MAJOR ASPECTS OF ASSET QUALITY REVIEW PROCESS IN EUROPEAN UNION AND SERBIA

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Abstract: Privileged position of certain financial institutions during financial crisis created by government involvement in their bailout, needed reaction in order to maintain stability of banking systems worldwide. In that sense, there has been made identification and defining of systemically important banks on global and local level. Competent supervisory authorities should perform additional control and monitoring of banks which they directly monitor. Those actions were realized through asset quality review process in European Union, while Serbia also conducted asset quality review process (via so-called "special diagnostic studies"). In paper are presented the major results of asset quality review process and lessons we learnt, which should be applied in prospective period for the purpose of improvement of current state in Serbian banking system.

Keywords: asset quality review, systemically important banks, capital adequacy ratio, European Union, Serbia.

1. Introduction

Escalation of global financial crisis in 2007, followed by consequences on financial systems worldwide, pinpointed on number of imperfections in banking systems. Through spillover effect, crisis was transferred from financial sphere to the area of real economy with great extent for economies whole over the world. Competent authorities and other regulatory bodies did not prevent crisis emergence, so one of the main reasons for crisis escalation is impersonated in non-establishment of efficient risk management system.
in banks. As banks did not recognize the importance of efficient risk management in proper manner, banks were exposed to larger risk than desirable.

As economies slowed down and banking industry were affected by crisis, it was necessary involvement of governments in order to save the largest banks from potential collapse. Government interventions were made with intention of protection systemically important financial institutions, because they were recognized as essential component of stability in banking industry worldwide. It was obvious that financial and economic consequences of government’s interventions, together with bank’s behavior with element of moral hazard, required adequate regulation in the area of systemically important banks.

Basel Committee for Banking Supervision defined global systematic institutions in large number of documents, aimed for the purpose of following:

- definition of required amount and quality of capital in banking system;
- improvement in the field of risk management;
- introduction of leverage ratio as supporting tool in the process of increasing the quality of risk management in banks;
- definition of two major forms of capital reserves i.e. capital conservation buffer and countercyclical capital buffer, which are introduced by Basel III standards.

Abovementioned measures represent reliable basis for maintaining of stability in financial system, but solely there are not sufficient. The reasons are hidden in existence of negative external effects of systemically important banks, which are in the best manner described by “too big to fail” theory. Former chairman of Federal Reserve in USA Ben Bernanke defined a “too-big-to-fail firm” as one whose:“size, complexity, interconnectedness, and critical functions are such that, should the firm go unexpectedly into liquidation, the rest of the financial system and the economy would face severe adverse consequences.” (Bernanke, 2010) It was clear that more rigorous and strict regulatory and supervisory measures are necessary in order to prevent negative behavior of banks manifested mostly in moral hazard. In that context, measures proscribed from Basel Committee for Banking Supervision in terms of defining global systemically important financial institutions, are very important step in the number of actions taken for the purpose of maintaining financial stability.

2. Methodology for the assessment of global systemically important institutions

According to Financial Stability Board (FSB), systemically important institutions on global level are those whose liquidation or collapse, due to their size, complexity and interconnectedness, could cause significant deterioration on whole financial system and economic activity. (Financial Stability Board, 2011) In order to define methodology for identification of systemically important institutions on global and national level, several documents were introduced, such as:

- Basel Committee for Banking Supervision published methodology for identification of systemically important banks on global level (G-SIBs) and separate framework for closure of systemically important domestic banks (D-SIBs);
On European Union level, it was published Directive of EU regarding capital requirements, well known as **CRD IV - Capital Requirements Directives IV**, which regulates legal framework for identification of global and other systemically important institutions;

Based on Directive CRD IV, European Banking Authority (EBA) has published guidelines on criteria for assessment of other systemically important institutions (OSIs) based on scoring model which came into force since January 1, 2015.

Indicators reflect: the size of banks, their interconnectedness, the lack of readily available substitutes or infrastructure for services they provide, their global (cross-jurisdictional) activity and their complexity. (Basel Committee on Banking Supervision, 2011) As it is defined 5 different dimensions of systemic risk, the each dimension is assigned with equal weight of 20%. With the exception of the category “size”, Basel Committee envisaged implementation of large number of indicators within each category, while all indicators within one category has the equal weight (Table 1). For example, if within one risk category there exists 2 indicators, each of them has an equal weight of 10%; if within one risk category there exists 3 indicators, each of them has an equal weight of 6.67% etc. For each individual bank, the score of certain indicator is calculated by dividing the amount for observed bank with total amount for all banks in the sample for that indicator. After that, score shall be multiplied with weight of each risk category and then are added all weighted scores. Namely, indicator of size which makes 10% of total sample of variables will contribute 0.10 to the total score for bank. By adding score for each of 12 indicators, as the result we got the total score for observed bank.

