Measuring Banking Union Efficiency Improvement for EA and non-EA Countries

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Abstract
After the occurrence of the first display of the financial crisis in 2008, the world leading economies have responded very quickly giving out a very important message: we will not let our banks fail. The central banks assured that the commercial banks will have enough liquidity to prevent any unwilling bank runs, the governments also made a contribution by rising the deposit insurance system limits and even the great integration institution in Europe – the European Union has added its part – the idea of a banking union. All of these responses are imposing a very strong determination to prevent any risk of a bank failure and therefore endangerment of the stability of the financial system as a whole. The question however remains: Is this really the way to go? Will these measurements assure economic growth? According to the many significant authors (e.g. Davenport, Hayek, Mises, Olson, Rothbard) the financial system remains the most uncovered of all sectors of the economy. With this presumption it is extremely difficult to assure proper regulation and supervision. This article would like to offer a brief summary of the situation, especially within the Euro Area (EA), accompanied by an evaluation of the banking union efficiency improvements and its effects on EA and non-EA countries.

Keywords: banking union, efficiency, Euro Area, European Union
JEL codes: E02, E42, G18, G28

1. Introduction

When the European leaders have decided to move towards a banking union, in which bank regulation and supervision (as well as guarantee over deposits and troubled bank management) will be integrated across Euro Area (EA) with the possibility for "outs"[1] to join and participate, they sent out a very important message: we will not let our banks fail. This action was not the only response to the financial crisis in 2008 followed by economic and euro-debt crisis. Announcement of the banking union project, rising deposit insurance system limits, strengthening the safety mechanisms ESRB and ESFM and finally starting the ESM in January 2013 are only a tip of the iceberg but still they show us the way the EA has taken. All of these responses are imposing a very strong determination to prevent any risk of a bank failure and therefore endangerment of the stability of the financial system as a whole. We are creating a safety net over the EA financial system. But what if the problem lies outside this net? Or what if the net itself is not properly set up? Rising number of economists points out that the real problem is a massive indebtedness of a private and public sector (e.g. Liu and Rosenberg, 2013; Hudson 2012; Soto, 2009; etc.). Is more integrated banking system really a solution? For example according to Elliott's study (2012) the banking union indeed has the potential to help to solve the euro crisis by weakening the link between debt-burdened governments and banks in trouble. This "diabolic loop" between governments and banks is also mentioned in Brunnermeier's study (2011) where he argues that the fiscal position of European governments remains vulnerable, because of the market trying to back up the weakened banking system on one side and distressed banks holding much of the public (and private) debt on the other. The interdependence between bank credit risk and government during the time of a crisis was proven right by Alter and Schüler study (2012) when they used daily credit default swaps for several Euro Area countries for the time period 2007-2010.

[1] Note: the non-euro area countries, also called the „outs".

However the endorsement of the concept of a banking union is much simpler than to actually design it. European banks supply roughly around three quarters of all credits in the EU and many economists are worried that regulation of the whole financial system is not just a technical issue and there will be also many subjective judgments necessary endangering the whole implication (Admati and Hellwig, 2013; Haldane, 2012). The national governments are also reluctant to simply give up their part in trillions of bank's assets. This also raises the question whether the decision to join or stay out of the banking union is (or has been so far) more market or political decision.

