REGIONAL ECONOMIC INTEGRATION AND NATIONAL FINANCIAL SUPERVISION. A COMPARATIVE STUDY

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ABSTRACT: The paper analyses the case of some regional economic integration areas in order to find common aspects concerning the organization of national financial supervision. More exactly, starting from the European Union case, where reforming the European financial supervision system is an important topic, as well as the reform of the national supervisory frameworks, we extended the analysis to some other regional economic integration areas (in North America, Asia and Africa). Our research objective is twofold: to look for patterns, if the regional economic integration favours a certain form of national financial supervision and if, correlated with the level of economic integration, there is a preoccupation to create a supra-national supervision system. Our results show that there is no correlation between the level of regional economic integration and the structure of financial supervision.

Keywords: economic integration, financial supervision, EU, NAFTA, ASEAN, Mercosur, WAEMU

JEL Codes: E44, F36, G18

Introduction

The development of the financial system, the financial innovation and the closer links between the segments of the financial markets (among other factors), determined, in the last decades, countries worldwide to create an integrated approach, an institution created especially for the supervision of the entire financial market, rather than the sectoral approach. In the European Union for example, preoccupations for improving the financial supervision, both at national level and for creating a better framework at Union’s level intensified after year 2000; the financial crisis forced countries and European institutions to concentrate in solving the problem. Moreover, in an economic and monetary union, with a high degree of financial integration and free movement of capitals, the “financial stability trilemma” formulated by Dirk Schoenmaker (Schoenmaker, 2008) shows that there is an incompatibility (a potential disequilibrium) between the national supervision, free movement of capital and financial stability. It results that such more advanced economic integration areas, where exists the free movement of capitals, should implement supranational financial supervision, in order to preserve the financial stability.

Despite the (relatively) recent trend of integrated supervision, different countries use different financial supervision models; empirical studies show that the existence of a single optimal model is an artefact. The main reasons are related to historic conditions, distinctive opportunities, political structure and traditions, country size, financial system structure and development. As result, according to the specific (particular) needs, there are several popular combinations in the national architecture of financial supervision, like: unified supervisory structures which cover the three principal sectors, integrated supervisory entities that monitors two of these segments and integrated supervisory agencies that cover the entire area of supervisory functions - integrated supervisory agencies that cover only some supervisory functions; integrated supervisory agencies which are placed in the central bank - integrated supervisory agencies which are independent of the

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latter. Čihák and Podpiera (2008) provide a deep analysis and structure the different national supervisory arrangements, providing the advantages if each of them.

The arguments which support integrated supervision are linked to efficiency and the continuous development of financial conglomerates and financial innovation. In the EU case, one can notice not only that the supra-national financial supervision is sectoral (as part of the European System of Financial Supervisors), there are not only three entities, but also (maybe symbolic, in order to highlight the segmentation), in three different locations\(^3\), in three countries: The European Banking Authority located in London, European Securities and Markets Authority located in Paris, and European Insurance and Occupational Pensions Authority headquartered in Frankfurt.

The objective of this paper is to empirically examine the impact of economic integration and consequently the financial market structure in several countries around the world with different financial supervisory systems. More specifically, the purpose of this paper is to investigate financial supervision’s framework in different forms of economic integration (free trade agreements, economic unions, monetary unions) in order to: identify if there is a correlation (switch) between the financial development and the financial supervision regime and implicitly to identify if there are similitudes in supervisory regimes in different economic integration areas.

We conducted our research firstly because the stability of the financial system is a significant factor for economic development worldwide, and given the current financial crisis it is important to research the institutional architecture for financial supervision, since it has always evolved in response to crises. Secondly, all the countries in the sample are members or of a monetary union (Euro area, WAEMU) or of a trade agreement (NAFTA), a common market (Mercosur) or of an extensive region (MENA) or of an economic and political union (European Union, ASEAN) and over the last years are facing a deeper integration of financial markets. Thirdly, an important number of countries included in the sample started reform projects for the national financial supervisory structures, or established new supervisory systems.

Our findings suggest that there are not important differences on financial system’s indicators from different types of supervisory regimes, however, the integration of the national supervision structures can be observed especially in the developed countries.

This paper is structured as follows: Sections II includes the literature review; Section III describes briefly the changes in the financial supervision regimes in the analyzed regions, Section IV explains the data and the methodology used, meanwhile Section V discusses the empirical results. Section VI concludes.