### Table 1. Assessment of systemically importance banks based on indicator - measurement approach

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Indicator</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-jurisdictional activity (20%)</td>
<td>Cross-jurisdictional claims</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Cross-jurisdictional liabilities</td>
<td>10%</td>
</tr>
<tr>
<td>Size (20%)</td>
<td>Total exposures as defined for use in the Basel III leverage ratio</td>
<td>20%</td>
</tr>
<tr>
<td>Interconnectedness (20%)</td>
<td>Intra-financial system assets</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Intra-financial system liabilities</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Wholesale funding ratio</td>
<td>6.67%</td>
</tr>
<tr>
<td>Substitutability (20%)</td>
<td>Assets under custody</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Payments cleared and settled through payment systems</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Values of underwritten transactions in debt and equity markets</td>
<td>6.67%</td>
</tr>
<tr>
<td>Complexity (20%)</td>
<td>OTC derivatives notional value</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Level 3 assets (assets for which is impossible to determine a fair value)</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Trading book value and Available for Sale value</td>
<td>6.67%</td>
</tr>
</tbody>
</table>

*Source: Basel Committee on Banking Supervision, 2011.*
3. Methodology for assessment of systemically important domestic banks

Basel framework for identification of systemically important domestic banks is very similar to the methodology of global systemically important institutions, but it is not identical. The main differences are as follows:

1. domestic (local) economy represents reference point for assessment of impact of insolvency systemically important domestic banks (not global economy);
2. there are no clearly defined methodologies, specific indicators or weights, due to fact that there is no need for harmonization on international level. Local regulators has discretionary right to respect some specifics of national economies and in that way assess the impact of potential insolvency of banks on financial system and certain national economy;
3. national regulatory body has also discretion in the area of methodology development for applying higher rates of systemic capital surcharges (SSC) depending on score. Discretionary framework is limited by establishment of minimum common principle (totally 12 principles), which are divided into 2 separate groups. In the first group of principles (concretely, 7 principles) are those principles which are related to methodology of identification of systemically important domestic banks and they are presented in Table 2. The second group of principles is related to identification and determination of higher rates of capital buffers for loss absorption in systemically important domestic banks.

Table 2. Principles for assessment of systemically important domestic banks

<table>
<thead>
<tr>
<th>Principles</th>
<th>The content of principle:</th>
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<tbody>
<tr>
<td>Principle 1:</td>
<td>National regulators should define the methodology for assessment of systemically important domestic banks.</td>
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<tr>
<td>Principle 2:</td>
<td>The methodology for assessment of systemically important domestic banks should pinpoint on the extent of negative external effects in the case of bank’s insolvency.</td>
</tr>
<tr>
<td>Principle 3:</td>
<td>Domestic (local) economy represents reference point for assessment of impact of insolvency systemically important domestic banks.</td>
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<tr>
<td>Principle 4:</td>
<td>Regulators of parent banks should assess systemically importance of the group on consolidated level, while national regulators should perform assessment of systemically importance of subsidiary, by consolidation of all banks which are dependent on subsidiaries.</td>
</tr>
<tr>
<td>Principle 5:</td>
<td>Impact of bankruptcy of systemically important domestic banks on domestic economy is assessed based on quantitative indicators which are grouped in 4 main categories: (1) size, (2) interconnectedness, (3) substitutability/financial system infrastructure and (4) Complexity/cross-border activity. National regulatory bodies had a discretionary right for increasing number of group.</td>
</tr>
<tr>
<td>Principle 6:</td>
<td>National regulators should conduct regular assessment on systemically importance in order to assessment reflect real and current status in financial system. Assessment of systemically importance of domestic banks should be reviewed with the exact frequency as the assessment of global systemically important banks.</td>
</tr>
<tr>
<td>Principle 7:</td>
<td>National regulators should publish the shorter version of the methodology which is used for assessment of systemically important domestic banks.</td>
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Guidelines on criteria for assessment of other systemically important institutions are based on methodology for global systemically important institutions and principles for identification of systemically important domestic institutions. Guidelines defined minimum (required) set of criteria (systemic risk dimensions) and indicators, which allows comparability between supervisory legislatives within EU members. On the other hand, national regulators have possibility to extend current framework with additional criteria and indicators that reflect specifics of national banking sector. The main set of criteria for assessment of systemic importance contains:

- the size of financial institution;
- importance for the economy of EU member, that encompasses substitutability or infrastructure of financial system;
- complexity, which includes cross-jurisdictional activity;
- interconnectedness of institution or group within financial system.