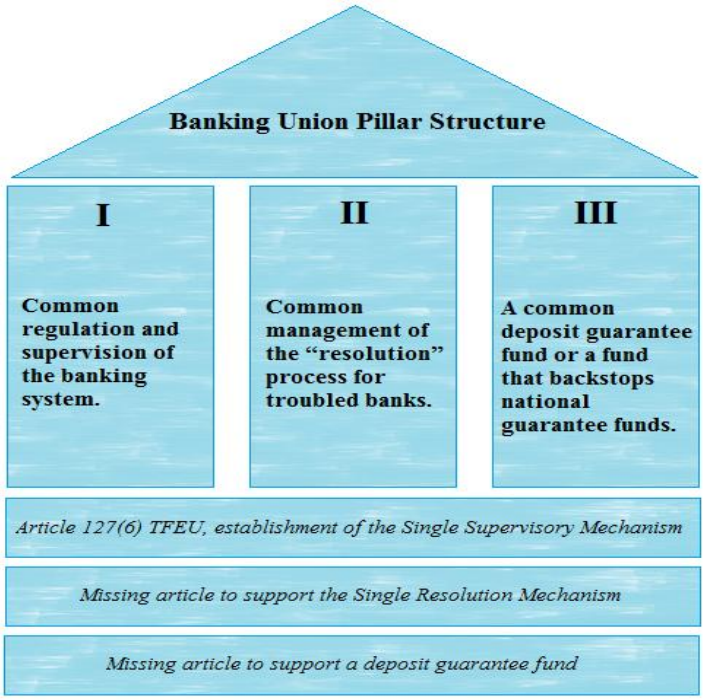
Another issue is raised when we try to analyze the new system advantages for the Europe's integration. One of them seems very obvious: there is unquestionable contribution to the strengthening of the Single European Market functionality. But this is weakened by the fact that not all of the EU states will participate and the multi-speed integration effect will be again enhanced. This was clear when the European Commission recommended the creation of a banking union only for EA members plus volunteers from the outs with no participation on the vote in the Governing Council in ECB and also without a chance of a help from ESM.

Since the creation of a Euro Area itself, the banking union project is the biggest step (unclear in which direction). This paper would like to offer a brief summary of what is known, accompanied by a simple efficiency analysis of the banking union effects for chosen EA and non-EA countries.

2. Basic Facts about the Banking Union

First of all it is essential to define what exactly a banking union is. It is supposed to be a direct analogy to the concept of a monetary union and political union. As Elliot (2012) states, it is a term of art, without precise meaning but still a general basis remains. So it is possible to say that in general it refers to a financial structure under which particular banking systems are being coordinated. The concept of a banking union lies upon three pillars: centralized regulation and supervision of a banking system, management of the resolution and restructuring process and a common deposit guarantee fund (see Figure 1).

Figure 1: The Banking Union Pillar Structure



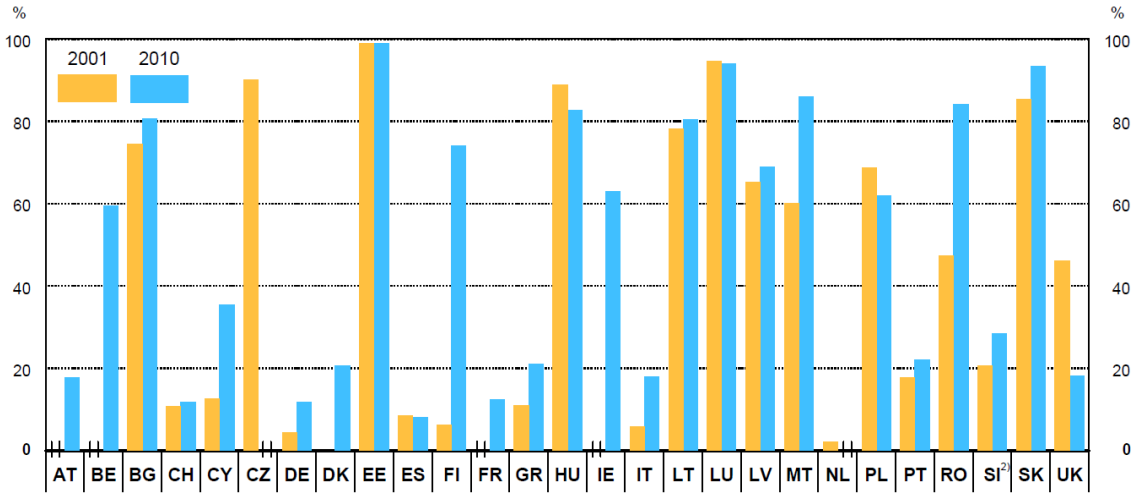
Source: own processing

As seen from the Figure 1 the legislative supporting basic functions of a banking union is still missing. European leaders have already decided to establish a Single Supervisory Mechanism (SSM) which will be operational under the responsibility of the ECB, however the legislative necessary for pillar II.

and III. has not been approved yet. Since the banking union is scheduled to start together with the SSM (scheduled at the end of 2014), it is unclear if it can be operational without the support of the remaining pillars.

