of one price is determined by the incapacity to observe the heterogeneity that exists in the case of the demand. The variation of demand can be a preference function, influence by risk characteristics and other factors specific to each market (which can be different from one market to another). In this case, all the conditions set forward by the definition for financial integration of the European Central Bank could be fulfilled.

Thus, the testing of the law of one price starts from the hypothesis that the demand for banking products is homogenous in all of the analysed countries. If there is a high enough level of harmonisation between the analysed countries all the factors which could lead to the breaching of the working hypothesis than this situation could be concluding enough in order to carry out the study completely. Still we must take into account that there are significant differences that exist in the European Union among member states which could influence these results. For example, the corporate taxes are significant different and also the way in which they are imposed, this fact being underline in the academic literature (Minz, 2006). Also, like we have mentioned before, the effects of the financial and economic crisis which started in 2007 have impacted different the EU member states, and especially the new member countries, this fact being underlined also in the way interest rates have evolved in these countries. We can thus conclude the fact that the demand for banking credits cannot

be equalised in the case of the EU member states and implicitly the convergence between the interest rates is rather limited.

Beside these problems there is a large academic literature which underlines the differences that exist between corporate governance standards among new EU member countries and implies that there could be gained a series of benefits from controlling agency costs that arise because of direct financing. These evolutions generate in our opinion another series of variations regarding the way in which firms are financed and banking institutions are operating.

In the moment in which we recognise the existence of a series of national differences in regard to the way banking products and services are demanded in the European Union, the underling of the progresses made in the banking integration process becomes more difficult. The academic literature regarding price discrimination, which was prompted by the research of Varian (1985), implies the existence of a series of price differences in the context of demand differences at national level. This situation can lead to series of dispersion effects on the efficiency and wellbeing of those banking markets.

In order to underline even more these differences we could consider that their main source is represented by the variation of the costs that clients must cover in the moment when they are searching for financing sources. This scenario seems extremely plausible taking into account the multitude of banking products that exists. In this context a good part of the academic literature based on the research undertaken by Salop et Stiglitz (1982) becomes extremely relevant in this case. These spatial competition models describe the conditions in which price distortions cad appear for identical goods in equilibrium conditions. In this case even at country level the prices (in our case the banking interest rates) are not converging. We must also note the fact that in these models, the financial institutions will enter the market and will determine a drop in the profitability level until this reaches the entry price. Thus, at the market level there will be no inefficiency, despite the existence of price dispersions.

Because such reasons we consider that the usage of a series of alternative measuring methods regarding the European banking integration process represents a good alternative to the testing of the law of one price.

The research undertaken by Stigler (1963) has determined the development of a whole academic literature subject regarding the organisation of the industrial activities based on the fact that in the equilibrium situation (meaning that markets are fully functional) the return on comparable assets in an economy should be the same. The empirical analysis of Stigler (1963) and also the following on this topic like the one of Fama et Franch (2000) have been carried out on the case of non-financial institutions. The paper of Gropp et Kashyap (2009) represents the first paper that applies this type on analysis on the case of banking institutions. In is also our opinion that the caring out of such researches regarding the convergence of the return on assets is appropriate, especially in the case of the new EU member countries, and in adverse conditions like the ones today, where the impact of the global crisis has determined in an exogenous manner the raise of the interest rates dispersion in the EU, making the testing of the law of one price rather inappropriate.

The convergence should appear only in the case when the structure of the banking sectors from the analysed countries allows: 1) the contestability of the markets and 2) the market for corporate control will function efficiently. Despite the fact that these components weren't taking into account in the efforts regarding the integration of the banking sectors from the new member states, they represent to extremely important preconditions for the achievement of the general equilibrium in an integrated market. Moreover, if these two preconditions were fulfilled then the implications on the evolution of ROA will have bee extremely visible. Thus, if a bank would gain additional profits from the fact that it holds a dominant position in a country, that bank would diminish these extra profits until it will reach the equilibrium level in order to prevent other participant from entering that market and contesting it position. The same argument can be made in the case when a bank is underperforming, this bank will be taken over by a competitor which will raise it efficiency and thus bring it closer to the equilibrium level.