Each of four main criteria for assessment of systemically importance contains one or more required indicators. All main criteria are valued equally and have identical weight of 25%. Indicators within each main criterion are equally valued in relation to other indicators of same dimension of systemic risk (Table 3).

| Table 3. Indicators for the assessment of systemically importance of domestic banks |
|-----------------------------------------------|---------------|----------------|
| Criterion | Indicator | Weight |
| Size (25%) | Total assets | 25.00% |
| Importance (including substitutability/financial system infrastructure) - 25% | Value of domestic payment transactions | 8.33% |
| | Private sector deposits from depositors in the EU | 8.33% |
| | Private sector loans to recipients in the EU | 8.33% |
| Complexity/cross-border activity (25%) | Value of OTC derivatives (notional) | 8.33% |
| | Cross-jurisdictional liabilities | 8.33% |
| | Cross-jurisdictional claims | 8.33% |
| Interconnectedness (25%) | Intra-financial system liabilities | 8.33% |
| | Intra-financial system assets | 8.33% |
| | Debt securities outstanding | 8.33% |

Source: European Banking Authority, 2014.

The calculation of the score is conducted on following manner:

1) the value of indicator for each individual bank is divided with total amount of observed indicator on the level of whole banking system;
2) obtained result will be multiplied with weight assign to each indicator;
3) multiplication of obtained result in previous step with 10,000 in order to express the score in basis points;
4) calculation of average value for indicator within the same dimension of systemic risk for the purpose of obtaining score for dimension for each individual bank; and
5) adding the score for each dimension, we will get the total score for each bank.

In the first stage, institutions with score above 350 basis points are considered as systemically important. National regulators could increase the threshold till 425 basis points or decreased it to 275 basis points, taking into account characteristics of domestic banking.
system and accompanied statistic distribution of scores. In case that banking system of certain country contains a large number of individually observed small banks, then national regulator could decide to exclude banks, which as a whole group does not represent systemic threat for the stability of domestic economy. While calculating score, regulators should make assessment of indicator values for excluded banks and include in sample so-called “virtual bank”, which shows aggregated amount of indicators for excluded banks.

In the second stage, national regulators should assess the relevance of other banks in system from the systemic importance point of view. The assessment is based on chosen additional indicators which pinpoint on existence of certain systemic risk in the country or within EU. Countries with less concentration within banking system could identify a large number of systemically important banks in comparison with countries with larger concentration. There is an expectation from national regulator to publish methodology (the list of indicators used for determination of systemically important banks and explanations regarding possible increasing or decreasing of threshold margin) and the list of banks in status of systemically important banks. The list of systemically important banks is revised at least once a year, accompanied with analysis of required and additional indicators and weights.

4. Asset quality review process in EU and Serbia

European Central Bank (ECB), jointly with national supervisory authorities, conducted the control of financial “health” in banks, which they directly supervised. That comprehensive analysis from ECB side is performed in order to assess whether banks are adequately capitalized and how they would face with future extraordinary events (financial shocks). Comprehensive asset quality review process (abbreviation: AQR) is conducted on regular or ad hoc basis. During regular assessment of asset quality in banks, there are conducted initial controls of status in banks, which are classified as systemically important banks according to latest classification. Asset quality review on ad hoc basis means that controlling and monitoring in banks is conducted occasionally, i.e. when some unusual events emerge.

The asset quality review process should provide: more information regarding banks and risks they are exposed to, identification of problems and application of necessary corrective actions for the purpose of strengthening confidence into stability of financial system. Asset quality review is based on two major pillars:

1. controlling and monitoring of asset quality – which should contribute to higher level of transparency in covering of bank’s exposure to risk, including adequate valuation of assets and collaterals, as well as precise provisioning calculation; and

2. stress testing – as testing bank’s resilience of potential shocks.