For now the SSM consists of the ECB and the supervisory authorities of all participating member states. The ECB remains responsible for SSM functioning and directly supervises the largest "significant" credit institutions (the regulation defines an institution as significant if its total assets exceed 30 billion EUR or 20 % of the home country GDP). The less significant institutions will fall under the supervision of the national authorities. Since the SSM is built on Article 127(6) TFEU it is clear that it will be ECB (Governing Council) who will be responsible for decisions. The question lies in the cooperation of the SSM with non-Euro Area member states. Because of the fact that the outs cannot be present by the negotiations under ECB Governing Council, their options how to participate are very limited. That is why the SSM offers a potential participant from non-Euro Area member states a chance to stay out of some decisions. This area is probably the most questioned because of the percentage of foreign ownership of banking system assets between western and eastern EU countries (see Figure 2).

Figure 2: Foreign Ownership of Banking System Assets



Source: World Bank

Notice especially the values of cross-border assets ownership in the non-Euro Area countries. For Bulgaria, the Czech Republic, Estonia, Hungary, Latvia and Romania the share of foreign ownership exceeds 80 % of total banking system assets and these countries clearly stands out from the sample. To look at the other extreme values for non-EA, the United Kingdom has very low foreign banks involvement but the more potential benefits can gain from participating in the banking union as a world financial center.

As for the Single Resolution Mechanism (SRM) proposal in July 2013, the Commission stated that only to improve regulation and supervision will not be enough to assure future financial system stability. Rather, to set a clear criteria and develop procedures how to deal with bail-outs. SRM should be constructed to work together with the SSM in terms of power to intervene and to re-structuralize bank in distress. Unanswered remains the question of SSM and SRM founding. Economists agree that only when these mechanisms can rely on their own resources, a proper independence can be assured. It will however take some time until the European restructuring fund will be sufficiently stocked.

A common European deposit insurance system in the context of the banking union should be able to maintain two basic functions. First, it must prevent any unwilling bank runs. Second, it must pay off depositors in case of a bank failure and insolvency. Economists agree that new authority is the best answer on question who should run the common European deposit guarantee fund (Elliot, 2012). European Commission has already turned in a proposal for Deposit Guarantee Scheme Directive on July 2010. This was however just to increase the insured values of deposits and the proposal for common authority is still missing.

3. Methodology

The model to measure efficiency gains for countries participation in the banking union is based on the model of Freixas (2003) and Schoenmaker (2013). They argue that the choice to close or to save the bank is a variable x of values $\{0,1\}$. In the model B denotes social benefits of recapitalization, C its costs. Schoenmaker (2013) presents an example of Lehman collapse which caused a massive contagion and claims the costs (home country and cross-border) could be minimized with a decision to save or to recapitalize the bank, meaning $B > C$. In a reverse manner, if the bank failure does not mean a systemic problem, the bank should be closed because $B < C$. The bailout benefits are expected to be cross border transferable. Assuming there are only two solutions when a bank is in distress.

First, home country resolution which takes place when home country decides about bank recapitalization. The condition for a bailout is:

$$\alpha_{home}.B > C \tag{1}$$

where α_{home} represents the benefits only for the home country. Consider an internationally active bank with a significant share of cross-border assets. In this case applying a home country resolution would be inefficient and the country should gain much more benefits from a supranational authority which would assure the costs of a bailout to be shared. This situation was observed when for example the UK commencement bailout of a RBS or Germany bailing out their Commerzbank when both of these banks were and still are hugely internationally cross-border connected and the benefits of such bailout were shared. Not were the costs. In this case a supranational resolution would be welcome:

$$\sum_i^n \alpha_i \,.B > C \tag{2}$$

where α_i denotes benefits from a bailout to country i, the sum from i to n countries represents the group of countries whose fall under the supranational jurisdiction. For any future reference the banking union countries are denoted as EBU, countries non-participating are OUTS. The total share of benefits 1 is written as follows:

$$\alpha_{home} + \alpha_{EBU} + \alpha_{OUTS} = 1 \tag{3}$$

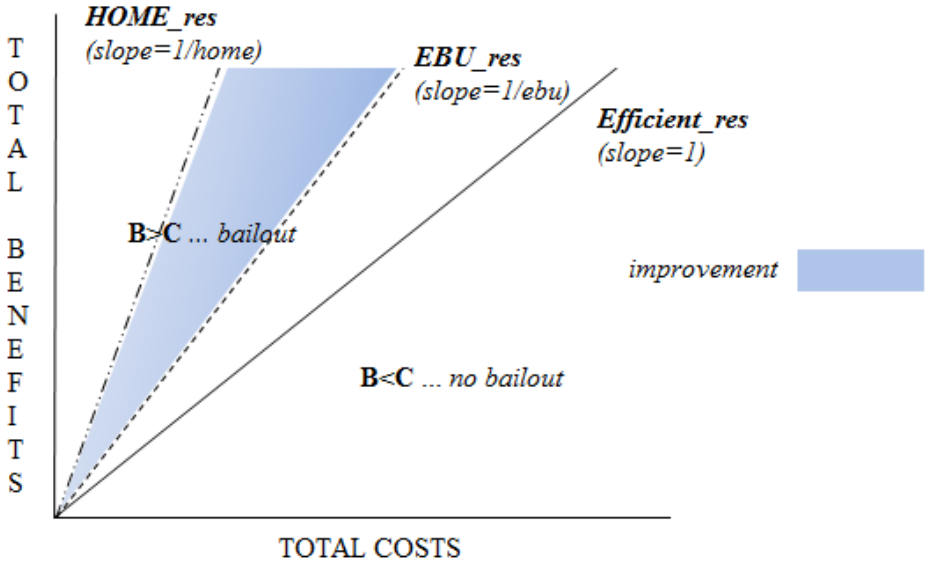
The supranational authority will maximize the benefits under this condition:

$$x = \begin{cases} 1 & if\ \alpha_{EBU}.B \geq C \\ 0 & if\ \alpha_{EBU}.B < C \end{cases} \tag{4}$$

As seen from the Equation (4), the supranational approach appears to be useful when bank's cross-border interests are significant within the EU. Supranational resolution has the potential to improve total benefits and to assure efficient bailout. A problem might appear with truly international banks with huge amount of assets outside the EU: $\alpha_{EBU} \ll 1$. In this case a share of bailout benefits would be "lost" to the non-EU countries while the cost would be bear only by the supranational authority.

Figure 3 shows the most efficient option as the cross-border shared benefits equals world-wide and the line is characterized as $B = C$ with $slope = 1$. If we find ourselves under this reference line the total benefits are smaller as total costs, therefore a bailout is not a necessity. The EBU_res line represents the supranational option when a bailout takes place (Equation 2) and the distance from efficient solution is written as $\alpha_{EBU}.B > C$, which can be modified to the form $B = C/\alpha_{EBU}$, and finally $1/\alpha_{EBU}$. HOME_res is the home country resolution, modified similarly to EBU solution and written as $1/\alpha_{HOME}$. It is located on a higher scale than EBU_res and the area between them represents the effects of improvement of transition from home country to supranational resolution. This transition however might not be necessary if the bank in a need of restructuralization holds minimum cross-border interests; this is a subject of analysis for chosen European banks which follows.

Figure 3: Graphic Projection of Efficient Bailout Resolutions for Different Mechanisms



Source: Schoenmaker, 2013; own processing

3.1 Model Settings

As we are interested in an estimation of an improvement between home country and supranational resolution transition when a bailout takes place a simple efficiency analysis is conducted. Since the Basel II Pillar 2 dictates banks to plan their capital level large enough to cover any losses, the basic unit to be used for ranking the European banks is a bank's equity. The purpose of the analysis is to show the potential efficiency improvement after joining the European banking union for a chosen sample of Europe's biggest and most systemic important banks. A necessary assumption is the possibility of a failure of any bank in the sample.