We must underline the fact that the existence of contestable markets and that of a market for corporate control represent two necessary and sufficient conditions in order for the banking integration process to take place. Considering the previous example of the monopoly situation in which a single bank would provide products and services in the whole European Union, the definition of the European Central Bank would be fully respected if this bank would be faced with the possibility of a

hostile takeover from a competitor outside the European Union and thus it will provide products and service at the best possible price in order to prevent any outside interferences. The profit margins will implicitly converge in this case the market will become implicitly integrated. Contrary, if there will be no pressure from an outside investor and there weren't the possibility that the market could be captured, the prices will be different according to the location and/or above the marginal cost. In this case the profit margins would not converge and implicitly we could consider that the market is not integrated.

In a similar way the models developed based on the research of Salop et Stigler (1982) regarding spatial competition are also emphasising the possibility of free entry to a market as a mechanism of obtaining equilibrium. In this model, the banks chose to extend their operations so that profits are diminished until they reach the level of the entry costs. Taking into account the relative homogeneity of the banking regulations in the European Union this will lead to a convergence of the rate of returns.

In an empirical way we will use the convergence of the return of assets of the banks which operate in the new member states, using a variation of the classical partial adjustment equation. Starting from rational expectations we will use the ex-post values as a replacement for the expected returns (e.g. Cochrane, 2001), using a modified version of the partial adjustment equation which was proposed by Gropp et Kashyap (2009):

$$\Delta ROA_{it} = \alpha + \lambda \Delta ROA_t^* - \beta \Delta ROA_{it-1} + w_{it} \quad (1)$$

where:
ROA_{it} – is the value of the return on assets at moment t for bank i;
ROA_t* - is the value of the return on assets to which all the banks should converge at the moment t if the market was fully integrated;
ROA_{it-1} – is the value of the return on assets at moment t-1 for bank i;
λ – is the speed of convergence for the return on assets to the proposed optimal value in case of an integrated market.

4. Data

The analysis which we have undertaken has been based on the book value of the assets (this being in our opinion the correct approach rather than taking into account the market value of these). This approach is based on a series of considerations related to our sample. On the one hand an important element in this approach is represented by the structure of the banking sector from the new member states. Thus, the number of banking institutions listed on the different stock exchanges from these countries is relatively low. If our research would have been focused only on these type of banks than our sample will have been rather irrelevant in the case of the analysed countries. On the other hand we must acknowledge the fact that constant evolution process to which the listed banks are subject to determines a convergence of their profitability rates, regardless of the degree of European financial integration achieved. The aim of our research is to underline the convergence of the operational performances (of the cash flows determined by a given value of the assets) and not the underling of the well functioning of the stock exchanges. Thus, the measurements done by us are informative only when we are using the book value of the banking assets.

The database that we have used consists of the banks located in: Bulgaria, Latvia, Estonia, Lithuania, Poland, Romania, Slovenia, Slovakia and Hungary. We have removed from the sample Malta and Cyprus due to the extremely small size of these countries as well as due to the fact that the economies of these countries haven't had to cross a period of transition to the market economy. This made the remaining countries from our sample to share the most common features at the macroeconomic level. We have used a series of data from the unconsolidated and consolidated balance sheets of the banks from these countries that are available in the database Bankscope. In a first stage we have removed all the banks that were included in the consolidated accounts of other banks. We have used as observation period the range 2002 - 2009. We have also removed from our sample the

banks whose asset was zero or negative, which didn't displayed the profits after tax, the total loans granted to customers, the total deposits, the interest incomes as well as the operating expenses.