**Literature Review**

In the academic area there are various studies analysing the integrated financial supervision at national level, focusing on the model adopted, on certain countries or comparison between them. Barth et al. (2002) highlighted that bank’s performance is not influenced by the structure of financial supervisory authorities. Masciandaro (2004) emphasizes that an increase in the degree of concentration of supervisory powers is obvious in EU developed countries. Čihák and Podpiera (2008) found a positive linkage between the existence of a single national supervisor for the financial system and superior quality of supervision and better consistency of supervision across sectors. Also, Masciandaro (2007) demonstrated the indirect nexus between central bank participation in the financial supervision and its reputation, on one part and the unification level in national financial supervision, on the other part, and vice versa. Furthermore, Pellegrina and Masciandaro (2008) stated that better institutional governance, more efficient judicial systems and

\(^3\) Green member of the European Parliament, Sven Giegold considered “illogical and inefficient” the decision of the EU Council, the three supervisors “to be scattered” in three different cities. The EU “tradition” is that the EU agencies will be headquartered in EU countries, not in Brussels, but maybe, headquartering all three of them in the same city would be considered a good signal for the financial market, about the coordination perspectives of the three separate entities.
lower levels of corruption, are related with the integrated financial supervision. Monkiewicz (2007) argues that each jurisdiction has to maintain supervisory system independence, accountability, transparency, integrity and market responsiveness.

A large body of literature is dedicated to the problem of financial supervision at EU level, in order to find the most appropriate framework for the supra-national financial supervision; among others, some important works are Eijffinger (2001), Di Giorgio and Di Noia (2001), Schoenmaker (2003), Di Giorgio and Di Noia (2005), Garicano and Lastra (2010), Masicandaro (2010).

On the European continent, Quaglia (2008) highlighted that countries like UK and Germany, with a higher number of financial conglomerates and numerous international financial operators (as main financial hubs in Europe) had higher advantages from switching to a single financial supervisor, compared with Italy, where the financial system was rather segmented. Wyneersch (2007) analysis the characteristics of the supervisory models, identifying the determinant factors for choosing one or other, as well as the pros and cons, evaluating the current situation in the EU States. Prohaska (2006) sustains the introduction of a single supervising institution for the entire Croatian financial system, under the circumstances of a more sophisticated financial market, and following supervision consolidation. Moreover, Athanassiou (2006) argues that in Cyprus an integrated approach of the financial system supervision is required.

Reaching to the Asian level, Jung (2006) concludes that the existence or lack of on-going public attention to dismantling the previous invested interests was regarded as one of the primary causes of different directions in the case of South Korea and Japan’s financial supervision system. Kim and Lee (2006) states that there is no direct correlation between the reform of the financial supervisory architecture and Korea’s rapid economic recovery, this being particularly the result of the governments’ expansionary macroeconomic policy. Siregar and James (2006) argue that Indonesia needs the establishment of a single financial supervisor.

Even if the concentration of the literature about financial supervision at regional level is obviously higher, there are several studies concentrating in different other countries, but also concentrating in some other regional economic integration areas, rather than European Union. Lee and Park (2009) analyze the financial regulatory reform in emerging Asia, including countries members of ASEAN. Goelstom and Harun (2010) concentrate in the banking system regulatory reform for the ASEAN countries and also realize a comparison with the European Union banking system. Honohan and Beck (2007) focuses their analysis on the African continent, investigating the financial integration, the regulatory and supervisory framework, dedicating a large space for WAEMU. They highlight that there is a single bank supervisor, a single banking law and a single set of prudential norms in the entire WAEMU area, and as result, banks could operate in all member countries with one single permit, even if they do not take this advantage in practice. Frey and Volz (2011) analyze the regional financial integration in Sub-Saharan Africa, in order to demonstrate its importance for the financial market development in the region.

A brief review of changes and trends in financial supervision worldwide

In the last twenty years, mutation in the national financial system, such as deregulation, globalization of financial markets, disintermediation, and technological change, had a direct impact on the financial supervisory architecture. Therefore, partly in response to the increased consolidation and integration in the financial sectors, the number of changes in the financial supervision has grown rapidly.

Worldwide, national authorities embraced diverse structures for the financial supervisory institutions, in search of higher quality and effectiveness.