If β is the benefit parameter, total benefits of restructuring bank j is $B_j = \beta . E_j$, where E_j is banks equity. The efficient benchmark is then $\beta = 1$. For home country resolution a bank j in home country h is saved if:

$$\alpha_{j,h} . B_j \geq C_j \qquad (5)$$

After modifying the equation, the benchmark is written as $\beta_{home} = 1/\alpha_h$. Using similar approach a supranational benchmark is $\beta_{EBU} = 1/\alpha_{EBU}$ when:

$$\sum_i^n \alpha_{j,h} . B_j \geq C_j \qquad (6)$$

The distance between home country and supranational approach is defined as a distance between their efficient benchmark: $D_j^{home} = \frac{1}{\alpha_h} - 1$ for home country and $D_j^{EBU} = \frac{1}{\alpha_{EBU}} - 1$ for supranational approach. So the improvement in efficiency is:

$$IMP_{i,j} = \frac{D_j^{home} - D_j^{EBU}}{D_j^{home}} \qquad (7)$$

the indicator will have range from 0 to 100 %. Zero for domestic bank and for foreign banks with no interest abroad. As we are interested in the improvement for the entire country, we need to make a sum of the improvement of all banks j in country i. We write:

$$IMP_i = \sum_j IMP_{i,j} \qquad (8)$$

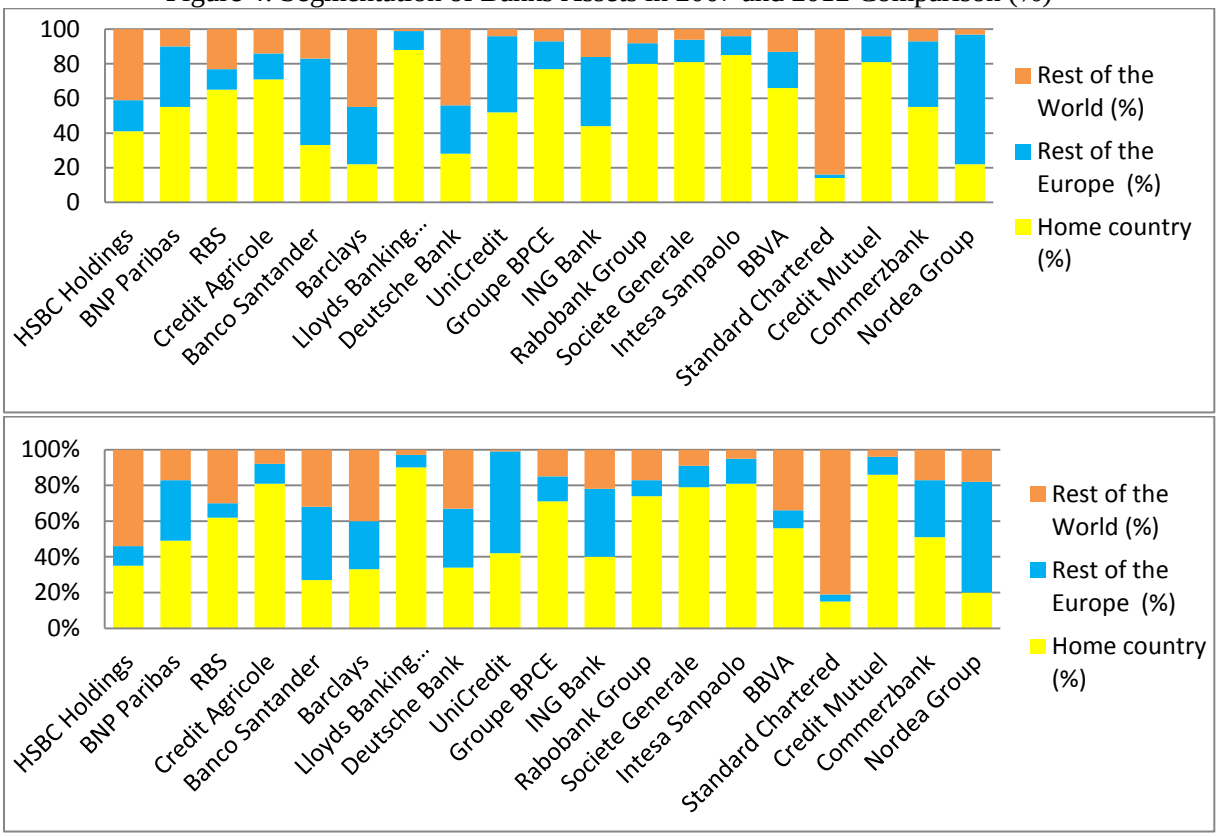
3.1.1 Input Data

The analysis is carried out for the year 2007 as the top of the conjuncture period and 2012 as a most recent data available representing the times of a recession. The division should answer whether the efficiency improvement of joining the banking union is larger in conjuncture or recession. The assumption would be that in conjuncture most banks expand their foreign interests as in recession they are more concerned with a situation in the home country. Source database is The Banker and Annual Reports of particular banks from which the segmentation of banks assets is taken. The sample contains 19 of Europe's largest