Table 1: The composition of the analyzed sample

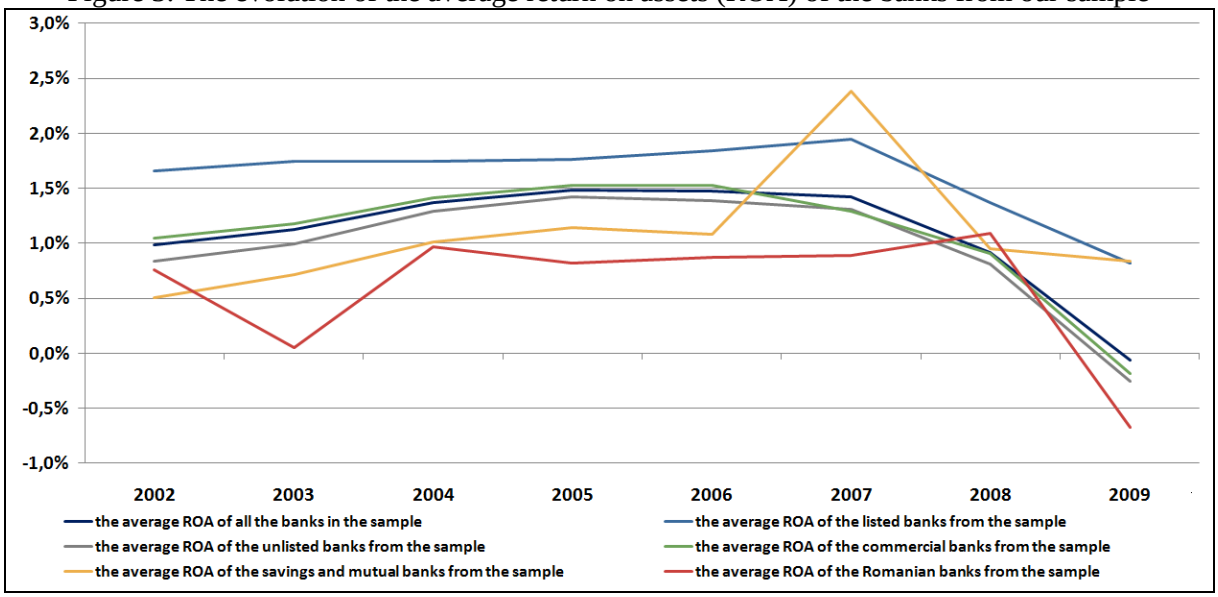
Country	Number of observations	Number of banks	Percentage of total sample
Bulgaria	161	23	12,43%
Czech Republic	140	20	10,81%
Estonia	42	6	3,24%
Latvia	133	19	10,27%
Lithuania	56	8	4,32%
Poland	252	36	19,46%
Romania	175	25	13,51%
Slovakia	84	12	6,49%
Slovenia	112	16	8,65%
Hungary	140	20	10,81%
TOTAL	1295	185	100,00%
Listed banks		33	17,84%
Unlisted banks		152	82,16%
Commercial banks		163	88,11%
Saving and mutual banks		22	11,89%

Source: author's simulation based on Bureau Van Dijk - Bankscope data (https://bankscope2.bvdep.com)

5. Empirical findings

Figure 3 presents the evolution of the rate of return on assets (ROA) at the level of our sample, while emphasizing at the same time the evolution at the level of a series of sub-samples: the listed banks, the unlisted banks, the commercial banks, the savings and cooperative banks and not least the sample of the banks operating in Romania (using an alternative approach based on return on equity rate - ROE does not lead to a fundamentally different simulation from that already presented).