In this sense, the recent history of creation a single supervisor for the entire financial sphere begins with Singapore, which took the lead in 1982, followed by Norway (1986) and six other European states namely, Iceland (1988), Denmark (1988), Sweden (1991), United Kingdom (1997), Austria (2002), and Germany (2002). According to Herring and Carmassi (2008), the restructuring
of the financial supervision in United Kingdom influenced other countries, because of its role in the international financial system. Damaestri and Guerrero (2005) assert that for the Scandinavian countries, the implementation of a single regulator for the entire financial system was the result of a natural evolution, and the reform was implemented taking into consideration the advantages and costs of such an institutional integration. Regarding the countries outside Europe, a unified agency was established in Republic of Korea (1997), Australia (1998), Kazakhstan (1998), Japan (2001), and a number of other countries. The end of 2010, there were around 49 integrated financial supervisory agencies in the entire world, of which about half were in Europe. In the analysed countries, the types of supervising the three main segments of the financial market are displayed in Table 1.

Table 1. Financial supervision in analyzed countries

<table>
<thead>
<tr>
<th>Full sectoral integration</th>
<th>Partial sectoral integration</th>
<th>Multiple Sectoral Supervisors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Banks and securities</td>
<td>Banks and insurance</td>
</tr>
<tr>
<td>Austria</td>
<td>Finland</td>
<td>Canada</td>
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<td>Belgium</td>
<td>Luxembourg</td>
<td>Colombia</td>
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<tr>
<td>Estonia</td>
<td>Lebanon</td>
<td>Ecuador</td>
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<tr>
<td>Germany</td>
<td>Libya*</td>
<td>Peru*</td>
</tr>
<tr>
<td>Ireland</td>
<td>Lao PDR*</td>
<td>Saudi Arabia</td>
</tr>
<tr>
<td>Malta*</td>
<td>Malaysia*</td>
<td>Bulgaria*</td>
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<tr>
<td>Netherlands*</td>
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<tr>
<td>Slovak Rep.*</td>
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<td></td>
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<tr>
<td>Uruguay*</td>
<td></td>
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<tr>
<td>Qatar</td>
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<tr>
<td>Brunei</td>
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<tr>
<td>Singapore*</td>
<td></td>
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<tr>
<td>Czech Rep.*</td>
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<tr>
<td>Denmark</td>
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<tr>
<td>Latvia</td>
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<td>Poland</td>
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<tr>
<td>United Kingdom</td>
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<td>Sweden</td>
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<td>Hungary</td>
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</tbody>
</table>


* Banking supervision is conducted by the central bank.

Our sample is composed by different regional integration blocks, and thus, we are also interested to see if there is a coordinated financial supervision. It is expected that incipient forms of economic integration, targeting more the economic cooperation and especially the free movement of merchandises, like the free trade agreements, will suppose only the national financial supervision, and we will not find any elaborated supra-national structure for financial supervision.

In ASEAN, as supranational structures for coordination there is the South East Asia Central Banks (SEACEN). In 2010, central banks from five major member countries (Indonesia, Malaysia, Singapore, Thailand and the Philippines) were interested to develop a multilateral cross border
financial supervision agreement, aiming to safeguard the national markets from negative impacts of surging capital inflows.

In the WAEMU region, all the countries have a Regional Council for Public Saving and Financial Markets (Conseil Regional de l'Epargne Publique et des Marchés Financiers - CREPMF) as an agency for supervising the securities market, Inter-African Conference on Insurance Markets (Conférence Interafricaine des Marchés de l’Assurance - CIMA), the regional insurance regulator, the Inter-African Conference on Social Security (Conférence Interafricaine de la Prevoyance Sociale - CIPRES), which supervises the national social security systems, Central Bank of West African States (Banque Centrale des Etats de l'Afrique de l'Ouest - BCEAO) for supervising banking activity, as well as supranational banking supervisor: Banking Commission of the West African Monetary Union. This is the sole banking regulator and supervisor for the entire area, this being an interesting particularity. This regional body, established in 1990, replaced the national commissions that supervised the financial sector in each country before (Honohan and Beck, 2007, p. 79).