banks according to their capital level which together holds more than half of the total EU banking assets. They are also responsible for around three quarters of overall cross-border assets within the EU. Small and medium sized banks are not present due to their orientation on domestic clients.

4. Results for the Improvement Values of Particular Banks and Countries

For each bank of the sample containing 19 European largest banks has been calculated their distance between home country and supranational setting. Figure 4 shows the segmentation of bank's assets in two years 2007 and 2012. The changes between years of conjuncture and recession are not as significant as expected, in total the average home country share was 56 % in 2007 and 54 % in 2012. More significant were changes of the bank's assets segmentation in the rest of the Europe (26 % and 23 %) and rest of the world (18% and 23%). Interesting is the change for the rest of the world as it increased in recession. The reason might be prevailing debt crisis in Europe. This would also suggest the improvement of a home country to supranational setting transition could be even larger in conjuncture when banks tend to expand their cross-border interests.

Figure 4: Segmentation of Banks Assets in 2007 and 2012 Comparison (%)

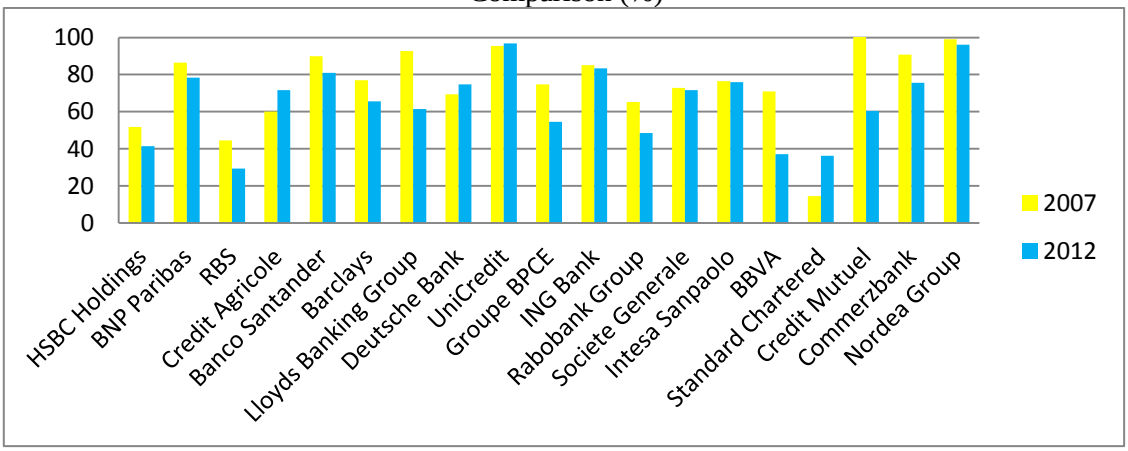


Source: own calculation

For the most international banks with high percentage of assets outside home country (HSBC, Banco Santander, Barclays, Deutsche Bank, UniCredit, ING, Standard Chartered) the values of D_j^{home}

exceeds the reference value 1 for both analyzed years. Similar results provided cost-benefit analysis performed by Schoenmaker (2013) for reference year 2011. From these banks only HSCB and Standard Chartered (both British banks) exceed with their values for D_j^{EBU} the reference value 1.