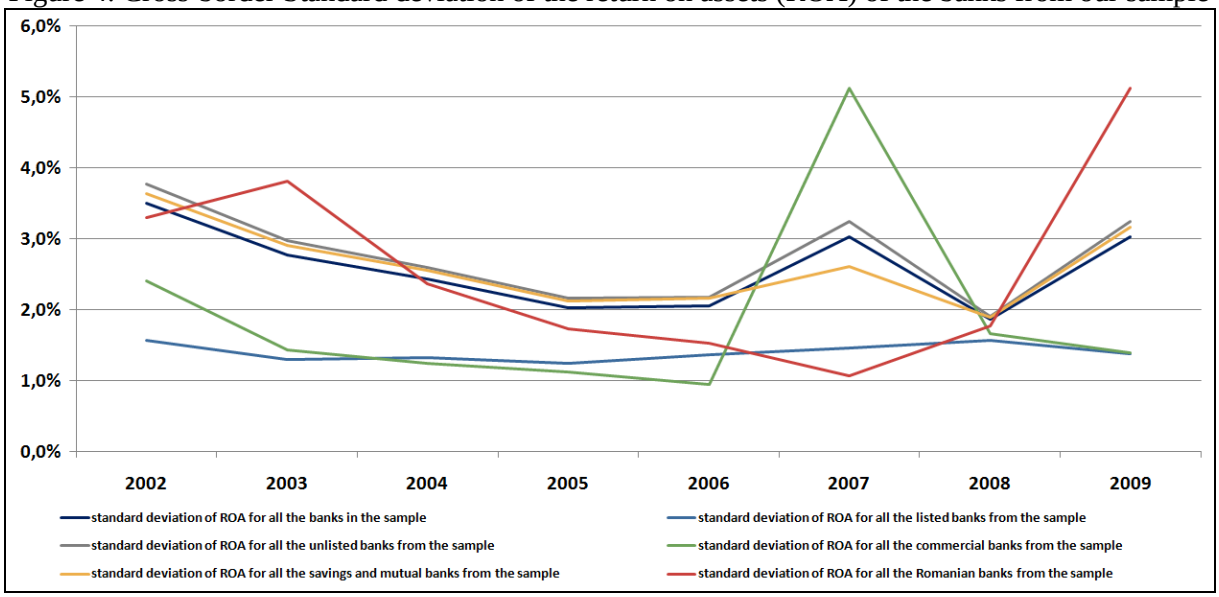
Figure 3: The evolution of the average return on assets (ROA) of the banks from our sample



Source: author's simulation based on Bureau Van Dijk - Bankscope data (https://bankscope2.bvdep.com)

Thus, figure 3 shows that there are substantial differences regarding the evolution of the rate of return on assets at the level of the various types of analyzed banks: listed banks tend to register the highest value for this indicator, while savings banks and cooperative banks tend to register the lowest value, except for the year 2007 when they were able to achieve higher returns, mainly due to the outbreak of the international financial turbulence as well as due to their activity profile. In Romania's case, the analyzed sample of banks has obtained an average return on assets below the one registered by the new Member States, reflecting the relatively high degree of competition registered at the level of this markets as well as the inability of banks to make investments that generate higher returns. It is obvious that at the level of the sub-samples is not recorded any convergence tendency, surprisingly the listed banks managing to achieve a higher rate of return on assets than the unlisted banks and the saving and cooperative banks, despite the fact that according to the academic literature the position of these banks is more exposed. We must also take into consideration the fact that listed banks are under a strong pressure from the shareholders part to get positive results, which may partly explain this development.

Figure 4: Cross-border Standard deviation of the return on assets (ROA) of the banks from our sample



Source: author's simulation based on Bureau Van Dijk - Bankscope data (https://bankscope2.bvdep.com)