Data and Methodology

There is no clear point in the literature of whether fully integrated financial supervision leads to better quality of financial system supervision. Therefore, the fact that countries with full integrated financial supervisor architecture have a higher quality of supervision is our research hypothesis. We choose several explanatory variables, and in particular the level of economic development. In the following, using data available in December 2010, extracted from World Development Indicators (WDI), World Bank, we provide an empirical examination of the above mentioned hypothesis, using a cross-section sample of 74 countries.

Data

We have data on national supervisory architecture from 74 economies, members of different economical and geo-politic organizations, with different financial supervisory regimes.

1. countries members of an extensive region, MENA (Middle East and North Africa) - 17 countries: Algeria, Bahrain, Egypt Arab Rep., Iran Islamic Rep., Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, United Arab Emirates, Yemen Republic;
2. countries members of a trade agreement, NAFTA (North American Free Trade Agreement) - 3 countries: United States of America, Mexico, Canada;
3. countries members of a common market, MERCOSUR (Common Southern Market) - 9 countries: Argentina, Bolivía, Brazil, Chile, Colombia, Ecuador, Paraguay, Uruguay, Peru;
4. countries members of an economic union, ASEAN (Association of Southeast Asian Nations) - 10 countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam;
5. countries members of an economic and monetary union, EU (European Union)⁴ - 27 countries: Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Spain, Slovak Republic, Slovenia, Sweden, United Kingdom;
6. countries members of a monetary union WAEMU (West African Economic and Monetary Union) - 8 countries: Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo.

⁴ We need to separate the 17 “in” countries, members of the euro area, and the 10 “out” countries that still did not adopted euro as national currency.
In our model, the vector of explanatory variables for the 74 analyzed countries consists of the five factors from the list of economic indicators, i.e. Gross Domestic Product per capita, Consumer Prices Index, banking assets/GDP, net foreign assets, market capitalization/GDP. We selected the indicators for comparing the financial market development (bank and capital market) to the degree of economic development of the respective state, in order to emphasize the relative relation between different financial supervisory regimes and the evolution of the analyzed markets.

We chose to apply this model on several regional economic integration blocks, which consists in Euro Zone, WAEMU, NAFTA, Mercosur, MENA and ASEAN, in order to check if there is a common pattern in what regards the financial supervisory regime, taking into account the common political characteristics and also the geographical proximity for the countries in the group.

**Methodology**

Following Stoica et al. (2011), we choose a binary variable as the dependent one, where 1 means a fully integrated financial supervision and 0 other cases, and the same for the other types of supervision. The logit model is calculated as follows:

\[
P = F(Z) = \frac{1}{1+e^{-z}} = \frac{1}{1+e^{-\alpha - \beta X}}
\]

where

- \( P \) is the probability that \( Z \) takes the value 1 and \( F \) is the cumulative logistic probability function,
- \( X \) is the set of regressors,
- \( \alpha \) and \( \beta \) are parameters.

Regression equation (1) is equal to:

\[
\ln \left( \frac{P}{1-P} \right) = Z = \alpha + \beta X
\]

We perform a binomial logit model using the set of determinants of degree of development of financial system in order to answer the question of what probability different supervisory regimes have an impact on the economic indicators in the analyzed countries, members of some regional economic integration blocks.

The first control variables are GDP per capita and Consumer Price Index to test for the effect of the economic size of the country and its level of economic development (the economic factor). Second, we check if the development of the financial markets, measured by the level of market capitalization/GDP, the size of the banking system, measured by banking assets/GDP, and the entire financial system reported to the GDP has an impact on the type of financial supervision. Finally, we verify the impact of foreign investments in the financial system, using net foreign assets/GDP.

**Empirical results**

We ranged the supervisory regimes trying to emphasize the differences between them by number of the institutions involved: full integrated (single supervisor), partial integrated (at least one authority monitor for more than one sector), sectoral (separate authorities for each sector, at least one per sector). Among the analysed countries, the situation is as follows:

1. MENA (17): 12 multiple sectoral supervisors, 4 partial sectoral integration, 1 full sectoral integration,
2. NAFTA (3): 2 multiple sectoral supervisors, 1 partial sectoral integration, 0 full sectoral integration,
3. ASEAN (10): 6 multiple sectoral supervisors, 3 partial sectoral integration, 1 full sectoral integration,
4. MERCOSUR (9): 4 multiple sectoral supervisors, 4 partial sectoral integration, 1 full sectoral integration,
5. WAEMU (8): 8 multiple sectoral supervisors (all cases);
6. EU (27): 9 multiple sectoral supervisors, 3 partial sectoral integration, 15 full sectoral integration, Euro area (17): 7 multiple sectoral supervisors, 2 partial sectoral integration, 8 full sectoral integration.