In 2014, ECB conducted comprehensive asset quality review, which included 130 banks within euro area, making approximately 82% of total bank assets and involving 26 national supervisory institutions. Asset quality review resulted in aggregate adjustment of 47.5 billion EUR, based on financial statements of banks as of 31 December 2013. Also, non-performing exposure (NPE status) was increased by 135.9 billion EUR. Simultaneously, in the process of asset quality review, was identified a capital shortfall of 24.6 billion EUR related to 25 participating banks. (European Central Bank, 2014)
Major aspects of asset quality review process in European Union and Serbia

In 2015, ECB conducted comprehensive assessment in 9 banks which are determined based on criterion of significance, which reflected bank’s eligibility for direct supervision by ECB. In other words, it means that selected bank should have total assets over 30 billion EUR or total assets which exceeded 20% of state GDP; that selected bank is one of the 3 most significant banks in observed state EU member and that banking group’s cross-border activities are significant. The total assets of each of 9 participating banks range from 2,6 billion EUR to 57,4 billion EUR, placing them among the smaller institutions subject to direct ECB supervision. The asset quality review resulted in aggregate adjustments of 453 million EUR based on financial data as at 31 December 2014 (of which 395 million EUR were due to provisioning adjustments and 58 million EUR stemming from credit value adjustment and fair value review). Comprehensive assessment identified a capital shortfall of 1,74 billion EUR across 5 participating banks. The weighted average decline in the capital adequacy ratio based on the combined impact of the asset quality review and stress test amounted to 6,05 percentage points. (European Central Bank, 2015)

Due to need for detailed analysis of asset quality in domestic banks, within standby arrangement with IMF, National bank of Serbia conducted asset quality review process which is called “special diagnostic studies” (abbreviation: SDS). The scope of analysis was 14 the largest banks in Serbia in terms of total assets, which together make 88% of total assets for whole banking sector. The purpose of conducted examinations was determination whether capital adequacy on reference date (i.e. March 31, 2015) was in line with regulatory requirements, taking into account corrective actions and provisions for potential losses. Asset quality review in Serbia was established on main principles that ECB has already used, but on the other side asset quality review in Serbia has some specific characteristics and differences in relation to methodology used by ECB (National bank of Serbia, 2015):

- only asset quality review process was realized in Serbia, while stress testing on the level of banking industry and individual bank level was not the scope of review;
- special diagnostic studies emphasized assets which are valued per amortized cost (i.e. loans and receivables, as well as off-balance sheet items which have inherent credit risk exposure); and
- analysis of required reserve for estimated loss as institute immanent only for Serbia is done, for the purpose of obtaining insight into its usefulness. In that sense, additional control of data was necessary and conducted through several working segments such as: analysis of processes and internal acts of banks, analysis of individual credit files, projection of findings, aggregating provisions and calculation of adjusted capital adequacy ratio.

Special diagnostic studies in Serbia, which included 14 banks chosen by criterion of systemically importance, is a relevant for making general conclusions for Serbian banking system at whole, bearing in mind that almost 90% of banks are included in the sample (in terms of bank’s total assets). As very demanded project, special diagnostic studies were conduct in cooperation with other entities, such as: 4 audit companies (Deloitte, Price Waterhouse Coopers, Ernst & Young and BDO), 6 appraisal companies (JLL, CBRE, Colliers, Danos, NAI Atrium and Coreside), while National bank of Serbia has responsibility for independent control of their business, monitoring, analysis and testing the results of conducted asset quality review process.
Complete asset quality review process of Serbian banks on reference date, March 31, 2015, resulted in following major findings:

1. reduction of capital adequacy ratio from starting 20.21% to 18.45% after corrections, which is decreasing of 1.76 percentage points As minimum proscribed capital adequacy ratio in Serbia is set at 12%, it is obvious that the stability of banking sector is not jeopardized from the point of view of capitalization (Figure 1);

2. corrections in the segment of additional allowances for impairments (approximately 70%) were mitigated by the reduction in required reserve for estimated losses. Required reserve is a result of solely National bank of Serbia regulation and conducted studies confirmed the significance of such regulatory approach in the context of maintaining the stability of individual banks and financial system as a whole;

3. effects of diagnostic studies on non-performing loans share, under assumption of full implementation of re-classification into “non-performing exposure” as a new term, amounted 4.7 percentage points (i.e. share of non-performing loans in total loans is increased from starting 22.6% to 27.3%);

4. there are noticed need for upgrading of internal procedures and processes which are not in compliance with international accounting standards or good business practice. Namely, corrections are made for impairments at the debtor level in observed sample, due to identification of non-compliance with IFRS 39 or inadequate calculation of impairment made by banks (as a consequence of errors or deviation from internal act of bank).

![Figure 1. SDS effects on capital adequacy ratio per individual bank](source: Authors based on data from: www.nbs.rs)
Major aspects of asset quality review process in European Union and Serbia

Separate analysis through working segments (Figure 2), which have major contribution to total amount of corrections in capital adequacy ratio (from initial 20.21% to 18.45%), showed that credit file reviews of debtors were the first ranked. Concretely, capital adequacy ratio after corrections amounted for 1.76 percentage points less than at the beginning of the observed period, while credit file reviews solely are 86 basis point out of total 176 basis points decrease.