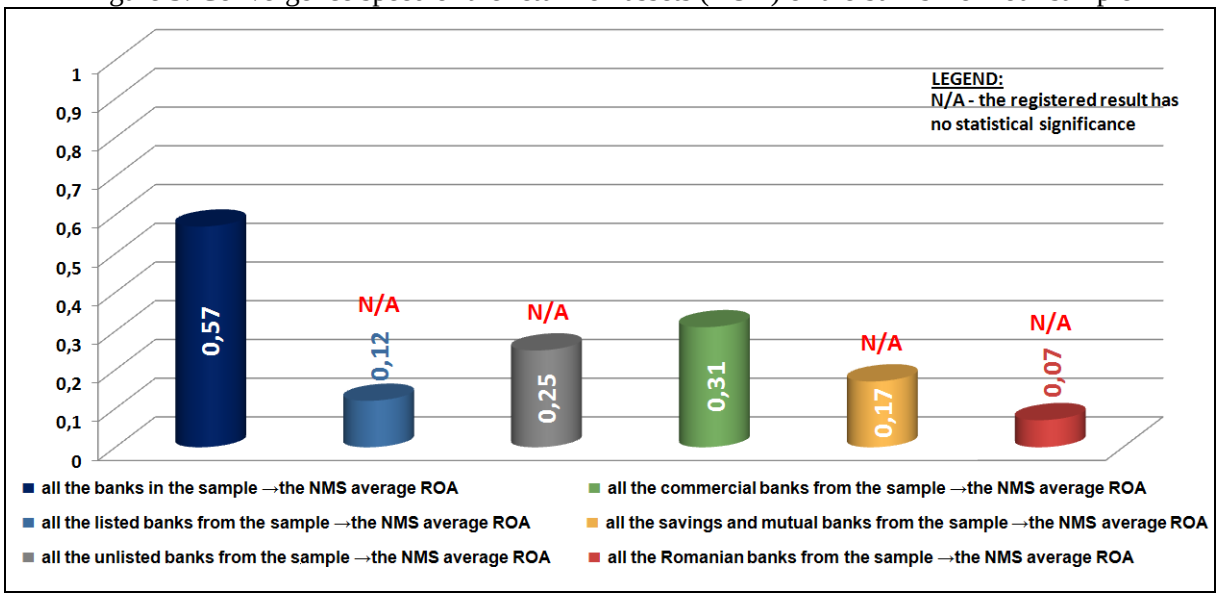
Within figure 4 we have presented the cross border dispersion in the case of the different sub-samples. In the case of the listed banks, it can be seen that during 2002-2006 the dispersion of the return on assets rate has decreased and since 2007, in the light of the financial crisis, there has been a turning within this development. The value achieved in 2008 cannot be attributed to the European integration process, but rather to the fact that in that year most banks have recorded low or even negative returns, which led to the decrease of the dispersion. In the case of Romania, the evolution of the dispersion was relatively uniform in the period before the crisis, stressing the fact that despite the increasing number of banks present on the banking market in general and on the retail market in particular, the dispersion has recorded a sustained growth, which allowed the preservation of the return on assets rates almost unchanged. It can be noted that against the background of the financial crisis and of the subsequent economic crisis, the registered dispersion increased spectacularly.

Within figure 5 and table 2 are presented the results of the estimations made on the speed of convergence of the return on assets rates, for the banks in the sample, to a common value (ROA_t^*). We can notice that in the case of the entire sample the speed of convergence is of 0.57, a value extremely high, especially if we consider on the one hand the macroeconomic environment in which the banks from the sample operate and on the other hand the quite different business models that they use.

If we focus the analysis on the listed banks from the sample, we can see that in spite of the strong competitive pressure, the pressure to obtain higher rates of return on assets as a result of possible takeovers is almost nonexistent, as evidenced by the relatively low degree of convergence

speed. Basically, these results point out that in the case of the new member states, the number of listed banks is extremely low, most of these institutions having dominant positions within the domestic banking market and being part most of the time from pan-European banking groups, which reduces almost to minimum any possibility of takeovers as a result of an inefficient use of the available resources.

Figure 5: Convergence speed of the return on assets (ROA) of the banks from our sample



Source: author's simulation based on Bureau Van Dijk - Bankscope data (https://bankscope2.bvdep.com)

Table 2: Summary results regarding the statistical significance of the achieved convergence speed for all the subgroups taken into consideration

Independent variables ROA_{it}⇨	All the banks from our panel	All the listed banks from our panel	All unlisted banks from our panel	All commercial banks from our panel	All savings and mutual banks from our panel	All Romanian banks from our panel
ΔROA_t^*	0,571	0,127	0,253	0,312	0,171	0,073
	(0,147)	(0,015)	(0,029)	(0,103)	(0,012)	(0,031)
Constant	0,000	0,0003	0,0004	0,0007	0,0002	0,0005
	(0,000)	(0,0001)	(0,0009)	(0,0001)	(0,0004)	(0,0008)
R^2	0,070	0,047	0,068	0,091	0,072	0,042
N	1110	198	912	978	132	150
No of banks	185	33	152	163	22	25

Note: 5% significance level estimations; ROA_{it} – represents the first difference between the mean of ROA for the whole sample; ΔROA_t^* - is the value of the return on assets to which all the banks should converge at the moment t if the market was fully integrated.
Source: author's calculations

Concluding remarks

We can say that despite the existence of a series of signals confirming the existence of a process of integration at the level of the banking sector from the new member states, much of these developments are determined by local factors, namely in the present analysis by the local competitive environment, and to a lesser extent by the cross border competitive pressures. Also the financial and economic crisis influences tremendously the obtained results, in some cases changing completely the dynamic of the recorded integration process. These results confirm and strengthen the results obtained

through testing the law of one price at the level of the banking sector from the new member states, and emphasizes that the currently existing gap in the process of integration is due rather to the factors related to the macroeconomic environment of each country and to a number of cultural barriers that hinder the free entry on the market.