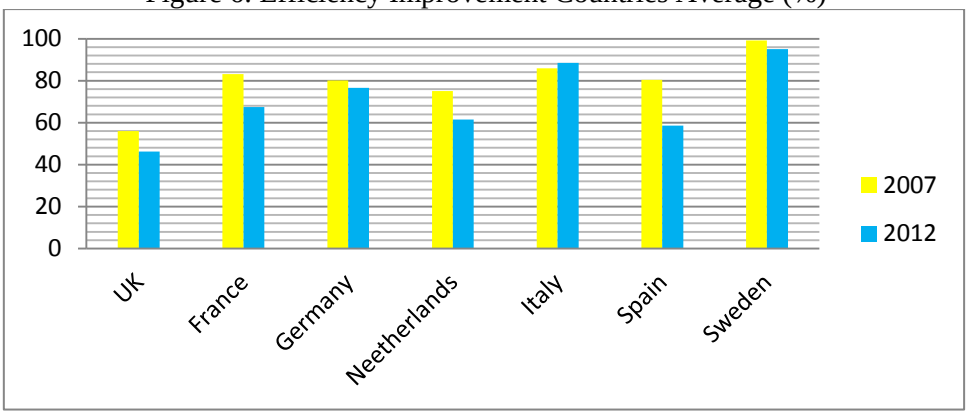
Figure 5: Calculated Efficiency Improvement of Chosen European Banks for 2007 and 2012 Comparison (%)



Source: own calculation

Figure 5 shows the efficiency improvement for chosen set of European banks in comparison for years 2007 and 2012. As seen the $IMP_{i,j}$ value was in average higher in conjuncture supporting the initial assumption (74 % in 2007 to 65 % in 2012). The smallest observed value is at British Standard Chartered which has large amount of shares overseas. On the other side UniCredit and Nordea Group shows the highest improvement values in both times because of their high shares within Europe. If we select just banks for particular economies, it is clear than even though the UK and Sweden decided to stay out of banking union it is much more of a political, rather than a market decision. Figure 6 shows the average improvements from home country to supranational transition and both "outs" shows high values.

Figure 6: Efficiency Improvement Countries Average (%)



Source: own calculation

The average however does not provide the exact information on the total improvement for a country since the calculations do not cover small and medium sized banks which would reduce the total IMP value since they are more focused on home country transactions. As for the summary, it is safe to assume that a working banking union would provide an enhancement to the efficiency of European financial system regulation. The UK and Sweden would also benefit from joining the banking union instead of staying out. The mathematical evidence shows that the effects of joining the banking union could be even stronger in times of conjuncture and support the idea of a political decision. As for the non-EA countries, since they are home to large number of foreign banks (as seen

in Figure 2) their benefits would be in the resolution that parent banks will become more stable. The dependence between the viability of the host country branch on the performance of the parent bank was already proven right (Bruno and Shin, 2012; Jeon et al., 2013).

5. Conclusion

After the start of a financial crisis in 2008 the world came to a conclusion – the financial sector remains under-regulated. Together with the existence of the "diabolic loop" between governments and banks the project of a banking union is supposed to break this loop and restore trust in the financial system. As the efficiency analysis has shown an integrated financial system regulation and supervision in the EU can do much to help. The analysis was carried out for two years 2007 and 2012 to assure coverage of the conjuncture as well as the recession. The results of improvement efficiency came out larger in 2007 indicating the banks in conjuncture expand their foreign interests and on contrary in recession focused more on home country situation. The average IMP of all analyzed banks was 74 % in 2007 and 65 % in 2012 (Figure 5). As for the average IMP results they confirmed hypothesis that the decision of the UK and Sweden to stay out of the banking union is more politically oriented since the efficiency improvements were high: 56 % for the UK in 2007 and 99 % for Sweden (Figure 6). However the results do not cover small and medium sized banks which would reduce the total IMP value. In total the results indicate large improvement from home country to supranational transition for the EA countries and support the idea of a banking union creation.

As for the non-EA countries, since they are home to large number of foreign banks (as seen in Figure 2) their benefits would be in the resolution that parent banks will become more stable. Potential benefits for non-EA countries could be also found in a reduction of bank fees as the "outs" will also participate in a potential bailout and recapitalization.

Large numbers of economists agree as the EA is struggling with low GDP growth, continuing indebtedness of private and public sector and lack of trust in its financial system, a working and clear regulation of supervision on supranational level is a potential way out. By breaking the diabolic loop a huge efficiency gains are expected as well as regaining a trust in the system itself. And the system works as long as it is being trusted.

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