In total, in 41 cases (among the 74 countries analyzed), there is a sectoral supervision, 15 with partial sectoral integration and only 18 with full sectoral integration.

In the table below we estimated in the direct way the probability that the supervision type might be influenced by the real economy or by the financial system, taking into consideration the reminded variables.

Table no. 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking assets/GDP</td>
<td>1.494105</td>
<td>1.731482</td>
<td>0.862905</td>
<td>0.3882</td>
</tr>
<tr>
<td>CPI</td>
<td>-0.007947</td>
<td>0.004532</td>
<td>-1.753570</td>
<td>0.0795</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>7.13E-05</td>
<td>3.46E-05</td>
<td>2.060472</td>
<td>0.0394</td>
</tr>
<tr>
<td>Market capitalization/GDP</td>
<td>0.014435</td>
<td>0.028896</td>
<td>0.499536</td>
<td>0.6174</td>
</tr>
<tr>
<td>Net foreign assets/GDP</td>
<td>-1.42E-13</td>
<td>4.57E-13</td>
<td>-0.310660</td>
<td>0.7561</td>
</tr>
<tr>
<td>Financial system/GDP</td>
<td>-1.494122</td>
<td>1.731268</td>
<td>-0.863022</td>
<td>0.3881</td>
</tr>
</tbody>
</table>

The results shown in the table suggest the fact that the variables which have a significant impact over the supervision type are GDP per capita and Consumer Price Index (with a threshold of statistical significance of 95% and 90% respectively). The resulted model don’t attest a direct linkage between the financial system and the likelihood of different supervision type, as observed in previous studies, but highlights a direct relationship between the analyzed macroeconomic indicators and the supervisory regime. Moreover, the estimated coefficients emphasize a positive linkage between market development degree and the integrated supervision and a negative one between CPI and the last reminded. The fact that the integrated supervision is directly linked with the development of countries is in line with Masciandaro (2004) and Freytag and Masciandro (2005).

In addition, the fact that the type of supervision is not linked to the development or certain features of the financial system is consistent with the study of Masciandaro (2009). The author outlined that traditional market-based versus bank-based index shows no relationship with the choice of the financial supervisory model, and also, the development of the capital markets (measured by market capitalization), and the size of the banking system (measured by the asset dimension), is insignificant.

So, in these economical integrated regions we demonstrate that in 2010 the more developed countries were likely to have an integrated type of supervision. This research is opening some other questions and thus further research has to be done in order to highlight if the regional economic integration favours a certain form of national financial supervision and the causes of a given supervisory structure.

Conclusion

Given the variables taken into consideration, which splits the financial system - banking assets/GDP, net foreign assets, market capitalization/GDP - and the macroeconomic environment - Gross Domestic Product per capita and Consumer Prices Index, we aimed to emphasize several
common characteristics of financial system and the degree of economic development in countries with different type of supervision.

Our results are consistent with the trend of literature in the field. Therefore, no matter who (or how many institutions) is supervising the financial sector, there is no important influence on banking sector, capital market or financial system as a whole in what concerns the efficiency. But, on the other side, we do found direct linkages between the higher level of development of the economy and the probability that the supervision is integrated. Most important, we cannot support the idea that a certain form of economic integration favours a certain sort of financial supervision.

Our contribution to the literature, comparing with previous researches, consists, first, in taking into account a number of new indicators, useful for highlighting the impact of increase or decrease of the financial segments relative to the degree of economic development of the analysed country, and secondly, on the focus in some economic integration areas, in order to check if a higher degree of regional economic integration requires / determines a certain supervisory structure. Consequently, we discovered that the more advanced areas of economic integration had supranational financial supervision (not only in EU, but also in WAEMU and ASEAN).

Our findings suggest that EU and also euro area has a special situation comparing to other regional economic integration areas: larger number of countries, more developed countries, longer experience and as result deeper cross-border financial integration (over 50 years of economic integration), more developed institutional framework, evolving framework in supra-national financial supervision, starting with the Lamfalussy process and concluding in 2011 with the new European institutional financial supervisory architecture.

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