We can conclude that the integration process of the banking sectors from the analyzed countries is a present process which fell short of expectations. However, we must underline the fact that the deepening of banking integration process in the case of these banking sectors, and at the European Union level in general depends now much more on the decisions of the market players and also to some collateral factors and to a lesser degree to issues which can be regulated and harmonized away by pan-European legislation initiatives. *This is the reason why we consider that the integration and development of these banking sectors is a process still underway, far from being complete, which has just entered in the fundamental changes phase, which will take some time to be achieved but surely will provide greater benefits.*

References

ADAM, K. JAPPELLI, T. MENICHINI, A. PADULA, M. et PAGANO, M. (2002). *Analyse, compare, and apply alternative indicators and monitoring methodologies to measure the evolution of capital market integration in the European Union*. Working Paper Series. Fisciano: Centre for Studies in Economics and Finance, University of Salerno.

AFFINITO, M. et FARABULLINI, F. (2006). *An empirical analysis of national differences in the retail bank interest rates of the euro area*. Temi didiscussione 589. Rome: Bank of Italy.

BAELE, L.M. FERRANDO, A. HORDAHL, P. KRYLOVA, E. et MONNET, C. (2004). *Measuring financial integration in the euro area*. Occasional paper no. 14. Frankfurt: European Central Bank.

EUROPEAN CENTRAL BANK, (2008). *EU banking structures*. Annual reports series. Frankfurt: European Central Bank.

EUROPEAN CENTRAL BANK, (2011). *Financial integration in Europe*. Frankfurt: European Central Bank.

CABALLERO, R. J. et EDUARDO, E. (2004). *Adjustment is much slower than you think*. Center discussion paper no. 865. Yale: Economic Growth Centre Yale University.

CABRAL, I. DIERICK, F. et VESALA, J. (2002). *Banking integration in the euro area*. ECB Occasional Paper Series 6. Frankfurt: European Central Bank.

COCHRANE, J. H. (2001). *Asset Pricing*. Princeton: Princeton University Press.

FAMA, E. F. et FRENCH K.R. (2000). Forecasting Profitability and Earnings. *Journal of Business*, vol. 73, no. 2, pp. 161-175.

GROPP, R. et KASHYAP, A. (2009). *A New metric for banking integration in Europe*. NBER Working Paper 14735. Cambridge: National Bureau of Economic Research.

GUAL, J. (2004). *The integration of EU banking markets*. Discussion paper series no. 4212. London: Centre for Economic Policy Research.

KÖHLER, M, (2007). *M&A control as barrier to EU Banking market integration*. Discussion Paper No. 07-082. Mannheim: Zentrum für Europäische Wirtschaftsforschung.

KÖHLER, M, (2009). *Transparency of Regulation and Cross-Border Bank Mergers*. Discussion Paper No. 08-009. Mannheim: Zentrum für Europäische Wirtschaftsforschung.

MINTZ, J., (2006). *The 2006 Tax Competitiveness Report: A Proposal for Pro-Growth Tax Reform*, C.D. Howe Institute Commentary no. 239, September 2006. Toronto: C.D. Howe Institute.

PÉREZ, D. SALAS-FUMÁS, V. et SAURINA, J. (2005). *Banking integration in Europe*. Documentos de Trabajo No. 0519. Madrid: Banco de Espana.

SALOP, S. et STIGLITZ J. E. (1982). The Theory of Sales: A Simple Model of Equilibrium Price Dispersion with Identical Agents. *American Economic Review*, vol. 72, no. 5, pp. 1121-1130.

STIGLER, G. J. (1963). *Capital and Rates of Return in Manufacturing Industries*, Princeton: Princeton University Press.

VARIAN, H. (1985). Price discrimination and social welfare. *American Economic Review*, vol. 75, no. 4, pp. 870-875.