Analysis of credit files considered controlling of correct implementation of classification as well as review of undervaluation (overvaluation) of impairments and provisions in banks covered by the sample. Although, special diagnostic studies showed that banks need to increase its impairments and provisions for 44% (in absolute terms, it is increase of 349 million EUR), this effect is mostly covered with required reserve for estimated loss at amount of 245 million EUR. As a result net effect on capital based on correction of credit files amounts 103 million EUR in absolute terms, which is 0.86 percentage points from initial value of capital adequacy ratio.

Re-classification of clients were made upon defined criteria of non-performing exposures, which are well described in EBA’s document named “Final draft Implementing Technical Standards on supervisory reporting on forbearance and non-performing exposures”, published in February 2014. (European Banking Authority, 2014) Totally 14.1% of loans which banks in the sample treated as performing loans were re-classified into non-performing exposure status, while aggregately the share of debtors with non-performing exposure status was increased for 32% in relation to starting point in this examination. National bank of Serbia assessed that effect of special diagnostic study on total level of non-performing loans ratio has resulted in increase of ratio for 4,7 percentage points (i.e. namely from the level of 22.6% to 27.3%).

Figure 2. Impact of major corrective factors on bank’s capital

Source: Authors based on data from: www.nbs.rs
5. Conclusion

By defining criteria on systemically important banks on global and domestic level, there were created prerequisites for additional review of quality assets in banks for the purpose of identification and determination the stability of financial systems, primarily banking systems worldwide. ECB started with asset quality review process within EU members in order to assess the level of stability taking into account the fact that sudden shocks are possible, while the extent of their impact is very difficult to measure. Within stand-by arrangement with International Monetary Fund, Serbia accepted the obligation to conduct asset quality review in its banking system.

National bank of Serbia conducted special diagnostic studies on the sample of 14 systemically important banks, which totaled for 88% of assets in Serbian banking industry, at the same time respecting the general principles established by ECB in the asset quality review process conducted in EU following some specifics of our banking system. Realized diagnostic study showed justification for this analysis pinpointed that on reference date (March 31, 2015) Serbian banking sector is in line with minimum regulatory capital standards. Otherwise, all banks covered with sample have capital adequacy ratio well above regulatory minimum set at 12%. Furthermore, average capital adequacy ratio for 14 banks was 6.45 percentage points higher than regulatory minimum, showing well capitalization of Serbian banking sector. However, this conclusion does not exclude the possibility of recapitalization in some banks, but such decision could be observed through the prism of competitiveness or needs to meet required Basel standards in term of strengthening capital base.

It is very realistic expectation that all banks included in diagnostic studies present a large number of corrections in their final financial statements for 2015 in consultation with their statutory audit company. For each bank, it is necessary to make detailed analysis and assessment of qualitative and quantitative shortages showed during asset quality review, as well as, taking corrective actions in order to remove them in prospective period. National bank of Serbia will continue to follow the implementation of prudential and accounting findings, as well as, to monitor all materiality important corrections for individual banks in the process of direct supervision of banks. Special diagnostic studies have important role as the basis for implementation of IFRS 39, which commercial banks in Serbia should apply and which represent adequate ground for the resolution process for non-performing loans, one of the main issues in Serbian banking system.

Robust and complex process, as asset quality review is, has an extraordinary importance for banking systems on national and global level. Results of conducted assessments are the best indicator of “health” of observed financial systems and the starting point for upgrading of supervisory activities of central banks and their practices, all together for the aim of maintaining financial stability and stability of banking industry.

References

Apstrakt: Privilegovana pozicija pojedinih finansijskih institucija tokom finansijske krize kreirana usled uključivanja država u proces njihovog spašavanja, nalagala je reakciju u cilju očuvanja stabilnosti bankarskih sistema širom sveta. U tom smislu, identifikovane su i definisane sistemske značajne banke na globalnom i lokalnom nivou. Nadležni supervizori treba da sprovode dodatnu kontrolu i praćenje banaka, čiju direktnu superviziju vrše. Takve radnje su realizovane kroz proces analize kvaliteta aktive u okviru Evropske Unije, pri čemu je i Srbija sprovela proces analize kvaliteta aktive (putem takozvanih „posebnih dijagnostičkih ispitivanja”). U radu se predstavljaju najvažniji rezultati proces analize kvaliteta aktive i pouke, koje treba primeniti u budućem periodu u cilju poboljšanja postojećeg stanja u bankarskom sistemu Srbije.

Ključne reči: analiza kvaliteta aktive, sistemske značajne banke, pokazatelj adekvatnosti kapitala, Evropska Unija, Srbija.